



Growing...Naturally

The **Pike County** Open Space, Greenways, and Recreation Plan

Pike County Commissioners:

Richard A. Caridi
Harry Forbes
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August 2008

PIKE COUNTY COMMISSIONERS

PIKE COUNTY ADMINISTRATION BUILDING

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GARY R. ORBEN
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COUNTY SOLICITOR

RESOLUTION NO. 08-30

WHEREAS, The Pike County Board of Commissioners charged the Pike County Planning Commission with developing an Open Space, Greenways, and Recreation Plan as part of the County Comprehensive Plan; and

WHEREAS, The Pike County Planning Commission, with the assistance of a Citizen-based County-wide Study Committee, three Regional Focus Groups and the Pike County Office of Community Planning, has prepared the Pike County Open Space, Greenways, and Recreation Plan; and

WHEREAS, The Plan is consistent with the County's 2006 Adopted Comprehensive Plan, regional plans and the State's Greenway Plan; and

WHEREAS, The Plan identifies the resources that define the County's exceptional quality, unique natural, cultural and historic features, and important recreational resources; and

WHEREAS, The Plan recommends strategies for coordinating open space and natural resource conservation and protection and facilitating the development of recreational facilities as an integral part of its community and economic development; and

WHEREAS, The Pike County Planning Commission has distributed the Plan to all municipalities, adjoining Counties, and school districts, and has sought public comment on the plan consistent with State planning requirements, and has considered and incorporated all comments received as appropriate into the Plan; and

WHEREAS, The Pike County Planning Commission, at its regular meeting held on August 25, 2008, recommended that the Pike County Board of Commissioners adopt the Pike County Open Space, Greenways, and Recreation Plan.

NOW, THEREFORE, BE IT RESOLVED, that the Pike County Board of Commissioners hereby adopts "Growing Naturally – The Pike County Open Space, Greenways, and Recreation Plan" as part of the Pike County Comprehensive Plan.

IN WITNESS WHEREOF, we have hereunto set our hands and caused the Great Seal of the County of Pike to be affixed on this 27th day of August, 2008.

BOARD OF COMMISSIONERS OF PIKE COUNTY

Richard A. Caridi, Chairman

Harry Forbes, Vice Chairman

Karl A. Wagner Jr.

ATTEST:

Gary R. Orben

August 27, 2008



“Growing...Naturally”

The Pike County Open Space, Greenways, and Recreation Plan

A Component of the Pike County Comprehensive Plan

Prepared For

Pike County Board of Commissioners
Pike County Planning Commission

Prepared by

Pike County Office Community Planning
Gannett Fleming, Inc.
Toole Recreation Planning

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Acknowledgements

The Pike County Office of Community Planning gratefully acknowledges and extends thanks to the members of the Countywide Study Committee and all who have contributed their insight and knowledge to this plan.

Pike County Board of Commissioners

Richard A. Caridi, Chairman

Harry Forbes, Vice Chairman

Karl A. Wagner, Jr.

Pike County Open Space, Greenways and Recreation Plan Countywide Study Committee

Steve Vitale, Committee Chairman and Pike County Planning Commission Member

Roy Borgfeld, Lehman Township Resident

Ann Marie Drake, Palmyra Township Resident

Robert Kiesendahl, Local Business Owner

Joe Maculaitis, DCNR Bureau of Forestry

Roger Spotts, Greene Township Resident

Regional Focus Groups including representatives from municipalities, school districts, and the public

Bushkill Focus Group

Delaware Valley Focus Group

Wallenpaupack Focus Group

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This project was financed in part by a grant from the Community Conservation Partnerships Program, Environmental Stewardship Fund, under the administration of the Pennsylvania Department of Conservation and Natural Resources, Bureau of Recreation and Conservation.

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To The Reader

Growing...Naturally, the Pike County Open Space, Greenways and Recreation Plan, is a comprehensive planning document. It represents extensive research of the vast natural and cultural resources found in Pike County and includes analysis of the condition and management of these resources for their long term sustainability. Most importantly, it crafts a vision for strengthening and integrating protected open space, greenways and recreation into rural and small town community life and patterns in the County.

The planning process was based on the needs and desires of the public expressed through surveys, interviews, workshops and meetings. The resources, network opportunities and recommendations were fully developed with the assistance of public representatives and knowledgeable stakeholders.

The plan is organized into three major sections: the plan, the foundations, and the appendix. The plan presents the needs and challenges, the vision for an interconnected network of protected open space, greenways and recreation opportunities, and the actions needed to achieve that vision. The foundations section presents a profile of Pike County's demographic, economic and land use trends related to open space, greenways and recreation as well as the detailed inventories of natural and man-made resources and the assessments of their conditions. The appendix contains a glossary, reference and various technical reports developed in conjunction with the plan.

We hope that the plan conveys the urgent need for both the public and private sectors to take action. The list of unmet needs is growing as rapidly as the resident population. The opportunity to acquire land for public use at reasonable rates is narrowing. Citizens are increasingly interested and supportive of protection for the County's scenic rural character. Investments of time, professional knowledge and money are needed to seize the opportunities for protecting and enhancing the open space, greenways and recreation that define Pike County's quality of life.

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Chapter I

Introduction: Plan Purpose and Preparation



Shohola Falls Photo Credit: J. MCBryan

Plan Purpose

“Growing...Naturally”, the Pike County Open Space, Greenways and Recreation Plan, is a component of the Pike County Comprehensive Plan. It identifies the resources that define Pike County’s exceptional quality and unique experiences and recommends strategies for coordinating open space and natural resource protection and facilitating the development of recreational facilities as an integral part of its community and economic development.

“Growing...Naturally” is not a regulatory document and does not have the power of law. Rather, it provides a planning framework for Pike County and its municipalities. “Growing...Naturally” suggests management strategies and policies to protect our natural resources and provide quality recreation opportunities for people who live, work and visit in Pike County. The plan should serve as a guide to decision making and investment and offer direction to help the County achieve a healthy balance between preservation and development. This Plan should also serve as a reference for our municipalities and a foundation for their own planning initiatives.

This Plan does not supersede local planning initiatives, zoning or subdivision and land development ordinances. The objectives, initiatives, and projects identified in this Plan do not make determinations about specific properties but rather focus on areas and greenways where important outreach initiatives for conservation and private stewardship should be focused. The plan avoids the use of eminent domain as a method for obtaining land by focusing open space conservation methods on collaboration with willing property owners.

Benefits of Open Space, Greenways and Recreation Planning for Residents of Pike County

The benefits of designating, protecting and enhancing open space, greenways and recreation areas and programs are far reaching. Open spaces help to retain rural character, protect water supply and quality, and sustain resource based industries. A report distributed by the Pennsylvania Greenways Commission, entitled *Benefits of Greenways: A Pennsylvania Study*, promotes the numerous direct and



indirect, environmental, economical and social benefits of open spaces and greenways to their host communities, as shown below. Recreation areas and programs build social connections among residents, promote health and wellness, and teach skills and values. When of superior quality, they can also help to attract new employers and visitors with interesting and unique things to do in a destination community.

Benefits of Open Space, Greenways and Recreation**Economic Benefits**

- Increase nearby property values.
- Foster new and expanded businesses, employment opportunities, and revenues related to greenway and trail use and added revenue and jobs related to the timber and forest products industry.
- Create/Increase tourism expenditures on food, lodging and services.
- Reduce damage and financial loss from flooding.

Social Benefits

- Provide access to historically and culturally significant features.
- Help to preserve the character and aesthetic appeal of a place or landscape.
- Provide significant new public places to connect people and communities.
- Improve health and wellness.
- Heighten sensitivity to and interaction with the natural environment.

Transportation Benefits

- Promote non-motorized transportation.
- Provide safe alternative transportation routes for pedestrians and bicyclists.
- Provide emergency access via trails to undeveloped areas.
- Reduce roadway congestion through redistribution of users to alternative transportation routes.

Ecological Benefits

- Promote and sustain wildlife diversity through protection of habitat and migration corridors.
- Absorb and filter stormwater and floodwaters.
- Improve air quality and reduce noise.
- Connect or reconnect fragmented landscapes.
- Focus attention and clean up efforts on damaged/degraded corridors.

Recreation Benefits

- Provide areas to jog, walk, bike, ride horses, canoe and swim.
- Serve as sites for passive pursuits such as picnicking, fishing and enjoying nature.
- Provide connections between parks and other protected lands and interconnect existing and planned trails.

Environmental Education Benefits

- Provide landscapes for learning.
- Create an awareness and appreciation for the environment.
- Introduce environmental concerns and best practices to the public.

Defining Terms: Open Space, Greenways, and Recreation

The terms open space, greenways and recreation can mean many things to many people. These terms are defined below in order to communicate the plan's intention and recommendations clearly and effectively. Additional definitions are included in a glossary in the appendix. The definitions are based upon similar ones used across the state and have been tailored to Pike County based upon references from the County's Comprehensive Plan and the work of the Pike County Scenic Rural Character Preservation Program.

Open space

Open space is the land and water features of the natural landscape that have not been developed for intensive human uses, such as residential neighborhoods, business districts and industrial sites. Open spaces include, but are not limited to, wildlife areas, ridgelines, river and stream corridors, wetlands, parks and recreation areas, as well as productive forestry and agricultural lands. Open space can be publicly or privately owned and managed for production, conservation or outdoor recreation. Open space can protect and enhance environmental quality, provide wildlife habitat, and provide locations for active and passive recreation. An open space network refers to a system of large open spaces and connecting corridors called greenways.

Greenways

Greenways are linear corridors of public and/or private open space lands. Greenways can be based on linear land or water features, such as ridgelines, stream corridors and valleys, or trail corridors. Greenways that pass through developed communities can include streetscapes, public greens, parks and other common outdoor spaces that protect and enhance natural and cultural resources.

Greenways serve a variety of functions and benefits including natural resource conservation or protection, wildlife habitat and migration, community revitalization, transportation, economic development, community education and recreation. Greenways can also direct attention and funding for environmental restoration and community revitalization to areas in need.

Recreation

Recreation is defined as any of the activities that people participate in during their leisure time. For this planning effort, the term recreation refers to the parkland and outdoor facilities that people use for leisure activities, organized programs, and their management and operations. The plan primarily addresses outdoor recreation though the planning process revealed interest in more year-round indoor and outdoor recreational opportunities.

The Open Space, Greenways and Recreation Planning Process

The Pike County Open Space, Greenways and Recreation Plan is a functional component of the County's 2006 Comprehensive Plan. The Comprehensive Plan recommended preparation of an open space, greenways and recreation plan and identified topics that the plan would need to address.

Pike County Comprehensive Plan: Chapter 7 Greenway and Trail Planning

The Open Space, Greenways and Recreation Plan will provide direction on:

- The protection of the high quality and exceptional value water resources in the County by providing a plan for open space, greenways and recreation which will specifically address the largely intact forested watersheds of the County
- Retaining the rural character and quality of life of our communities
- The connectivity of current public land holdings within the County and strategies for preservation of open space corridors which will further enhance the County's existing greenways as well as look at regional, state-wide and Tri-state (New York and New Jersey) greenway connections
- Recreational facilities needs and opportunities for our communities

The development of the Pike County Open Space, Greenways, and Recreation Plan began in February 2006. The planning team included staff from the Pike County Office of Community Planning, the consulting team of Gannett Fleming, Inc. and Toole Recreation Planning, and a county-wide Study Committee comprised of interested citizens. Members of the Study Committee represented a broad range of interests, including but not limited to: forestry, conservation, economic development, tourism, and land-use planning. The Study Committee met regularly throughout the project to guide the direction of the plan and assist the staff and consultants in collecting data, conducting interviews and other public participation activities, and reviewing the draft plan and maps.

Phases of Plan Preparation

The Open Space, Greenways and Recreation Plan was prepared in six phases.

- I. Inventory of existing open space and recreation resources and conditions
 - Building on the information contained in the Comprehensive Plan
 - Producing reports on demographic trends and growth implications; natural resources; public and protected open space; park and recreation areas; greenways, trails, and byways; historic and cultural sites; forest

- resources; and farmland resources, presented in the Foundations section (section II) of the plan
- Geographic Information System (GIS) mapping of resources
 - Outreach to the federal, state, and regional organizations and municipalities
 - Conducting key person interviews with community stakeholders, including school districts
2. Analysis of strengths, challenges and opportunities regarding open space, greenways and recreation
 - Identification of Pike County's strengths in each resource topic
 - Assessment of challenges in each resource topic
 - Identification of opportunities, including partnership potential, in each resource topic
 - Comparison of findings with public opinion regarding the concerns, ideas and suggestions of the public and organizations with interests in open space, greenways and recreation
 3. Open Space and Greenway Opportunity Mapping
 - Analysis of strategic opportunities for resource stewardship, land conservation, parkland acquisition, greenway linkages, and outreach
 4. Development of vision, mission, goals and guiding principles
 - Creation of the vision for open space, greenways and recreation in Pike County
 - Development of a mission statement for Pike County's leadership in implementing the plan
 - Formulation of goals to achieve the Vision
 5. Actions, Recommendations and Implementation Development
 - Development of recommendations
 - Prioritization of recommendations in a timeline
 - Identification of partners who could help to implement the actions
 6. Plan Review & Development of Final Plan
 - Production of the draft plan
 - Review by the Countywide Study Committee
 - Revision and publication of the draft plan
 - Informal review by county officials
 - Public review
 - Plan adoption by Pike County Board of Commissioners

Public Participation

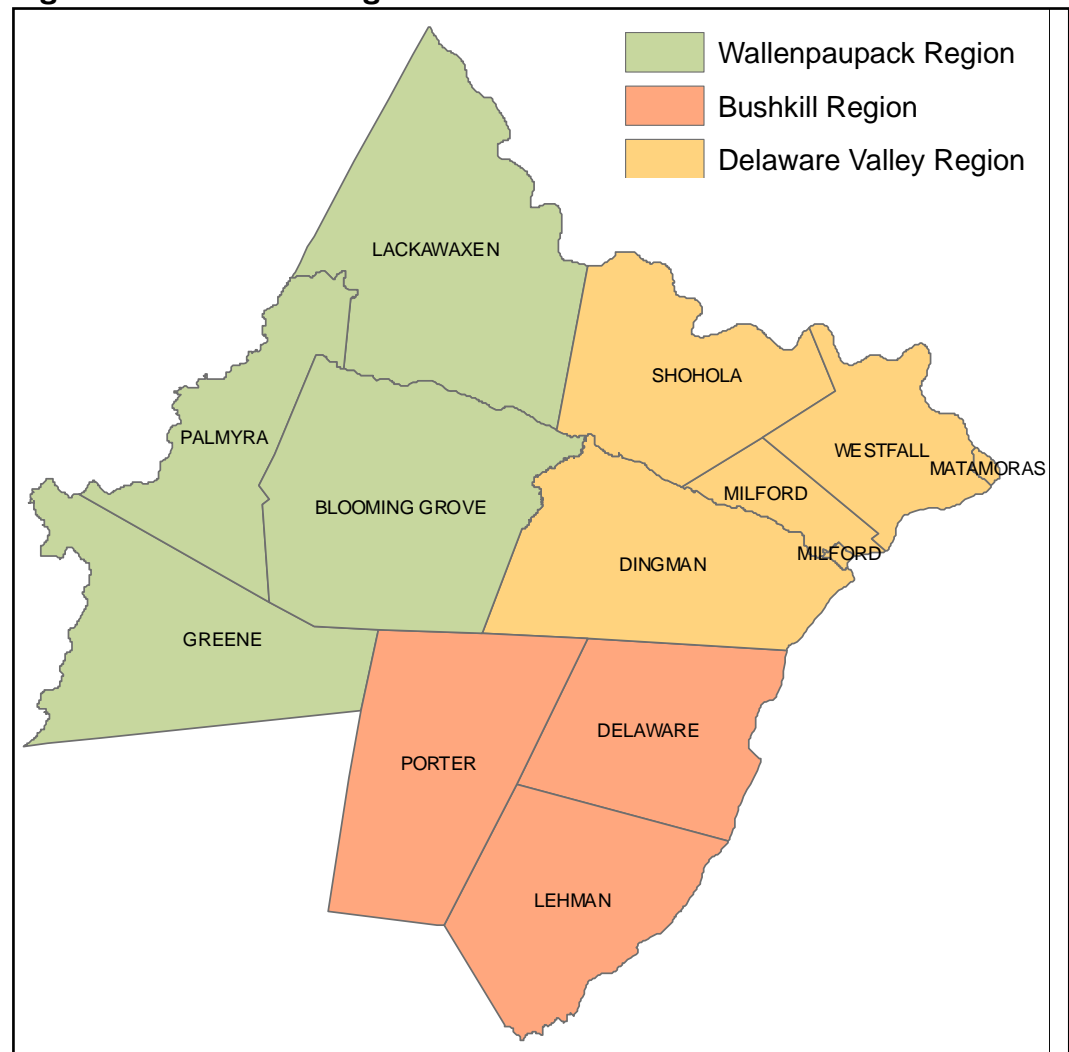
Public participation was at the core of this planning process. A five-part citizen involvement program featured the Countywide Study Committee, key person interviews, focus groups, public meetings, and regional meetings with municipal officials.

Three multi-municipal regions were designated based upon the school district service boundaries and municipal relationships with general development styles and environmental resources. Regional meetings with municipal officials were intended to obtain localized input on issues, needs and opportunities in recognition of the variable resource conditions and development pressures that each municipality faces and to foster multi-municipal partnerships.

- The Bushkill Region included Delaware, Lehman, and Porter Townships.
- The Wallenpaupack Region included Blooming Grove, Greene, Lackawaxen, and Palmyra Townships.
- The Delaware Valley Region included Shohola, Milford, Westfall, and Dingman Townships, and the two Boroughs of Milford and Matamoras.

As the preparation of the plan progressed, a more effective arrangement for regional partnerships emerged and was integrated into the recommendations.

Figure I-1: Outreach Regions



In addition, various project outreach materials were published by the Office of Community Planning and distributed by staff and members of the Countywide Study Committee. These materials included a project brochure, a series of project newsletters, postings on the Community Planning website, and extensive regional newspaper coverage. The planning staff also reported the project's status regularly to the Planning Commission and Conservation Partnership, who provided professional expertise and local knowledge to the plan's development.

Chapter 2 The Call to Action



Photo Credit: J. Grohmann – Fairview Lake

Our Needs

Pike County has a lot at stake. From border to border, the County contains clean water, acres upon acres of verdant forests, four-season scenic beauty, and abundant wildlife that define its rural character. It offers a high quality of life among its small towns and remote communities through its vibrant arts and cultural heritage and premiere outdoor recreation on state, local and private lands and public waterways. All of these assets are affected, directly or indirectly, by development.

Pike County is one of the 100 fastest growing counties in the United States – the fastest in Pennsylvania for each of the past three decades – according to the US Census Bureau. If the recent rate of growth continues, the resident population could increase from 58,633 as estimated in 2007 to 150,000 by 2030 – in just over 20 years. The acreage required to house these potential future residents per the current two-acre zoning average is 104,000 acres. This demand for residential development places heavy pressures on the forested open space that has blanketed the County for hundreds of years and on the high quality water resources found at the surface and underground.

Pike County is one of the closest destinations for nature and the great outdoors for over 11 million people living between southern New England and the mid-Atlantic. Milford Borough is 70 miles from Newark, New Jersey, 75 miles from New York City, and 125 miles from Philadelphia, Pennsylvania. It's no wonder the year round population swells with another 56,000 seasonal residents over

the course of the year.¹

At the turn of the 20th century, long before the County was under this kind of pressure, the quality of natural resources in the Pocono Mountains were recognized by the Commonwealth of Pennsylvania and many acres of lands were set aside for the long term protection of water quality, wildlife and game habitat, and outdoor recreation. This recognition was expanded with the designation of the Delaware Water Gap National Recreation Area in 1965 and the development of county and municipal parkland in subsequent decades. This collective investment has resulted in the protection of one third of Pike County's land area as federal, state, county, municipal and private open space and parks. Another third of the County has been developed. This leaves nearly one third, roughly 120,000 acres, available for future community development and potentially vulnerable to the impacts of those decisions. Limited protections for steep slopes, wetlands and other natural areas are provided in municipal ordinances. However, the greater threat is the potential loss of seemingly endless forested open space and dramatic change in the County's scenic rural character.

Renewed commitment to the conservation of our natural resources, rural character, and recreation is needed throughout Pike County. This commitment needs to be inspired by a vision for Pike County as a premiere place to live and to visit, guided by goals for directing action. Foundations of the Plan, Chapter 6 through 12, inventories our natural and cultural resources, protected and public lands, recreation facilities, historic sites and working open space landscapes independently and in detail. Collective analysis of these conditions presents a compelling basis for fruitful investment in open space, parks and recreation. Indeed, the opportunities for strategic action and investment are far greater than the sum of these parts.

Recent Pike County Initiatives

In an effort to preserve land and protect natural resources, the County passed a \$10 million bond issue for open space in November 2005, adopted a new County Comprehensive Plan in 2006, and undertook this Open Space, Greenways, and Recreation Plan. These activities were broadly supported by citizens and community organizations that rallied together in a host of advocacy efforts. Citizen voters support open space preservation – they voted to pass the bond issue by a 68% approval rating. Pike County's Office of Community Planning and its Conservation District have been close partners for many years. In 2005, they joined efforts with a variety of conservation-minded groups—the Delaware Highlands Conservancy, the Nature Conservancy, Alliance to Keep Pike Green, the Pinchot Institute of Conservation, Penn State Cooperative Extension Service, the Pennsylvania Department of Conservation and Natural

¹ Pike County Profile on the [Team Pennsylvania Foundation website](#). Accessed on the Internet 10-1-07.

Resources, and the National Park Service—as the Conservation Partnership to support civic engagement and community involvement; livable, economically viable communities; and conservation and sustainable use of natural resources with coordination, technical assistance and education.

Initiatives in Pike County

- Pike County Comprehensive Plan
- Pike County Scenic Rural Character Preservation Program
- Pike County Community Planning Initiative (CPI)
- Pike County Agricultural Land Preservation Program
- Forecasting Land Use Change In Pike County & Wayne County, Pennsylvania
- The new Pike County Visitors Bureau
- Conservation Partnership

While citizens support the investment in open space, private property rights are of central importance to the people of Pike County. To support this right, Pike County has adopted a policy that acknowledges that 1) all landowners are land stewards 2) all land conservation will be through partnerships with willing participants and 3) not all preserved lands will have public access. Some land will be preserved for environmental benefits only, while other areas will be conserved for parks and trails with access for responsible public use.

Federal, Regional and State Initiatives

Pike County is front and center in more than half a dozen federal, state, regional initiatives in addition to its own. The breadth of these initiatives testifies to the importance of Pike County in conservation, tourism and economic development at each of these levels.

Regional Initiatives involving Pike County

- Pocono Forests & Waters Conservation Landscapes Initiatives (PA DCNR)
- Delaware Water Gap National Recreation Area Management Action Plan, including trail expansion efforts
- Upper Delaware Wild and Scenic River Corridor (National Park Service)
- Delaware Water Trail
- Upper Delaware River Greenway (New York and Pennsylvania)
- Upper Delaware Visioning/Roundtable
- Tri-State Planning Forum
- Pennsylvania's Program to Create Connections to the Outdoors

Pike County's active participation in these initiatives can generate significant benefits. Professional planning involvement has the potential to generate millions

of dollars in value through land conservation, increased tourism potential, and preservation of the treasured outdoor recreation resources of Pike County. Technical expertise, grant funding and action-oriented partnerships can result, if staff time and resources can be allocated to make the most of these relationships. It is essential to view the financial commitment for staff participation as an investment in the County's future, not simply an administrative cost.

Pike County's Role in Outdoor Recreation and Tourism

Pike County is a significant destination for outdoor recreation and tourism. The county is home to one of only 18 national recreation areas in the national park system. Pennsylvania ranks among the top five states in the country for outdoor recreation participation. Furthermore, Pike County ranks among the top three counties in the state as a destination for nature-based recreation (including hunting and fishing licenses² for non-resident adults—tourists). Participation in non-consumptive outdoor recreational activities, such as hiking and wildlife watching, are increasing and opportunities for such activities are important to residents and tourists alike. The 375 miles of trails on federal and state parks, forests and game lands offer a range of trail experiences, but could offer much more if interconnected with population centers and public waterways.

In contrast to stereotypical “honeymoon” resorts on other Pocono mountainsides, Pike County's hospitality industry hosts the top echelon of retreats for wellness and well-being in the country. In light of nationwide tourism trends and the County's proximity to urban populations, Pike County is well positioned to take advantage of an upsurge in destination spas and inns where guests come to relax and invigorate themselves in the beauty of nature.

Recreation is an essential public service. It provides the means to address major social problems such as the obesity epidemic, the increasing isolation of society, and the need for a sense of community. Parks and recreation opportunities that are “close to home” for all citizens are a top concern among community leaders and citizens. Seven of the 13 municipalities have at least one municipal park. Most of the parks are small and a challenge for independent rural municipalities to maintain. The public schools serve as the hub of close-to-home recreation by providing both facilities and services. They, too, are stretched thin; they do not have enough land, recreation facilities or the staff to meet public recreation needs, nor is it their primary mission.

The growing population includes many school children, diverse ethnicities and many newcomers to a rural environment. Many have expectations of services and facilities that are more urban or suburban in character like the communities they left behind. Due to lack of understanding of the natural environment, they

² Source: Commonwealth of Pennsylvania, Game Commission and Fish & Boat Commission, License Reports 2007.

either fear and avoid the outdoors or use the open space for motorized vehicles without regard for sensitive resources. Finding the balance between maintaining the rural and sometimes wilderness character with an effective level of public service is important to fostering healthy communities. The challenges of this large influx of newcomers range from the physical and functional aspects of community life to the social implications to a sense of community; these include expectations for public services; fear of nature and the outdoor environment; language barriers; lack of transportation alternatives for non-drivers – both young and old; extended commuting hours resulting in children home alone, among others.

An Urgent Need for Action

As the fastest growing county in Pennsylvania, one of the top 100 in the USA, Pike County and its municipalities are facing the challenge of managing the significant population growth and its associated development. Pike County Commissioners have demonstrated their commitment to planning through the addition of dedicated, professional planners in the County's Office of Community Planning increasing staff from two in 2003 to five by 2006. The Commissioners also leveraged county funds with state funding opportunities to assist in building capacity in the Department. In 2005, the County worked with the PA Department of Conservation and Natural Resources and the PA Department of Community and Economic Development to add a Community and Natural Resource Planner position in the county office through this joint county-state partnership. The current staff of five provides countywide planning services -- the review of local development plans, participation in regional planning initiatives, and long range planning for the wide array of planning components from land use and transportation to infrastructure and natural and historic resources. However, this is an excessive workload for such a small staff when the extent of open space and quality of resources is at stake. Even the counties in Pennsylvania with population losses retain a broad planning staff to support planning efforts in these specialized areas.

No Pike County municipality has a planner or a parks and recreation professional on staff. As development pressures intensify and spread westward, municipalities increasingly look to the Office of Community Planning for planning assistance, creating an even larger workload for the small operation. The participation of the municipalities in open space, parks and recreation planning is essential based upon how government works in Pennsylvania. The municipalities have the real power, enforcement and leveraging tools regarding the location, character and timing of development. Pike County would like to support and encourage those efforts.

It is essential for Pike County to continue its commitment to planning by adding professional planners to manage the critical workload of the next ten years. Additional planning resources should be dedicated now while there is land to

conserve and opportunities to seize. Adding planning resources will have a long-term benefit that is likely to far outweigh the investment cost. Strengthening Pike County's planning resources can be achieved through a variety of means ranging from part time and full time staff to outside contracts for identified projects.

There is a great sense of urgency to conserve land and the rural character of Pike County before it is lost or irreparably changed by development. The window of opportunity to preserve land and resources is narrow. Land is being lost at a rate of roughly 500 to 1,000 acres per year. While the \$10 million bond funding for the Pike County Scenic Rural Character Preservation Program is a lot of money, it is not nearly enough to set aside land on the scale required to retain the present character of Pike County; not enough to acquire parkland, build recreation facilities or construct trails needed by residents and to attract tourists. It may provide additional services and planning support for comprehensive plan updates and regulatory revisions, but this need is ongoing.

The county alone cannot accomplish all that needs to be done within the rapidly narrowing window of opportunity. Partnerships are essential. There is already a force of conservation organizations, land trusts, trail enthusiasts and outdoor recreation devotees with a common interest in sustaining nature while growing naturally in Pike County. Harnessing these interests into productive partnerships, to work strategically and collaboratively on priority actions, could have a significant impact. The members of the Conservation Partnership are already working in coordination with one another using an annual work plan to identify priorities for comprehensive management and education. Expanded cooperation of this type is needed.

Additionally, providing the staff and resources at the County and regional levels of government can help to leverage great gains in open space, parks and recreation through planning, conservation by design, public/private partnerships and multi-municipal operations. While public sentiment favors small government, investing in staff now to work in a concentrated, collaborative fashion over the next ten years will yield benefits in the short term that may not be reachable or even available beyond 2020. The results of concentrated, intensive planning and outreach is likely to have a payback worth millions of dollars and help to retain the high quality of life and preserve open space and character that could be in place a hundred years from now. Our forefathers began a legacy of land and water conservation—one that should continue as we grow...naturally.

Chapter 3

Our Vision for Open Space, Greenways and Recreation in Pike County



Photo Credit: D. Soete

Our Guiding Principles

Based upon the needs expressed by the public, school districts, municipalities, conservationists, recreationists, business owners, long-time residents and newcomers, the following guiding principles for the development of the County's open space, greenways, and recreation network emerged. These principles provide the foundation for the vision, mission, goals, recommendations, and implementation of the Pike County Open Space, Greenway and Recreation Plan. The six principles include:

1. Our high quality natural resources and rural character are assets to our citizens and our community as a whole. Our county's economic vitality, community wellness and livable communities are dependent on the health of our natural environment and the integrity of our rural character.
2. Our natural resources, ecological communities and large contiguous forests, and the integrity of those resources are not only important to the health and character of our community but also significant regionally and globally.
3. Our tourism economy and our quality of life are also dependent upon natural resources, protected open spaces and adequate park lands and recreation facilities.

4. Protection of our pristine natural resources and conservation of our open land is urgently needed. Costs to protect our resources and conserve land will continue to increase over time and immediate action is necessary to balance development pressure and conserve the quality of Pike County's resources and rural character.
5. The County's primary role is to provide leadership, encouragement and professional technical assistance to municipalities, as well as outreach to landowners and education for the public. Tools include planning and management strategies, municipal ordinances and best management practices. Through these services, the County supports a basic level of investment in open space, greenways and recreation.
6. Partnerships are an integral component to accomplishing the goals of Pike County's Open Space, Greenways and Recreation Plan. Cooperation between federal, state, regional, county, and municipal entities, local conservancies, and our citizens are critical for success.

Our Vision

Today, Pike County's rural landscape is comprised of unique forestland, high quality water resources, and pristine wildlife habitat. Our natural and scenic resources provide exceptional opportunities for recreation and environmental education, and they support a rural, high quality of life. The plentiful recreation resources and scenic beauty support a prosperous tourism economy. Residents value their rural quality of life and have voiced the need to conserve, maintain, and enhance the natural and cultural resources while promoting sustainable growth. As we consider the future, we aim to strengthen resource protection and enhance recreation opportunities with an interconnected open space, greenways and recreation network.



Photo Credit: J. McBryan – Blooming Grove Road

The Vision for Pike County's Open Space, Greenways and Recreation Network

By the year 2017, Pike County will be a community sustained by its open space, greenways and recreation network. The critical components of Pike County's Open Space, Greenways and Recreation network will be protected and enhanced through collaborative public investment, partnerships, and work with willing landowners for the overall benefit of the community. The network will demonstrate a visible connection between our natural areas, high quality water resources, recreation areas and livable communities. This network will continue to support a diverse and prosperous tourism economy based on outdoor recreation and the scenic quality of the rural landscape. The rural character and quality of life that Pike County residents value will continue to be maintained through balanced conservation planning, smart growth, and active preservation efforts through our partnerships, citizens and our communities.

The Open Space, Greenways and Recreation Network

Designating and protecting open space and greenways offers a means to protect and enhance the integrity of the natural resource, celebrate unique cultural heritage, sustain resource-based industries and appreciate rural character. Linking these "green" resources together as a network emphasizes their integral role in the physical structure and quality of life found in Pike County. Designation can also help to focus attention and funding on community revitalization and resource restoration.

The Pike County Open Space, Greenways and Recreation Network is envisioned as a network of physically and programmatically connected spaces that meet the needs of our community for environmental protection, conservation and recreation through their location, ecological function, built facilities and programs or services. This network interconnects public and protected land holdings at the local, county, and regional level with greenways and trails and proposes acquisition, easement, and private stewardship of strategic lands to achieve sustainable environmental protection and provide adequate recreational opportunities.

The foundation of the network is the existing public and protected lands in Pike County. These include the Delaware Water Gap National Recreation Area, the Delaware State Forest, the various state game lands, Promised Land State Park, public water accesses, county and municipal parkland, and the numerous private properties that have been protected through conservation easements.

To this foundation, the network proposes opportunities for significant resource conservation and open space protection on large tracts or clusters of tracts. These are called conservation opportunity areas. These 23 multi-tract Conservation Opportunity Areas contain significant valuable resources; their protection from development has been determined to be a priority. Outreach regarding land conservation options, resource management and stewardship programs should be targeted to the landowners in these areas to ascertain their interest in long-term protection and stewardship management programs. Willing landowners in the Conservation Opportunity Areas should receive priority for technical assistance and funding from public conservation programs. The recommendations in Chapter 5 further outline methods for the County, municipalities, conservation organizations, and the state to invest in outreach and land protection in these target areas.

The network also proposes various greenways, trails and scenic byways. All three types of corridors link key natural and recreational features with scenic and cultural journey points or destinations. They also provide the opportunity for connecting residential, commercial, and key population centers in the county with these natural and recreation features. Each corridor is described in Chapter 4 and reflected in the Conceptual Greenways Map at the end of Chapter 4.

Both the Conservation Opportunity Areas and greenway, trail, and byway corridors identify potential locations for additional county or municipal parkland that would already be a part of the network. Additional locations for new parks should be considered if trail connections to these locations can be incorporated into the network.



Photo Credit: J. McBryan – Delaware Township Camp Akenac

The design of Pike County's open space, greenways and recreation network follows the hubs and spokes concept described in DCNR's *PA Greenways: An Action Plan for Creating Connections*. This plan characterizes hubs as major

destinations such as large public natural lands, communities, cultural or historic sites of statewide or national significance. Spokes are defined as the connecting corridors such as water trails, natural corridors, wildlife corridors, hiking and bicycling trails, etc., between the hubs.

Hubs and Spokes of Pike County's Open Space, Greenway and Recreation Network	
Hubs	Spokes
<ul style="list-style-type: none"> • Delaware Water Gap National Recreation Area • Promised Land State Park • Delaware State Forest • PA Game Lands #118, 180, 183, 209, 316 • Pike County Park • Municipal Parks • Natural Areas Inventory Sites • Historic Landmarks • Villages • Lake Wallenpaupack 	<p>Regional or Major Greenways</p> <ul style="list-style-type: none"> • Delaware River Greenway <ul style="list-style-type: none"> ○ Upper Delaware River Corridor ○ Tri-State Bend Corridor ○ Delaware Water Gap Corridor • Lackawaxen-Wallenpaupack Greenway <ul style="list-style-type: none"> ○ Wallenpaupack Creek Corridor ○ Lackawaxen River Corridor <p>Local or Minor Greenways</p> <ul style="list-style-type: none"> • Blooming Grove Greenway • Little Bushkill Greenway • Pinchot-Sawkill Greenway • Shohola Greenway <p>Scenic Byways</p> <ul style="list-style-type: none"> • Greentown Scenic Byway • Lackawaxen Scenic Byway • Route 6 Scenic Byway • Route 209 Scenic Byway • Route 402 Scenic Byway • Silver Lake Scenic Byway • Route 507 Scenic Byway • Route 390 Scenic Byway

The Mission of Leadership

The mission of Pike County regarding open space, greenways, and recreation is to advance the conservation of natural and cultural resources, stimulate recreational opportunities that are compatible with the protection and appreciation of resources, and foster connections through greenways and trails - all through partnerships - to enhance the quality of life for people who live, work and visit here.

Our Goals for Open Space, Greenways and Recreation

The Pike County Open Space, Greenways and Recreation Plan has eight goals.

- Goal 1: Promote the identification and protection of critical open space land areas of environmental, scenic, and recreational value as shown on the Conservation Opportunities Map.
- Goal 2: Encourage conservation of natural resources and rural character through best planning practices and sustainable development in accord with the integrity of our rural environment.
- Goal 3: Identify linkages between critical open space areas and develop methods to create, restore and conserve the connections.
- Goal 4: Establish a countywide system of parks and recreation areas through the collaboration of state, county, regional, municipal, and private parks and recreation opportunities in Pike County for present and future generations.
- Goal 5: Build stewardship for Pike County's land, water and natural resources through public outreach and education.
- Goal 6: Position Pike County as a premiere tourism destination in the United States and internationally for outdoor recreation, eco-tourism, heritage tourism and agritourism through the protection, stewardship, and promotion of county resources.
- Goal 7: Plan and manage open space conservation, parks and recreation through partnerships for the greatest public benefit and responsible use of resources.
- Goal 8: Invest in open space, parks and recreation to enhance the health, safety and welfare of the citizens and contribute to the economic vitality of Pike County.

The Blueprint for Action

The Blueprint outlines the top ten initiatives for Pike County to undertake in open space, greenways and recreation. They present a strategy for resource stewardship, land protection as portrayed on the Conservation Opportunities Map, creation of the network shown on the Greenway Network Map, and provide overall direction for the recommendations presented in the Chapter 5.

- ✦ **Land Protection.** Over the next ten years, preserve 24,100 acres of land as open space: 19,500 acres of private forested land, 1,100 acres of local parkland and 1,500 acres of regional parkland, and 2,000 acres of farmland. Target easements, acquisitions and land donations to interconnect and buffer existing protected lands.
- ✦ **Resource and Character Conservation.** Over the next ten years, complete updates of county and municipal ordinances to include contemporary environmental protections. Update or complete environmental resource water and wildlife studies to provide accurate foundations for planning, zoning and land development plan review. Develop and implement resource management plans for public lands. Encourage the preparation and implementation of resource management plans for private lands.
- ✦ **Greenways and Trails.** Develop a trail within a 15-minute walk or bike ride of every citizen. By 2017, establish four county greenway spines and 100 miles of trails that connect people to the rivers, parks, neighborhoods, schools, shopping areas, business centers, towns and villages to which municipalities and other organizations can connect.
- ✦ **Regional Parks & Open Space.** Organize the County into multi-municipal regions for planning, trail and greenway systems, and as the foundation for the countywide system of parks and recreation services.
 - Upper Delaware Region – Lackawaxen and Shohola Townships
 - River Gateway Region – Milford Borough, Milford Township, Matamoras Borough, Westfall Township, and Dingman Township
 - Bushkill Region – Lehman and Delaware Townships
 - Wallenpaupack Region – Palmyra, Greene, Blooming Grove and Porter

Work with the municipalities to create one regional park in each planning region; program two-thirds of each regional park for passive recreation and one-third for active recreation and establish county, multi-municipal or municipal management.

- ✦ **Close-to-Home Parks, Recreation & Open Space.** Assist the municipalities in developing multi-municipal park, recreation and open space plans. Focus parks and recreation facilities within 15 minutes of every household in the planned growth areas. Include the school districts within the close-to-home recreation system. Outside of the growth areas, focus on creating trails to connect rural residents with parks and recreation facilities in planned growth areas and to the regional parks.
- ✦ **Stewardship through Education and Outreach.** Foster the ethic that every landowner is a land steward. Create a program of public education and outreach for four target audiences—municipalities, owners of large

properties, citizens and tourists—to advance understanding of the choices these groups of individuals can make. Advocate the benefits they can receive from land conservation and natural resource protection, alternatives to development for large tract landowners, parks, recreation and open space as a community investment, and the next generation of land stewards.

- ✦ **Tourism and Recreation Services.** Work with the Pike County Visitors Bureau and the Pocono Mountains Visitors Bureau to develop strategies to advance common goals focusing on creating and supporting tourism destinations.

Create a recreation council comprised of the school districts, municipal recreation boards, and commercial, private and non-profit recreation providers to determine the appropriate level, distribution and provision of recreation services. The focus should be on health and wellness, namely providing opportunities that will enable citizens to lead year round active healthy lifestyles.

- ✦ **Partnership Strategy.** Embrace partnerships to implement the plan. Identify actions to pursue and assemble these partnerships to work on initiatives collaboratively. The key is *the strategic management* of partnerships to address all elements of the plan. Use existing partnerships, such as the Conservation Partnership, as the springboard.
- ✦ **Organization and Management.** Continue to expand the staff of the Office of Community Planning and focus the responsibilities of each staff member. The Office of Community Planning should have qualified experts in the following areas: forestry, water resources, land use and infrastructure, recreation and trails, cultural resources and tourism. Planners can be retained as full or part time staff or as contractors for identified projects.
- ✦ **Integration of Open Space, Parks & Recreation.** Position parks, recreation and open space as a tool to support economic development, create a sense of community, stimulate tourism, promote health and wellness, attract business, and protect the environment. Integrate investment of open space, parks and recreation into these aspects of public and private planning.

Chapter 4 Network Hubs and Spokes



Silver Thread Falls Delaware Water Gap National Recreation Area

Network Hubs: Conservation Opportunity Areas

Conservation Opportunity Areas were identified based on the presence and connectivity of natural, recreational, cultural, and scenic resources. An analysis was used to highlight areas of resource concentration for potential resource and open space connections. The methodology of this analysis is characterized as the Conservation Suitability Analysis and is located in the appendix.

The analysis resulted in the identification of 23 multi-tract areas that contain concentrations of significantly valuable resources. These areas total approximately 65,750 acres or 18% of Pike County. These areas are numbered,

named and characterized below and are featured on the Conservation Opportunities Map located at the end of Chapter 4.

- | | |
|----------------------------|---------------------------------|
| 1. Rowland Swamp | 13. The Knotch – Belle Mountain |
| 2. Lackawaxen lakes | 14. Millbrook Ridge |
| 3. Tinkwig Headwaters | 15. Paupack Lowlands |
| 4. Shimers Mountain | 16. LaAnna Divide |
| 5. Delaware River Ridge | 17. Bushkill Highlands |
| 6. Bald Hill | 18. Pickerel Lake |
| 7. Sagamore Ridge | 19. Bushkill Basin |
| 8. Millrift Highlands | 20. Twelvemile Pond |
| 9. Buckhorn Oak Barrens | 21. Whittaker's End |
| 10. Delaware Valley Cliffs | 22. Little Bushkill Ridge |
| 11. Middaugh Pond | 23. Wallenpaupack Confluence |
| 12. Long Swamp | |

The identified Conservation Opportunity Areas can be used by conservation partners to target outreach to landowners in these areas and to identify appropriate conservation tools for the resources to be conserved. The suitability analysis does not reflect landowner interest or willingness in resource conservation, nor were landowners of Conservation Opportunity Areas identified. These would be preparatory tasks for any outreach initiative.

Please note that although the Conservation Opportunity Areas are numbered, the numbering is for reference and does not reflect order of priority. Additionally, the names of the conservation opportunity areas were determined by County Planning Staff based on a prominent feature, natural area, location, road or other easily identifiable feature found within or adjacent to the area. The names of the areas are for general reference and identification only.

1. Rowland Swamp – This conservation opportunity area includes a large contiguous forested block immediately adjacent to PA Gamelands in northern Lackawaxen Township. The area includes approximately 800 feet of Delaware Riverfront and ridgeline. A good portion of the area lies within the legislative boundary of the Upper Delaware Scenic and Recreational River Corridor. Rowland and Spruce Swamps are important natural features. IBA

2. Lackawaxen Lakes - This area contains a significant portion of the main stem and headwaters areas of the Masthope Creek as well as headwaters areas of Tink Wig, Rattlesnake, and Wolf Run Creeks. A dwarf tree forest and several natural glacial lakes are included in the natural features in this conservation opportunity area. IBA

Areas 1 and 2 above provide for a large contiguous forested block with significant high quality headwaters areas and adjacent to existing state lands.

3. Tinkwig Headwaters – This area includes the headwaters area of the Tink Wig Creek located in Lackawaxen Township. Additionally, Pike County Agricultural Security Area acreage and historic agricultural areas of the county are included in this opportunity area.

4. Shimers Mountain – Significant to this area are the relatively undisturbed forest blocks between existing sections of state lands. This conservation opportunity area identifies a greenway connection between these state lands. The area includes drainage areas of the Blooming Grove and Grassy Island Creeks which are major tributaries to the Lackawaxen River. Lackawaxen Riverfront and ridgeline cliffs are important natural features.

Area 4 above provides the connection for the identified Blooming Grove Creek Greenway.

5. Delaware River Ridgeline – Delaware Riverfront, several historic sites, significant views along the river, potential river access, adjacency to state lands, and direct tributary drainages along the river are all important features of this area. IBA

6. Bald Hill – This area provides for a greenway connection between State Gamelands #180 at Shohola and Gamelands #116. Shohola Creek drainage area as well as a ridgetop dwarf forest habitat are natural features included in this area.

Areas 5 and 6 above make the connections for the identified Shohola Creek Greenway.

7. Sagamore Ridge – This approximately 5,400 acre area includes significant lands adjacent to state game and forest lands. The area extends from the Delaware River, just north of Pond Eddy, south through to Route 6. This area features several lands already placed in conservation easements, the Bridge Preserve newly acquired by Dingman Township, and the potential for Greenway connections through to the county park, proposed Pinchot Trail system, the Borough, and the Delaware Water Gap NRA.

8. Millrift Highlands – A portion of this area lies within the legislative boundary of the Upper Delaware Scenic and Recreational River and is adjacent to state lands. Significant natural features include the Millrift Flats and Millrift Cliffs, Delaware River ridgeline viewscape, and a Class A wild trout stream. IBA

9. Buckhorn Oak Barrens – Area 9 provides buffers and additions to one of Pike County's most significant blocks of undisturbed forested lands. It also provides for greenway connections between state lands, the County Park, US Forest

Service Grey Towers, Milford Borough and the Delaware River (with potential river access). Natural and water features include the Sawkill and Vantine Brooks, Pinchot Falls, and Buckhorn Oak Barrens. IMA and IBA

Area 9 above provides the connection for the identified Pinchot Sawkill Greenway.

10. Delaware Valley Cliffs – The Matamoras and Mashipacong Cliffs, important natural areas, are the striking feature of this area. Steep slopes and ridgelines overlooking the Delaware River floodplain, headwaters of several direct tributaries to the Delaware River and scenic views are included. IBA

11. Middaugh Pond – Middaugh Pond area provides a potential greenways area amongst one of the more heavily populated regions of the county. Adjacent to an existing conservation easement, it includes the Delaware Township Camp Akenac and headwaters of the exceptional value Adams Creek drainage making a green connection between Log Tavern Road and Route 739. IMA

12. Long Swamp - Conservation opportunity area 12 includes a number of important natural areas immediately adjacent to or surrounded by state lands – the most significant of which is the Long Swamp natural area – a boreal conifer bog. Portions of Dingmans Creek headwaters are also included. IMA

13. The Knotch – Belle Mountain – Area 13, the Knotch, creates a significant greenway connection between two large blocks of existing state lands providing one of the county's most important greenways extending from Lake Wallenpaupack in Greene Township across the southwestern portion of the county and connecting to the Little Bushkill Greenway (areas 21 and 22) which makes the connection through to federal lands in Delaware Water Gap NRA and the New Jersey regional open space lands across the river. Natural features include several natural undisturbed lakes, the county's highest point and the headwaters of Shohola Creek. IBA and IMA

14. Millbrook Ridge – This area includes the drainage area for Millbrook Creek, a scenic view of Lake Wallenpaupack, wetland habitats, and a Class A wild trout stream.

15. Paupack Lowlands -- This area is immediately adjacent to and almost entirely surrounded by state lands. It includes significant natural areas including Pine Lake, Lake Paupack and Big Dam Ridge Swamp. IBA

16. LaAnna Divide – Area 16 includes headwaters and watershed divide for Taylor Creek and Levitt Branch streams. One of the County's flood control dams is included. During the development of this plan, significant lands within this area 16 were set aside under conservation easements.

17. Bushkill Highlands -- This area located in Porter Township is immediately adjacent to and almost entirely surrounded by state lands. It includes a significant portion of the headwaters of the Bushkill Creek. IBA

18. Pickerel Lake – This area includes the Pickerel Lake region including significant wetlands adjacent to the lake and Pecks Pond and Wolf Swamp. Wolf Swamp is a Natural Inventory Site. The area also provides scenic relief along the Rt. 402 corridor and contains portions of the watershed areas for both the Bushkill and Rock Hill Creek drainages. IMA

19. Bushkill Basin – The Bushkill Basin includes significant areas of headwaters and main stem Bushkill Creek. It is immediately adjacent to public land holdings in both Pike and Monroe Counties. IMA

20. Twelvemile Pond – This identified conservation opportunity area includes significant areas of Twelvemile Pond and Big and Elbow Swamps which are identified natural areas. The area is immediately adjacent to and surrounded by state lands and also provides scenic relief along the Rt. 402 corridor. IBA

21. Whittaker's End - This identified area includes one of the largest contiguous blocks of forested lands, approx. 7,200 acres, in eastern Pike County. Mink Pond and Lake Maskenozha are key natural inventory sites within the area. Almost the entire drainage area of this opportunity area lies within the Little Bushkill Creek or the Toms Creek watersheds both of which are exceptional value watersheds. Significant wildlife and greenway corridor connections could be provided between state forest lands and federal recreation area lands in a highly populated region of the county. IBA and IMA

22. Little Bushkill Ridge – This approximately 1,800 acre area would provide protection for the Little Bushkill watershed drainage including both headwaters and main stem drainage areas. It includes the Little Bushkill Swamp and the Bushkill Falls natural areas. Significant wildlife and greenway corridor connections could be provided between state forest lands and federal recreation area lands in a highly populated region of the county. IBA and IMA

23. Wallenpaupack Confluence – This area is located along the east and west branch of the Wallenpaupack Creek upstream and around the confluence of the two branches. The area contains significant floodplain and agricultural areas.

IBA = Important Bird Area; IMA = Important Mammal Area

Network Spokes: Greenways, Trails and Byways

The greenways, trails and byway corridors of the Pike County Open Space, Greenways and Recreation Network aim to:

- Promote conservation and landowner stewardship along critical natural resource corridors;
- Promote the interconnection of existing trails and the development of new trails;
- Promote villages, open space hubs, scenic and cultural resources as destinations for recreational and tourism activity;
- Promote access to public waterways.

The Pike County Network designates three types of corridors: regional or major greenways and trails, local or minor greenways and trails, and scenic byways. All three corridor types link key natural and recreational features with scenic and cultural journey points or destinations. Each greenway is described below; a summary table is included at the end of this chapter.

Regional Greenways and Trails

Delaware River Greenway

The Delaware River Greenway follows Pike County's 62 mile eastern border. Portions of nine municipalities – Lehman, Delaware, Dingman, Milford, Westfall, Shohola and Lackawaxen Townships and Milford and Matamoras Borough - lie within this greenway corridor. The greenway encompasses the river and the land immediately adjacent to the river along the entire eastern boundary of the County between New York and New



Photo Credit: E. Salak

Jersey. The entire length of the Delaware River within Pike County has been designated as part of the Delaware River Water Trail - a statewide priority greenway and water trail which highlights the River as an important recreational and scenic resource. Recognition in this plan of the entire extent of the Delaware River along the county's eastern boundary as a Greenway is in keeping with the state's designation as a priority greenway. Due to the differences in ownership and management of the river corridor lands within this greenway, this plan segments the Delaware River Greenway into three corridor segments.

The Upper Delaware River Corridor spans the eastern portions of Lackawaxen, Shohola and Westfall Townships. As a part of the National Wild and Scenic Rivers System, the Upper Delaware Scenic and Recreational River stretches 73.4 miles (118.3 km) along the New York-Pennsylvania border 30.4 miles of which is along Pike County eastern edge. This federal designation covers the river segment extending from the confluence of the east and west branches of the river at Hancock, New York downstream to Railroad Bridge No. 2 in the vicinity of Mill Rift, Westfall Township, Pike County. Although the Upper Delaware River Corridor legislative boundary has been delineated through a federal planning process, the National Park Service owns only 30 acres along this river segment. There are few public boat accesses or resting areas for those recreating on the river in this area. The Upper Delaware River Corridor, which is designated as a priority greenway for Pike County, is held almost entirely in private ownership. The designation will encourage and support landowner stewardship activities and municipal ordinance provisions to protect the scenic and environmental integrity of the river corridor. This is the same principle encouraged in the Upper Delaware River Management Plan. Some parcels within the Upper Delaware Greenway may be appropriate for permanent protection due to their scenic beauty or their ability to improve access to this section of the river.

Upper Delaware River Corridor

Key Resources

- Upper Delaware Scenic & Recreational River Corridor
- Delaware State Forest lands and trails
- State Game Lands # 316 & 209
- Zane Grey House
- Roebling Bridge Aqueduct
- Winter Bald Eagle Habitat
- NAI Sites: Millrift Flats, Millrift Cliffs
- Villages: Lackawaxen and Shohola
- Important Bird Area

Recommended Actions

- Additional public boat and viewing access areas
- Work with partners and local landowners for acquisitions and/or easements
- Promote the villages of Lackawaxen and Shohola as destination hubs along greenway
- Promote private landowner stewardship
- Seek Pennsylvania Scenic Designation for this River segment

The Tri-State Bend Corridor lies between Westfall Township and Milford Borough. It includes approximately 8.1 river miles which are outside of the designated area of the Upper Delaware Scenic and Recreational River Corridor to the north and the legislative boundary of the Delaware Water Gap National Recreation Area to the south. The land area within this corridor is almost entirely held in private ownership among landowners of Milford Township and Borough and Westfall Townships and Matamoras Borough.

Tri-State Bend Corridor

Key Resources

- NAI Sites: Matamoras Cliffs, Mashipacong Cliffs
- Historic Resources of Matamoras and Milford
- Airport Park (Matamoras)
- Milford Park connection to River
- Delaware Valley School District Recreation facilities

Recommended Actions

- Preservation of high priority vacant parcels
- Create river access point in Borough of Milford or within close proximity to the Borough
- Work through the development process to protect natural resources and reconnect the river to our communities
- Riverside trail
- Promote the boroughs as 'destination hubs' and reconnect the villages to the river

The Delaware Water Gap Corridor extends from Milford Borough and Milford Township to Lehman Township and is almost entirely owned and managed by the federal government under the jurisdiction of the US Department of Interior National Park Service, Delaware Water Gap National Recreation Area (DWGNRA). As such, it is almost entirely protected open space; an act of Congress would be required to change its designation. The corridor includes approximately 23.5 river miles and 19,763 acres of Pike County which are within the legislative boundary of the National Recreation Area. Included within this legislative boundary are several land parcels which are still held privately and are key priorities for acquisition, although federal funding for such acquisitions is almost non-existent. These NPS priority parcels are being identified in this Pike County Open Space, Greenway and Recreation Plan as priority parcels for protection through acquisition from willing sellers as they become available. Implementation of these acquisitions would need to be a partnership effort between the County, local municipality, federal government and the current private landowners.

Delaware Water Gap Corridor**Key Resources**

- DWGNRA
- NAI Sites: The Cliff at Milford, Raymonskill Falls, Dry Brook Cliffs, Shapnack Island, Buck Barn Island, Toms Creek and Bushkill Shale Cliff
- Important Bird Area
- Important Mammal Area

Recommended Actions

- Connection of the Pinchot Greenway to the Delaware Water Gap NRA
- Completion of the McDade Trail
- Connecting key population areas to the DWGNRA via trail linkages
- Acquisitions or easements to protect wildlife corridors
- Encourage funding of USDI NPS to assist in trail development and connections of key wildlife corridors

Wallenpaupack-Lackawaxen Greenway***The Wallenpaupack Creek Corridor***

is the western segment of the greenway connecting Lake Wallenpaupack and Wallenpaupack Creek to the Lackawaxen River. The Wallenpaupack Creek, known to the Indians as the stream of “swift and slow” waters, was dammed in the mid-1920’s to create a hydroelectric power generation facility. This 5,700 acre lake also provides 52 miles of shoreline, approximately half of which is in Pike County. The 13 mile lake has three public boat access points in Pike County. Lake Wallenpaupack is one of the County’s most important natural assets, tied closely to the region’s tourism economy. The lake provides key recreational and tourism based opportunities year-round for residents and visitors. Although much of the land around the lake is held in private ownership, the lake itself, up to an elevation of 1,186, as well as several recreational sites along the lake are currently owned by Pennsylvania Power and Light Company (PPL). Tying this important recreational tourism site into the County’s greenway network will provide important opportunities for long-term protection via landowner stewardship activities and local municipal land use regulations.



Photo Credit: J. Grohmann – Lake Wallenpaupack

The Lackawaxen River Corridor follows the Lackawaxen River from the Pike/Wayne County line near Hawley in Palmyra Township downstream to its confluence with the Delaware River near the village of Lackawaxen. The river's dramatic natural landscape, important wildlife habitat, high water quality designation and the rich historical presence of the Delaware and Hudson barge canal warrant special consideration for protection. This corridor provides excellent opportunities for connecting the local villages with important historic, cultural, natural resource and wildlife sites. Connecting Lackawaxen to Hawley such as through connecting the Lackawaxen and Delaware Rivers via Kimbles Road to Route 6 Bike Y/I could strengthen economic and tourism related business in the region. The scenic Lackawaxen River corridor is flanked by the historic Delaware & Hudson Canal and the Towpath Road (SR 4006) on one side and the Stourbridge Line railroad on the other side. The historic settlements of Rowland, Glen Eyre, Bayoba, and Kimbles are located in the corridor. The River affords outstanding fishing opportunities for both humans and wildlife and is a nationally significant bald eagle winter feeding ground. Since the entire corridor is currently held in private ownership, the greenway designation will encourage landowner stewardship activities. It will also support municipal ordinance provisions to protect the scenic and environmental integrity of the river corridor. While some parcels within the Lackawaxen River Corridor may be important for permanent protection of natural and/or historic resources or development of municipal recreational facilities, the appropriateness of these acquisitions would need to be explored jointly by the County and municipal governments and local citizens to assure that the goals and objectives of the community, as identified in their comprehensive plan, are met.

Wallenpaupack Creek and Lackawaxen River Corridors

Key Resources

- Wallenpaupack Creek
- Lake Wallenpaupack
- Ledgedale Natural Area
- Lackawaxen River
- Historic D & H Canal
- NAI Sites: Ledgedale Swamp, Buckhorn Mountain
- Villages of Greentown, Wilsonville, and Lackawaxen
- Connects to the Upper Delaware River Corridor
- Agricultural areas
- Important Bird Area

Recommended Actions

- Work with municipalities and local citizens to further develop the Wallenpaupack - Lackawaxen Greenway Concept as an implementation project
- Acquire easements and/or achieve private land stewardship
- Promote the village of Lackawaxen as a destination hub along the greenway

Local Greenways and Trails

Pike County's local or minor greenways build upon the major greenways by identifying important local connections. The local greenways, as identified below and on the Conceptual Greenways Map located at the end of Chapter 4, include the Blooming Grove Creek Greenway, Little Bushkill Greenway, Pinchot Greenway and the Shohola Creek Greenway further described below.

The Blooming Grove Creek Greenway includes the land surrounding the Blooming Grove Creek, which is almost entirely private land. The creek is a key tributary to the Lackawaxen River because of the undisturbed contiguous forestland along this corridor. This corridor is best suited for protection through landowner stewardship, municipal ordinances, and best management practices. Protection of this greenway ensures the high quality watershed and the integrity of the natural environment will remain intact.

Blooming Grove Creek Greenway

Key Resources

- Blooming Grove Creek
- Private contiguous forestland
- NAI Site: Beaver Swamp
- Connects with the Lackawaxen River Greenway
- Former village of Glen Eyre

Recommended Actions

- Improvement of municipal water resource buffers
- Potential trail linkages between Delaware State Forest lands
- Private landowner stewardship

The Little Bushkill Greenway includes the Little Bushkill Creek corridor and its critical headwaters area. This greenway would connect the Delaware Water Gap National Recreation Area at the confluence of the Little Bushkill Creek and the Delaware River with the Delaware State Forest lands and eventually the Shohola Creek Greenway in the northeastern portion of the County.



Photo Credit: J. McBryan

The entire Little Bushkill watershed is a PA Chapter 93 designated “special protection” water body with the majority of the waterway being classified as exceptional value and small portions as high quality waters. The drainage area is almost entirely located on private land. Several key parcels are identified as priority sites for protection through acquisitions, private conservation easements, and landowner stewardship activities. Included among these sites are the Bushkill Falls and Little Bushkill headwaters area owned by a number of private hunting and fishing club associations. The Little Bushkill is an important tributary to the Delaware River and private lands within this greenway should be protected through landowner stewardship, municipal ordinances, and best management practices. Protection of this greenway will ensure that the integrity of the high quality watershed and the natural environment remains intact.

Little Bushkill Greenway

Key resources

- Little Bushkill Exceptional value watershed & headwaters of Toms Creek, EV watershed
- Important headwaters areas located within private contiguous forestland
- Connects Delaware Forest land to the DWGNRA
- Traverses State Forest land
- Bushkill Falls – Niagara of Pennsylvania
- NAI Sites: Hemlock Farms Barrens, Rock Hill Pond, Ben Hill Swamp, Bald Hill Swamp, Minks Pond, Lake Maskenoza, Bushkill Falls
- Important Bird Area
- Important Mammal Area

Recommended Actions

- Potential to develop a creek-side trail in Delaware State Forest Land
- Easements to protect wildlife corridors
- Private landowner stewardship
- Water quality protection strategies including, but not limited to, municipal water resource buffers



The Pinchot-Sawkill Greenway provides connection from the Delaware Water Gap National Recreation Area including the McDade Trail to the Upper Delaware River Corridor. Features in this greenway include: the Sawkill Glen, US Forest Service Grey Towers National Historic Site, Delaware State Forest Lands and the County Park and beyond; including the Milford Aquifer Source Water Protection Area; the County Park, the Mott Street Bridge and the Sawkill exceptional value watershed; and the Santos property. The greenway also provides a viable opportunity for connections to the PA Bike trail on Routes 6 and 209 further connecting to Matamoras.

Pinchot-Sawkill Greenway

Key resources

- Sawkill Exceptional Value watershed and headwaters of Millrift EV watershed
- Follows existing proposed Pinchot Greenway
- Delaware State Forest and State Game Land #209
- Pike County Park
- Buckhorn Ridge
- Important Bird Area
- Important Mammal Area
- NAI Sites: Bushkill Swamp, Pinchot Falls, Sawkill Creek

Recommended Actions

- Complete Pinchot Greenway trails as proposed in the Pinchot Greenway plan
- Potential connection of DWGNRA to County Parkland and Upper Delaware River Corridor thru partnership actions
- Private landowner stewardship
- Acquisitions and easements of key parcels as appropriate

The Shohola Creek Greenway extends from the headwaters area of the Shohola Creek to its confluence with the Delaware River near the village of Shohola. The greenway is located on private lands just west of Rt. 402 in Blooming Grove Township and passes through PA State Game Lands #180, following the Shohola Creek. This greenway provides connection between the Little Bushkill Greenway in southern Pike County and the Delaware River



Greenway at the confluence of the Delaware River and Shohola Creek. Critical headwaters areas for the Shohola and extremely important wildlife habitat areas including bald eagle nesting sites are included in this greenway. State Game Lands #180 provides important year-round hunting and fishing areas as well as trails

and picnic facilities near Shohola Falls for residents and visitors. The lower end of the greenway provides connection to the village of Shohola, historic Shohola Glen, Rohman Park, and the Upper Delaware River Greenway. Although a majority of this greenway falls on State Game Lands, a large portion of the headwaters area and the lower greenway near its confluence with the Delaware is located on private lands.

Shohola Creek Greenway

Key Resources

- Shohola Creek
- Traverses Delaware State Forest and State Game Lands #180
- NAI Sites: Shohola Falls, Shohola Falls Swamp
- Multiple large parcels along stream corridor
- Connects with the village of Shohola and Rohman Park
- Historic Shohola Glen
- Connects to the Upper Delaware River Corridor and the Little Bushkill Creek
- Important Bird Area
- Important Mammal Area

Recommended Actions

- Improvement of municipal water resource buffers
- Potential linkage to Upper Delaware River through Rohman Park
- Private landowner stewardship
- Acquisitions & easements of key parcels as appropriate

Scenic Byways

The nine scenic byways identified on the Pike County Open Space, Greenways and Recreation Network traverse major open space hubs between village destinations. They include:

- The Route 6 Scenic Byway
- The Route 209 Scenic Byway
- The Route 402 Scenic Byway
- The Route 507 Scenic Byway
- The Route 390 Scenic Byway
- The Greentown Scenic Byway
- The Lackawaxen Scenic Byway
- The Silver Lake Scenic Byway
- The Twin Lakes Road Scenic Byway

These corridors are valued for their rural scenic qualities. These scenic byways have been designated to:

- Identify routes for non-motorized travel, e.g. cycling
- Promote these corridors for scenic touring by residents and visitors
- Foster a sense of ownership and appreciation for resources visible from the roadway
- Promote open space protection to preserve the intrinsic qualities of the rural roadways. Intrinsic qualities are cultural, historical, natural, recreational and scenic features that are considered representative, unique, irreplaceable or distinctly characteristic of the County.

Pike County's scenic byways are consistent with the goals of the PA Greenways Plan and the Pennsylvania Byway Program. The Pennsylvania Byways Program (PA Byways) encourages the preservation of cultural, historical, recreational, archaeological, scenic and natural qualities of the state and local highway system. PennDOT is the administrative agency for this program. PennDOT receives and reviews applications and assists with funding for local corridor planning and management to maintain, improve or enhance the travel experience, including the prohibition of billboards along the corridor. PennDOT includes designated PA Byways on the Pennsylvania Tourism Map for further promotion of these scenic travel routes, unless otherwise requested by the host municipality. The PA Byways program parallels Federal Highway Administration's National Scenic Byways Program, which offers further promotional opportunities and funding sources.

Regional Greenway and Trail Corridors				
Name	Location	Approximate Length	Key Resources	Recommended Actions
Delaware River Greenway	Eastern border of Pike County between New York-New Jersey State	62 miles	<i>Refer to specific corridors</i>	<ul style="list-style-type: none"> • Promotion of the Delaware River Water Trail
<i>Upper Delaware River</i>	Pike County portion of the Upper Delaware River commencing in Lackawaxen Township on the Wayne/Pike County border and extending through Shohola Township downstream to the vicinity of Mill Rift in Westfall Township.	30.4 miles	<ul style="list-style-type: none"> • Upper Delaware Scenic & Recreational River Corridor • Delaware State Forest lands and trails • State Game Lands # 316 & 209 • Zane Grey House • Roebling Bridge Aqueduct • Winter Bald Eagle Habitat • Millrift Cliffs NAI • Villages: Lackawaxen and Shohola • Important Bird Area 	<ul style="list-style-type: none"> • Additional public boat and viewing access areas • Work with partners and local landowners for acquisitions and/or easements • Promote the villages of Lackawaxen and Shohola as destination hubs along greenway • Promote private landowner stewardship • Seek Pennsylvania Scenic Designation for this River segment
<i>Tri-State Bend</i>	Beginning at the lower extent of the UPDE Scenic River boundary approx. at railroad Bridge No. 2 in the vicinity of Mill Rift, Westfall Twp. to the DWGNRA boundary at Cummings Creek, Westfall Twp.	8.1 miles	<ul style="list-style-type: none"> • Matamoras Cliffs NAI • Mashipacong Cliffs NAI • Historic Resources of Matamoras • Airport Park (Matamoras) • Milford Park connection to River • Delaware Valley School District Recreation facilities 	<ul style="list-style-type: none"> • Preservation of high priority vacant parcels • Create river access point in Borough of Milford or close proximity to Borough • Riverside trail • Promote the boroughs as destination hubs
<i>Delaware Water Gap</i>	Extends from the northern boundary of DWGNRA approximately where	23.5 miles	<ul style="list-style-type: none"> • DWGNRA • Cliff at Milford NAI • Raymondskill Falls NAI 	Work with Partners: <ul style="list-style-type: none"> • Connection of the Pinchot Greenway to the Delaware

Regional Greenway and Trail Corridors				
Name	Location	Approximate Length	Key Resources	Recommended Actions
	Cummins Creek flows into the river at Kittatinny's River Beach campground in Westfall Township to the confluence of the Big Bushkill Creek with the Delaware River at the Pike/Monroe County boundary. The DWGNRA extends through Monroe County to the Delaware Water Gap and beyond.		<ul style="list-style-type: none"> • Dry Brook Cliffs NAI • Fullmer Falls NAI • Dingman Falls NAI • Deckers Creek Ravine NAI • Shapnack Island NAI • Buck Barn Island NAI • Toms Creek NAI • Bushkill Shale Cliff NAI • Important Bird Area • Important Mammal Area 	<p>Water Gap NRA</p> <ul style="list-style-type: none"> • Completion of the McDade Trail • Connecting key population areas to the DWGNRA via trail linkages • Acquisitions or easements to protect wildlife corridors • Encourage funding of USDI NPS to assist in trail development, & connections of key wildlife corridors
<i>Wallenpaupack-Lackawaxen Greenway</i>	<ul style="list-style-type: none"> • Greene Twp • Palmyra Twp • Lackawaxen Twp 	47 miles	<ul style="list-style-type: none"> • Wallenpaupack Creek • Lake Wallenpaupack • Lackawaxen River • Historic D & H Canal • Ledgesdale Swamp NAI • Buckhorn Mountain NAI • Villages of Greentown, Wilsonville, and Lackawaxen • Connects to the Upper Delaware River Corridor • Agricultural areas • Important Bird Area 	<ul style="list-style-type: none"> • Work with municipalities and local citizens to further develop the Wallenpaupack - Lackawaxen Greenway Concept as an implementation project • Acquire easements and/or achieve private land stewardship • Promote the village of Lackawaxen as a destination hub along the greenway

Local Greenway and Trail Corridors				
Name	Location	Approximate Length	Key Resources	Recommended Actions
Blooming Grove Creek Greenway	<ul style="list-style-type: none"> • Lackawaxen Twp • Blooming Grove Twp 	9 Miles	<ul style="list-style-type: none"> • Blooming Grove Creek • Private contiguous forestland • Beaver Swamp NAI sites • Connects with the Lackawaxen River Greenway • Former Village of Glen Eyre 	<ul style="list-style-type: none"> • Improvement of municipal water resource buffers • Potential trail linkages between Delaware State Forest lands • Private landowner stewardship
Little Bushkill Greenway	<ul style="list-style-type: none"> • Dingman Twp • Delaware Twp • Lehman Twp • Porter Twp 	22 miles	<ul style="list-style-type: none"> • Little Bushkill Exceptional value watershed & headwaters of Toms Creek, EV watershed • Important headwaters areas located within private contiguous forestland • Connects Delaware Forestland to the DWGNRA • Traverses State Forest land • Bushkill Falls – Niagara of Pennsylvania • Hemlock Farms Barrens, Rock Hill Pond, Ben Hill Swamp, Bald Hill Swamp, Minks Pond, Lake Maskenoza, Bushkill Falls NAI sites • Important Bird Area • Important Mammal Area 	<ul style="list-style-type: none"> • Potential to develop a creekside trail in Delaware State Forest Land • Easements to protect wildlife corridors • Private landowner stewardship • Water quality protection strategies

Local Greenway and Trail Corridors				
Name	Location	Approximate Length	Key Resources	Recommended Actions
Shohola Creek Greenway	<ul style="list-style-type: none"> • Blooming Grove Twp • Dingman Twp • Shohola Twp 	28 miles	<ul style="list-style-type: none"> • Shohola Creek • Traverses Delaware State Forest and State Game Lands #180 • Shohola Falls, Shohola Falls Swamp NAI sites • Multiple large parcels along stream corridor • Connects with the village of Shohola and the Rohman Park • Historic Shohola Glen • Connects to the Upper Delaware River Corridor and the Little Bushkill Creek • Important Bird Area • Important Mammal Area 	<ul style="list-style-type: none"> • Improvement of municipal water resource buffers • Potential linkage to Upper Delaware River through Rohman Park property • Private landowner stewardship • Acquisitions & easements of key parcels as appropriate
Pinchot-Sawkill Greenway	<ul style="list-style-type: none"> • Dingman Township • Matamoras Borough • Milford Borough • Milford Twp • Westfall Twp • Shohola Twp 	12.5 miles	<ul style="list-style-type: none"> • Sawkill Exceptional Value watershed & headwaters of Millrift EV watershed • Follows existing proposed Pinchot Greenway • Delaware State Forest and State Game Land #209 • Pike County Park • Important Bird Area • Important Mammal Area 	<ul style="list-style-type: none"> • Complete Pinchot Greenway trails under development • Potential connection of DWGNRA to County Parkland and Upper Delaware River Corridor thru partnership actions • Private landowner stewardship • Acquisitions and easements of key parcels as appropriate

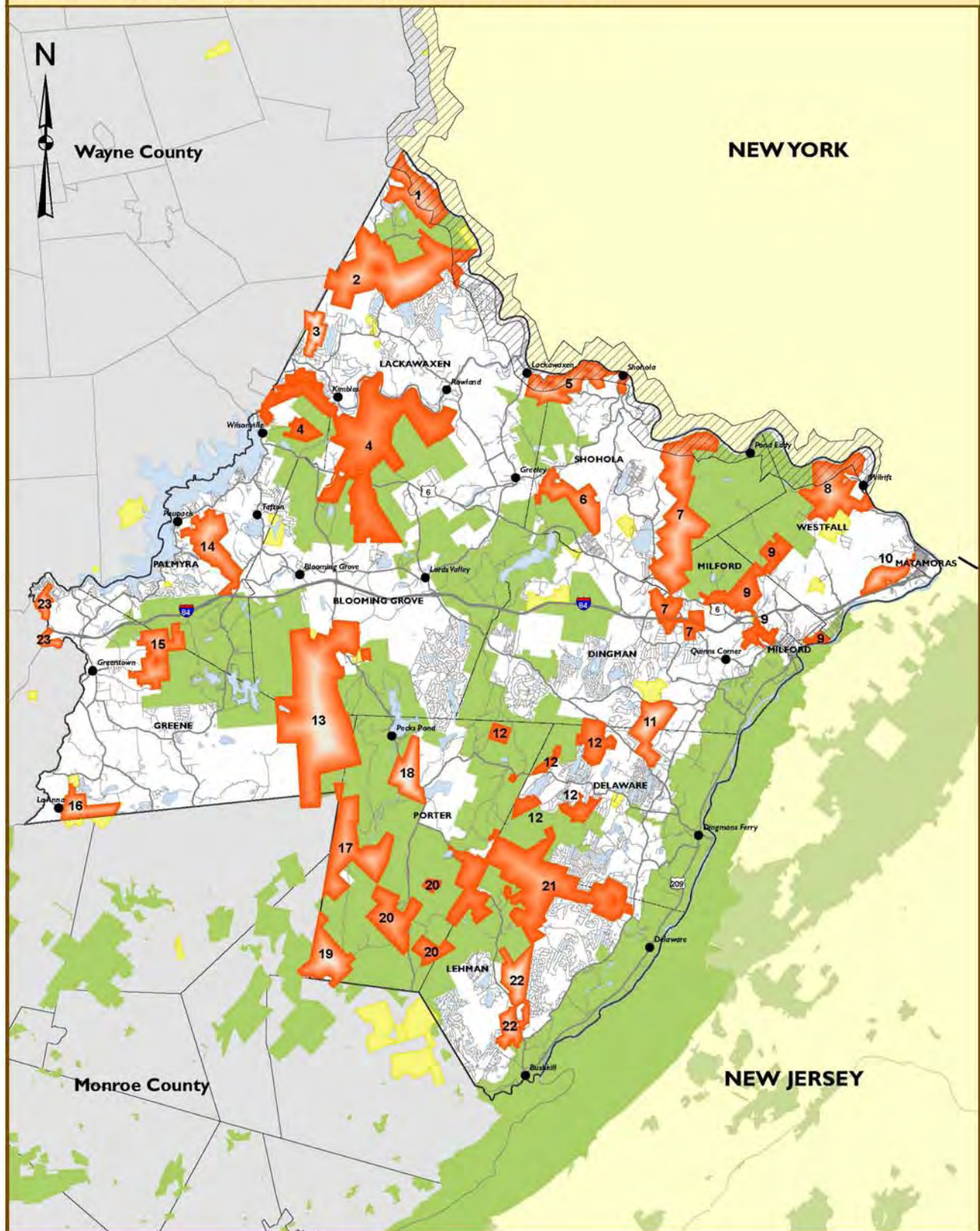
Scenic Byways				
Name	Description	Approximate Length	Key Assets	Recommended Actions
Route 402 Byway <i>Route 402/PA Bureau of Forestry Road Network</i>	<ul style="list-style-type: none"> From the Monroe/Pike County line north through Porter and Blooming Grove Townships to Route 6/402 intersection Includes connections with PA Bureau of Forestry roads - Highline, Hob Day and Pine Flats 	30 miles	<ul style="list-style-type: none"> Major Gateway route to Pike County from points east Well developed access to Blooming Grove 4-H Trail System, Maple Run ATV Area, Thunder Swamp Trail System, Tarkill Trail, Pecks Pond access Passes through contiguous forestland, largely undeveloped Bordered by State Forest lands and private hunting and fishing club property 	<ul style="list-style-type: none"> Interstate 84- Route 402 Interchange undeveloped and unprotected Private Hunting and Fishing Clubs with 'conservation minded' members Improvements and/or inclusion of setbacks, landscaping, signage ordinances needed
Silver Lake Byway <i>Five Mile Meadow Road/Silver Lake Road/ Route 739 (DWG)/Route 209</i>	<ul style="list-style-type: none"> From the PA-NJ Dingmans Ferry Bridge and Rt. 209 in the DWGNRA, Delaware Township via Route 739 to Silver Lake Road to PA Bureau of Forestry Five Mile Meadow Road thru Porter and Dingman Townships; Connects to State Game Lands #180 path/parking area on Rt. 739 and Forestry lands north on Rt. 739; Silver Lake Road extends thru to Route 402 corridor 	19 miles	<ul style="list-style-type: none"> Major Gateway route to Pike County from points east Connects DWGNRA to Delaware State Forest Child's Park Recreation Area destination State Game Land #180 parking area follows unimproved road and a trailway on the game lands Key natural features along Five Mile Meadow Road 	<ul style="list-style-type: none"> Promotion of scenic drive through visitpa.com and/or fallinpa.com

Scenic Byways				
Name	Description	Approximate Length	Key Assets	Recommended Actions
Route 6 Byway	<ul style="list-style-type: none"> From Lake Wallenpaupack, Palmyra Twp. on the western end of the county to the Borough of Matamoras at the eastern boundary of the county 	28 miles	<ul style="list-style-type: none"> Major gateway Route to Pike County from points east Connections via the Matamoras Delaware River Bridge to the Rt. 97 Scenic By-way, New York PA Route 6 heritage corridor Shohola Game Lands #180; Shohola Falls and picnic area 	<ul style="list-style-type: none"> Cooperate with PennDOT and municipalities to implement the designated PA Byway Byway signage, municipal ordinances and shoulder improvements Signage ordinances
Lackawaxen Byway <i>Kimbles Road/Towpath Road/Route 590/434/Lackawaxen Road</i>	<ul style="list-style-type: none"> From Route 6 near Hawley along Kimbles Road to Lackawaxen Towpath downstream to village of Lackawaxen to Rt. 590 and Rt. 434 to Route 6; Lackawaxen Road to Village of Shohola 	27 miles	<ul style="list-style-type: none"> Refer to Lackawaxen Greenway text Important Bird Area – significant Bald Eagle wintering area Important scenic, historic and recreational features 	<ul style="list-style-type: none"> Improved shoulders along designated Bike YI Additional pull-offs for safety
Route 209 Byway	<ul style="list-style-type: none"> Route 209 within the DWGNRA from the Monroe County line in Lehman Twp thru to Milford 	20 miles	<ul style="list-style-type: none"> Gateway to Pennsylvania from NJ and Monroe County 	<ul style="list-style-type: none"> Roadway and shoulder improvements
Greentown Byway <i>Creek Road/Old Greentown Road/Route 390</i>	<ul style="list-style-type: none"> From the Village of Greentown via Old Greentown Road to Route 390 South to Promised Land State Park connects to PLSP trail system to Creek Road 	13 miles	<ul style="list-style-type: none"> Connects trail network of Promised Land State Park to village of Greentown via Creek Road Lake Paupack South Branch NAI sites Pine Lake Natural Area Important Bird Area 	<ul style="list-style-type: none"> Promotion of a recreation trailway and/or bike trail along BOF and Township roads Promote village of Greentown as a 'destination' hub along greenway

Scenic Byways				
Name	Description	Approximate Length	Key Assets	Recommended Actions
Route 390 Byway <i>Route 390/PA State Park Road Network</i>	<ul style="list-style-type: none"> From the Monroe County line at Skytop in Greene Township to Route 390 junction with Route 507 at Lake Wallenpaupack, Palmyra Township including Promised Land State Park Road network 	15 miles	<ul style="list-style-type: none"> Scenic opportunities throughout Wildlife viewing opportunities Promised Land State Park recreational areas Trailheads for State Park trail system Bruce Lake Natural Area Farview Lake 	<ul style="list-style-type: none"> Cooperate with PennDOT and municipalities to implement the designated PA Byway Byway signage Municipal sign ordinances Promotion through PLSP and Tourism promotion agencies
Twin Lake Road Byway <i>Route 6/Twin Lakes/Rt.434 and Rt.97 to New York Byway</i>	<ul style="list-style-type: none"> From Route 6 near Milford north along Twin Lakes Road to its connection with Route 434 near the village of Shohola; Route 434 through Shohola and across the Delaware River to Route 97 in New York 	9.5 miles	<ul style="list-style-type: none"> Winding country road with heavily wooded corridor Scenic views of Pike County lakes and historic resources; Shohola's Rohman Park and connections with the village of Shohola Through to Rt. 434 and River bridge to New York's Rt. 97 	<ul style="list-style-type: none"> Promotion of scenic drive locally and through visitpa.com and/or fallinpa.com
Route 507 Byway	<ul style="list-style-type: none"> From Wayne County line near Greentown north through Greene and Palmyra Townships along Lake Wallenpaupack to the dike and the Route 507 intersection with Route 6 	15 miles	<ul style="list-style-type: none"> Lake Wallenpaupack Scenic Views Access to numerous recreational sites and amenities 	<ul style="list-style-type: none"> Cooperate with PennDOT and municipalities to implement the designated PA Byway Byway signage Shoulder improvements Municipal sign ordinances

Conservation Opportunities Map

Pike County Open Space, Greenways and Recreation Plan



Legend

- Conservation Easement
- Conservation Opportunity Areas
- Public Lands
- Regional Open Space
- UPDE Boundary

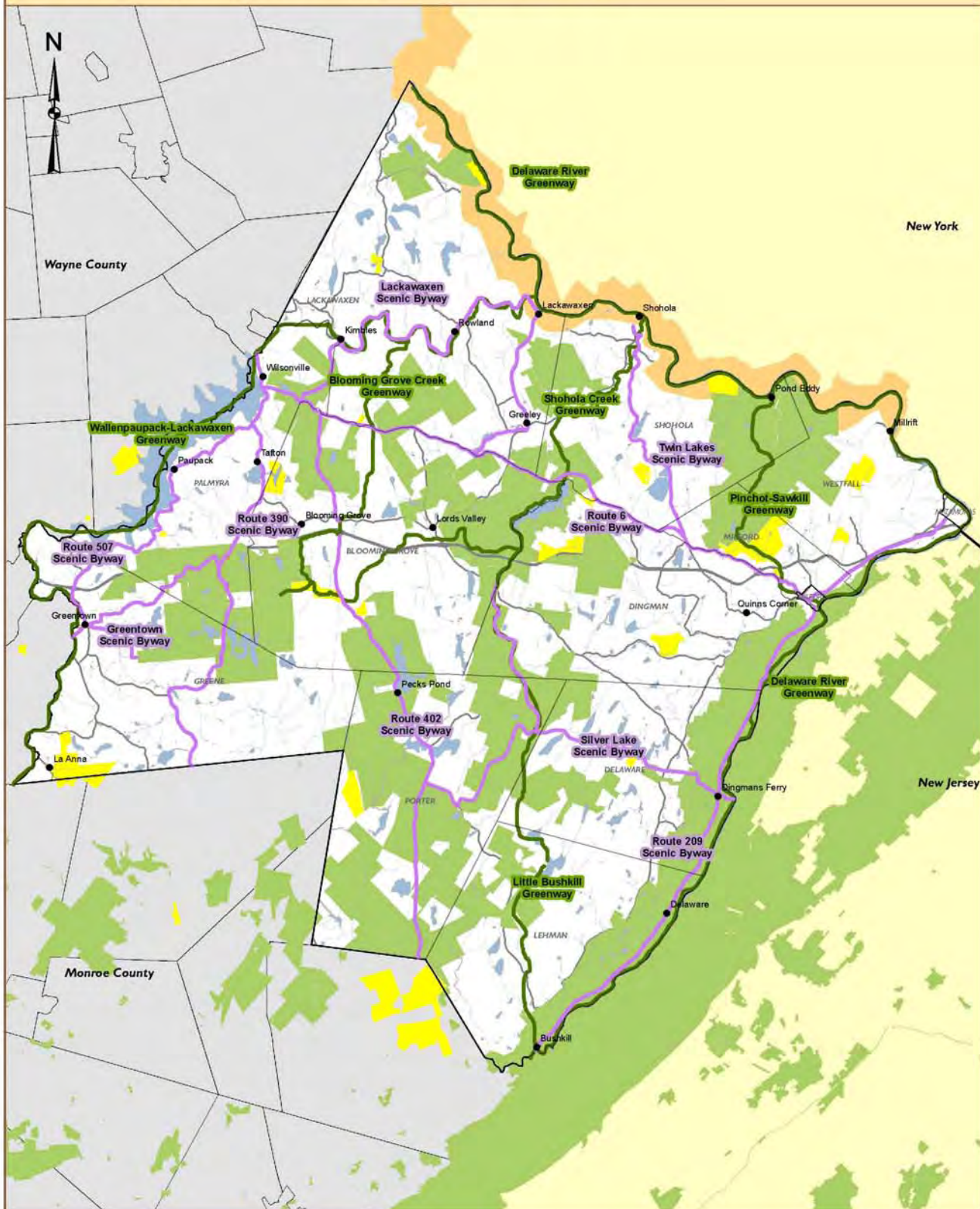
Mapping Preparation and Analysis:
Pike County Office of Community Planning

Data Sources:
Pike County GIS Data
GeoDecisions Decision Support Model

FINAL 8-27-08

Conceptual Greenway Map

Pike County Open Space, Greenways and Recreation Plan



0 2 4 8 Miles

Mapping Preparation:
Pike County Office of Community Planning

Data Source:
Pike County GIS Data

Analysis Support:
Gannett-Fleming

Legend

— Pike County Greenway
— Scenic Byway

Public Lands
Upper Delaware River Conservation Area
Conservation Easements
• Village Hubs

FINAL 8-27-08

Chapter 5 Recommendations for Investment



Photo Credit: J. McBryan -- Pike County Park

Action as Investment

The vision of this plan sets a high bar for open space protection, greenways development, landowner stewardship and conservation, and recreational expansion, but this bar is truly worth striving for. The plan recognizes that there are strengths within Pike County's government and community organizations, weaknesses in status quo policies and attitudes, and opportunities in the valuable and valued assets among the County's communities and natural environment. The recommendations build upon these conditions to guide investment in a permanent green future for Pike County citizens.

The investment strategy outlined in this chapter will take many shapes from duties and tasks, to program coordination, to nurturing a stewardship ethic among all citizens. Each recommendation is accompanied by a suggested timeframe for initiation, identification lead partners to organize the effort and support partners to participate in decision-making, potential funding sources and a summary of benefits to aid in promotion.

Likewise, this investment will come from many sources. Over 120 current and potential partners have been identified through the planning process to assist in implementing this Pike County open space, greenways and recreation plan. These partners and their capabilities are listed in the Partnership Matrix at end of this chapter. The Partnership Matrix should be reviewed as each recommendation is begun to ensure that all value-adding partners are engaged in meaningful and productive ways.

Essential County Leadership for Plan Implementation

The Pike County Board of Commissioners will ultimately direct implementation of the open space, greenways and recreation plan. Yet, the range of recommendations and the need to address wide ranging policy, services, regulation, and volunteer practices presents a formidable agenda. Therefore, the Commissioners will need to target county investment and engage a variety of general and special interest partners in advancing this plan.

Pike County Commissioners can direct implementation of portions of the open space, greenways, and recreation plan through the annual programming and budgeting of its various departments and agencies. For example, open space and recreation planning recommendations tend to align with the mission of the Office of Community Planning and natural resource recommendations better align with the Conservation District. Data and trend monitoring, as well as educational initiatives, could be integrated within the existing responsibilities of these county departments.

The County can foster implementation of certain recommendations through financial incentives. Local planning could be encouraged by developing a pool of county funds designated for this purpose. Adams, Berks, and Cumberland Counties have incentivized local planning by providing all or a portion of the local match needed for state planning grants. Financial incentives can also be made available to the private sector, including individual property owners, through tax adjustments or simple payments. For example, Snyder County has developed a program to encourage creation of vegetated riparian buffers on farmlands by offering establishment and annual maintenance payments in return for minimal disturbance to these sensitive land areas.



Photo: Pike County Scenic Rural Character Preservation Board

The County should also seek implementation assistance from public and private sector partners. Discussions of priorities and potential technical assistance and funding programs can lead to state investment in the County's envisioned future. Peer counties can also offer policy coordination, previous experience and grant support, particularly when recommendations address natural resources and man-made systems that cross county boundaries. Public school districts are another public partner that can play a key role in the continued development of the County, particularly in the formation of values and ethics toward development and conservation among future generations. Finally, local governments are essential partners for implementing the plan. The foundation laid by the County's relationship with its municipalities can be built upon and expanded. This relationship currently focuses on development review but is recommended to include greater coordination and consistency in local planning, ordinance administration and enforcement, and grant application and administration. Beyond the many public sector partners, the County can also engage local business and industry to provide private sector perspective and support, such as from private service providers, developers, etc.

Partnerships inspire collaboration, eliminate competition, stretch limited resources, help build public support, heighten public understanding and awareness, expand public services in quantity and quality, leverage further assistance and funding potential, develop the skills and expertise of those involved, and multiply the success of all organizations involved.

Finally, progress can be made through education and outreach to the general public, for these are the property owners, business entrepreneurs and managers, travelers, residents and visitors that make Pike County a living community. Providing them with information on how they can make personal and business decisions to sustain the economy and the environment appeal to the citizen's sense of community and civic pride. Empowering citizens to take action for themselves and their communities in coordination with county leadership brings implementation back to the heart of the planning process – the public.

Land Protection Strategy

Goal I: Promote the identification and protection of critical open space land areas of environmental, scenic, and recreational value, as shown on the Conservation Opportunity Areas Map, through acquisition and easement.

Blueprint for Action. Over the next ten years, preserve 24,100 acres of land as open space: 19,500 acres of private forested land, 1,100 acres of local parkland and 1,500 acres of regional parkland, and 2,000 acres of farmland.

Recommendation I-1

Acquire Conservation Opportunity Areas or ease them from development. The Conservation Opportunity Areas Map identifies County priorities for open space acquisition or easement. These priorities include:

- a. Lands surrounded by or adjacent to federal, state, county or municipal open space or park lands – acquisition of these lands could expand conservation and/or recreation lands; easement of these lands would protect existing public lands from potentially conflicting land uses, if developed.
- b. Lands able to create linkages between public lands – acquisition/easement of these lands would maintain natural landscapes for wildlife migration and could provide connections between existing trail systems.
- c. Lands able to create linkages between public lands and public waterways – acquisition/easement of these lands would maintain natural landscapes for wildlife migration and could provide connections between existing trail and water trail systems.
- d. Lands adjacent to public waterways – acquisition/easement would improve public access to public waterways.

In each case, consult with adjacent or nearby public landowner(s) in making acquisition/easement decisions in order to coordinate landowner outreach, funding sources and long term ownership and management arrangements for specific parcels.

Conduct outreach on an annual basis to explore landowner knowledge of conservation options and interest in open space legacies. Prioritize outreach to large tract landowners (including sportsman's clubs and seasonal camps) and riverside landowners. Conduct outreach to other landowners as time and resources allow. Continue outreach efforts with willing landowners, drawing expertise from Pike County Partners, until an agreement is reached. Monitor real estate transfer of conservation opportunities and renew outreach efforts when a purchase or transfer is made.

Initiation/Duration:	2008 and in coordination with Recommendation 1-2 below
Lead Partners:	The Conservation Partnership, Scenic Rural Character Preservation Board
Support Partners:	PA DCNR/Delaware State Forest, PA DCNR/Promised Land State Park, PA Game Commission/NE Regional Office, NPS/Delaware Water Gap National Recreation Area, NPS/Upper Delaware Scenic and Recreational River Corridor, as well as other Private and Non-Profit Partners
Funding Sources:	State grants and funding streams for acquisition of parcels for conservation with public access; county, private and non-profit funds for conservation with no public access; private land donations
Benefits:	Landowner legacies for conservation. Permanent protection of concentrated resources and associated lands

Recommendation 1-2

Determine intergovernmental priorities for open space protection targets, i.e. land acquisition, resource management and public outreach, and incorporate results into the Conservation Opportunities Areas Map. Natural resources, e.g. the extensive forest cover in Pike County, span many public agencies, each with its own mission and management goals. Greater effect and benefit could be achieved if these agencies communicated priorities and coordinated methods for management and future acquisitions. This coordination could occur through the Pocono Forests and Waters Conservation Landscapes Initiative and/or an evolution of the Conservation Partnership.

Initiation/Duration:	2008 with a working group of partners meeting quarterly at minimum
Lead Partners:	The Conservation Partnership, Pike County Office of Community Planning
Support Partners:	PA DCNR/Delaware State Forest, PA DCNR/Promised Land State Park, PA Game Commission/NE Regional Office, NPS/Delaware Water Gap National Recreation Area, NPS/Upper Delaware Scenic and Recreational River Corridor, other Conservation Landscapes Initiative partners
Funding Sources:	Agency budgets (for staff time from participating agencies)
Benefits:	Efficient use of open space acquisition/easement funds from various sources. Coordinated outreach to landowners for potential open space protection or acquisition from willing landowners.

Recommendation I-3

Encourage the development and implementation of open space plans at the multi-municipal level. Provide data from the County's open space plan, Conservation Opportunity Areas Map and Conceptual Greenways Network Map for reference in designating local conservation areas, greenways and target parcels for additional parkland.

Initiation/Duration: 2008/2009 until local planning is current countywide (no plan older than 10 years), as well as through ongoing plan updates

Lead Partners: Pike County Office of Community Planning

Support Partners: Municipalities

Funding Sources: PA DCED Land Use Planning and Technical Assistance Program (LUPTAP), PA DCNR Community Conservation Partnerships Program (C2P2), local match from County or local funds and in-kind services

Benefits: Land use planning that plans for both growth and conservation. Consistent designation of critical resources between County and local plans.

Recommendation I-4

Continue to build relationships with regional land conservancies for the oversight and enforcement of easements. Management of easements is an important responsibility that should not be overlooked. The County should continue to partner with land conservancies and trusts for the oversight of conservation easements, unless easements are held by the County, e.g. the Agricultural Land Preservation Board.

Initiation/Duration: 2008 forward

Lead Partners: Delaware Highlands Conservancy, The Nature Conservancy, Wildlands Conservancy, or other land trusts, Pike County Agricultural Land Preservation Board

Support Partners: Conservation Partnership, other Pike County Partners with technical knowledge in easement oversight

Funding Sources: Agency budgets (for staff time from participating agencies)

Benefits: Assurance that landowners continue their expressed commitment to open space protection

Recommendation 1-5

Continue to develop the Scenic Rural Character Preservation Program “to provide for the protection of drinking water; wildlife habitat, preservation of scenic ridges and critical open space; protection of water quality of rivers, lakes and streams; parks and recreational areas; improved county and municipal planning; related acquisitions of real property or interests therein from willing sellers on a voluntary basis; and to provide education, outreach and funds for such purposes,” as stated in program’s mission statement.

Pike County is fortunate to have this program in place and operational. As a technical assistance program, it can provide a mechanism for developing and conducting outreach efforts to explore and enhance landowners’ knowledge of conservation techniques. As a funding stream, it can fund acquisitions and easements for land conservation with or without public access and can leverage state funds when public access to eased lands is desired.

Initiation/Duration: 2008 forward

- Lead Partners: Scenic Rural Character Preservation Board
- Support Partners: Pike County Office of Community Planning
- Funding Sources: Scenic Rural Character Preservation Program
- Benefits: Steady funding for open space protection of conservation easement and publicly accessible open space lands

Recommendation 1-6

Continue the Pike County Agricultural Land Preservation Program. This program offers a specialized approach and dedicated funding streams from the County and state for farmland preservation. Expand outreach associated with the program to mention other PA Department of Agriculture programs, such as farm-to-farm sales, financing of farm improvements (e.g. First Industries Fund, Agricultural Product Promotion Matching Grant) and marketing programs (e.g. Pennsylvania Preferred) targeted to Pennsylvania’s number one industry.

Initiation/Duration: Ongoing

- Lead Partners: Pike County Agricultural Land Preservation Board
- Support Partners: Pennsylvania Department of Agriculture, Pike County Office of Community Planning, Pike County Conservation District
- Funding Sources: State agricultural preservation funds, County general funds County open space bond; private land donations
- Benefits: Protect productive farmlands as well as scenic rural character. Sustain a sector of the Pike County economy. Generate new tourism possibilities such as agritourism, winery tours, and niche farming programs such as “farm to table.”

Resource and Rural Character Conservation

Goal 2: Encourage conservation of our natural resources and rural character through best planning practices and sustainable development in accord with the integrity of our rural environment.

Blueprint for Action. Over the next ten years, complete updates of county and municipal ordinances to include contemporary environmental protections. Update or complete environmental resource water and wildlife studies to provide accurate foundations for planning, zoning and land development plan review. Develop and implement resource management plans for public lands. Encourage the preparation and implementation of resource management plans for private lands.

Recommendation 2-1

Complete implementation of the Pike County Community Planning Initiative (CPI). This initiative provides evaluation of and recommendation for municipal planning and ordinance documents to strengthen both growth management and open space protection provisions. Where ordinance revisions are considered, encourage the use of zoning provisions and subdivision and land development procedures to protect critical lands, as portrayed on the Conservation Opportunity Areas Map and the Conceptual Greenways Network Map.

Initiation/Duration: 2008/2009 until local planning is current countywide (no plan older than 10 years), as well as through ongoing plan updates

Lead Partners: Municipalities

Support Partners: Pike County Office of Community Planning, Pike County Conservation District

Funding Sources: PA DCED Land Use Planning and Technical Assistance Program (LUPTAP), PA DCNR Community Conservation Partnerships Program (C2P2), local match from County or local funds and in-kind services

Benefits: Land use planning that plans for both growth and conservation. Consistent designation of critical resources between County and local plans.

Recommendation 2-2

Advocate the revision of municipal Subdivision and Land Development Ordinances to incorporate Conservation by Design as the prescribed process for land development. Conventional subdivision and land development practices typically create the largest and greatest number of similar sized lots from a parcel; only lands specifically protected by local regulations are set aside from the developable area. The Conservation by Design approach identifies all valued resources first, per the ordinance, and sets these areas aside as common open space for conservation and/or recreation; home sites are then established in relation to the open space and finally roads are laid out to connect home sites. This approach protects natural resources and open space while enabling development, of often the same number of lots, to occur.

Initiation/Duration: Ongoing with emphasis during the Community Planning Initiative

Lead Partners: Pike County Office of Community Planning, Pike County Conservation District

Support Partners: Natural Lands Trust, Conservation Partnership

Funding Sources: PA DCED Land Use Planning and Technical Assistance Program (LUPTAP), PA DCNR Community Conservation Partnerships Program (C2P2), local match from County or local funds and in-kind services

Benefits: Protect critical lands and guide growth through the private development process.

Recommendation 2-3

Update the Pike County Natural Areas Inventory. The current Natural Areas Inventory was prepared in 1990 and amended in 1995. In light of the extensive development that has taken place since then and the anticipation of additional development, current data is needed to thoroughly and accurately assist county and local officials in reviewing the locations and potential impacts of proposed development and in applying conservation and management tools to protect these resources.

Initiation/Duration: 2010/2011

Lead Partners: Pike County Office of Community Planning

Support Partners: Pike County Conservation District, Delaware Highlands Conservancy, Pennsylvania Natural Heritage Program

Funding Sources: PA DCNR, Pike County Scenic Rural Character Preservation Program

Benefits: Plan approvals and technical assistance and grant applications made with the best available inventory of natural communities.

Recommendation 2-4

Participate actively in PA DCNR's Pocono Forests and Waters Conservation Landscape Initiative. PA DCNR's Conservation Landscape Initiatives (CLI) provides a forum for state land managers to coordinate their land management, recreational planning, and conservation efforts with Departmental partners in the Bureau of Forestry, Bureau of Recreation and Conservation, and Bureau of State Parks, as well as with regional stakeholders. The goal of the CLI approach is to meet local conservation challenges and opportunities through a seamless integration of DCNR resources. Several CLIs have already been designated and are operating across the Commonwealth, including the PA Wilds, Laurel Highlands, and the Kittatinny Ridge.

Initiation/Duration: 2007-2012

Lead Partners: PA DCNR

Support Partners: Pike County Office of Community Planning, PA DCNR/Bureau of Forestry, PA DCNR/Bureau of State Parks, PA Game Commission, PA Fish & Boat Commission, National Park Service, Conservation Partnership

Funding Sources: County budget (planning staff time for participation); State and federal grant programs for initiative actions

Benefits: Brings together disparate and independent organizations to a common focus.

Recommendation 2-5

Encourage the preparation and implementation of forest stewardship plans for privately owned forest lands through outreach efforts. Prioritize efforts to landowners based on the size of tracts, (i.e. large tracts first), those with conservation easements in place, and those tracts with expressed interest from landowners. Look for opportunities to reach a large group of landowners, e.g. forest landowners, through a single presentation or workshop to local organizations, e.g. a forest landowners association. Develop a multi-disciplinary outreach team to provide the expertise needed to present options and answer landowner questions. Consider outreach team participation from the state service forester, proposed county forester, land conservancy and real estate law.

Initiation/Duration: 2008 forward

Lead Partners: PA DCNR Bureau of Forestry, Pike County Conservation District

Support Partners: Conservation Partnership, Pike County Office of Community Planning, Municipalities, PA DCNR/Bureau of Forestry

Funding Sources: PA DCNR/Bureau of Forestry

Benefits: Active management of forest lands for landowner goals.

Recommendation 2-6

Develop forest stewardship plans for forested county and municipal park/recreation lands. The purpose for this recommendation is two-fold. First, developing such plans for public forest lands would acknowledge the value of these lands for timber production, wildlife, water resource protection, and/or recreational uses. Carrying out these plans would potentially enhance these uses. Crafting these plans would demonstrate the process, results and benefits of evaluating forest assets, determining forest goals, and taking action in the forest toward those goals. Second, while forest stewardship plans are developed for site-specific resource management, their implementation can demonstrate the kind of land ethic that the County wants private landowners to have. Public forest lands can become demonstration sites for best management practices that citizens and visitors can apply on their own forest lands. Partner with the PA DCNR Bureau of Forestry or contract with a private forestry consultant to prepare the forest stewardship plans.

Initiation/Duration: 2010/2011 after update of the Natural Areas Inventory

Lead Partners: Pike County Conservation District

Support Partners: PA DCNR Bureau of Forestry

Funding Sources: PA DCNR Bureau of Forestry grant program (an 80% grant/20% local match program)

Benefits: Applied and publicly-visible management of public forests and woodlands.

Recommendation 2-7

Develop, distribute, and help to tailor model ordinances or ordinance provisions for the preservation of steep slopes and ridgelines, agricultural quality soils, floodplains, wetlands, and forest cover, particularly in headwaters subwatersheds and riparian areas.

Initiation/Duration: 2008/2009 until planning and ordinances update are complete for each municipality, as well as through ongoing ordinance amendments

Lead Partners: Pike County Office of Community Planning

Support Partners: Municipalities, Pike County Conservation District

Funding Sources: PA DCED Land Use Planning and Technical Assistance Program and local match funds and in-kind services

Benefits: Protection of critical resources from development and its impacts. Clean water for streams and aquatic habitat as well as groundwater recharge.

Recommendation 2-8

Complete preparation of Act 167 stormwater management plans for all watersheds in Pike County. For many years, stormwater has been treated as the step-child of the hydrologic cycle, when in fact it becomes source water for downstream communities or recharges local aquifers. In light of recent drought conditions and increasing water quality standards, greater attention to stormwater is warranted. Stormwater management planning is the first step toward understanding how stormwater is generated within a community and how its flow impacts the water cycle. Enactment and implementation of these plans, including revision of ordinances to include best management practices, in each watershed and municipality should follow.

- Initiation/Duration: 2008/2009 until planning is complete countywide, as well as through ongoing plan updates
- Lead Partners: Pike County Conservation District, Pike County Commissioners
- Support Partners: Municipalities, Watershed Associations, PA DEP, Conservation Partnership
- Funding Sources: PA DEP
- Benefits: Retention and recharge of groundwater supply to ensure long-term clean water supply from surface waters and aquifers

Recommendation 2-9

Identify critical groundwater recharge areas, public water supply and wellhead areas of Pike County. While surface infiltration occurs in almost every location, certain soils and geologic formations provide more effective infiltration of stormwaters to the groundwater aquifers below. Similarly, some of these recharge areas easily transfer pollutants and contaminants. Knowing the locations and boundaries of these areas enables local officials to guide inappropriate land uses and activities away from these areas, as recommended below (2-10).

- Initiation/Duration: 2010/2011
- Lead Partners: Penn State Cooperative Extension, Pike County Conservation District
- Support Partners: Pike County Office of Community Planning, PA DEP, USGS
- Funding Sources: PA DEP, Center for Rural Pennsylvania, Water Resources Education Network (WREN) PA Rural Water Association
- Benefits: Better knowledge of source water areas, identification of potential contamination sources, development of contingency plans for emergency situations, and alternative siting for important source water supplies

Recommendation 2-10

Protect groundwater recharge areas, public water supply sources, and public wellheads from land uses that could negatively impact water supply and quality.

Initiation/Duration: 2012/2013

Lead Partners: Municipalities

Support Partners: Pike County Office of Community Planning

Funding Sources: PA DCED Land Use Planning and Technical Assistance Program and local match funds and in-kind services, PA DEP

Benefits: Provisions for a safe, clean water supply

Recommendation 2-11

Provide model standards for private well construction to municipalities and the public. The inappropriate design and construction of private wells can lead to greater risk of well contamination. Modern standards for well design and construction are essential to protecting the health of rural residents who rely on on-lot wells.

Initiation/Duration: 2008/2009

Lead Partners: Pike County Office of Community Planning

Support Partners: Municipalities, PA DEP

Funding Sources: PA DCED Land Use Planning and Technical Assistance Program and local match funds and in-kind services

Benefits: Safe, clean water supply for rural residents

Recommendation 2-12

Identify and address water supply and water quality issues in critical water planning areas (CWPA) consistent with the state water plan. Pennsylvania is developing a new state water plan based largely on the water budget concept. Water within a given area is a limited resource. The water budget compares existing and projected water use within the watershed to the available supply. Where water consumption exceeds water supply, action is needed to restore balance. Critical water planning areas are the designation used to draw technical and financial resources to imbalanced watersheds. If water supply and consumption rates are not available, data collection should be implemented first.

Initiation/Duration: 2008 and forward.

Lead Partners: Pike County Office of Community Planning

Support Partners: PA DEP Pike County Conservation District

Funding Sources: PA DEP

Benefits: Assurance that water supplies will meet local demands

Recommendation 2-13

Protect the dark skies of Pike County from unnecessary light pollution from development. Acquire or develop a model lighting ordinance for the County and municipalities. Review, tailor and adopt these provisions into county and municipal regulations. The model ordinance should:

- 1) describe the conditions under which lighting is necessary or reasonable, and
- 2) establish performance standards for light scatter.

Initiation/Duration: 2008/2009 and made available for implementation of local comprehensive and open space plans

Lead Partners: Pike County Office of Community Planning Pike County Conservation District

Support Partners: Municipalities, Developers, Businesses

Funding Sources: Scenic Rural Character Preservation Program

Benefits: Preserve the visual quality of rural communities at nighttime

Recommendation 2-14

Acquire or develop a list of recommended landscape species appropriate to the ecology of the region. Include procedures for reviewing additional species; adopt these provisions into county and municipal regulations.

Invasive and non-native plant species can rapidly alter the native local ecology. They often produce more seed, germinate more easily, and grow more rapidly than native species. Invasive and non-native species are often introduced as decorative plants in residential and commercial landscapes. Managing the species that are permitted to be planted through municipal regulations can help to protect the local ecology, reduce the need for landscape irrigation, and reduce maintenance.

Initiation/Duration: 2012/2013, after completion of the Natural Areas Inventory update, where detailed investigation can assess the abundance and impact of invasive, non-native species in the County

Lead Partners: Penn State Cooperative Extension, PA DCNR/Bureau of Forestry

Support Partners: Pike County Conservation District, Delaware Highlands Conservancy, Pike County Office of Community Planning

Funding Sources: Agency budgets

Benefits: Sustain the native vegetation communities of Pike County

Recommendation 2-15

Develop a plan for the preservation of historic and cultural resources. County focus should be on cultural heritage landscape, primarily large tracts of land that evoke the heritage of Pike County. Smaller structures, landmarks, and locations should be the focus of multi-municipal and municipal planning. Encourage private citizens and community organizations to become partners in all heritage conservation efforts.

Initiation/Duration: 2008 until planning is complete countywide, as well as through ongoing plan updates

Lead Partners: Pike County Office of Community Planning

Support Partners: Pocono Forest and Waters Conservation Landscape Initiative (PFWCLI), Pike County Historical Society, Municipalities, National Historic Sites and NPS

Funding Sources: State and federal grants

Benefits: Retention of rural and historic resources which are important to our rural character heritage and tourism economy.

Greenways and Trails

Goal 3: Identify linkages in critical open space areas and develop methods to create, restore and conserve the connections.

Blueprint for Action. By 2017, establish four county greenway spines and 100 miles of trails that connect people to the rivers, parks, neighborhoods, schools, shopping areas, business centers, towns and villages. Create a trail within a 15-minute walk or bike ride of every citizen.

Recommendation 3-1

Designate the spines of the Pike County Greenway Network, as shown on the Conceptual Greenways Network Map.

- 1) Delaware River Greenway
- 2) Wallenpaupack-Lackawaxen Greenway
- 3) Blooming Grove Creek Greenway
- 4) Little Bushkill Greenway
- 5) Shohola Creek Greenway
- 6) Pinchot-Sawkill Greenway

Create a master plan for each greenway to specify its intended purpose: conservation only or conservation and public recreation. Establish the greenway through acquisition, easements, and donations from willing landowners, as well as stewardship or other resource management plans with private landowners within the greenway area. Where greenways connect public lands, explore the feasibility of trail connections, with coordinated funding from public sources and private landowners.

Initiation/Duration: 2007 forward

Lead Partners: Pike County Office of Community Planning

Support Partners: Municipalities, Monroe County, Wayne County

Funding Sources: County funds

Benefits: Protection of riparian corridors. Protection of wildlife migration corridors. Maintenance of scenic beauty. Marketable outdoor attractions for tourism. Increased property values.

Recommendation 3-2

Designate the following existing and proposed trails as the spines of the Pike County Trail System:

- 1) Delaware Water Trail
- 2) McDade Trail and Dingman's Ferry to Child's Park connector
- 3) Pinchot Greenway Trail
- 4) Route 6 Bike Trail

Support completion of proposed and in-progress trails by community partners. Supply letters of support, supporting recommendations from adopted plans, and other data from the Office of Community Planning, the Conservation District, and other county departments in support of these projects, where needed. Provide financial support to trail development, e.g. land acquisition/easement or design and construction cost.

Initiation/Duration: 2007 forward with 100 miles of trail completed by 2017

Lead Partners Pike County Office of Community Planning

Support Partners: Municipalities, willing private landowners, PA DCNR/State Parks, PA DCNR/Delaware State Forest, PA Game Commission, PA Fish & Boat Commission, NPS

Funding Sources: County, state and federal funds

Benefits: Creation of additional tourism opportunities. Increased recreation opportunities to enhance citizens' fitness and wellness. Non-vehicular transportation options. Economic growth spending associated with trail use.

Recommendation 3-3

Designate scenic byways along selected road corridors as shown on the Conceptual Greenways Network Map. Scenic byways could be another component of the Pike County Scenic Rural Character Preservation Program to draw attention to the scenic landscape. Scenic byways can be promoted as tourism attractions, giving visitors another opportunity to experience Pike County. If topography and road conditions are suitable, scenic byways can also be used as recreational cycling routes.

Beyond county or local designation, explore local interest and support for PennDOT's PA Byways designation, which offers statewide marketing in exchange for billboard exclusions along specified corridors. Where local support is evident, pursue byway assessment and corridor management planning per PennDOT's PA Byways guidelines. Recommended corridors include:

- 1) Route 6 (a designated Heritage Corridor and a PA Byway, though no byway corridor management plan has been prepared)
- 2) Route 209
- 3) Route 402
- 4) Route 507
- 5) Route 390
- 6) Promised Land to Greentown corridor
- 7) Lackawaxen River corridor
- 8) Silver Lake corridor
- 9) Twin Lakes Road corridor

Emphasize conservation of land use and land cover along these corridors in management plans. Evaluate and address safety hazards along these routes, e.g. develop safe pull-offs for wildlife viewing along the Lackawaxen corridor. Develop self-guided driving/biking tours as a recreational activity and tourism attraction.

Encourage identification of other corridors through multi-municipal open space, greenways and recreation plans.

Initiation/Duration: 2010/2011

Lead Partners: Pike County Office of Community Planning, Municipalities

Support Partners: PennDOT, North East Pennsylvania (NEPA) Alliance

Funding Sources: PennDOT PA Byways program, Scenic Rural Character Preservation program

Benefits: Supports tourism and economic development in communities along a designated byway. Unique signs, markers, brochures and ongoing promotional efforts can enhance a community's marketability. State scenic byways can potentially be designated a National Scenic Byway or All-American Road. Such byways are marketed to national and international travelers, bringing additional recognition and economic benefits to area communities. State or nationally-designated scenic byways are both eligible to compete for federal discretionary scenic byway funds. Strengthens civic pride and makes communities an even more attractive place to live and work. Serves to identify an area's scenic, historical and recreational treasures for the enjoyment of future generations. Helps to protect important features of the heritage such as stone walls, town squares and others that could be changed or eliminated through road improvements.

Recommendation 3-4

Encourage multi-municipal planning and development of greenways and trails that connect to the County spines, particularly between planned growth areas and large public land blocks. Greenways and trails are envisioned as a conservation and recreation network of corridors that link local communities to their surrounding natural resources and to one another. The County will need to promote the expansion of the initial greenway and trail corridors – the spines – through local planning.

Initiation/Duration: Ongoing

Lead Partners: Municipalities, Municipal Recreation Boards/Committees

Support Partners: Pike County Office of Community Planning, Pike County school districts, Municipal Authorities (for trail rights-of-way over water/sewer rights-of-way)

Funding Sources: PA DCNR Community Conservation Partnership Program (C2P2)

Benefits: Expansion of the Pike County Trail System. Extended accessibility of natural resource to non-driving residents

Recommendation 3-5

Support the development of walking trails in county, regional and municipal parks. Walking trails provide opportunities for fitness and wellness to citizens of all ages and nearly all abilities and opportunities to improve physical and mental health. When provided within parks, they offer another recreational facility for park visitors.

Initiation/Duration: Ongoing

Lead Partners: County, regional and municipal park owners

Support Partners: Pike County Area Agency on Aging, Wayne Memorial Hospital, Bon Secours Hospital, Newton Memorial Hospital, and Pocono Medical Center

Funding Sources: PA DCNR Community Conservation Partnership Program (C2P2)

Benefits: Close to home and regional opportunities for health and wellness walking

Recommendation 3-6

Maintain sidewalks in boroughs and extend them throughout planned growth areas. Sidewalks provide a critical means of safe circulation for non-drivers. They enable students to walk to schools and parks and enable communities to promote their heritage through walking tours.

Initiation/Duration: 2008 and forward with emphasis in local and regional transportation planning efforts

Lead Partners: Milford, Matamoras

Support Partners: North East PA Alliance (NEPA) (regional transportation planning organization), Pike County Visitors Bureau, PennDOT

Funding Sources: PennDOT Home Town Streets/Safe Routes to School program

Benefits: Safe travel for non-drivers within their communities. Promotion of local heritage

Recommendation 3-7

Participate in the designation, planning and development of the Upper Delaware Greenway. Once again, designation is the first step in drawing attention to a resource of concern that is an integral part of a community or region. Designations carry value when evaluating the impacts of proposed development – more so than resource inventories alone. The purpose and design of an Upper Delaware Greenway are yet to be defined. Support for state designation is currently being organized. Pike County should express its support for the Upper Delaware Greenway designation – preferably as a state greenway. Once designated, the County should continue to work with project partners to develop a vision and management plan for the conservation and enhancement of the natural, cultural and recreational resources of the river corridor.

Similarly, participate in the exploration of Pennsylvania Scenic River Corridor Designation for the Upper Delaware River. Follow through with planning to sustain the scenic features and overall character of the river corridor.

Initiation/Duration: 2007-2009

Lead Partners: PA DCNR and State of New York

Support Partners: NPS, Pike County Office of Community Planning, Counties of Sullivan, Delaware Orange, and Ulster in New York, and Sussex County New Jersey

Funding Sources: NY and PA state funds and federal funding

Benefits: Conservation, tourism promotion and economic development

Recommendation 3-8

Support the exploration of feasibility and development of other trail concepts, such as:

- 1) Connections from borough and village centers to nearby rivers
- 2) An interpretive trail along the wetlands area between Lake Wallenpaupack and the free-flowing Lackawaxen River.
- 3) Grey Towers to the Delaware State Forest, Pike County Park and Borough of Milford (Pinchot Greenway Plan)
- 4) Delaware River via Rohman Park and the Shohola Glen
- 5) Connection of the McDade Trail to Pike County Communities and villages
- 6) Cycling routes:
 - from BicyclePA Route Y/Route 6 near Lake Wallenpaupack south to Milford; then Route 209 south to Route 739; then Route 739 north to Silver Lake Road to then Route 402 back to BicyclePA Route Y/Route 6; an estimated 55-mile loop
 - from BicyclePA Route Y/Route 6 near Lake Wallenpaupack south to Milford; then Route 209 south along the river to Bushkill; then Bushkill Falls Road to Route 402 to BicyclePA Route Y/Route 6; an estimated 70-mile loop.

Initiation/Duration: 2007 forward

Lead Partners Pike County Office of Community Planning

Support Partners: PPL, Municipalities, hiking, cycling and outdoors groups, community trail organizations

Funding Sources: Federal, state and county funds, potential private fundraising and donations

Benefits: Increased connection of citizens to the outdoors, increased stewardship for the Pike County environment, tourism, economic development

Parks and Recreation

Goal 4: Establish a countywide system of parks and recreation areas through the collaboration of state, county, regional, municipal, and private parks and recreation opportunities in Pike County for present and future generations.

Blueprint for Action: Regional Parks & Open Space. Organize the County into multi-municipal regions for planning, trail and greenway systems, and as the foundation for the countywide system of parks and recreation services.

- Upper Delaware Region – Lackawaxen and Shohola Townships
- River Gateway Region – Milford Borough, Milford Township, Matamoras Borough, Westfall Township, Dingman Township
- Bushkill Region – Lehman and Delaware Townships
- Wallenpaupack Region – Palmyra, Greene, Blooming Grove and Porter Townships

Create one regional park in each planning region; program two-thirds of each regional park for passive recreation and one-third for active recreation and establish county, multi-municipal or municipal management.

Blueprint for Action: Close-to-Home Parks, Recreation & Open Space.

Assist the municipalities in developing multi-municipal park, recreation and open space plans. Focus parks and recreation facilities as close-to-home and within 15 minutes of every household in the planned growth areas. Include the school districts within the close-to-home recreation system. Outside of the growth areas, focus on creating trails to connect rural residents with parks and recreation facilities in planned growth areas and to the regional park.

Recommendation 4-1

Create a countywide advisory board of parks and recreation providers. Include representatives of federal, state, county, municipal, school districts, private homeowners associations, resort communities, camps clubs, trail groups and commercial park and recreation organizations. The purpose of this advisory board would be to insure coordination of information, resources and potential facilities and services for parks and recreation opportunities.

Initiation/Duration: 2009/2010 forward

Lead Partners Pike County Planning Commission, (Recommended) County Recreation and Park Planner

Support Partners: Representatives of organizations identified above

Funding Sources: Staff time from Pike County and partnering organizations

Benefits: Maximum use of all resources, shared information for better planning, cost savings through shared facilities & services, more partnering on projects, and additional grants.

Recommendation 4-2

Insure that sufficient parkland is secured to meet the close-to-home recreation needs of today and future generations. Set a goal of 15 acres per thousand residents for close-to-home parkland and 10 acres per thousand for regional or county parkland. Consider the needs of both year-round and seasonal residents. Table 5-1 presents the county/regional parkland based upon a 10-acre per 1,000 resident minimum standard. Table 5-2 presents the local parkland needs by municipality based upon a 15-acre per 1,000 resident minimum standard. Future planning by the municipalities could result in revised standards.

Figure 5-1: County/Regional Parkland Acreage/NRPA Standards Analysis

	Parkland (Acres)								
	Current County/ Regional Parkland Acreage	Projected County/Regional Parkland Needed to meet NRPA/Pike County Standard of 10 acres per 1,000 population based on Population Projections							
		2007		2010		2020		2030	
		Add'l	Total	Add'l	Total	Add'l	Total	Add'l	Total
Pike County	325	288	613	80	693	346	1039	863	1,556
Pike County with an estimated 50,000 seasonal residents	325	788	1,113	80	1,193	346	1,539	863	2,056

These are suggested guidelines for county/regional parkland.

- Acquire a minimum of 1,556 acres of regional parkland by 2030 – preferably by 2017 in light of seasonal residents. This can be county parkland or regional parkland owned by multiple municipalities and their partners. It should be largely resource-based land with two-thirds preserved as natural areas and one-third developed with active recreation facilities. Priority should be placed on creating access to streams and rivers.
- Consider camps and clubs as potential sites for acquisition and development as regional or county parks.

Figure 5-2: Local Parkland Acreage/NRPA Standards Analysis

	Parkland (Acres)								
	Current Local Parkland Acreage	Projected Local Parkland Needed to meet NRPA/Pike County Standard of 15 acres per 1,000 population based on Population Projections							
		2007		2010		2020		2030	
		Add'l	Total	Add'l	Total	Add'l	Total	Add'l	Total
Blooming Grove	0	72	72	9	81	41	122	61	183
Delaware	343	0	131	0	151	0	239	37	380
Dingman	405	85	188	32	220	148	369	212	617
Greene	4	53	57	5	62	20	82	26	109
Lackawaxen	12	69	81	10	91	41	132	60	191
Lehman	68	87	155	24	179	104	283	166	449
Matamoras	64	0	42	2	44	12	56	15	72
Milford Borough	5.5	14	20	1	20	5	25	6	31
Milford Township	0	28	28	3	31	18	48	28	76
Palmyra	12	48	60	4	64	23	87	31	118
Porter	0	7	7	0	8	3	10	3	14
Shohola	6	33	39	2	42	14	55	18	74
Westfall	0	48	48	3	51	21	72	29	101
TOTAL	919.5	544	928	95	1,044	450	1,580	692	2,415

These are suggested guidelines for local parkland.

- Acquire a minimum of 2,415 acres for close-to-home parkland and recreation facilities by 2030. Target 1,120 by 2017. Consider collaborative relationships with the school districts in land acquisition and the creation of true “community schools”. Ensure that every municipality has at least one park. Public parks should be available in the town centers of the boroughs. Every township should have at least one park of at least ten acres.
- Adopt the NRPA Model of Park Classification, shown in Figure 5-3, for the Growth Areas, Village Development, and Hamlets in the Pike County Comprehensive Plan for the creation of close-to-home parks and recreation systems. Set a goal of locating a park within a 15 minute walk of every household within the growth areas. For areas outside of these designations, focus on creating recreation opportunities through trails for pedestrian and non-motorized use, access to streams, and nature-based opportunities.

- Consider setting a policy of reserving 30 percent of all parkland as undeveloped for decision-making by future generations. It is important to get the land now, as land might not be available for future generations.
- Provide assistance to municipalities in park and recreation planning. Consider both financial and technical assistance. Work with PADCNR to secure planning funds for multi-municipal parks and recreation plans. Hire a Recreation and Parks Planner to coordinate multi-municipal planning as identified in Goal 7: Management and Organization.
- Provide technical assistance to municipalities in the creation and adoption of Mandatory Dedication of Land provisions.
- Continue with outreach efforts to solicit land donations for parks.

Initiation/Duration: 2008 forward

Lead Partners: Pike County and the 13 Municipalities

Support Partners: Federal and state governmental agencies, land trusts, conservancies, private landowners, camps, clubs, homeowner associations, resort communities

Funding Sources: Federal, state, county, local and private funds. Land dedication through the Mandatory Dedication of Park Land Ordinances and secondarily through fees-in-lieu-of parkland dedication

Benefits: Parkland increases property values, attracts and retains businesses, creates places for citizens to lead active healthy lifestyles, supports Pike County's image as a recreation destination

**Figure 5-3
Pike County Park Classification System**

Type/Size/Service Radius	Definition	Benefits	Appropriate Amenities	Parks in Pike County	Maintenance Level
Mini Park 0-5 acres ¼-mile service radius	Smallest park type, addresses limited recreation need	<ul style="list-style-type: none"> Provides close to home recreation 	<ul style="list-style-type: none"> Playground Benches, seating area 	<ul style="list-style-type: none"> Milford memorial Park Catherine Street Park, Milford Cykoski Park, Greene township 	High level of maintenance associated with well developed park and playground and reasonably high visitation
Neighborhood Park 5-15 acres minimum ½-mile service radius	Focus of neighborhood; in walking/biking distance of visitors	<ul style="list-style-type: none"> Provides access to basic recreation opportunities Contributes to neighborhood identity Establishes sense of community 	<ul style="list-style-type: none"> Play areas Ballfields Game Courts Picnic/Seating Pathways Community gardens 	<ul style="list-style-type: none"> Lehman Township Recreation Fields Delaware Township Park Palmyra Township Park Rosencrance Park, Lackawaxen Township 	High level of maintenance associated with well-developed park and reasonably high visitation.
Community Park 30-50 acres, preferably 50-80 acres 2-mile service radius	Large park for active & passive recreation; serves residents city-wide. Accommodates large groups.	<ul style="list-style-type: none"> Variety of recreation opportunities for all ages and interests Space for organized, large scale, high participation events Family destination Fitness and wellness opportunities 	<ul style="list-style-type: none"> Play areas Organized sports facilities Pavilions Permanent restrooms Lighting Amphitheaters Pools, Rinks Parking 	<ul style="list-style-type: none"> Airport Park, Matamoras Dingman township Park Lehman Township Community Park Rohman Park, Shohola Township 	Moderate level of maintenance associated with moderate level of development, budget restrictions, and inability to perform higher levels of maintenance. Try to get park friends or establish adopt-a-park.
School/Community Park Varies	Parkland adjoining a school used for both recreation and education.	<ul style="list-style-type: none"> Combines two public entities for expanded year round recreation. Maximizes public resources Expands recreation opportunities 	<ul style="list-style-type: none"> Youth-oriented game courts and ball fields Play areas Seating Pathways Lighting Parking 		Moderate level of maintenance associated with moderate level of development, budget restrictions, Try to get cooperative agreement with school.
Sports Complex 30+acres; preferably 50-80 acres	Consolidates sports fields and related facilities in a centralized location.	<ul style="list-style-type: none"> Economy of scale Improved management Showcase facility Attracts visitors who stimulate local economy 	<ul style="list-style-type: none"> Ball fields Lighting Spectator Areas Restrooms, Concessions Landscaping Parking 		State-of-the-art maintenance applied to high quality facilities. Associated with high visitation; revenue generating facilities, tourism.
Special Use Facility Varies	Facility for a single purpose use.	<ul style="list-style-type: none"> Provides special focus recreation opportunities Contributes to community identity 	<ul style="list-style-type: none"> Depends on purpose 	<ul style="list-style-type: none"> Delaware Township Camp Akenac Veteran's Memorial Park and Education Center Palmyra Beach 	High level of maintenance associated with well-developed park and reasonably high visitation.

Figure 5-3
Pike County Park Classification System

Type/Size/Service Radius	Definition	Benefits	Appropriate Amenities	Parks in Pike County	Maintenance Level
Greenways and Trails <i>Varies</i>	Tie park areas together to form a contiguous park environment.	<ul style="list-style-type: none"> Connects community Reduces auto dependency Improves air quality Contributes most desired recreation facility for people throughout their lifetime Attracts visitors 	<ul style="list-style-type: none"> Pathways – multipurpose Trailheads Support facilities Signage 		Lowest level of maintenance. Focus on trailheads and trail safety.
Regional Parks	Natural features, especially water access	<ul style="list-style-type: none"> Protect resources Provide wildlife habitat Offer opportunities for nature based and large scale recreation 	<ul style="list-style-type: none"> Trails Special facilities 2/3 natural; 1/3 developed Park visitors would spend an extended time here 		Lower level of maintenance in natural areas. Higher maintenance levels in developed areas depending on facilities.

Recommendation 4-3

Support the planning and development of recreation facilities through technical assistance, grant application assistance, and future county bonds. While the priority is on obtaining the parkland, recreation facility planning and development should be phased in. Interviews conducted as part of this planning process, found that there are not enough facilities for organized sports, lifetime fitness facilities or parks for enjoying a variety of leisure pursuits by citizens of all ages and abilities.

- Incorporate recreation facility planning and the creation of capital improvement programs in the multi-municipal park recreation, and open space plans.
- Parks and recreation facilities should be professionally master planned with a strong public participation process. A plan for operating, maintaining and funding the facility should be part of the master plan, since about 75 percent of a park's total cost is in maintenance and operation over its lifetime.
- All parks and recreation facilities should meet the safety standards of the Consumer Product Safety Commission (CPSC) and the American Society of Testing Materials (ASTM) as well as the guidelines of the Americans with Disabilities Act (ADA).

Initiation/Duration: Planning: 2008 forward. Construction: 2008 forward. Park and recreation facility development will take decades. Phasing in facilities over time is the key

Lead Partners Municipalities

Support Partners: School districts; Federal and state governmental agencies; camps; clubs; homeowner associations; and resort communities

Funding Sources: Federal, state, local and private funds cost sharing with school districts; community foundations; community sports organizations

Benefits: Community enhancement; improvement in quality of life; opportunity to establish a culture of active healthy lifestyles; enhances Pike County's image as a recreation county; provides opportunity to create a sense of community close to home

Recommendation 4-4

Make provisions for year round recreation opportunities both indoors and outdoors. Trails, winter sports facilities and indoor recreation centers that enable citizens to lead active lifestyles and engage in leisure pursuits that enrich their quality of life should be considered as part of a countywide system of parks and recreation.

- Work with the school districts to provide community access to school facilities for recreation, especially for fitness and wellness.
- Investigate transportation for citizens who cannot drive, particularly youth and older residents.
- Encourage regions/municipalities to plan for winter sports facilities in municipal and regional parks.
- Encourage school districts and municipalities to collaborate on school facility design as the school districts expand. Pursue joint indoor facility development to increase recreational use of indoor facilities by citizens of all ages. Facilities particularly suited for joint planning include gyms, indoor pools and fitness centers, and performing and studio arts facilities.
- Use Adult Evening School or Community School programs as a vehicle for community recreation, especially for adults.

Initiation/Duration: Planning: 2008 forward. Construction: 2010 forward. Joint operation: 2011 forward

Lead Partners School Districts, Municipalities

Support Partners: Federal and state governmental agencies, land trusts, conservancies, private landowners, camps, clubs, homeowner associations, resort communities

Funding Sources: Federal, state, county, municipal and private funds, and community foundations

Benefits: Cost savings through collaboration. Maximum use of school facilities was the goal specified in school district interviews. Economic use of public funds for multiple purposes: education and recreation. Enhancement of the tourism potential for Pike County through winter sports facilities.

Recommendation 4-5

Complete the development of the Pike County Park, including improved access to the park. Phase development in accordance with the Park Master Development Plan. Use the County park to set the standard for how publicly-owned lands should be developed and maintained in terms of being eco-friendly, attractive, safe, and a source of community pride. The cost is projected to be about \$1.1 million. Development can be phased in as funds become available.

- Hire a Recreation & Park Planner to oversee the development process, develop partners, and create a management and operations plan for the park.
- Allocate annual funds to leverage state and other funding.
- Continue to use partnerships in park maintenance.
- Allocate about \$2,000 per developed acre and \$300 per undeveloped acre annually for park maintenance.
- Consider programming events, programs and activities in the park to generate revenue.

Initiation/Duration:	Ongoing
Lead Partners:	Pike County
Support Partners:	Park lessee, Multi-municipal partners (Milford Borough, Milford Township, Matamoras Borough, Westfall Township, and Dingman Township)
Funding Sources:	Pike County, PA DCNR C2P2 grant program, partners shown above, and community foundations
Benefits:	Pike County Park will enhance the tourism potential of the County; increase public service to thousands of park visitors and residents; preserve an important natural area; enable citizens to reduce their stress, socialize with family and friends, and enjoy nature.

Recommendation 4-6

Encourage the planning, provision, and promotion of recreational opportunities and services as part of multi-municipal park, recreation and open space planning. Pike County is facing a number of social issues that can be addressed through recreation, including childhood and adult obesity; the fear and lack of understanding of the outdoors among newcomers to Pike County; and the need to build a sense of community given the fast-paced growth and diversifying population. Providing both scheduled, organized programs/events and self-directed opportunities to experience and learn about nature and the environment of Pike County would be an effective way of acclimating new residents.

- Incorporate recreation service planning as part of multi-municipal park, recreation and open space plans.
- Coordinate recreation services with the school districts. Strive to create “community schools” as a way of fostering the schools as the hub of community recreation.
- Use the model of the Stroud Region for the provision of recreational services, which are already being offered on the north campus of the East Stroudsburg Area School District.
- Focus recreation services on fitness and wellness, resource-based recreation and environmental education.
- Incorporate the arts into recreation as a tourism generator as well as for services for citizens.
- Ensure that recreation services provide opportunities for people of all ages and abilities.
- Coordinate special events with the Pike County Visitors Bureau and promote them among business partners in Pike County
- Promote all of the opportunities for recreation, nature, the great outdoors, and programs and services. Strive to create a central source of information such as a website where residents and visitors can access schedules for current and upcoming programs.

Initiation/Duration: Planning starting 2008. Implementation: 2009/ 2010

Lead Partners: Pike County through Multi-Municipal Planning Regions and School Districts

Support Partners: Private sector partners; potentially the Stroud Regional Recreation Commission as a project mentor.

Funding Sources: Seed money for recreation staff; cost sharing with school districts; partnership, sponsorships; fees and charges.

Benefits: Recreation builds strong family bond; stimulates positive youth development, our greatest asset as our future community leaders; reduce the isolation of the elderly; deters anti-social behavior; prevents substance abuse; develops future stewards of the environment; contributes to the economic vitality of the County.

Resource Stewardship

Goal 5: Build stewardship for Pike County's land, water and natural resources through public outreach and education.

Blueprint for Action. Foster the ethic that every landowner is a land steward. Create a program of public education and outreach for four target audiences—municipalities, owners of large properties, citizens and tourists—to advance the understanding of the choices these groups of individuals can make. Advocate the benefits they can receive from land conservation and natural resource protection, alternatives to development for large tract landowners, parks, recreation and open space as a community investment, and the next generation of land stewards.

Recommendation 5-1

Continue to work as a member of the Conservation Partnership. Much of the advocacy for land stewardship is accomplished through collaborative efforts among conservation organizations and local, state and federal agencies. Through the Conservation Partnership, a broad base of technical expertise and funding sources are available to Pike County.

- **Promote:** Disseminate information to targeted audiences about the important functions of nature and how citizens can experience and conserve the natural environment. Share the message that all residents are land stewards through management of their residential properties as well as their care for public lands. Use the mass media, list serves and newsletters. Consider creating a speakers bureau.
- **Program:** Continue to create programs to raise awareness and support for nature as well as to create advocacy for policy and initiatives (e.g. Save the Night Skies”) to preserve Pike County's natural treasures. Programs should be organized as well as opportunities for self-directed experiences through facilities, interpretation and so on. Creating memorable and fun experiences for participants is important.
- **Policy:** Work to influence policy and planning in support of nature. Elected and appointed officials are a key audience as they are ultimately responsible for policies that affect growth and nature.
- **Projects:** Look for opportunities to foster or spur a project that can be used as an example of how nature, good design, and smart growth benefit Pike County, its citizens, tourism, economic development and wellness.
- **Target:** Identify and work with the owners of large parcels to inform them about conservation opportunities and ways to benefit financially from their land.

Initiation/Duration:	Ongoing
Lead Partners	Pike County Planning Commission and the Conservation District
Support Partners:	Pike County Commissioners, Pennsylvania Association of Conservation Districts, PA DEP (NE Regional Office), PADCNR/Bureau of Forestry (district Headquarters), PA Fish & Boat Commission (NE Regional Office), Pennsylvania Game Commission (NE Regional Office), PA Geospatial Data Clearinghouse, Pocono Northeast Resource Conservation & Development Council, State Conservation Commission, U.S. Army Corps of Engineers (Philadelphia District), USDA National Resource Conservation Service, U.S. Environmental Protection Agency, Alliance to Keep Pike Green, Delaware Highlands Conservancy, League of Women Voters- Water Resources Education Network (WREN), Pike County Chamber of Commerce, Pike County Federation of Sportsmen’s Clubs The Pinchot Institute of Conservation, Pocono Environmental Education Center, the Nature Conservancy, and the PPL Environmental Learning Center.
Funding Sources:	Allocations from federal, state and county government, grants and fundraising.
Benefits:	Maximizes use of expertise and resources to advance conservation initiatives and public education through a centralized organization. Provides a vehicle to generate funds for conservation and education. Creates public awareness in a variety of conservation areas from conservation and planning to “how-to” information regarding a host of environmental projects. Reduces duplication of services and fragmentation of resources.

Recommendation 5-2

Include the three School Districts in the Conservation Partnership. Use education and recreation as a way to help children experience and understand nature. In Pike County, students moving into the school districts from urban communities in New York and New Jersey need to be introduced to the natural world of Pike County. The thoughtful exposure of children to nature can help to build the next generation of land stewards, increase their fitness and reduce disorders such as attention deficit.

- Plan: Develop a strategic plan to target youth in grades three to six in nature-based recreation and environmental education.
- Work with the School Districts on the environmental education curricula as it relates to the Pennsylvania statewide academic standards for environment and ecology.
- Strive to involve the schools in the National Wildlife Federation's program, Schoolyard Habitats. This program is a hands-on outdoor education-learning program that cannot be duplicated in a classroom setting.
- Work with the Boy Scouts and the Girls Scouts in a train the leaders program to teach scout leaders how to foster an appreciation and enjoyment of nature among the young scouts.

Initiation/Duration: 2008 forward

Lead Partners The Conservation Partnership, Delaware Valley School District, Wallenpaupack Area School District and East Stroudsburg Area School District.

Support Partners: Pike County Conservation District

Funding Sources: Federal, state, school district and private funds. Staff time from the school districts as well as volunteer time.

Benefits: Creating the next generation of land stewards and advocates for nature in Pike County. Reduction in the fear of nature. Increase in understanding of Pike County's environment that could spawn advocates for public policy and support of county and municipal initiatives aimed at preserving Pike County's wilds.

Recommendation 5-3

Continue and enhance the Landowner Legacy Program. This outreach program is designed to inform large tract landowners of the options and benefits of land preservation. Current promotional materials include a series of four brochures that feature Pike County landowners and their personal stories of open space value. These brochures are intended to invite discussions with landowners. The program would further benefit from potential conservation studies of candidate

property and the provision of information that there are ways of obtaining financial benefits while preserving land simultaneously.

- Create an outreach committee that would include a mix of community planners, tax and estate planning specialists, attorneys, and individuals with influence and first hand contacts with specific landowners. Use the committee to develop a relationship with landowners for the purpose of discussing the potential legacy and financial benefits of land conservation.
- Develop land use plans for strategically identified properties to show how land can be conserved while the property owners and/or their heirs benefit.
- Root the outreach program in the foundation that this is a collaborative voluntary process, quite the opposite of government control.
- Use the successful approach of Pennsbury Township, Chester County.
- Continue to use the successful outreach campaign to all landowners with parcels of a specific size.

Pennsbury Township Land Conservation Method

Pennsbury Township appoints a committee of planners, attorneys, accountants, estate planners and community planners or landscape architects to develop a plan for the identified property. The committee members are chosen on a project-by-project basis depending on the expertise and skills needed. An influential person who knows the property owner initiates discussion and presents the plan to the landowner with no strings attached – just a concept for how the property can be preserved or developed with sensitivity to land conservation as an alternative to traditional development. The landowner can do whatever he or she wants with the study. Experience has shown that the landowners usually come back within three to five years to discuss the study. The cost for the time of the specialists conducting the property study is paid for through funds raised by the Pennsbury Land Trust and the Township.

- Initiation/Duration: 2008 forward
- Lead Partners: Pike County Planning Commission and Pike County Scenic Rural Character Preservation Board.
- Support Partners: The Conservation Partnership and the Pike County Landowner Legacy Program committee.
- Funding Sources: County funds, potential funds generated through private fundraising; potential donated time.
- Benefits: Land conservation with willing partners; potential avoidance of traditional land development; potential land conservation through effective design and planning; preservation of natural resources; new partners and advocates for conservation through design.

Recommendation 5-4

Implement the updated Natural Areas Inventory. The NAI makes recommendations for resource management and landowner and public education. The County, in cooperation with other public partners, should implement the recommendations made for public lands. Again in cooperation with public partners, perhaps through the Conservation Partnership, the County should promote the recommendations made for private lands, such as through a simple tri-fold brochure on each of the natural areas indicating the location and extent of the natural area, its special feature or features, the recommended management activities, and technical and financial assistance and incentives available from public agencies. These brochures could be distributed directly to the respective landowners and followed by a phone call to confirm receipt and inquire about the landowners' interest in available programs.

Initiation/Duration: 2008-09

Lead Partners: Pike County Conservation District, Pike County Scenic Rural Character Preservation Board, The Nature Conservancy

Support Partners: Conservation organizations and municipalities, private landowners

Funding Sources: PA DCNR/PA Natural Heritage Program

Benefits: Improved resource conservation and management

Recommendation 5-5

Promote environmentally responsible landscape management. Provide landowners and developers with best management practices for natural (wooded) and cultivated (cleared and re-planted) community landscapes. Provide information on recommended species and appropriate use of chemical and natural fertilizers and pesticides. Consider using the "Bayscapes" series, a publication of the U.S. Fish and Wildlife Service's Chesapeake Bay Field Office, as a guide.

Initiation/Duration: 2008 forward

Lead Partners: Penn State Extension Service, Pike County Conservation District

Support Partners: Pike County Office of Community Planning, Municipalities, Lake Wallenpaupack Watershed Management District

Funding Sources: County and state agencies

Benefits: Improved resource protection throughout the County

Recommendation 5-6

Promote Pike County's environmental stewardship ethic to prospective residents and visitors. Welcome prospective and new residents to Pike County and introduce them to the County's philosophy that every landowner and visitors has a role to play in environmental stewardship. Outline simple "do's and don'ts" for landscape management, recreation in the great outdoors, and interaction with wildlife. Provide the information, perhaps as a hard copy brochure and/or a webpage link, to realtors who can share it with prospective buyers and to the Pike County and Pocono Visitors Bureaus.

Initiation/Duration: 2008 forward

Lead Partners: Project of the Conservation Partnership

Support Partners: Select Conservation Partnership members, PEEC, Pike County School Districts

Funding Sources: County, grants, community foundations, private sponsors

Benefits: Increased awareness to foster stewardship and action to protect resources by individuals and organizations on public and private properties

Recommendation 5-7

Education on water resource conservation for citizens including best practices for home and business construction/renovation and operations, i.e. watering lawn, washing cars, etc.

Initiation/Duration: 2008 forward

Lead Partners: Pike County Conservation District

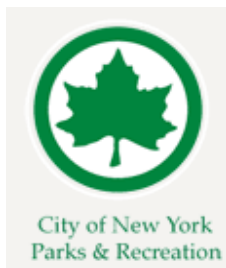
Support Partners: PEEC, Pike County School Districts

Funding Sources: County, grants, community foundations, private sponsors

Benefits: Protection of water and watersheds

Recommendation 5-8

Create an image and identity for Pike County's land conservation and open space program. A readily identifiable logo for the program needs to be conveyed to the public often and regularly. Since this is the first bond issue, it is likely that the County will move ahead with subsequent voter referenda and bond issues. Building a strong positive symbol will help to generate support for future initiatives as well as become a source of community pride and identity for Pike County.



- Consider a professional marketing and graphic design company for developing the logo and image. Avoid the use of design contests.
- Create a highly graphic, simple logo. Logos with high recognition and respect include the logos of the Nike “swish”, Mercedes Benz, and the golden arches of McDonald's. From a conservation perspective, the New York City Park Department's Maple Leaf, the New Jersey Green Acres land conservation program's “Green Acres Tree” convey positive readily identifiable symbols to citizens and visitors alike. The New Jersey Green Acres tree is on signs in virtually every municipality in the state. Its visibility and positive public regard is a contributing factor in the passage of nine voter referenda for open space preservation funding since 1964 totaling over \$1.4 billion.
- Develop a strategic outreach program for how and where the logo will be used to achieve a consistent visual identity. This should include a unified color and type scheme that could withstand the test of time.
- Consider the creation of a tag line as well.
- Publicize the success stories and the good work already being done.

Initiation/Duration: 2009

Lead Partners Pike County Planning Commission, Scenic Rural Character Preservation Board

Support Partners: The Conservation Partnership; professional design team.

Funding Sources: County funds; \$10,000-15,000.

Benefits: Create visibility for county open space program. Build stewardship for land conservation and the open space program. Long term outreach and promotion for future open space initiatives. Locating the logo on signage, letterhead, brochures, land preservation signs and other surfaces will help to get the symbol in front of the public frequently. Future passage of additional open space referenda at the County and municipal levels will be easier if the voters have a high recognition and positive regard for the program.

Recommendation 5-9

Use recreation activities, events and programs as well as facilities such as trails to get citizens to experience nature. The Recreation and Park Planner could work with the municipalities, school districts and Conservation District to create ways of bringing the citizens into nature through fun and memorable leisure experiences.

- Target families as a priority as the trend is towards family, fun and fitness in recreational pursuits in community recreation.
- Consider the use of the Robert Wood Johnson program, Active Living by Design, to enhance rural communities with design that promote physical activity. This program promotes the adoption of a holistic approach to community design that connects with policy, programs, promotions, planning and physical projects. This approach encompasses many fields and disciplines in order to support active living environments compatible with land and open space conservation: land use planning, transportation, parks, trails and greenways, communications, public health, design, community development and many others. Grant funding is available under this program.

Initiation/Duration: 2009/10 forward

Lead Partners Pike County Planning Commission

Support Partners: The Conservation Partnership Pocono Environmental Education Center, School Districts and other educational facilities.

Funding Sources: Potential grant funds from Robert Wood Johnson Foundation. Staff time in promoting land use planning incorporating the principles of both Conservation by Design and Active Living by Design. Developers' cooperative efforts in creating healthy communities and conserving resources by design.

Benefits: Fostering land and resource stewardships by providing direct positive ways for citizens to experience the great outdoors of Pike County. Enabling citizens who live, work and visit here to experience nature and lead active lifestyles in a positive way. Reductions in obesity and its associated diseases. Cleaner air through non-motorized transportation. Reduced traffic. Reduced stress. Creating community connections and a sense of place.

Community Recreation and Tourism Promotion

Goal 6: Position Pike County as a premiere tourism destination in the United States and internationally for outdoor recreation, ecotourism, heritage tourism and agritourism through the protection and promotion of county resources.

Blueprint for Action: Tourism. Work with the Pike County Visitors Bureau and the Pocono Mountains Visitors Bureau to develop strategies to advance common goals focusing on creating and supporting tourism destinations. Create a recreation council comprised of the school districts, municipal recreation boards, and commercial, private and non-profit recreation providers to determine the appropriate level, distribution and provision of recreation services. The focus should be on health and wellness, namely providing opportunities that will enable citizens to lead year round active healthy lifestyles.

Recommendation 6-1

Focus on ecotourism, outdoor recreation, heritage tourism, agritourism, and cultural tourism in Pike County. Pike County is internationally known for its resort and family-oriented recreational facilities from hunting, fishing, hiking, camping, horseback riding, rafting, golfing, boating and water and snow skiing. The Mountain Laurel Center for the Performing Arts has the potential for offering world-class performing arts in music, dance and theater. The charm and character of the villages and town centers of Pike County contribute to its uniqueness of the Pocono's. New markets in family travel, business travel, and conferences will help to underscore the importance of maintaining the high quality character of the natural resources, scenic beauty, and authentic urbanized destinations.

- Support the efforts of the newly created Pike County Visitors Bureau. Recruit the Visitors Bureau to participate in planning projects related to tourism.
- Include the land managers of major outdoor recreation areas including the parks, forests and game lands to incorporate tourism and services to tourists in tourism planning and promotion. Insure that these organizations tap into the County and state tourism initiatives.
- Develop a land management and visitor services plan for tourism created by a joint taskforce of the land managing agencies. Outdoor recreation has increased in importance more than any other function of land management. Much of this use is by tourists. Dealing with human behavior and recreation is becoming a central function of agencies that previously focused on natural resource management. Make the development of this plan a key feature of the Pocono Forests & Waters Conservation Landscapes Initiatives (CLI) project.

In 2004, tourists brought more than \$220 million into Pike, bringing \$53 million in taxes and supporting about 7,000 tourism-related jobs.

- Initiate a focus on agritourism, a relatively new type of tourism in Pennsylvania. This includes capitalizing on the distinct types of specialty farms in Pike County such as wineries, blueberry, Christmas tree and other types of farms. Attractions to generate increased tourism include farmers markets, farm stays, winery tours, farm-to-table opportunities, festivals and fairs.
- Promote the Pike County trail network as a tourism attraction.

Initiation/Duration: 2008 forward

Lead Partners	Pike County Visitors Bureau, Pocono Mountain Visitors Bureau, Pike County Commissioners
Support Partners:	Pike County Planning Commission, managers and owners of cultural destinations and events.
Funding Sources:	Hotel tax, state tourism allocation, potential funding from the CLI for the land management and visitors' services plan for tourism.
Benefits:	Increased overnight stays that generate revenues. Increased tourism spending in the local economy. Preparation of land management agencies to manage land effectively for tourism and for resource protection; to serve visitors to public lands which may be more oriented towards conservation than visitors services; and establish Pike County as a premiere destination in the regional national and international markets for rural tourism, nature based tourism, agritourism, heritage and cultural tourism and adventure and experienced based tourism.

Recommendation 6-2

Plan for and promote ecotourism in Pike County as *responsible travel to natural areas that conserves the environment and enhances the well being of Pike County and its citizens*. Accordingly, adopt the principles of the International Ecotourism Society³ for tourism of all types in Pike County. Consider the following guiding principles for tourism in Pike County as set forth by the International Ecotourism Society:

- Minimize impact
- Build environmental and cultural awareness and respect
- Provide positive experiences for both visitors and citizens
- Provide direct financial benefits for conservation
- Provide financial benefits and empowerment for local people
- Raise sensitivity environmental and social climate
- Support human rights and labor agreements

Initiation/Duration: 2008 forward

Lead Partners: Pike County Visitors Bureau, Pocono Mountains Visitors Bureau, Pike County Planning Commission, and public land managers in Pike County.

Support Partners: Pike County Planning Commission, managers and owners of cultural destinations and events.

Funding Sources: Staff time.

Benefits: Preservation of sensitive ecological, scenic and cultural resources. Focus on the respect of the people who live here. Harmony and balance of tourism, resource protection and sensitivity to those who live here.

³ The International Ecotourism Society (TIES). (2005) What is Ecotourism? Retrieved October 1, 2007, from http://www.ecotourism.org/webmodules/webarticlesnet/templates/eco_template.aspx?articleid=95&zoneid=2

Recommendation 6-3

Target the following tourism markets for Pike County's broad range of tourism opportunities and destinations:

- Radius of 200 miles of Pike County
- Visitors desiring a stay of two to four days
- Families
- People over the age of 50

Initiation/Duration: Ongoing

Lead Partners: Pike County Visitors Bureau

Support Partners: Pike County Planning Commission, managers and owners of tourism destinations

Funding Sources: Hotel tax, state tourism allocation, staff and volunteer time from tourism destinations.

Benefits: Increase in new tourism markets. Capitalizes on trends of close to home travel and the desire of travelers to reduce the stress of vacations through short-term stays, ability to control time and transportation. Strengthens the local economy of Pike County. The generation of \$40,000 in tourism spending equates to one job in the tourism industry, Pike County's largest industry.

Recommendation 6-4

Position the public, commercial and private non-profit organizations and other destinations as sustainers and promoters of tourism. This includes but is not limited to: the Mountain Laurel Center for the Performing Arts, the art galleries, Zane Grey House, Grey Towers, Black Bear Film Festival, Columns Museum, the unique communities of Matamoras and Milford, the Milford Music Festival and the distinct and charming inns.

Initiation/Duration: Ongoing

Lead Partners: Pike County Visitors Bureau

Support Partners: Pike County Office of Community Planning, National Park Services, managers and owners of cultural destinations and events.

Funding Sources: Hotel tax, state tourism allocation, sale of advertisements.

Benefits: Role of arts and culture will expand recreational tourism and increase overnight stays into Pike County. Expand range of appeal to desirable tourist groups.

Management and Organization

Goal 7: Organize and manage open space conservation, greenways, parks and recreation through partnerships for the greatest public benefit and responsible use of resources.

Blueprint for Action: Embrace partnerships to implement the plan. Identify actions to pursue and assemble these partnerships to work on initiatives collaboratively. The key is *the strategic management* of partnerships to address all elements of the plan. Use existing partnerships, such as the Conservation Partnership, as the springboard.

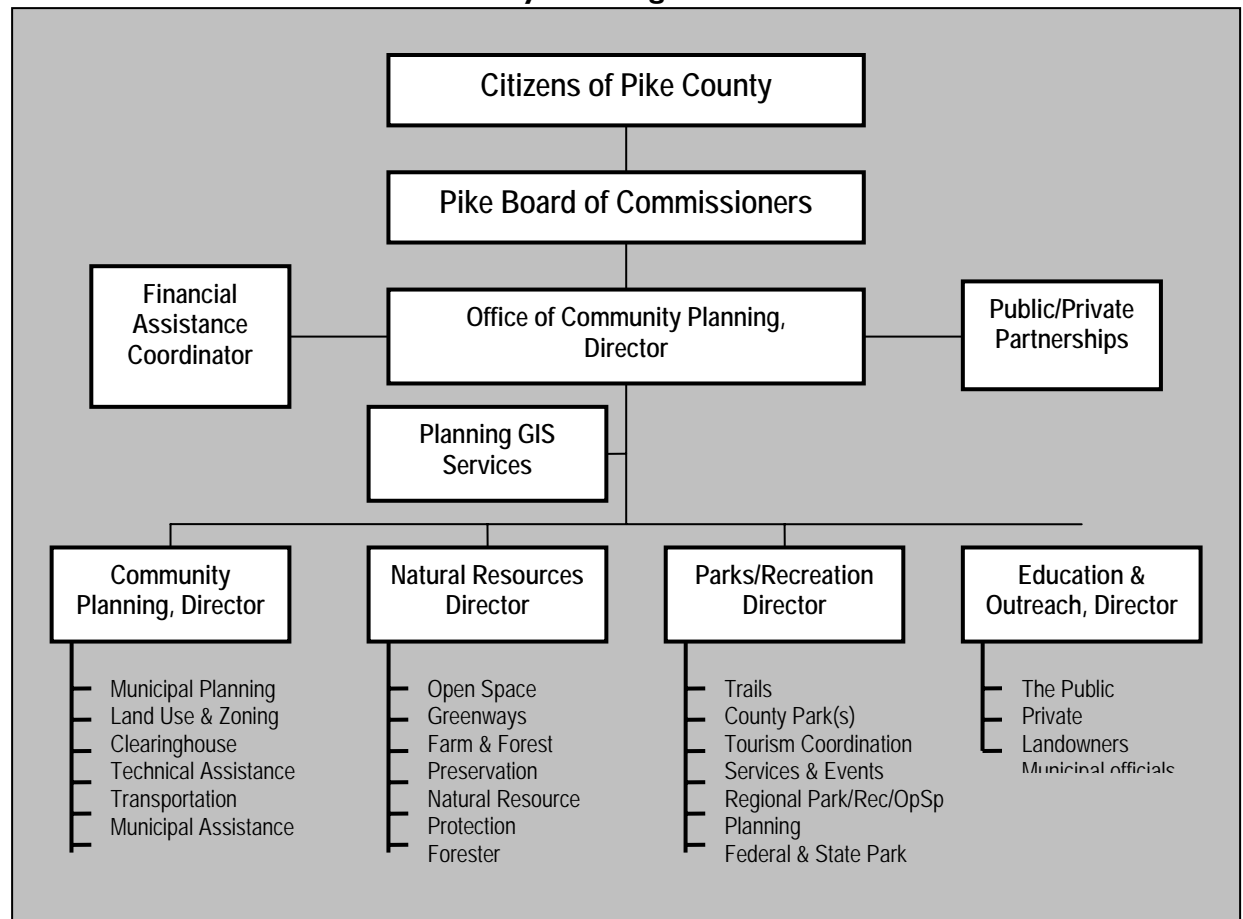
Blueprint for Action. Continue to expand the staff of the Office of Community Planning and focus the responsibilities of each staff member. The Office of Community Planning should have qualified experts in the following areas: forestry, water resources, land use and infrastructure, recreation and trails, cultural resources and tourism. Planners can be retained as full or part time staff or as contractors for identified projects.

Recommendation 7-1: Organizational Structure and Staffing

Build capacity in the Pike County Office of Community Planning by adding planners. Given the urgency of the County's need to conserve open space within a very short time frame, the current staff of three regional and community planners and a preservation planner is below capacity. In addition to mandated county planning responsibilities, the planning staff is responsible for the Open Space Program, coordination with PADCNr and NPS in projects of state and national significance, and increasing technical and planning support for the municipalities. Figure 5-4 presents a proposed organizational structure.

- As staff is phased in, planners with multiple responsibilities can be re-assigned to specialties.
- Consider a progressive approach to the expansion of planning staff through circuit rider programs that enable the County to gradually take on the financial support for a new position, or through part-time and semi-retired professionals who may not require a complete benefits package.
- Organize the Planning Commission management team according to divisions reflecting major county issues.

Figure 5-4: Proposed Organizational Structure for the Pike County Planning Commission and Office of Community Planning



Initiation/Duration: 2008 forward

Lead Partners: Pike County Commissioners

Support Partners: Pike County Planning Commission

Investment: \$60,000 to \$240,000. Return expected from planning results and benefits in land conservation, partnerships, grants etc.

Funding Sources: County dedicated millage for salaries, general fund, municipal support, and state agencies grant programs.

Recommendation 7-2

Request two state service foresters for Pike County from the Pennsylvania DCNR Bureau of Forestry. Currently, one state service forester serves Monroe, Pike and Northampton Counties. The need for more active forest stewardship with private forest landowners in Pike County requires a dedicated full-time effort based in Pike County. As an interim alternative, increase hours of service forester to two days per week for Pike County and house position in the county.

Initiation/Duration: 2008 forward

Lead Partners: PA DCNR Bureau of Forestry

Support Partners: Pike County Conservation District, Pike County Office of Community Planning, Pike County Commissioners

Funding Sources: PA DCNR/Bureau of Forestry

Benefits: Improve forestry management, timber industry and land conservation, increased landowner education

Recommendation 7-3

Establish and fill the position of county forester. House the position within the Conservation District or the Office of Community Planning.

Initiation/Duration: 2009

Lead Partners: Pike County Commissioners

Support Partners: Pike County Conservation District, Pike County Office of Community Planning

Funding Sources: Pike County

Benefits: Focus on specific county forestry initiatives and outreach to landowners; enhanced protection of forests through improved stewardship, education and partnership development.

Recommendation 7-4

Develop a strategic approach to create, sustain and enhance partnerships. Leveraging the partnership potential to work on priority issues collaboratively is the challenge. Use the Partnership Matrix as a guide in tapping and organizing partners. Partnerships take time and effort which results in significant advancement of projects and programs at less cost than the County could do independently.

- Identify the top five to seven partnership initiatives to undertake as the lead agency. The initiative should advance a specific goal, project or program.
- Participate in identified projects as a partner based upon availability of staff time and capacity to provide the level of service desired.
- Use the project assessment tool in Figure 5-5 to determine if there is enough staff time to undertake the partnership or the project.
- Make an informed decision not to undertake a project without sufficient resources and/or present the rationale to gain consensus or alternatives.
- Develop a workload cost tracking system to document the staff time spent on identified work items. Use this information to build the case for additional staff, limiting workload and/or creating a partnership for assistance.

Initiation/Duration:	Ongoing
Lead Partners:	Pike County Planning Commission
Support Partners:	Partnership Matrix
Investment:	Staff time. Return expected from leveraging staff time with partnership development
Funding Sources:	Staff and volunteer time.

Figure 5-5: Management Impact Statement (MIS)

Purpose

1. To assess the impact of a proposed project or program in terms of costs for staff time, outside contracts and effect on planning commission projects and services.
2. To use this information to make an informed decision about moving ahead with the proposed project.

Method

1. Determine costs
 - a. Capital cost of the proposed project if applicable.
 - b. Operating costs for the proposed project. Include:
 - ♦ Number of staff hours required
 - ♦ Cost of the staff hours
 - ♦ Cost of materials and supplies
 - ♦ Miscellaneous costs
2. Determine Impact on other projects, services, and programs should the proposed project/service be implemented.
 - Will the project/service require funds needed for other programs?
 - Will the project/service require staff time needed for other services/programs?
 - How will the project impact the quality of service that the Pike County Planning Commission has set as a goal?
3. Determine revenue sources
 - Grants
 - Donations
 - County funds – additional appropriation
 - County funds – within current budget
 - Non-tax funds to be generated from the project/program

Decision-Making

Based upon the above information, does the Pike County Planning Commission have the resources to move ahead with the proposed project, program or service?

Recommendation 7-5: Roles and Responsibilities

Establish roles and responsibilities for key stakeholders in the plan implementation as follows:

- **County Role:** Pike County will have the primary responsibility for implementing the Open Space, Greenways and Recreation Plan. The County Commissioners will set policy regarding the plan implementation. The Planning Commission and Pike County Office of Community Planning will be the lead agency to carry out policy and implement the plan. The Planning Commission and Pike County Office of Community Planning will assist the municipalities in their multi-municipal open space conservation and recreation planning and development efforts.
- **The Pike County Open Space Study Committee** should be reconstituted as the Pike County Open Space Committee. Their chief role would be to act as advocacy organization for plan implementation.
- **State Role:** Lead the Pocono Forests and Waters Conservation Landscapes Initiatives program. Provide two service foresters. Cooperate as partners.
- **Municipal Role:** For municipalities desiring to participate in the County Open Space Program, their role will be to participate in multi-municipal planning in open space, parks and recreation; undertake a conservation by design audit and strive to adopt or revise their local zoning ordinance accordingly; and commit to a short, medium and long range plan to provide parks and recreation opportunities close-to-home.
- **Non-Profit Organizations:** Conservancies, land trusts, trail organizations, state and federal entities, and conservation, park and recreation service providers will play a vital role in plan implementation. They can provide outreach, quick action, education, and assist in specific land preservation efforts.
- **Private Sector:** The private sector could work with Pike County in developing an approach to land management in which they would be land stewards, adopt conservation-oriented policies, and help to implement the plan through advocacy, donations, easements, facility development and provision of services.

Initiation/Duration: 2008

Lead Partners: Specified above

Support Partners: Specified above

Funding Sources: In accordance with partnership role

Benefits: Maximizing limited resources, elimination of duplication of services, ability to increase quantity and quality of public service, outreach, education and targeted services to identified groups.

Recommendation 7-6: Trail Commission

Create a Trail Commission to plan, manage, develop and coordinate operations for a countywide system of trails. Trails have been identified in numerous recent publications as the main reason for residents locating in a place and for the long-term happiness with the place.

- Consider using the York County Rail Trail Authority as a model.
- Seek funding from the Pike County Visitors Bureau for a Trail Coordinator.
- Create a trail system that will serve as a primary tourism destination and create overnight stays.
- Plan and develop the County spine for the trail network.
- Provide technical assistance to municipalities and trail organizations on trail planning, development and grant funding.
- Establish a policy that the trail operation would be a partnership arrangement with municipalities and trail organizations.

Initiation/Duration: 2010 forward

Lead Partners: Pike County Visitors Bureau

Support Partners: Municipalities and trail organizations

Investment: \$60,000 annually; fundraising, grants and partnership development by the Trail Commission

Funding Sources: County funds and hotel tax.

Financing

Goal 8: Invest in open space, parks and recreation to enhance the health, safety and welfare of the citizens and contribute to the economic vitality of Pike County.

Blueprint for Action. Position parks, recreation and open space as a tool to help solve problems in Pike County including economic development, creating a sense of community, tourism stimulation, health and wellness, attracting business, and environmental protection. Integrate investment of open space, parks and recreation into these aspects of public and private planning.

Recommendation 8-1

Develop an investment strategy for capital projects including land acquisition and facility development. To achieve the vision of “Growing... Naturally” for Pike County, a mix of funding sources and partnerships is needed. The \$10 million bond issue overwhelmingly approved by the voters is the jump-start for open space, conservation, greenways and recreation. It will help to leverage other funds, grants, gifts and donations. One of the challenges of county government is that about eighty to ninety percent of the County budget is for mandated services. Finding funds at the County level is always difficult. As other open-space committed counties have experienced, success achieved through one bond issue leverages others. County investment spurs additional local investment. Between 1997 and 2006, seven of the eight counties in Pennsylvania and New Jersey around Philadelphia dedicated funds through open space bonds. In addition, 107 of the 352 municipalities either passed their own bond issues or enacted taxes dedicated to open space preservation. Counties and many municipalities also floated bonds prior to 1997.

County Bond Issues Leverage Additional Investment

From 1982 to 2006, the counties in southeastern Pennsylvania issued about \$132 million in open space bonds. Twenty-two municipalities then issued their own bonds for open space totaling \$218.6 million. In addition, 49 municipalities instituted tax measures for open space that generate a total of nearly \$15 million annually for open space conservation.

*SOURCE: Delaware Valley Regional Planning Commission retrieved October 1, 2007 from:
<http://www.dvrpc.org/planning/environmental/openspace/local.htm>*

- Continue to implement the Pike County Scenic Rural Character Preservation Program.
- Leverage Pike County’s \$10 million bond with other grants and partnerships.

- Provide information to municipalities in need of information about potential tax measures to preserve open space. These include:
 - Realty Transfer Tax
 - Portion of the Earned Income Tax
 - Funds from the property tax either apportioned or dedicated
- Provide information to municipalities on case studies and examples of how to acquire land with public access or preserve land for conservation. Use case studies from other municipalities, Delaware Highlands Conservancy, PADCNr, Heritage Conservancy, Natural Lands Trust, Nature Conservancy and others. The idea is to raise the quality of the discussions about land conservation financial and planning approaches and then to network those ideas among officials throughout Pike County.

Example of Park Land Acquisition Financial Strategy

Solebury Township in Bucks County purchased a 100 tract of land that was under negotiation for a conservation easement with the owner. The owner died before the deal was completed. Once the estate was involved, the only way to get the property was to purchase it outright. To make this feasible, the township created a plan to subdivide the 100-acre property into an 80-acre and a 20-acre parcel and place conservation easements on both parcels and then re-sell the 20-acre parcel at auction. The Township spent \$4.2 million to purchase the 100 acres and hopes to recoup \$2.5 million for the 20 acre, eased parcel. The 80-acre parcel will be used to create a community park. The sale proceeds will go back into the township's land preservation fund to preserve other properties. The result will be that the township secured parkland for about one-fifth of the market value of land in this municipality.

- Begin to plan for subsequent county bond issues. Create a positive public presence and high visibility for the successes of the \$10 million bond. Promote this aggressively.
- Work in partnership with the state and federal agencies on joint projects to protect lands of common interest. Secure financial assistance from the state through State Bureaus of Parks, Forestry, Game Commission and Fish & Boat Commission. Participate in DCNR's Conservation Landscapes Initiatives (CLI) program to explore and take advantage of financial and partnership opportunities in land conservation.
- Explore cost savings through joint floating of bonds by multiple county, municipal and school district entities.
- Appoint a person in county government to pursue state and federal grants.
- Assist municipalities in developing and adopting mandatory dedication of parkland ordinances. These ordinances will help to secure a large portion of the land required by the potential 100,000 additional residents by 2030. Obtaining the parkland should be the top priority with the fees-in-lieu-of dedication a distant second priority. If the projected parkland need of 1,790

acres is obtained through mandatory dedication at an estimated value of \$40,000 per acre, the net worth in today’s dollar would be \$71.6 million.

- Use other planning strategies such as Conservation By Design, Transfer of Development Rights, and official maps to preserve land.

Hotel Tax: Examples and Benefits

- Half of Bucks County’s hotel tax goes to open space conservation.
- Montour County has a grant program to fund park, trail and conservation projects through the hotel tax.
- The York County Visitors Bureau created a ten-year agreement to support the York County Rail Trail Authority with \$50,000 annually out of the hotel tax. This funding leverages a full time professional who does fund-raising, secures grants for land acquisition; trail planning, construction and maintenance; negotiates agreements for maintenance; and provides technical assistance to municipalities on trails. *The York Heritage Rail Trail generates over \$10 million annually in economic benefits through direct spending of trail users in York County.*

- Initiation/Duration: 2008 forward
- Lead Partners: Pike County Commissioners
- Support Partners: CLI, Pike County Planning municipalities, school districts, conservancies and land trusts, developers.
- Investment: Current \$10 million county open space bond, potential state and federal grants.
- Funding Sources: County bond(s), municipal bonds, county and municipal dedicated tax and/or general funds including the realty transfer tax, property tax and a portion of the earned income tax; conservation partnerships with land trusts and conservancies, hotel tax, and private fundraising. Mandatory dedication of parkland or fees-in-lieu of dedication. Agricultural Preservation Program. Potential forest preservation program similar to the agricultural preservation program.

Recommendation 8-2

Develop a steady dedicated source of funding for operating parks, recreation, greenways and trails as well as for monitoring conserved lands through easements. Over the lifetime of a park, about 75 percent of its cost is in operation and maintenance. Effective land conservation is not just about getting the land; it is also about “what you do with what you have.” For facilities and destinations to be tourism destinations, they must be maintained in a premiere condition in terms of appearance and safety. Some benchmarks for dedicated investment in parks and recreation include:

- The national average municipal investment for operations of parks and recreation is \$66 per capita.⁴
- Pennsylvania’s average municipal investment is about \$38.69 per capita.⁵
- Rural municipalities average municipal investment ranges from \$5.27 for municipality with a population under 2,500 to \$14.92 for municipalities with a population of 10,000 or more.⁶
- The multi-municipal park and recreation commissions have a wide range of per capita investment from about a dollar to about \$17 dollars; most are in the \$6-8 per capita range.⁷ The lower per capita investment from regional cooperation produces economy that a single municipality cannot offer on its own.

Sources of the per capita funding include the municipal general fund and/or a dedicated tax for parks and recreation. No information about municipal park and recreation budgets was available in Pike County for this plan.

- Develop four regional park, recreation, open space and greenway plans.
 - Upper Delaware (2) – Lackawaxen and Shohola Townships
 - River Gateway (5) – Milford Borough, Milford Township, Matamoras Borough, Westfall Township, Dingman Township
 - Bushkill (2) – Lehman and Delaware Townships
 - Wallenpaupack (4) – Palmyra, Greene, Blooming Grove and Porter

Lackawaxen and Shohola Townships are already working on a plan and this can serve as Pike County model. Include operations and management and

⁴ Harnik, Peter. (2007) Urban Recreation Institute, PADCNr & PRPS in Allentown Pennsylvania.

⁵ Center for Rural Pennsylvania. (2004). Rural and Urban Municipalities for Parks & Recreation. page 1.

⁶ Ibid. Harnik, Peter.

⁷ Landes, Susan. (2006). Multi-Municipal Cooperation for Parks and Recreation. Harrisburg, PA: Pennsylvania Department of Conservation & Natural resources and Pennsylvania Recreation & Park Society). pp. 97-102.

most importantly financing as a focus in each plan. Set a goal of having each plan include a revenue strategy policy.

- Strive to meet or exceed the average municipal investment in Pennsylvania over time.
- Create a four-part revenue strategy at the County and municipal or multi-municipal level. Government cannot provide parks, recreation, open space and greenways on its own. A mix of partnerships and tax and non-tax revenues are needed. The four part revenue strategy should include:
 - Compulsory Resources: Dedication ordinances, dedicated taxes, governmental general funds
 - Financial Assistance: Grants, gifts, bequests, fundraising, friends groups
 - Contractual receipts: Leases, facility rentals, concessions
 - Earned Income: Fees, charges, rentals, admissions, sales

Initiation/Duration: 2008 forward

Lead Partners: Pike County Commissioners, Municipalities, Multi-Municipal Partnerships

Support Partners: Planning Commission, PADCNr, Pike County Visitors Bureau, PA Department of Community and Economic Development (DCED).

Investment: Goal of \$38 per capita (or the statewide average over time) phased in over time for investment in annual operation of parks and recreation, greenways and trails in Pike County.

Funding Sources: County dedicated millage for salaries, general fund, municipal support, and non-tax revenues as identified in the four-part revenue strategy.

Recommendation 8-3

Dedicate and secure funds for planning and related studies. Future studies related to multi-municipal park, recreation and open space plans; land studies to demonstrate alternatives to traditional development; growing greener audits of municipal ordinances; trail, greenway, and park master plans; studies to quantify and analyze the impacts of the seasonal population; as well as marketing and promotions are all integral to achieving the vision for “*Growing...Naturally.*”

- Seek a block grant from PADCNR to undertake the multi-municipal park, recreation and open space plans.
- Set aside county funds to use in concert with Pennsylvania, New York, federal and state agencies to develop a Delaware River Greenway Plan.
- Use county funds along with land trust and conservancy funds to undertake land studies of identified properties that would be a high priority for conservation.
- Dedicate one-half to one percent of any capital money for advertising and promotion of the program and its success to leverage stewardship, other grants, gifts and donations, and future public support.
- Dedicate county funds to undertake growing greener audits of all municipalities. Provide seed money to municipalities to establish and adopt ordinances consistent with the findings of the audits.

Initiation/Duration: Phase in over time beginning in 2008

Lead Partners: Pike County Planning Commission and Municipalities

Support Partners: PADCNR, DCED, NPS, CLI

Investment: Marketing: 50,000-100,000. Growing Greener Audits: 20,000-30,000. Greenway and Trail Master Planning Grants: \$22,000-30,000 each to be matched with grants. Delaware River Greenway Plan: \$50,000 to be matched by a grant. Multi-Municipal Plans: DCNR Block Grant of \$250,000 to be matched with a combination of county, local and perhaps DCED funds.

Funding Sources: Community Conservation Grants Partnerships, RecTAP, Peer Grants, NPS Technical Assistance, Joint Ventures among federal, state, county municipal and private organizations. Private fundraising and assistance of land trusts and conservancies. County funds. Municipal Funds

Partnership Matrix for Open Space, Greenways and Recreation Plan Implementation					
Partners	Type of Organization		Partner Capability		
		Technical Knowledge (data, trends, best practices, etc.)	Advocacy/ Ability to reach a specific audience	Manages land or affects land mgt	Access to/ Eligible for public funding streams
Pike County Government					
Pike County Board of Commissioners	Government Agency		X	X	X
Pike County Office of Community Planning	Government Agency	X	X	X	X
Pike County Conservation District	Government Agency	X	X	X	X
Pike County Scenic Rural Character Preservation Board	Government Agency		X		X
Pike County Agricultural Land Preservation Board	Government Agency		X		X
Pike County Area Agency on Aging	Government Agency		X		X
Federal Government					
US Department of the Interior, National Park Service	Government Agency	X	X	X	X
Delaware Water Gap National Recreation Area	Government Facility	X	X	X	X
Upper Delaware Scenic River - NPS	Government Facility	X	X	X	X
US Environmental Protection Agency, Region 3, Philadelphia Office	Government Agency	X	X		X
US Army Corps of Engineers, Philadelphia District, Pocono Field Office	Government Agency	X	X		X
USDA Natural Resources Conservation Service	Government Agency	X	X		X
Pocono Northeast Resource Conservation & Development Council	Government Agency	X	X		X
State Government and Statewide Organizations					
PA Department of Conservation and Natural Resources, Bureau of Forestry, NE Regional Office	Government Agency	X	X	X	X
PA Department of Conservation and Natural Resources, Bureau of Recreation and Conservation, NE Regional Office	Government Agency	X	X	X	X
Promised Land State Park	Government Facility	X	X	X	X
PA Fish and Boat Commission, NE Regional Office	Government Agency	X	X	X	X
PA Game Commission, NE Regional Office	Government Agency	X	X	X	X
PA Department of Environmental Protection, NE Regional Office	Government Agency	X	X		X
PA State Conservation Commission	Government Agency	X	X		X
PA Association of Conservation Districts	Government Agency	X	X		X
League of Women Voters, Water Resources Education Network (WREN)	Statewide Non-profit	X	X		X
PA CleanWays Inc.	Statewide Non-profit	X	X		X

Partnership Matrix for Open Space, Greenways and Recreation Plan Implementation					
Partners	Type of Organization		Partner Capability		
		Technical Knowledge (data, trends, best practices, etc.)	Advocacy/ Ability to reach a specific audience	Manages land or affects land mgt	Access to/ Eligible for public funding streams
Local Government					
Pike County Municipalities	Local Government		X	X	X
Matamoras Recreation Board	Municipal Recreation Board		X	X	X
Palmyra Recreation Board	Municipal Recreation Board		X	X	X
Delaware Recreation Board	Municipal Recreation Board		X	X	X
Wallenpaupack Area School District	School District	X	X	X	X
Wallenpaupack Area Athletics	School District		X		
Delaware Valley School District	School District	X	X	X	X
Delaware Valley Athletics	School District		X		
East Stroudsburg School District	School District	X	X	X	X
East Stroudsburg Athletics	School District		X		
Private and Non-Profit Organizations					
Pike County Fair Association	Agriculture		X		
Penn State Cooperative Extension	Agriculture	X	X		X
Delaware Camp Grounds	Campgrounds		X	X	private
Shohola Campgrounds	Campgrounds		X	X	private
Other private campgrounds	Campgrounds		X	X	private
Community Association Institute	Community Association	X	X		
Lake Wallenpaupack Community Association	Community Association		X	X	
Birchwood Lakes Community	Community Association		X	X	
Hemlock Farms Recreation Director	Community Association		X	X	
Hemlock Farms Volunteer Lakewatch Team	Monitoring group	X	X	X	
Traces of Lattimore	Community Association		X	X	
The Upper Delaware Visioning Committee	Community Association	X	X		
Pike County Chamber of Commerce	Culture and Tourism		X		private
Hawley-Wallenpaupack Chamber of Commerce	Culture and Tourism		X		private
Route 6 Scenic Heritage Corridor	Culture and Tourism		X		X
Pocono Mountains Visitors Bureau	Culture and Tourism		X		X
Pocono Environmental Education Center	Environmental Education	X	X		
PP&L Environmental Center	Environmental Education	X	X	X	X
Free Lance Environmental Educators	Environmental Education	X	X		
QDMA Pike County	Environmental Management		X		
Brodhead Watershed Association	Environmental Management	X	X	X	X
Other Watershed Associations	Environmental Management		X	X	X
The Pinchot Institute of Conservation	Forestry	X	X		private
Woodland or Forest Landowners	Forestry		X	X	private

Partnership Matrix for Open Space, Greenways and Recreation Plan Implementation					
Partners	Type of Organization	Partner Capability			
		Technical Knowledge (data, trends, best practices, etc.)	Advocacy/ Ability to reach a specific audience	Manages land or affects land mgt	Access to/ Eligible for public funding streams
Private and Non-Profit Organizations (continued)					
PA Forestry Association www.pfa.cas.psu.edu	Forestry	X	X		X
Alliance to Keep Pike Green	General Conservation		X	X	X
Conservation Partnership	General Conservation	X	X		X
Lacawac Sanctuary	General Conservation		X	X	X
Lackawaxen River Conservancy	General Conservation	X	X	X	X
Twin & Walker Creek Conservancy	General Conservation	X	X	X	X
Lake Wallenpaupack Watershed Management Dist.	General Conservation	X	X		
Lake Wallenpaupack Watershed Association	General Conservation		X		X
Lake Wallenpaupack Yacht Club	General Recreation		X		
Wildlands Conservancy	Land Trust		X	X	X
Delaware Highlands Conservancy	Land Trust		X	X	X
Twin Lakes Conservancy	Land Trust		X	X	X
The Nature Conservancy	Land Trust		X		
Kittatinny Canoes	Outfitters		X		
Landers Canoes	Outfitters		X		
Two Rivers Junction	Outfitters		X		
Alice's Wonderland	Outfitters		X		
Pike County Outfitters	Outfitters		X		
Scenic Rail Corridor (owner/operator)	Outdoor Recreation/Tourism		X		X
Milford Rotary	Public Service		X		X
Lords Valley Rotary	Public Service		X		X
United Way of Pike County	Public Service		X		
Pike County Historical Society	Public Service	X	X		X
Greene Township Historical Society	Public Service	X	X		X
Shohola Township Historical Society	Public Service	X	X		X
Delaware Township Historical Society	Public Service	X	X		X
YMCA Camps	Public Service - Youth Activities		X	X	
Hemlock Farms Teen Center	Public Service - Youth Activities		X		
Pike County Builders Association	Real Estate	X	X		
Wayne Pike Realtors Association	Real Estate	X	X		
Pike-Wayne Trout Unlimited	Sportsmen/Hunting Clubs	X	X		
Ducks Unlimited	Sportsmen/Hunting Clubs	X	X		
Lake Minsink Association	Sportsmen/Hunting Clubs		X	X	private
Pine Flats Association	Sportsmen/Hunting Clubs		X	X	private
Pike County Federation of Sportsmen	Sportsmen/Hunting Clubs		X	X	private
Bass Fisherman's Club	Sportsmen/Hunting Clubs		X	X	private
Blooming Grove Hunting & Fishing Club	Sportsmen/Hunting Clubs		X	X	private
CHAT Association of Hunting Clubs	Sportsmen/Hunting Clubs		X	X	private
Lake Minsink Association	Sportsmen/Hunting Clubs		X	X	private
Pine Flats Association	Sportsmen/Hunting Clubs		X	X	private
Snowmobile Clubs	Winter Sports		X		private

Partnership Matrix for Open Space, Greenways and Recreation Plan Implementation					
Partners	Type of Organization		Partner Capability		
		Technical Knowledge (data, trends, best practices, etc.)	Advocacy/ Ability to reach a specific audience	Manages land or affects land mgt	Access to/ Eligible for public funding streams
Private and Non-Profit Organizations (continued)					
Cross-country ski clubs	Winter Sports		X		private
Wallenpaupack Youth Ice Hockey	Winter Sports		X		private
Dingmans Ferry Little League	Youth Sports		X	X	private
Hawley Little League	Youth Sports		X	X	private
Lake Wallenpaupack Little League	Youth Sports		X	X	private
Milford Area Little League	Youth Sports		X	X	private
Lackawaxen Youth Soccer League	Youth Sports		X	X	private
Bushkill Youth Sports	Youth Sports		X	X	private
Newfoundland Youth Sports	Youth Sports		X	X	private
Wallenpaupack Youth Soccer	Youth Sports		X	X	private
Pike County Sports Association	Youth Sports		X	X	private
Pike County Football League (PAYALL)	Youth Sports		X	X	private
Out of State Organizations					
Catskill Center for Conservation and Development (NY)	Environmental Education/Monitoring	X	X		private
Natural Resources Defense Council	Water Quality	X	X		private
Upper Delaware Council, Inc. (UDC), New York		X	X	X	X
Walpack Valley Environmental Education Center (NJ)	Environmental Education/Monitoring	X	X		private

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Pike County Open Space, Greenways and Recreation Plan -- Synopsis of Chapter 5 - Recommendations

All Recommendations Include: Time Frame: Initiation/Duration; Possible Partnerships: Lead Partners and Support Partners; Funding Sources and Benefits

Land Protection Strategy Goal 1: Promote the identification and protection of critical open space land areas of environmental, scenic, and recreational value, as shown on the Conservation Opportunity Areas Map, through acquisition and easement.	1.1	Acquire Conservation Opportunity Areas
	1.2	Determine intergovernmental priorities for open space protection targets
	1.3	Encourage development and implementation of open space plans at the multi-municipal level
	1.4	Continue to build strong relationships with regional land conservancies
	1.5	Continue to develop the Pike County Scenic Rural Character Preservation Program
	1.6	Continue the Pike County Agricultural Land Preservation Program
Resource & Rural Character Conservation Goal 2: Encourage conservation of our natural resources and rural character through best planning practices and sustainable development in accord with the integrity of our rural environment.	2.1	Complete implementation of the Pike County Community Planning Initiative (CPI)
	2.2	Advocate the revision of municipal SALDO to incorporate Conservation by Design for land development
	2.3	Update the Pike County Natural Area Inventory
	2.4	Participate actively in PA DCNR's Pocono Forest and Waters Conservation Landscape Initiative (CLI)
	2.5	Encourage the implementation of forest stewardship plans for private owned forest lands
	2.6	Develop forest stewardship plans for forested county and municipal park/recreation lands
	2.7	Develop, distribute and help to tailor model ordinances or ordinance provisions for the preservation of ...
	2.8	Complete preparation of Act 167 stormwater management plans for all watersheds
	2.9	Identify critical groundwater recharge areas, public water supply areas, and wellhead areas
	2.10	Protect groundwater recharge areas, public water supply, and public wellheads from harmful land uses
	2.11	Provide model standards for private well construction to municipalities and the public
	2.12	Identify and address water supply and water quality issues in critical water planning areas (CWPA)
	2.13	Protect Pike County from light pollution from development
	2.14	Acquire or develop a list of recommended landscape species appropriate to the ecology of the region
	2.15	Develop a plan for the preservation of historic and cultural resources
Greenways and Trails Goal 3: Identify linkages in critical open space areas and develop methods to create, restore and conserve the connections.	3.1	Designate the spines of the Pike County Greenway Network, as shown on Conceptual Greenways Map
	3.2	Designate proposed and in-progress trail spines of the Pike County Trail System
	3.3	Designate scenic byways along selected road corridors, and include corridors in management plans
	3.4	Encourage multi-municipal planning and development of greenways and trails that connect to spines
	3.5	Support the development of walking trails in county, regional, and municipal parks
	3.6	Maintain sidewalks in boroughs and extend them throughout planned growth areas
	3.7	Participate in the designation, planning and development of the Upper Delaware Greenway
	3.8	Support the exploration of feasibility and development of other trails concepts

Pike County Open Space, Greenways and Recreation Plan -- Synopsis of Chapter 5 - Recommendations

Parks and Recreation Goal 4: Establish a countywide system of parks and recreation areas through the collaboration of state, county, regional, municipal, and private parks and recreation opportunities in Pike County for present and future generations.	4.1	Create a countywide advisory board of parks and recreation providers
	4.2	Insure that sufficient parkland is secured to meet the close-to-home recreation needs
	4.3	Support the planning and development of recreation facilities
	4.4	Make provisions for year round recreation opportunities both indoors and outdoors
	4.5	Complete the development of the Pike County Park
	4.6	Encourage the planning, provision, and promotion of recreational opportunities and services
Resource Stewardship Goal 5: Build stewardship for Pike County's land, water and natural resources through public outreach and education.	5.1	Continue to work as a member of the Conservation Partnership
	5.2	Include the three School Districts in the Conservation Partnership
	5.3	Continue and enhance the Landowner Legacy Program
	5.4	Implement the updated Natural Areas Inventory (NAI)
	5.5	Promote environmentally responsible landscape management
	5.6	Promote the Pike County environmental stewardship ethic to prospective residents and visitors
	5.7	Education on water resource conservation for citizens
	5.8	Create an image and identity for Pike County's land conservation and open space program
	5.9	Use recreation activities, events and programs to get citizens to experience nature
Promotion for Community Rec. & Tourism Goal 6: Position Pike County as a premier tourism destination in the U.S. and internationally for outdoor recreation, eco-tourism, heritage and agri-tourism through protection and promotion of county resources.	6.1	Focus on ecotourism, outdoor recreation, heritage tourism, agri-tourism, and cultural tourism in Pike Co.
	6.2	Plan for and promote ecotourism in Pike County
	6.3	Target tourism markets for Pike County
	6.4	Position public, commercial and private non-profit organizations as sustainer and promoters of tourism
Management and Organization Goal 7: Organize and manage open space conservation, greenways, parks and recreation through partnerships for the greatest public benefit and responsible use of resources.	7.1	Add planners to the Pike County Office of Community Planning
	7.2	Request two state service foresters for Pike County from the PA DCNR Bureau of Forestry
	7.3	Establish and fill the position of county forester
	7.4	Develop a strategic approach to create, sustain and enhance partnerships
	7.5	Establish roles and responsibilities for key stakeholders in plan implementation
	7.6	Create a Trail Commission
Financing Goal 8: Invest in open space, parks & recreation	8.1	Develop an investment strategy for capital projects
	8.2	Develop a steady dedicated source of funding for operating parks, recreation, greenways and trails
	8.3	Dedicate and secure funds for planning and related studies

FINAL ADOPTED 8-27-2008

Chapter 6 County Profile

Pike County is located in the northeastern corner of Pennsylvania. Wayne and Monroe Counties lie to the north and southwest and Orange and Sullivan Counties, NY and Sussex County, NJ lie to the east. The County seat of Milford is only 73 miles from Port Authority in New York City and within an hour's drive of most business centers in northern New Jersey. This nearby metropolitan region has been recognized nationally for its growth and expansion.

Pike County is part of the Pocono Mountains region which encompasses 2,500 square miles in the counties of Carbon, Monroe, Pike, and Wayne, as well as portions of Luzerne, Lackawanna, Northampton, and Susquehanna Counties. While many mountain areas of Pennsylvania are considered part of the Appalachian Mountains, the Pocono Mountains are the eastern continuation of the Allegheny Plateau, which continues into the Hudson Valley and Catskill Mountains of New York. The Pocono Mountain Visitors Bureau recognizes Pike, Wayne, Monroe, and Carbon Counties as the center of this region's tourism area.

Pike County encompasses 358,190 acres or 559 square miles. The County is a 6th class county containing 13 municipalities, consisting of 11 second-class townships and two riverside boroughs, Milford and Matamoras. See the General Map for an illustration of county and municipal locations.

Socioeconomic Conditions and Trends

The socio-economic characteristics and trends of Pike County's citizenry are critical for open space, greenways and recreation planning for they have a direct relationship with land development patterns, service needs, and attitudes toward conservation. The numbers of people and factors such as age, income, education, and occupation influence recreation preferences and conservation efforts.

Population

Pike County had a population of 46,302 residents in 2000 (US Census Bureau). The eastern townships of Delaware, Dingman, and Lehman Townships contain 48.9% of the total population. Adding the residents of the riverside boroughs of Milford and Matamoras and the two remaining townships, Milford and Westfall, raises the eastern riverside population total to 77.8% of the County's total population.

Figure 6-1: Population Distribution, 2000

	2000	% of County Population	% Change 1990-2000	2006 Population Estimate	% Change 2000-2006
Blooming Grove	3,621	7.8%	79.1%	4,504	24.39%
Delaware	6,319	13.6%	79.2%	8,237	30.35%
Dingman	8,788	19.0%	91.4%	11,660	32.68%
Greene	3,149	6.8%	50.2%	3,666	16.42%
Lackawaxen	4,154	9.0%	46.7%	5,269	26.84%
Lehman	7,515	16.2%	146.0%	9,915	31.94%
Matamoras	2,312	5.0%	19.5%	2,623	13.45%
Milford Borough	1,104	2.4%	3.8%	1,221	10.60%
Milford Township	1,292	2.8%	27.5%	1,650	27.71%
Palmyra	3,145	6.8%	59.2%	3,707	17.87%
Porter	385	0.8%	136.2%	448	16.36%
Shohola	2,088	4.5%	31.7%	2,428	16.28%
Westfall	2,430	5.2%	15.4%	2,867	17.98%
Pike County	46,302	100.0%	65.6%	58,195	25.69%

Source: US Census Bureau and Pike County Office of Planning

While this eastern concentration of residents is one testament to the attractiveness of Pike County to regional residents, the rate of growth experienced from 1990 to 2000—65.6%—further underscores the need for a strong approach to growth management across the County. Every Pike County Municipality except Milford Borough grew at double digit rates during this period with Lehman and Porter Townships reaching triple digit percentage increases. Pike County's municipal growth rates clearly outpace Pennsylvania's 1990-2000 growth rate of only 3.4%.

Continued growth pressure is evident in the 2005 and 2006 population estimates prepared more recently by the US Census Bureau. By 2006, the population in Pike County was estimated to have grown to 58,195—a six-year countywide growth rate of over 25%. Individual municipal estimates released in 2006 showed all but Milford Borough growing at a six-year growth rate higher than 10%.

This rapid population growth makes Pike County the fastest growing county in Pennsylvania and one of the fastest growing counties in the United States. Pike County has been named to the U.S. Census Bureau's annual list of fastest growing counties in the nation every year since 2002 and was the only county in the northeast U.S. to make the list in 2005, claiming the 72nd spot out of 100 of the nation's fastest growing counties.

Pike County's 2006 Comprehensive Plan credited the availability of land and lower cost-of-living compared to neighboring counties in the region and the accessibility to the New Jersey-New York metropolitan region via I-84, Route 6/209 as the primary factors in the County's prolonged growth trend. The eastern municipalities' connectivity to interstate highways and the availability of public

transit to the New Jersey and New York urban centers made eastern Pike County very attractive to urban commuters. The availability of seasonal housing stock for conversion to year-round residences was also noted as an important factor. The fact that growth is steadily occurring in interior communities indicates that travel distance is less of a limiting factor today than in previous decades.

Since these significant opportunities for in-migration are not likely to change in the near future, population growth is expected to continue. Pike County’s Comprehensive Plan projected County population figures through 2030. Using two different methods, population projections ranged from 115,437 to 155,615 residents by 2030.

Figure 6-2: Pike County Population Projections, 2010-2030

	2010	2020	2030
Method 1	69,347	103,882	155,615
Method 2	69,347	92,392	115,437

Source: Pike County Office of Community Planning

Over 47% of Pike County workers commuted out-of-state to work as of the 2000 census. The average for the Commonwealth is 4.6%

If these projections are realized, Pike County will need an aggressive approach to protect its rural character and quality of life. The implications of such tremendous population increases include not only land development and changes in visual character, but also increases in demands for social services, including public education and recreation programs, increased need for personal and household services provided by the private sector, and increased use and maintenance of physical infrastructure such as roads, water and sewer systems, telecommunications systems, and public buildings.

Commuter Population

While the greatest change in population occurred in the townships along the New Jersey border, the western municipalities are no longer immune to this growth because of the distance from New York-New Jersey borders. Travel times to work and out-of-state commuters reported in the 2000 census figures illustrate that at least a portion of residents in nearly every municipality are willing to endure lengthy commutes. In 2000, Pike County had

Figure 6-3: Commuter Travel Times

Municipality	Mean Travel Time to Work	Out of State Commuters
Blooming Grove Twp.	47	35.23%
Delaware Twp.	51	62.40%
Dingman Twp.	53	64.28%
Greene Twp.	38	14.80%
Lackawaxen Twp.	39	28.81%
Lehman Twp.	60	49.61%
Matamoras Borough	29	64.66%
Milford Borough	26	39.92%
Milford Twp.	34	45.26%
Palmyra Twp.	32	11.69%
Porter Twp.	43	25.95%
Shohola Twp.	45	50.69%
Westfall Twp.	30	52.67%

the longest commute time of any county in Pennsylvania, with 47% of workers traveling out-of-state to New Jersey and New York metropolitan centers. The mean travel time for a Pike County citizen was 46 minutes compared to a mean of 25 minutes statewide. All Pike County municipalities, even northern and western municipalities, were significantly above the 4.6% state average for percentages of out-of-state commuters. For example, 35.23% of workers in Blooming Grove Township and 28.81% in Lackawaxen Township commute out-of-state, despite the additional 15-20 minutes required to reach the state borders.

Age Composition

In addition to population growth, the Pike County Comprehensive Plan noted a trend in older families. The number of persons 35-54 years of age more than doubled, increasing the group's percentage of the total population from 24.8% to 31.9%. Similar growth was seen in persons 10 to 14 and 15 to 19 years of age in both census data and local school district enrollments. At the same time, the number of young families, represented by persons

between 20-34 years of age, grew at a much smaller pace and its percentage of the total population fell from 21.3% to 13.4%. These trends have significant implications on types and amounts of recreation facilities which should be provided in the County in the future.

Figure 6-4: Population Composition by Age Group, 1990-2000

AGE	1990	%	2000	%	Total Change
0 to 5	2,254	8.1	2,723	5.9	-2.2
5 to 9	2,108	7.5	3,666	7.9	0.4
10 to 14	1,740	6.2	3,969	8.6	2.4
15 to 19	1,503	5.4	2,904	6.3	0.9
20 to 24	1,270	4.5	1,567	3.4	-1.1
25 to 34	4,688	16.8	4,625	10	-6.8
35 to 44	4,206	15	8,198	17.7	2.7
45 to 54	2,743	9.8	6,557	14.2	4.4
55 to 59	1,354	4.8	2,681	5.8	1
60 to 64	1,743	6.2	2,395	5.2	-1
65 to 74	2,838	10.1	4,430	9.6	-0.5
75 to 84	1,209	4.3	2,046	4.4	0.1
85 +	310	1.1	541	1.2	0.1
TOTAL	27,966	100	46,302	100	-

Figure 6-5: Pike County School District Enrollments, 2000-2005

	2000	2001	2002	2003	2004	2005	% Growth 00-05
Delaware Valley School District	4804	4911	5051	5182	5378	5681	18.26%
East Stroudsburg North*	6804	6912	7053	7185	7382	7686	12.96%
Wallenpaupack School District	3775	3798	3861	3908	3975	4100	8.61%

*Schools serving Pike County, Bushkill Elementary, Lehman Intermediate, East Stroudsburg North HS

Housing

Housing conditions and trends are also essential for understanding and anticipating future land development patterns and potential impacts to the rural environment. The Pike County Comprehensive Plan (2006) discusses various trends in housing growth, the types of communities being developed, and the implications of these rural developments.

Decreasing Affordability of Land and Homes

Median home values reported by the US Census Bureau in 2000 showed that housing values have increased throughout the region. Of the four counties nearest the New Jersey and New York employment centers- Monroe and Pike Counties, Pennsylvania, Orange County, New York and Sussex County, New Jersey- Pike County had the lowest median value of homes in 2000 and the smallest percent change in median value from 1990-2000.

Figure 6-6: Median Value of Owner-Occupied Homes

	1990	2000	1990-2000 Change	% Change
Sussex County, NJ	\$156,300	\$157,700	\$1,400	0.9%
Orange County, NY	\$141,700	\$144,500	\$2,800	2.0%
Monroe County	\$116,500	\$125,200	\$8,700	7.5%
Pike County	\$117,700	\$118,300	\$600	0.5%
Wayne County	\$89,800	\$102,100	\$12,300	13.7%
Sullivan County, NY	\$93,400	\$99,300	\$5,900	6.3%

The longer distance to metropolitan regions is a significant factor in this comparably lower value. The quality of construction is similar and not an important factor. However, recent home sale prices suggest these figures are rising significantly. For example, the average sale price of a home in Pike County in 2000 was \$105,314. By 2005, the average sale price had increased to \$197,809.

The impact of such rapidly increasing housing costs is that housing, and its associated tax burden, becomes unaffordable to Pike County residents. This type of market also raises the market value of undeveloped land, making it more expensive to acquire property for public uses, such as recreation.

Environmental Issues and Minimal Recreation Opportunities in Private Communities

The housing boom of the 1970's created many of Pike County's lakeside and vacation communities. These communities were designed at densities more

common to suburban settings without appropriate consideration for the natural limitations of the property. Conventional site design practices of the times often neglected to provide adequate design of on-lot septic systems for the protection of well water or for stormwater management. These conditions resulted in environmental problems such as water contamination issues and stormwater flooding within these private developments. In addition, most developments provided little land or facilities for close-to-home recreation. Given that these communities are private as per the Pennsylvania Planned Communities Act, local governments are limited in their ability to offer assistance in correcting these infrastructure and environmental design issues. Pike County's Comprehensive Plan supports the County seeking ways of assisting community associations to address these issues.

Seasonal second homes are often converted into permanent residences affecting population growth.

Second Home Conversion

Many of the 1970s-era lakeside and vacation communities in Pike County were developed and marketed as seasonal or second homes. This marketing approach boosted the tourism industry with more visitors and visitors who spent longer periods, and thus more money, in the County. In 2000, Pike County had 15,350 vacant housing units for seasonal, recreational, or occasional use, the largest number of any county in Northeastern Pennsylvania. More significantly, population growth greatly outpaced new home construction from 1990-2000, suggesting that many of the second homes constructed in the 1970's and 1980's are providing permanent housing stock for the recent population increases.

Vacant Lots and Tax Sale

One opportunity among these housing and community concerns is the presence of vacant lots in private communities. These sites, many of which are unsuitable for building, may afford opportunities for dedicated open space and close-to-home recreation. In addition, private lots appear on the County's tax-sale listings each year when property owners default on the property taxes owed to the County. These lots are made available by the County in exchange for payment of the back taxes from bidders. The County Comprehensive Plan promotes the exploration of combining these lots with neighboring properties or developing them into community open space.

Economy

Tourism is the leading industry in Pike County. Accommodation/food services and retail trade are the largest employment sectors within the County.

Figure 6-7: Employment by Sector

Industry	Employment	Payroll
Accommodations and Food Services	1,948	\$28,966,824
Retail Trade	1,331	\$25,635,000
Health Care and Social Assistance	692	\$15,747,598
Other Social Services (except public administration)	621	\$10,905,132
Manufacturing	359	\$17,224,816
Construction	342	\$10,227,287
Real Estate and Rental and Leasing	293	\$5,445,252
Information	192	\$9,797,592
Professional, Scientific and Technical Services	183	\$5,739,148
Finance and Insurance	144	\$5,137,677

The Pocono Mountains Visitors Bureau reported tourism expenditures in Pike County were over \$221 million in 2004.

Tourism Industry in Pike County

Pike County's tourism economy has a long and vibrant history starting in the 1800's with being known as a getaway destination from urban New York.

Pike County has a diversity of employment sectors but a large share of the job opportunities are related to the tourism industry of the region. Today, much of the younger population is pursuing technical and professional types of employment which are not abundantly available in the County. While tourism is important for the economy of the region, many younger citizens depart the area seeking other types of opportunities not readily available.

As noted in the County's Comprehensive Plan, however, residents of the County clearly express that maintaining the natural pristine nature of the county is vital. The natural resources attract many visitors to the County. As the permanent population grows, commercial development follows recognizing the population increase and buying power. The tourism, real estate, and construction industries rely heavily on the continued attractiveness of the county. Without the continuing healthy ecotourism industry, the social dynamics and attractiveness of the county would likely change dramatically.

Today, millions of people retreat to Pike County to visit the rural setting and enjoy the vast outdoor recreational opportunities. In fact, this region of the

Pocono's was labeled "Pennsylvania's Playground" by a fledgling vacation bureau during the late 1920's.

The popularity of the Pocono's remained through the decades as a family vacation and honeymoon destination. The availability of many four-season activities and the area's rural nature maintained the popularity of the area.

Current and Future Trends in Tourism

Pike County remains a key year-round recreation destination for vacationers. The Pocono Mountains Visitors Bureau reported tourism expenditures in Pike County of \$210,750,000 in 2003 and \$221,229,000 in 2004.

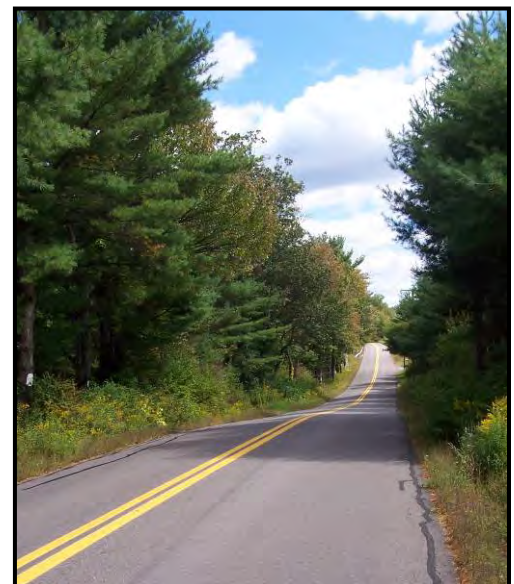
Ecotourism relies on the rural environment of Pike County. The ecotourism industry involves aspects such as river trips, camping, fishing, wildlife tours and observation, bird watching, snowmobiling, guides, equipment rentals and sales, lodging, dining, waterfall viewing, swimming, and boating, skiing, hunting, orienteering, biking, horseback riding, hiking, environmental education and interpretation, and foliage touring. The Pike County Chamber of Commerce has identified four heritage tours in Pike County. These heritage tours are promoted as driving tours to visit historic and scenic places within the County.

Eco-tourism is heavily promoted in the region. Activities with continuing popularity are boating and canoeing the many rivers and lakes of the County. Winter activities such as ice fishing are popular attractions. Observation of the wintering bald-eagles draws visitors to the Delaware and Lackawaxen Rivers, especially along the Upper Delaware River Corridor.

AAA ranked the Rt. 507 Lake Wallenpaupack traffic corridor, 11th in a national study as one of the worst summer bottlenecks in vacation destinations.

Transportation

There are a number of scenic drives within the County enhanced by the beautiful rural landscapes. It is necessary to strike a balance between maintaining the scenic, rural character of roads, and providing for safe travel. Many of the roadways in Pike County have exceeded their originally intended usage. Many do not have adequate shoulders or cartways for the amount of traffic utilizing the roadways today. Also, during summer tourism season the County experiences increased traffic volumes. The US6/209 corridor as well as Route 507 and Route 739 are particularly subject to congestion in the busy tourist summer months. The



Route 6/507/590 corridors surrounding Lake Wallenpaupack have been recognized as some of the most congested vacation corridors in the United States.

School District Transportation

The rural location of the schools in the County requires that all students ride the school bus or find other vehicular transportation. Issues with school buses voiced at public meetings held during this planning process were related to little or no shoulder on the rural roads in the County. Safety issues were among the top concerns of the public and the school district officials during the public outreach process. Lack of transportation is a major factor in the ability of students to participate in after-school programs and sports. Even with late buses, many students still have miles to travel to get home after their bus drop-off.

Senior Center Transportation

Pike County Office of Aging provides a senior transportation bus service to local senior centers four days per week. Bushkill, Blooming Grove and Lackawaxen have senior centers. Through this transportation, older adults can access the activity centers and organized wellness programs held at these facilities.

Valuation of Scenic Roadways

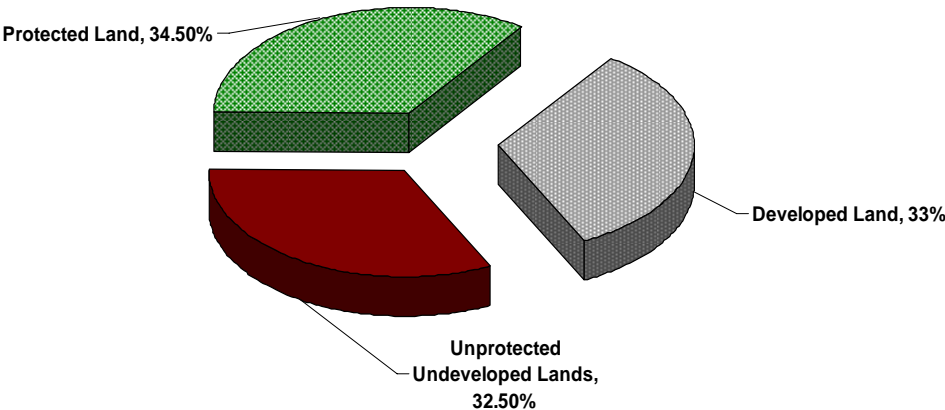
Pike County's Comprehensive Plan provides a scenic resources map primarily focused on potential scenic byways and observation points along those corridors. A scenic corridor is dependent upon open space retention, the presence of natural resources within that open space, and water resources. Scenic resources are degraded by unattractive roadside development, inappropriate signage, and removal of natural resources. The ability to drive along scenic routes can enhance the driving experience and appreciation of natural resources for residents. Scenic routes also support tourism based on our rural character.

During the Open Space Plan development, the Countywide Study Committee and the public attendees at the regional focus group meetings stated the importance of protecting our scenic corridors. Their acknowledgement of the impact development has had on the character of the County supports identifying these key corridors. These scenic by-ways will be explored further in the greenway network section of the plan.

Land Use

Pike County is very fortunate to contain a significant amount of public lands and to have several very active conservancies dedicated to protecting the County’s natural and scenic resources. Over one-third of our land is protected from development as public land. Public lands include Delaware Water Gap National Recreation Area, Pennsylvania State Game Lands, Delaware State Forest, Promised Land State Park, and Pike County Park. Some municipalities also own property for the purpose of community recreation. In addition to the 124,968 acres of public land, 5,418 acres were protected from development in private conservation easements as of 2005. This number continues to grow.

Figure 6-8: Status of Land Development and Protection in Pike County



However, while one-third of the County is currently protected, 33% of the land has already been developed, almost entirely residential, leaving the last third of the County vulnerable. Many of the unique and pristine natural resources and those qualities of Pike County’s rural character are at risk for development. The variety of open space and outdoor recreation opportunities that currently exist in Pike County appeal to those who live and vacation here. They are also a strong factor in attracting new residents and visitors into the region.

Hunting & Fishing Clubs encompass an estimated 53,000 acres of Pike County.

Large Tract Landowners and Contiguous Forestland

In Pike County, large acreages are held by private landowners, primarily hunting and fishing clubs and summer camps. The large contiguous open spaces contribute to the rural quality of the County. These lands form a working landscape, essential to the economy and rural character of Pike County. However, growth rates and tremendous increases in land values have brought lands previously thought to be somewhat protected from development onto the real estate market. These lands, many of which are in Act 319, or ‘Clean and Green’, are susceptible to development pressure. Owning large tracts of land is becoming an increasingly difficult responsibility. Property owner’s ability to

maintain ownership of large tracts is impacted by decreasing hunting and fishing club memberships, fewer young sportsmen, increasing costs of operating camps, and overall increasing local school tax burden. This issue will be explored further within Chapter 11, Forest Resources.

Community Associations

Pike County is unique in that many homes are located within private community associations. The properties in these developments have restrictive covenants in place which dictate not only the use of their own property but also declare it as a member of the association. The management and maintenance of all the common areas and property, from roads to recreation areas are funded through community dues or fees paid by its residents, not by funds from the municipality in which they reside. Essential emergency services such as police and fire protection are still provided by the municipality.

While a private community association provides an excellent opportunity for a well developed open space and recreation system, the public cannot readily access these amenities because facilities are only open to property owners within the community who pay a usage fee. Quite often these communities were designed for seasonal use, and the homes were recently converted to year-round residences. Amenities and open space designed for a smaller population of summer visitors are now servicing a year-round community. If the community is unable to enhance or expand their facilities, residents seek out municipal facilities. Upgrading current recreation facilities or acquiring space for future public recreation will be crucial.

Land Use Regulation Policies in Pike County

All of Pike County's thirteen municipalities have enacted municipal Subdivision and Land Development Ordinances. Twelve of these municipalities have zoning ordinances as well. Greene Township is the only municipality in the County without a zoning ordinance. A summary of municipal comprehensive plans and notes on ordinances is included in the appendix.

Our municipal governments are increasingly challenged to provide the necessary long-range planning for protection of the rural base of their communities while at the same time accommodating the rapid growth. Many of the SALDO and Zoning ordinances from the past did not adequately include the better planning practices and protection for the natural resources.

There are a number of planning techniques and options available to local governments that have been used successfully in a variety of urban, suburban and rural settings across the country. Alternative site design strategies have the ability to significantly reduce the impacts of residential and commercial development and to provide a greater degree of protection to open space and

water resources. Conservation zoning, conservation design, low impact development, and sustainable development are some of the options that offer more environmentally sound alternatives to traditional land use practices.

Pike County's Growth Management Policy

Principles regarding future growth were developed during the 2006 update to the County's Comprehensive Plan. The focus of many of these actions and objectives, as they relate to the County Open Space Plan, was to promote 'smart growth' by encouraging not only protection of our natural resources but also growth in accord with these important resources. Also, expansion of community services such as adequate and accessible recreation for the growing population was promoted.

Comprehensive Plan Future Growth Principles

- We will work together to conserve the unique character, open spaces, and beauty of Pike County in the face of continued development pressures.
- Sprawl is not an acceptable development pattern.
- County and municipal government should consider forging new partnerships to proactively plan for our future.
- Growth should be managed and directed to designated growth areas in accordance with multi-municipal and municipal comprehensive plans and implementing land use regulations.
- Preserve natural, historic, scenic, and cultural resources by protection and integration into future developments.
- Existing Boroughs, villages, and hamlets in the County should be enhanced and filled in with additional development, when appropriate.
- Work to achieve economic growth that preserves the quality of life that has made Pike County an attractive place for tourism and for residents to live and work.
- Compact, mixed use development patterns will be encouraged. Public sewer and water systems should be provided to permit compact development.
- Development will be attractive, well-planned, appropriately landscaped, with architecture characteristic of Pike County.
- Major road corridors will be enhanced and managed to facilitate mobility and increased safety.
- Greenways, trails, open space and recreation shall continually be provided and expanded commensurate with population growth.
- Alternatives to automobile traffic, including pedestrian, bicycle, and transit modes, should be encouraged and enhanced.

Promotion of Open Space Planning

The County's Comprehensive Plan encourages open space planning and working closely with municipalities in this planning effort to identify and prioritize important natural areas, natural features and sensitive natural resources which are in need of protection. The basis of open space and greenways planning efforts center on the fact that:

- Open space conserves natural resources and biodiversity.
- Open space enhances ecotourism.
- Open space conserves hunting, fishing, hiking, boating and other recreational environments.
- Open space enhances the quality of life for residents. Enhanced quality of life can also attract businesses interested in the quality of life for their employees.
- Open space can contribute to the enhancement of property values.
- Open space can preserve historical and cultural landscapes, and maintain scenic road corridors.
- Open space acquisition can prevent added costs to taxpayers, such as expenditures on schools, infrastructure, and services, resulting from new development.

Conceptual Growth Areas

Four types of conceptual growth areas were identified and created in the Comprehensive Plan. These were based on existing land use, settlement patterns, infrastructure, and natural resource limitations. Areas identified by the County's Natural Areas Inventory or containing severe natural limitations (e.g. steep slopes, wetlands) to development were excluded from these growth areas. These areas are illustrated on the Conceptual Growth Areas Map.

Major Growth Area – Refers to regions that are appropriate for the development of a variety of land uses at high densities. Due to the proximity to the local workforce as well as available and potential infrastructure these areas are valued as prime for both economic and residential growth.

Minor Growth Area – Refers to regions that are appropriate for growth, however, at a lesser intensity than Major Growth Areas. Development within Minor Growth Areas should be consistent in scale with existing development, and should not adversely impact natural areas or scenic resources.

Infill/Corridor Growth – Refers to continued growth along corridors which already contain similar types of development.

Village Development- Refers to the smaller unincorporated communities with existing nuclei of development and infill and expansion of existing development is feasible when appropriate infrastructure is available.

Hamlets – Refers to generally unincorporated areas commonly identified by locals by name but are part of a larger recognized region. Limited expansion of these areas could be feasible due to environmental and infrastructure restrictions identified in the Comprehensive Plan.

Implications of Growth

The rapid growth of population in the County creates several unintended consequences; people are attracted to Pike County because of the abundant natural resources, open space, and high water quality. As development occurs, these resources that attracted people to the County will be adversely affected. Loss of land to development not only fragments the open space network, but also can increase the costs of local services.

Maintaining road networks, emergency and fire protection services, and increasing school enrollments are all factors which affect the cost of living in a community. An attraction of Pike County is the relatively favorable tax situation compared to the metropolitan areas. As the population of the County increases, demand for municipal, county, and school district services increase. Infrastructure upgrades are also eventually necessary. This demand creates an upward pressure on taxes which is not offset by corresponding increases in the commercial and industrial tax base.

Build-out and Program limitations

A build-out analysis was prepared through the Comprehensive Plan to forecast the implications of existing land use policies for future development. The population at projected build-out is a range of 150,121 to 153,771 residents. The build-out analysis also focused on the projected water use, sewage generated and the vehicular trips per day from development.

The estimated July 1, 2007 population of Pike County was 58,633. At build-out the population is estimated to be more than 2.5 times the estimated population of 2007.

Conclusions

The County's abundance of natural and scenic resources has been one of the greatest assets not only in the eyes of the County's citizens but also thousands of people who vacation in the County annually. Pike County's rural character and proximity to major metropolitan centers has made this region an attractive place to have a vacation home or establish a permanent residence. Today, Pike County's natural resources and scenic beauty are at a critical juncture with development and population continuing to increase.

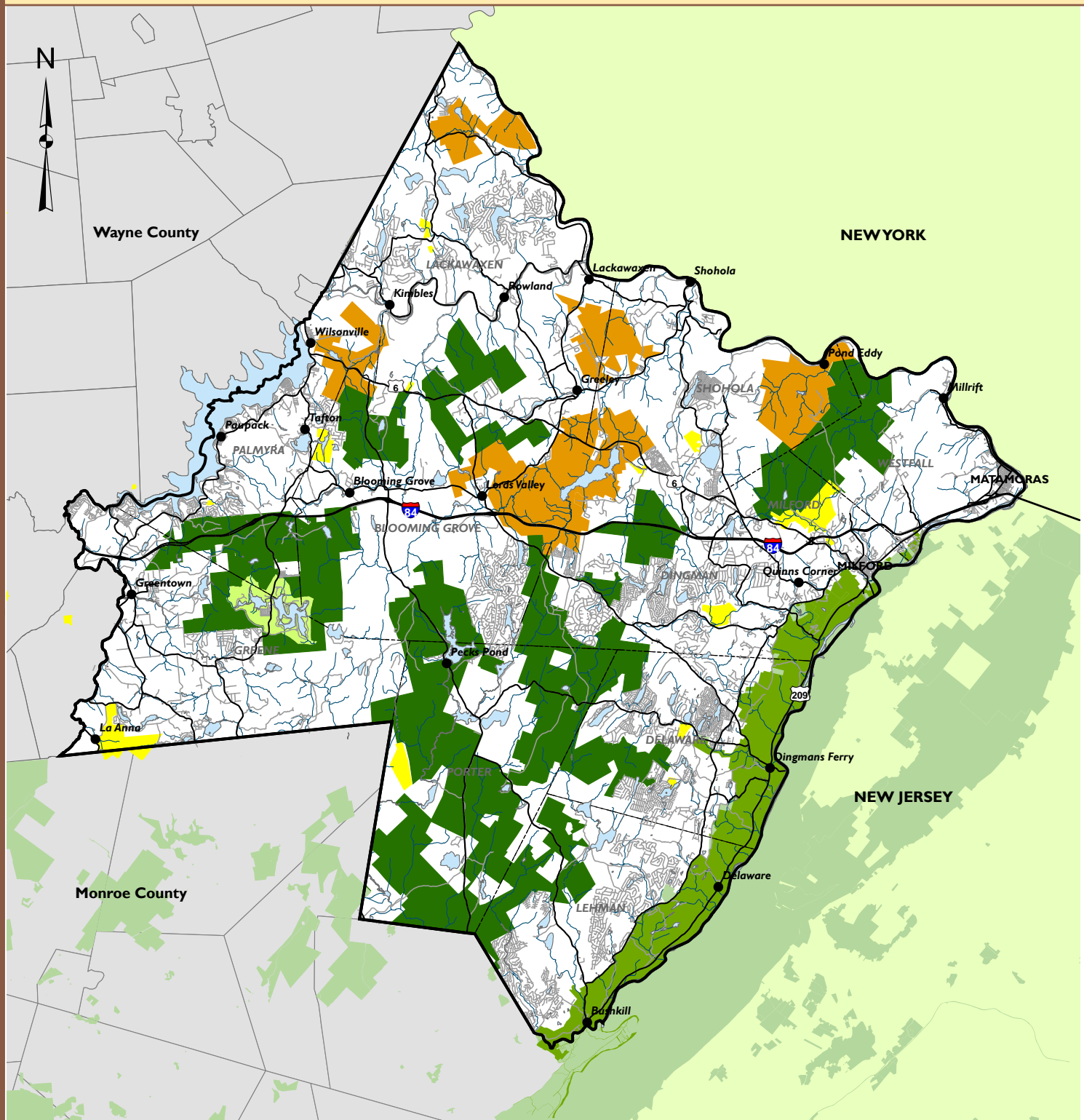
These natural features in Pike County are the driving factor for the tourism industry of Pike County. Ironically what originally drew many residents and visitors to the County, the high quality natural resource base and abundant recreation, is what is being adversely impacted.

Through key-person interviews conducted as part of this planning process, wildlife specialists noted how the proposed large scale developments will affect wildlife and natural resources. Fragmentation of open space disturbs key wildlife corridors in the county as recognized by Federal and State agencies. Local watershed conservancies noted in their interviews how the deforestation of watershed lands increased the levels of erosion and resulting sedimentation of water resources. During the public outreach, citizens expressed their concern over stormwater and flooding issues. Stormwater run-off and increased impervious surfaces associated with development can degrade the quality of our natural resources and increase localized flooding issues.

While Pike County faces planning challenges, there is a significant opportunity today to enhance and maintain the quality and abundance of our natural resources. Proactive efforts undertaken now will create new long-term strategies that address sprawl and incorporate growth. Sustainable use and management of land and water resources are urgently needed.

Pike County General Map

Pike County Open Space, Greenways and Recreation Plan



Scale 1:2

0 2 4 8 Miles

Mapping Preparation:
Pike County Office of Community Planning

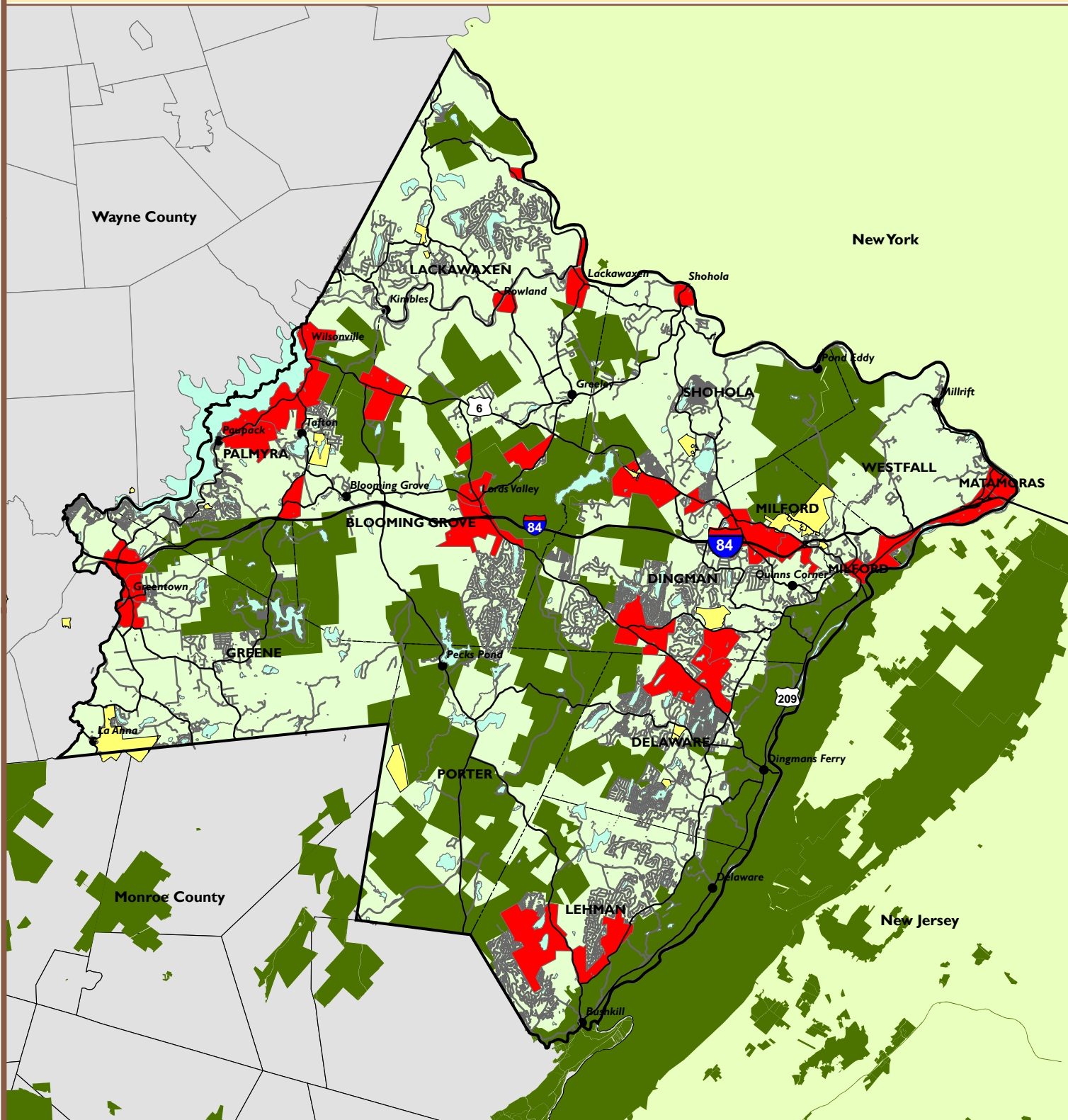
Data Source:
Pike County GIS Data

Legend

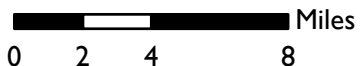
- Hamlets
- Conservation Easements
- Regional Open Space
- State Gamelands
- Delaware State Forest
- Promised Land State Park
- DWGNRA

Conceptual Growth Areas

Pike County Open Space, Greenways and Recreation Plan






Scale 1:2



Mapping Preparation:
Pike County Office of Community Planning

Data Source:
Pike County GIS Data

Legend

-  Conservation Easements
-  Conceptual Growth Areas
-  Public Lands

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Chapter 7 Natural Resources

There are over 103 major lakes in Pike County and more than 1,000 miles of streams and rivers.

Waterbodies, watercourses, and wetlands make up almost 4% of the County's total area.

Pike County is fortunate to have an abundance of exceptional quality, unique natural resources. While many of the Commonwealth's resources have been consumed, replaced or impaired by development and industry, Pike County's resources remain in near pristine condition. One example is the quality of the water resources. All of Pike County's watersheds are designated *high-quality* or



Photo credit: D. Soete

exceptional value under the Commonwealth's Title 25, Chapter 93 Water Quality Standards. Lakes play a prominent role in the County's environment, with 103 major lakes and reservoirs, which, when combined with the nearly 1,000 miles of rivers and streams, cover about 13,150 acres, or almost four percent (4%) of the County's area.

Few other counties in the Commonwealth contain the diversity of wildlife resources as are found in Pike County. Pike County is host to many species of wildlife, including threatened and endangered species. The unique and high quality habitats found in the waters and forests of the County allow these species to thrive. The diversity of habitats provide for healthy populations. As an example, black bear populations in the Poconos (including Pike County) have some of the highest and most successful reproductive rates in North America.

The quality of life in Pike County and its economic health are dependant on the natural resources. Yet the characteristics of Pike County that attracted many of its citizens have resulted in unprecedented development pressure and threaten resource quality. A balance between community growth and resource conservation is necessary to sustain the County's quality of life.

Land Resources in Pike County

Pike County's physiography, glacial geology, bedrock and soils have been important factors in the evolution of the County's native vegetative cover and had a direct impact on land use patterns over time. These resources will each be discussed in the context of planning for open space and conservation uses.

Geology

Pike County's geologic formations are important to understanding its scenic topography and its groundwater resources and to applying the appropriate groundwater resource protections.

Geology plays a key role in the availability of groundwater, the abundance of wetlands, and the presence of scenic waterfalls throughout Pike County.

Geologically, Pike County spans two physiographic provinces that reflect the bedrock geology, elevation and shape of the landscape. Most of Pike County lies within the Glaciated Low Plateau section of the Appalachian Plateaus Province. The topography associated with the Glaciated Low Plateau includes rounded hills and broad to narrow valleys all of which have been modified by glacial erosion and deposition. The more erosion-resistant rocks form the hills, while the more erosion-prone rocks are located in the valleys. Swamps and peat bogs are common, and the underlying bedrock reflects various types of glacial deposits. Glacial sediment deposits, mainly glacial till or sand and gravel, are abundant but are found mainly in the river valley bottoms and margins. Elevations on the plateau range from 900 feet on the cliffs above the Delaware River in the east to about 2,000 feet in Blooming Grove and Greene Townships in the west. High Knob, located in southern Blooming Grove Township, is the highest point in the County at an elevation of 2,062 feet.

About 4% of the County along the eastern boundary between Matamoras and Bushkill lies within the Appalachian Mountain section of the Ridge and Valley Province. Along this eastern boundary, the Delaware River flows over a buried valley filled with glacial outwash. Well-defined valley terraces occur along the entire river between Matamoras and Bushkill. The lowest elevation in the



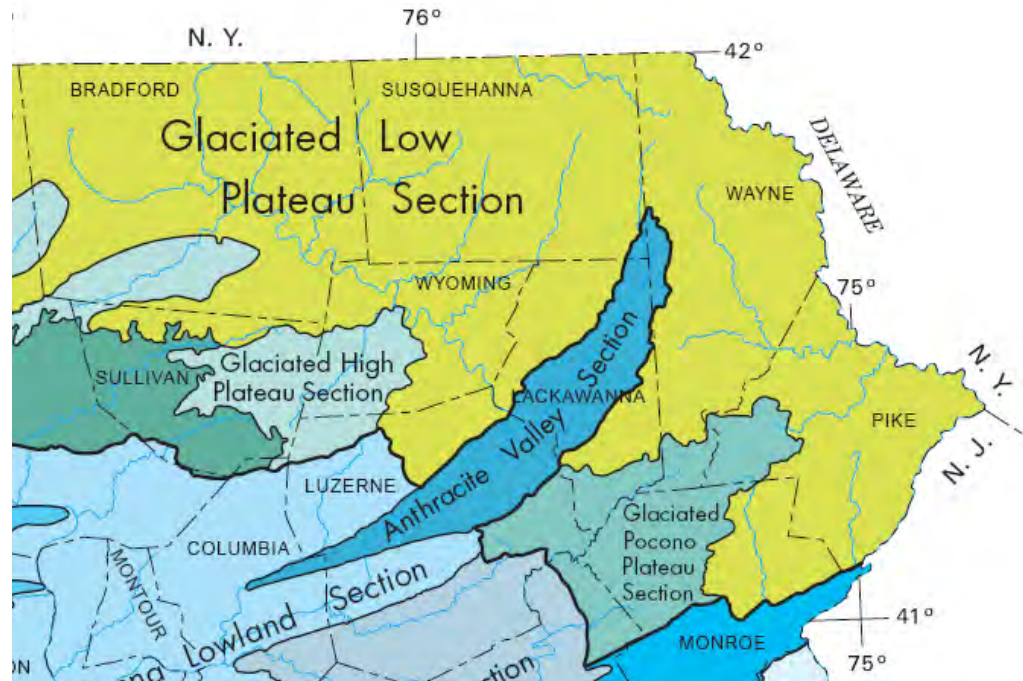
Photo credit: D. Soete

County is 320 feet and occurs in this Ridge and Valley Province where the Delaware River leaves the County near Bushkill. The change in elevation between the Appalachian Plateau and the Ridge and Valley Province provides for dramatic waterfalls on many of the major tributary streams to the Delaware River, including the Pinchot Falls on Sawkill Creek, Raymondskill Falls, Dingmans Falls, Indian Ladder Falls, and Bushkill Falls.

A small portion of the County along the western fringe lies within the Glaciated Pocono Plateau Province. This section is underlain mainly by tough, erosion resistant sandstones. Relief on the upland is generally less than 200 feet but can be as much as 600 feet. The low relief and relative smoothness of the upland surface results from both the flatness of the underlying rock and the scouring of the surface by glacial ice. The area was glaciated at least three different times in

the past million years. In addition to erosion, the most recent glacier also left behind a variety of glacial deposits, including sandstone boulders that litter the surface.

Figure 7-1: Physiographic Provinces, Northeast Pennsylvania



Source: DCNR Bureau of Topographic and Geologic Survey

Bedrock in Pike County is comprised of shale, claystone, siltstone, sandstone and conglomerates of the Middle Devonian age. The Catskill Formation underlies about 75 percent of the County. Bedrock other than the Catskill formation is found only in a band about 3 miles wide along the Delaware River. Here the rock is, from oldest to youngest, the Marcellus Formation, the Mahantango Formation and the Trimmers Rock Formation. Geologic formations are shown on the Geology Map.

Pike County's bedrock is overlaid by unconsolidated sediments of glacial origin. The last glacial period that impacted Pike County ended approximately 20,000 years ago. A sheet of ice, upwards of three thousand feet thick and covering much of Northeast Pennsylvania, began to melt as climatic changes brought increasing temperatures. As a result, large quantities of sand, gravel and rock that were embedded in this ice sheet were deposited over much of the County.

While some of this material simply dropped out directly onto the surface of the land, much was transported in vast quantities of melt waters, flowing across the landscape, eventually reaching the Delaware River Valley where these materials settled out. In some areas of the county, such as Twin Lakes region and along the Delaware River, these unconsolidated glacial sediments are deep—sometimes 500 feet or more. The unconsolidated sediments are very permeable,

meaning that water flows freely through them, making them productive sources of groundwater. It is important to note, however, that these glacial till sediments are also especially susceptible to pollutants. Accurate identification of source water areas is therefore essential to source water protection.

Steep Slopes and Ridgelines

Ridgelines and forested bluffs, particularly those overlooking the Delaware and Lackawaxen Rivers, are an important component of the scenic viewsheds that attract thousands of visitors to the region each year.

Steep slopes are generally recognized as lands that are of 15 percent incline or greater. As highlighted in the County Comprehensive Plan, steep sloping lands are prone to soil instability, if disturbed. Once disturbed, these areas are difficult to mitigate.

Slope instability increases soil erosion, the likelihood of slides on these areas, and ultimately the potential for soil sediment reaching waterways, since many of the County's steep slopes are located along watercourses. Slope stability is greatly increased by limiting disturbance of the land on areas of steep slopes, including protection of the surrounding vegetation.

The hazards of steep slope disturbance can be experienced on-site as well as downstream. Changes in vegetation on steep slopes can affect the concentration time of stormwater runoff, potentially increasing flood and storm damage to communities downstream.

Typically, steep slopes present increased engineering and construction costs, severe limitations to on-site sewage disposal and increased road or driveway maintenance costs. But they can also offer attractive views of the landscape to those who can afford to meet these challenges.

Steep slopes are distributed through the County as shown on the Steep Slopes Map. While some of these slopes lie within protected public lands, most areas of steep slopes are minimally protected from development. Protection measures in municipal ordinances are necessary in order to protect these sensitive areas. Some municipalities have adopted provisions to protect steep slopes within their performance standards and zoning. For example, Shohola Township includes special performance standards for development on land that contains slopes greater than 15-percent within its subdivision ordinance. These sites require building envelopes (space used by a building) that are no greater than 7000 square feet to minimize disturbance. Limitations are placed upon vegetation removal and the cutting and filling of these slopes. These performance standards must be detailed in the developer's grading and drainage plans in order for the township to approve the plan for construction.

Ridgelines and forested bluffs, particularly those overlooking the Delaware and Lackawaxen Rivers, are important viewsheds of the scenic landscape that attract thousands of visitors to the County each year. Ridgetops and bluffs contain some of Pike County's unique plant species. Pike County's Natural Areas Inventory

identifies the Cliff at Milford, Dry Brook Cliff, Matamoras Cliffs, and Mashipacong Cliffs as rare shale cliff communities of plants. These ridgeline areas and bluffs and their rare plant communities have the potential to be impacted by large scale clearing and development.

Understanding the limitations of soils can provide for better land use planning. The Pike County Soil Survey (1995) is an important resource for planners, municipal officials and the development community.

Soils

Soil is unconsolidated mineral or organic material on the earth’s surface. The soils in Pike County reflect the glacial materials eroded from and deposited on the underlying bedrock. Vegetation, early settlement, and contemporary land use patterns in Pike County have all been influenced by local soils. Understanding Pike County’s soils and their limitations can provide for better land use planning and proper siting of buildings and infrastructure – roads, water and sewage systems, stormwater facilities – on soils that provide stability.

Soil data developed by the USDA Natural Resource Conservation Service identifies broad geographic areas that have a distinctive pattern of soils, relief and drainage. Each of these areas—soil associations or soil mapping units—consists of one or more major soil types and at least one minor soil type. The following table lists the ten major soil mapping units found in Pike County along with the percent of Pike County’s total land area that is covered by each of these soil map units.

Figure 7-2: Soil Map Units of Pike County		
Unit #	Soil Map Unit	% of total County land area
1	Wurtsboro-Swartswood-Oquaga	30%
2	Wellsboro-Lackawanna-Oquaga	20%
3	Mardin-Manlius-Arnot	10%
4	Oquaga-Arnot-Rock Outcrop	10%
5	Manlius-Arnot-Rock Outcrop	6%
6	Skytop-Wasnot-Rock Outcrop	3%
7	Freetown-Paupack-Edgemere	7%
8	Kimbles-Gleneyre-Freetown	4%
9	Delaware-Chenango-Unadilla	5%
10	Wyoming-Chenango-Barbour	5%

Source: Soil Survey of Pike County, USDA NRCS, 1995

Among soil map units are individual soil types. Each soil type has distinct characteristics such as physical and chemical properties, slope, composition, depth to bedrock, permeability, typical position in the landscape, erodibility and drainage. These characteristics can impose capabilities and limitations on the soil for certain agricultural or forestry uses and for the development of building sites, roads, and sanitary facilities. These characteristics are outlined in the Pike

County Soil Survey (1995), which can be referenced when determining the soils' capacity and limitations for specific use and development.

Soils that are relatively flat, deep and well-drained are increasingly sought after for residential and commercial development because of their suitability for on-lot septic systems. In Pike County, many of these soils are located along the floodplains of the Delaware River and other major stream corridors. More importantly, these soils are also well-suited for agriculture. (Soil mapping units that qualify as prime farmland or as farmland soils of statewide significance are further detailed in *Chapter 12, Farmland Resources*.) With development limitations on much of Pike County's lands, competition between development and the retention of agriculture on these "prime" soil sites is high.

A soil group that plays a key role in limiting development and land use in Pike County are hydrologic or hydric soils. Hydric soils are characteristically fine textured, have slow infiltration rates, and a permanent high water table. These soils may also be shallow over a nearly impervious layer that impedes downward movement of water. These soils are formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part.

Approximately 14% of Pike County's total land area is mapped as having hydric soils, with approximately 31,050 acres or 60.6% of these soils lying outside public ownership. Locations of hydric soils are illustrated on the Hydric Soils Map.

It should be noted that hydric soils *may* indicate wetland areas; however, not all areas having hydric soils are wetlands. Only when a hydric soil supports hydrophytic vegetation and the area has indicators of wetland hydrology is the soil referred to as "wetland" soil.

Figure 7-3: Hydric Soils in Pike County

Map Symbol	Soil Description	Acreage	% Land Area
7B	Shohola Edgemere complex, 0 to 8 percent slopes	6,101	1.7%
7C	Shohola Edgemere complex, 8 to 15 percent slopes	5,057	1.4%
11A	Edgemere, 0 to 3 percent slopes	9,174	2.5%
12	Gleneyre-Kimbles complex, 0 to 2 percent slopes	3,411	0.9%
18	Paupack	2,895	0.8%
20	Freetown	10,846	3%
111B	Edgemere-Shohola complex, 3 to 15 percent slopes	13,295	3.7%
143	Wyalusing	610	.2%
	Total Pike County Hydric Soils	51,389	14.03%

Source: Soil Survey of Pike County, USDA NRCS, 1995

Water Resources in Pike County

Groundwater Resources

Pike County is entirely dependent on groundwater resources to meet the County's drinking water needs.

Pike County is entirely dependent on groundwater to meet its drinking water needs. With the exception of bottled water originating from sources outside of the County, all drinking water in the County originates as groundwater from geologic aquifers. Private, community, and municipal wells and springs bring this water to the surface.

Groundwater also plays a critical role in the flow and quality of the surface waters of the County. Natural springs provide the base flow for streams. Rainfall and stormwater runoff supplement this base flow, but groundwater sustains the base flow during periods of drought.

A common misconception is that groundwater in Pike County flows in underground rivers. There are no underground lakes, layers of water or extensive underground veins. In Pike County, our groundwater supplies are held in either of two basic formations: consolidated bedrock such as sandstone or shale or unconsolidated glacial sediments (debris) consisting of silt, sand and rocks.

Bedrock Aquifers

The majority of Pike County residents obtain their groundwater from wells drilled into consolidated bedrock. This solid bedrock stores and moves groundwater slowly through minute, interconnected pore spaces within the rock. Significant quantities of groundwater also move through the larger cracks and fractures throughout the bedrock. This interconnected system of pores, cracks and fractures acts as a subterranean plumbing system that releases water once a well is drilled into the bedrock.

Glacial Aquifers

Glacial sediment deposits constitute a second, more productive type of aquifer in Pike County. Groundwater supplies in these glacial deposits occupy the open spaces in the sand, rock and gravel. The permeable nature of these glacial deposits allows water to flow freely among and between the loose sediments; thus, they tend to be good groundwater producers.

The most significant deposits of glacial material occur along the eastern edge of the County, particularly in the Bushkill-Matamoras corridor area. In this region, water wells draw their water from groundwater stored in this glacial material. Many of the groundwater production wells in this area of the County are relatively shallow and therefore especially susceptible to pollution. This is of

critical importance in considering protection measures and stewardship for the resource.

Groundwater in the Hydrologic Cycle

While our Pike County groundwater reserves are found in these two main geologic formations, an understanding of the relationship of these geologic aquifers and our underground water resources to our surface water resources is critical to protecting the long term quality and quantity of all water resources.

The continuous circulation of water from the land's surface waters to the atmosphere and back to the land surface is known as the hydrologic cycle. The precipitation reaching the surface of the earth is one portion of the overall hydrologic cycle. Some of this precipitation runs off of impervious surfaces (rooftops, roads, paved or heavily compacted surfaces) becoming stormwater which either enters the surface water or is held in ponds and infiltrates the soil.

Most of the precipitation falling to the earth's surface infiltrates the permeable soil. Some of the water that enters the soil is used to replenish soil moisture or is taken up by plants. Some of the water percolates down into the soil to the zone of saturation and recharges the groundwater reserves. This zone of saturation is the soil and rock layer where pore spaces are completely filled with water. The top of the zone of saturation is called the "water table." This water table is not static but rises and falls as groundwater is withdrawn by wells and is replenished or recharged. Pike County's contiguous forested landscapes allow for relatively high rates of infiltration from rain and snow melt. This recharge replenishes and sustains the supply of groundwater reserves.

Gravity and pressure are the primary forces causing groundwater to flow underground and eventually return to the surface. Groundwater generally flows along a natural gradient from upland recharge areas in the higher elevations of watersheds, to lowland discharge areas where groundwater returns to the surface forming springs, lakes, streams and wetlands. This movement of groundwater, reemergence of the water at the surface, and eventual evaporation or transpiration back into the atmosphere completes the overall hydrologic cycle.

The reemergence of groundwater at the earth's surface plays a critical role in stream flows, and water supply to springs or other surface water bodies. It is significant that 70 to 80 percent of the water that flows through Pike County streams is supplied by groundwater. During periods of drought, this percentage can rise to 100 percent.

At a temperature of approximately 50 degrees Fahrenheit, groundwater flowing into streams helps to maintain cold water temperatures that in turn enable streams to hold more dissolved oxygen. This becomes critical during drier,

warmer summer months when oxygen-rich water is needed to keep fish and aquatic organisms alive.

Keeping the groundwater and surface water resources free from contaminants is critical to maintaining both the quality of surface waters for aquatic organisms and the quality of water supplies for Pike County drinking water.

An important example of the potential impacts of stormwater and flooding on the groundwater springs can be found in the Source Water Protection Plan for the Milford Springs, Milford Township (2006). The Milford Springs, now owned and operated by the Milford Water Authority, have been the source of drinking water for the residents of Milford Borough for more than 100 years. The two springs are located at the foot of a steep slope west of Milford Borough in Milford Township. The source of this spring water is in the glacial outwash aquifer.

The Plan identifies strategies for addressing the long term protection of this important groundwater resource for current and potential future users. The adjacent exceptional value Sawkill Creek Watershed and the critical source water protection zones for the Milford springs are the key areas for implementation of the protection strategies.

Water Demands

In addition to the Milford Springs which provides drinking water to approximately 658 households and businesses or roughly 2,200 residents, there are some 307 public water supply systems in the County that provide drinking water to residents and the general public. All 307 public water suppliers obtain drinking water from wells drilled into groundwater aquifers. Of these 307 suppliers, roughly 250 provide water to restaurants, businesses, schools and other establishments. The remaining 51 are community systems that supply water to residences within private communities. These community wells service up to approximately 44,800 Pike County residents (PA DEP records).

The balance of Pike County residents obtain their drinking water through private wells located on their own properties. All of these private wells also access groundwater reserves.

The future water needs of County residents rely entirely on the quantity and quality of our groundwater reserves. Projections prepared for the Pike County Comprehensive Plan reflect that at the county's build-out population, approximately 11,072,108 to 11,315,008 gallons of water will be needed to service the daily water needs of our population. Assuring that we have adequate potable water supplies to address this need becomes a critical issue for further study and monitoring.

Projections completed for the 2006 Pike County Comprehensive Plan reflect that at the county's "build out" population, approximately 11,072,108 to 11,315,008 gallons will be needed to service the daily groundwater needs of our population.

Groundwater Quantity and Quality

*Water has a voice.
It carries a
message that tells
those downstream,
who you are and
how you care for
the land.
- Bernie McGurl,
Lackawanna River
Association*

The challenge facing Pike County lies in maintaining both the quantity and quality of groundwater supplies for the present and future needs of our residents and communities. While groundwater supplies underlying Pike County are generally considered to be of good quality, contaminants from natural and human sources have been detected in groundwater samples. Groundwater is a resource that is vulnerable to pollution from a variety of sources. It is virtually impossible to live on top of the water supply that we are dependent on and not degrade or and contaminate the resource.

Unfortunately, multiple potential contamination sources exist including those originating from within and from outside the County. Residents and officials will continue to be faced with challenges in preventing or mitigating groundwater contamination from these sources. Potential underground and surface water sources of contamination can directly impact groundwater quality, so understanding the integral relationships between the groundwater and surface water is critical to addressing the protection of these resources.

Maintenance of groundwater reserves sufficient for providing potable water supplies for the growing population will require proper management as development occurs. Additionally, greater impervious surfaces also increase the potential groundwater may become contaminated and limit some critical areas necessary for recharge. Studies have documented that once impervious cover reaches 10% or greater in the “headwaters” areas of watersheds, degradation of the water resource will most likely occur.

*Protecting the
resource before it is
degraded or
contaminated is
critical in
maintaining the
high quality surface
and groundwater
resources for our
county's future.*

Increased withdrawals from groundwater aquifers can affect existing supplies and have the potential for stressing future provision of adequate supplies. Lack of important conservation awareness programs or lack of any required conservation measures by individuals and companies can further exacerbate quantity issues, especially during drought periods. A first step in the protection of the groundwater resource should focus on source water protection plans for large community water supply systems. Education and public outreach on water conservation and protection are another important component of water resource protection over the long-term.

Numerous studies by a number of offices and agencies can begin to provide the background necessary for building the information Pike County will require in order to assess the status of both the quality and quantity of groundwater reserves. *Groundwater Resources of Pike County*, Water Resource Report #65 (1989) completed by the US Geological Survey provides an historic baseline. A Pike County study completed by the Planning Office and County Conservation District between 1981 and 1989 along the Milford–Matamoras corridor documented specific groundwater conditions of this glacial aquifer. In 2007, the County Conservation District and the US Geologic Survey began work on a

countywide assessment of groundwater quality through the establishment of a well monitoring network. This project will involve sampling up to 25 wells, in selected locations throughout the County, for a broad range of potential groundwater contaminants; the study will also monitor groundwater levels. This will be the most comprehensive study to date of the quality of groundwater resources. While each of these studies can provide an important snapshot of groundwater reserves, a comprehensive water resources study for the county is needed to pull the information together into an informative, readable document for local municipal officials.

Watersheds and Surface Water Resources

High quality and exceptional value water resources are prevalent throughout the county.

One of Pike County's most important natural features is the high quality and exceptional value surface water resources which are prevalent throughout the county. Natural forested habitats which serve as buffers along these watercourses are one of the primary reasons that all of the County's watersheds are designated by the PA Department of Environmental Protection (DEP) as *High Quality (HQ)* or *Exceptional Value (EV)*.

A watershed is a geographic area of land across which water, and the sediments and dissolved materials it contains, flow on their way to a single common outlet—a stream, lake or river. A watershed can be compared to a huge basin collecting all the precipitation that falls within it and carrying this to the common outlet. A watershed includes not only the land within its boundaries but also the surface water of lakes, streams and wetlands as well as the groundwater moving beneath the surface. Watersheds vary from the largest river basins to just a few acres in size.

Watersheds are natural systems that link the land and water resources and the living organisms, including people, within its boundaries. How we live on the land affects the quality and quantity of water resources within the watershed.

Watershed boundaries are not drawn by humans or political processes; they are defined by natural drainage systems with changes in topography (elevation) being the main determining factor in setting the boundaries. The water that travels within a watershed does not recognize property, municipal, county, state or even international boundaries.

Major Watersheds

Following is a list of some of the major Pike County watersheds. The watersheds as identified below provide the basic identification for the main streams in the County. These watersheds can be further divided into sub-watershed areas which are contributing lands to the overall watershed. Additionally, each of these major Pike County watersheds is contributing drainage areas to much larger overall watersheds such as the Delaware River. The list which follows is derived from the PA Title 25, Chapter 93 Water Quality Standards for Pennsylvania.

Figure 7-4: Major Watersheds in Pike County

Watersheds	PA Title 25, Chapter 93, Water Quality Standards designation	Municipal locations
Adams Creek	EV	Portions of Delaware and Dingman Townships
Bush Kill (Millrift) Creek	EV	Portions of Westfall and Shohola Townships
Bushkill Creek	HQ-CWF	Portions of Blooming Grove, Dingman, Greene, Porter Townships
Cummins Creek	HQ-CWF	Portion of Westfall Township
Delaware River * (Lackawaxen River to Tocks Island)	WWF-MF; wild & scenic designation UPDE	
Dingmans Creek	HQ-CWF	Portions of Delaware and Dingman Townships
East Branch Wallenpaupack Creek	HQ-CWF	Portions of Blooming Grove, Greene and Palmyra Townships
Hornbecks Creek	HQ-CWF	Portions of Delaware and Lehman Townships
Lackawaxen River	HQ-TSF; some tribs HQ-CWF	Portions of Blooming Grove, Lackawaxen, Palmyra Townships and portions of numerous municipalities in Wayne County
Little Bushkill Creek	EV; portions high quality	Portions of Delaware, Dingman, Lehman and Porter Townships
Masthope Creek	HQ-CWF	Portions of Lackawaxen Township and several municipalities in Wayne County
Pond Eddy Creek	HQ-CWF	Portions of Shohola and Westfall Townships
Raymondskill Creek	HQ-CWF	Portions Delaware, Dingman, and Shohola Townships
Rosetown Creek	HQ-CWF	Portions of Westfall Township
Saw Creek	HQ-CWF	Portions of Lehman and Porter Townships
Saw Kill Creek	Exceptional value (EV) except Vantine Brook Basin HQ-CWF	Portions of Dingman, Milford, Shohola and Westfall Townships and Milford Borough
Shohola Creek	HQ-CWF	Portions of Blooming Grove, Dingman, Lackawaxen and Shohola Townships
Toms Creek	EV	Portions of Delaware and Lehman Townships
Twin Lakes Creek	HQ-CWF	Portions of Dingmans and Shohola Townships
Unnamed tributaries to the Delaware River	HQ-CWF	Portions of Lackawaxen, Shohola, Westfall, Milford, Dingman, Delaware, Lehman Townships and Matamoras and Milford Boroughs
Vandermark Creek	HQ; except Deep Brook basin EV	Portions of Westfall and Milford Townships and Milford Borough
Wallenpaupack Creek	HQ-WWF	Portions of Blooming Grove, Greene, Palmyra Townships and portions of both Wayne and Lackawanna Counties
Westcolang Creek	HQ-CWF	Portion of Lackawaxen Township
EV – Exceptional Value HQ – High Quality	CWF - cold water fishery MF– migratory fishery	WWF– warm water fishery TSF – Trout Stocked Fishery
*NOTE: The Upper Delaware Wild and Scenic River covers the section of the river from the confluence of the east and west branches of the River below Hancock, New York to its southern terminus at River Mile 258.4, which is the No. 2 railroad bridge below Cherry Island near the NYSDEC Sparrowbush Access (just downstream of the confluence of the Mill Rift Creek, on the PA side, and the Delaware). The Middle Delaware which includes the Delaware Water Gap National Recreation Area starts at River Mile 250.1, which is located approximately at the confluence of Cummins Creek and the Delaware at Kittatinny's River Beach campground in Pike County, and extends down to River Mile 209.5, below the Delaware Water Gap in Monroe County.		

Special Protection Waters and Anti-degradation

Water quality designations are established by the Commonwealth in Title 25, Chapter 93 Water Quality Standards. As mentioned above, all of Pike County watersheds are designated by the PA Department of Environmental Protection (DEP) as *High Quality (HQ)* or *Exceptional Value (EV)*. The Water Use symbols shown in the Table listed above have the following meanings:

Special Protection	
<u>Symbol</u>	<u>Protected Use</u>
EV	Exceptional Value Waters – A stream or watershed which constitutes an outstanding national, state, regional or local resource; water located in a national wildlife refuge, National Natural Landmark, National Recreation Area, State game propagation and protection area, state park natural area; state forest natural area, or federal wilderness areas; waters which are of exceptional recreational significance; waters which achieve a high score in biological testing; waters which have been characterized by the PA Fish and Boat Commission as “Wilderness Trout Streams,” and other waters of substantial recreational or ecological significance.
HQ	High Quality Waters – A stream or watershed which supports a high quality aquatic community in biological, chemical and toxicity assessment, waters designated as Class A wild trout streams by the PA Fish and Boat Commission, and/or waters which have excellent quality waters and environmental or other features that require special water quality protection.
Aquatic Life	
<u>Symbol</u>	<u>Protected Use</u>
CWF	Cold Water Fishery – Maintenance and/or propagation of fish species including the family Salmonidae and additional flora and fauna which are indigenous to a cold water habitat.
MF	Migratory Fishery – Passage, maintenance and propagation of anadromous and catadromous fishes and other fishes which ascent to flowing waters to complete their life cycle.
TSF	Trout Stocked Fishery – Maintenance of stocked trout from February 15 to July 31 and maintenance and propagation of fish species and additional flora and fauna which are indigenous to a warm water habitat.
WWF	Warm water Fishery - Maintenance and/or propagation of fish species and additional flora and fauna which are indigenous to a warm water habitat.

Antidegradation is a concept and policy created by the US Department of the Interior in 1968 and was included in the Environmental Protection Agency’s first water quality standards regulations in 1975. The federal basis for the program is contained in the Federal Clean Water Act. States are required to adopt an

antidegradation policy as an element of their state's surface water quality standards; this policy must meet the minimum federal regulations. This requirement complements the Pennsylvania Clean Streams Law which was enacted to preserve and improve the purity of the waters of the Commonwealth for the protection of public health, animal and aquatic life and other beneficial uses.

The basic concept of antidegradation is to protect and maintain the existing water quality of High Quality (HQ) and Exceptional Value (EV) waters and to protect existing uses for all surface waters, recognizing that existing water quality and uses have inherent value worthy of protection and preservation. As a required element of the State's water quality standards, the antidegradation program introduces levels of protection for deserving waterbodies above the basic standards.

The uses of the water, including downstream uses, must be maintained and protected when a new use is proposed. These activities include point source discharges such as sewage treatment plants, regulated water withdrawals, resource extraction activities, landfills and a variety of non-point source activities such as construction, agriculture and silviculture.

Streams that are classified as High Quality (HQ) and Exceptional Value (EV) waters are waterbodies deserving of "Special Protection" under the State's Anti-degradation policy. As such, these Special Protection Waters are to be maintained at their existing quality and are afforded additional protection through requirements listed in the Rules and Regulations of the Pennsylvania Department of Environmental Protection.

PA DEP requires that a person proposing a point source discharge to Special Protection High Quality Waters must first evaluate non-discharge alternatives to the proposed discharge and utilize any non-discharge alternative which is cost-effective and environmentally sound. If it is determined that there are no cost-effective and environmentally sound non-discharge alternatives or that this alternative can only accommodate a portion of the discharge, the discharge must meet a test of non-degradation or demonstrate that the proposed degradation is socially or economically justified. It should be noted, however, that HQ waters may be reduced from maintenance of existing quality (degraded), if necessary, to accommodate important economic or social development in the area in which the waters are located and only if certain social and economic justifications are met. In all cases, a discharge must use the Antidegradation Best Available Combination of Technologies (ABACT) to protect the special protection water quality. Antidegradation regulations apply to all surface waters of the Commonwealth, including wetlands.

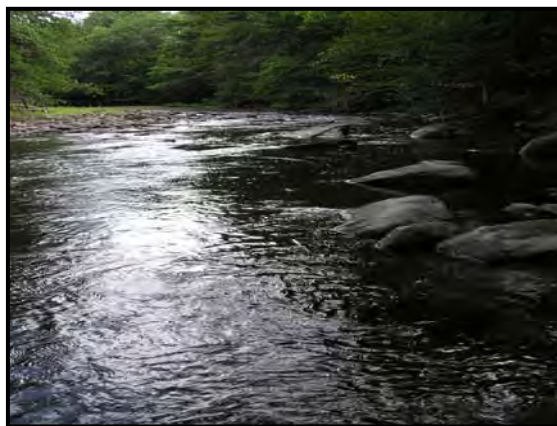
Watershed boundaries are not drawn by humans or political processes; the water within a watershed does not recognize property, municipal, county, state or even international boundaries.

62 miles of the free flowing Delaware River form Pike County's easternmost boundary.

Rivers, Streams and Waterways

Pike County's rivers, streams and perennial waterways located in these HQ and EV watersheds include an abundance and diversity of fish species, aquatic organisms and the habitats and water quality necessary to support these high quality watershed classifications. In total Pike County includes nearly 1,000 miles of important high quality river and stream resources. Included in this total are some 62 miles of the free flowing Delaware River main stem – 24 miles which lie within the USDI Delaware Water Gap National Recreation Area at the southern end of the county and 30 miles which lie within the Upper Delaware Scenic and Recreational River Corridor at the county's northern boundary. Another 8 miles of Delaware River main stem lies between the two National Park Service areas along the river.

The Lackawaxen River, a major tributary to the Delaware, includes some 598 square miles of watershed area in both Wayne and Pike Counties. The main stem of the river enters Pike County near Hawley and extends some 12 miles across the northern section of the County to the confluence with the Delaware River near the village of Lackawaxen. The Delaware and the Lackawaxen rivers are extremely important natural landscapes to the county's tourism and recreation economy.



The drainages of several major streams – the Bushkill, Shohola, and Wallenpaupack Creeks – are important stream resources to the County. Additionally, streams along the eastern edge of the County including – Little Bushkill, Toms, Hornbecks, Adams, Dingmans, Raymondskill, Sawkill, Vandermark, Cummins, Millrift, Pond Eddy and Twin Lakes Creeks – are important Delaware River tributary drainages.

Of these streams, six are such that their water quality and habitats warrant designation as exceptional value waters. As detailed in the Watershed Table included in the text, the watershed areas of all of these streams are considered “special protection” waters of the Commonwealth.

An excellent example of the high quality water resources in the county and their impact on aquatic and fishery resources is the number of streams that support native trout populations. Pike County had 37 listings on the 2005 PA Fish and Boat Commission's List of Streams Supporting Wild Trout (naturally reproducing trout populations).

Lakes

Lakes play a prominent role in the County's environment, with 103 major lakes and reservoirs, which, when combined with the rivers and streams, cover about 13,150 acres, or almost four percent (4%) of the County's area. Clean lakes are vital to the recreational character of the County, providing fishing, swimming, boating, and other water-based recreational opportunities. Several of the lakes are of significant regional importance. The 5,200 acre Lake Wallenpaupack, which forms a portion of the boundary between Pike and Wayne Counties is a prime tourist attraction in the Pocono Mountains region. In addition, Promised Land Lake and Lower Lake, of Promised Land State Park draw thousands of visitors each year. Shohola Lake, Lake Greeley, and Pecks Pond are also important recreational lakes in the County providing year-round fishing opportunities for sportsmen.

Lake environments are also important natural areas. The Bruce Lake and Pine Lake Natural Areas are located in the State Forest surrounding Promised Land State Park. A number of lakes and lake habitats are listed among the County's Natural Areas Inventory Sites.

*Wetlands
encompass nearly
10% or 35,317
acres of Pike
County.*

Wetlands

One of the most striking features of Pike County's glaciated landscape is the abundance of wetlands. Over 35,917 acres or 10% of Pike County's lands contain wetlands according to the National Wetland Inventory data illustrated on the Wetlands Map. Approximately 13,018 acres of wetlands or 35.3% are located on public lands.

Pike County's abundance of wetland, swamp and bog habitats is largely due to the glacial history of the region. These wetland and bog habitats have developed in the poorly drained depressions in the bedrock created by glacial scouring and deposition.

Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The soils found in wetlands are typically hydric soils.

Wetlands protect water quality by acting as a natural pollutant filter removing contaminants that may be conveyed into groundwater or other surface water if not filtered. Encroachment or filling of wetlands significantly impacts their ability to filter runoff and protect the water quality of stream and groundwater. Additionally, wetland areas reduce flooding potential by absorbing stormwater runoff. Habitat created by wetlands support many unique plant and animal species that are only capable of survival in wetlands.

Many of Pike County’s wetlands and glacial bogs contain species unique and rare to Pennsylvania. The wetlands, ponds, and bogs identified in the Natural Areas Inventory highlight protection importance and recommend strategies for preserving these unique communities.

As with many of Pike County’s unique and rare features, the majority of wetlands are located on private lands. Pike County’s wetlands in the past have been significantly impacted by development and various encroachments. State laws and municipal ordinances protecting these critical resources were not in place during the 1970’s when the first influx of development arrived in Pike County. Since this time, some of Pike’s municipalities have placed setback requirements on watercourses and waterbodies, but few have adopted ordinances specifically protecting wetlands.

Wetlands play critical roles in the water cycle. They support groundwater recharge, absorb floodwater and mitigate damage, filter pollutants from stormwater, and help maintain the natural hydrologic cycle.

Blooming Grove Township, for example, has adopted protective ordinances for their watercourses, waterbodies and wetlands. The township places a 50-foot buffer on all wetlands. This buffer prohibits structures or impervious surfaces from being constructed within this area, helping to protect these areas from the impacts of development.

Due to the prevalence and sensitivity of wetlands and their role in stormwater management, all municipalities should adopt ordinance provisions and other protections to safeguard these resources.

Important Water Resource Communities

Several of Pike County’s streams are designated in the Pike County Natural Areas Inventory as important waterfall and plunge pool natural communities and as high-gradient clearwater creeks that support rare plant and/or aquatic species. Waterfalls also play an important role in the recreation and tourism economy of the County. A number of waterfalls including Shohola Falls, Dingmans Falls, Raymondskill Falls, Bushkill Falls, and Pinchot Falls are important recreational areas for residents, and several provide major attractions for our tourism economy.

Water Resource Stewardship

Our water resources are the most critical to our existence. For this reason, our future efforts must include a concerted effort by every Pike County resident at maintaining the quality of these resources through watershed stewardship. Every parcel of Pike County, no matter how large or small, is part of at least one but sometimes several watersheds. What each individual property owner does on the land can impact the surface water and groundwater resources within their watershed area. In some cases, impacts can also affect downstream landowners, watersheds or water resources.

Everyone assumes natural cycles and resources have an amazing capacity to rejuvenate themselves. We assume that a local, state or federal government agency is protecting our water resources, and as a result, we will have enough clean water for the future. While there are private organizations and public sector agencies working to protect these resources, the crucial importance of this resource to our existence makes water resource protection a critical issue for every individual. Successful protection of the resource over the long-term means everyone must consider their individual responsibility for watershed and water resource stewardship.

Effective Watershed Stewardship begins with each individual property owner. Every Pike County resident must acknowledge their responsibility for maintaining the integrity of the water resources. The success of any stewardship programs will depend on participation of everyone as a community. The retention of Pike County's high quality water resources are extremely important to our own health, the health of our environment and the health of our tourism based economy. The only successful stewardship program will be one in which all Pike County residents understand and take an active role.

Important Watershed Partners

In moving forward with any water resource stewardship program, active partnerships with the citizens will be critical to success. Citizen watershed groups have been established in the County for several major watersheds including the Lackawaxen River, Bushkill Watershed, Shohola Creek Watershed, and Twin and Walker Creeks Watershed. The Lake Wallenpaupack Watershed Management District (LWWMD), established in 1979, is a multi-governmental and citizen based non-profit corporation designed to manage water quality issues within the four-county Lake Wallenpaupack watershed. Additionally, Delaware Highlands Conservancy and the Twin Lakes Conservancy are local land conservancies working within the County. Regional, state and national land trusts and conservancies can also play an important role. All of these can be key partners in the implementation of water resource and natural resource protection and public outreach.

Municipal Environmental Advisory Councils (EAC's), which can include municipal, watershed and other citizen representation, can work to identify, help prioritize and assist with implementation and education on environmental resource protection initiatives. EAC's can be important partners in the planning and protection of resources.

Forests define environmental quality in Pike County. They support unique and/or rare plant and wildlife species, filter stormwater run-off, maintaining watershed quality and minimizing erosion, offer environments for outdoor recreation and provide seasonal scenic beauty.

Vegetation and Wildlife Resources in Pike County

Contiguous Forestland

A forest by definition is an area densely populated by trees and other woody plants. Large tracts of undisturbed or minimally disturbed forestland constitute contiguous forestland. Large contiguous forested tracts within Pike County play an extremely important role in the protection of the current high quality and exceptional value watersheds and water resources. Forest canopy along stream and river corridors provides shade to minimize the warming of stream temperatures and reduce impacts to fish and other aquatic species. Forested riparian corridors help sustain stream and lake water quality by acting as nutrient filters and by stabilizing soil against erosion. Undeveloped, forested landscapes allow for relatively high rates of infiltration or groundwater recharge and decrease stormwater runoff. Forested lands are part of the rural character and scenic relief that defines Pike County. Large forested tracts with proper forest management and good timber operations support the local economy through the forest products industry. Large contiguous blocks of forestland are perhaps one of Pike County's most valuable natural resources. Due to its importance we have further detailed our forestland in *Chapter 11, Forest Resources*.

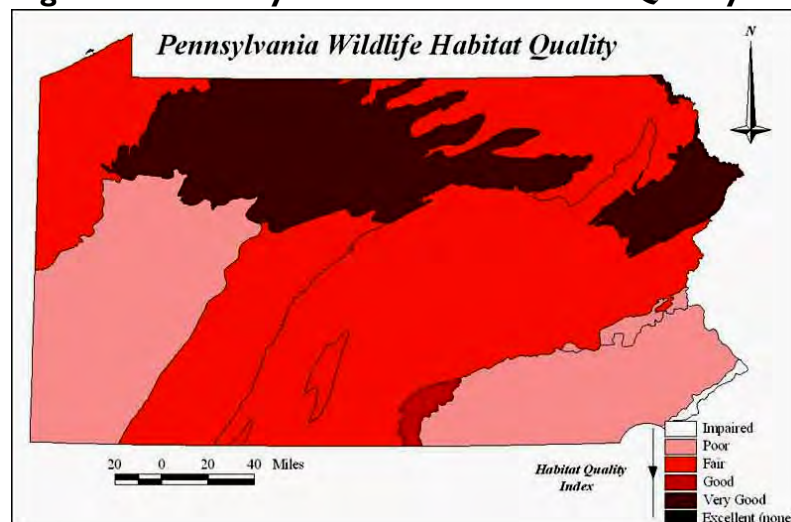
Wildlife and Habitat

Wildlife, Birds and Fisheries

Pike County has an abundance of wildlife, bird and fisheries resources. The County has diverse and high quality ecological habitats and a long history of land management practices that have benefited the variety and abundance of these wildlife, birds and fishery resources. PA Department of Conservation and Natural Resources has listed the entirety of Pike County as among the few areas of the state with excellent wildlife habitat quality (see diagram below)

"In Pennsylvania the largest threat to wildlife habitats, terrestrial and aquatic, is the consumption of open space and wildlife habitats by sprawl development".
- PA DCNR

Figure 7-5: Pennsylvania Wildlife Habitat Quality



The County's physiographic and geologic history has provided for an abundance of wetlands, swamps and bog habitats and an excellent mix of upland and wetland areas that are conducive to supporting diverse wildlife populations. These wetland habitats are also critical areas for plant species many of which are threatened or endangered.

Pike County's healthy wildlife populations are also supported by substantial areas of contiguous undisturbed forestland. The state and federal public lands and the diverse management of these areas for forest and timber production, game and bird propagation areas, and recreation and farmland contributes to the overall diversity and health of Pike County's wildlife populations. Additionally, the large amount of privately held sportsmen's clubs located throughout the county adds to the quality and diversity of Pike County's wildlife habitats.

Pike County's wildlife habitat quality is of significant regionally, statewide, nationally, and globally.

Private lands held by sportsmen's clubs in the county totals close to 53,000 acres. These clubs, many of which have been established since the 1800's, have had a long-history of land management for wildlife. Private stewardship efforts for both timber production and wildlife management by these clubs are a key to the high quality land, water and wildlife resources that exist in Pike County today. It will be the success of these "private stewardship" efforts into the future that will play a critical role in the health of Pike County's forest and wildlife resources.

Pike County Natural Areas Inventory (NAI) & Pennsylvania Natural Heritage Program (PNHP)

Pike County's Natural Areas Inventory (NAI) was completed by the Pennsylvania Science Office of the Nature Conservancy in 1990 and then updated in 1995 to reflect new findings since the original inventory was completed. The NAI documents the outstanding natural features of flora, fauna, and geology of the County. The inventory provides maps of natural communities and locations of plant and animal species of special concern and statewide importance. This document includes a written summary on the quality, degree of rarity, and last observed date. Locations significant for wildlife and open space at the County or local level have been included as well. Information provided in this document can be useful for long term land use planning. Also, the areas identified will assist in setting protection priorities for the preservation of sensitive areas within the County.

In Pike County's NAI report, 92 individual sites are identified. Locations of these sites are shown on the NAI Map. Of these sites, the report lists 7 sites which are the most critical for receiving protection or ensuring continued protection. These are listed in Figure 7-6.

Figure 7-6: Critical NAI Sites in Pike County

1. *Millrift Cliffs*
2. *Millrift Flats*
3. *Twelvemile Pond*
4. *Beaver Swamp*
5. *East Mountain*
6. *Little Bushkill Swamp*
7. *Smith's Swamp*

Of these seven critical sites only Smith Swamp is located completely within State lands on Delaware State Forest, Pennsylvania Bureau of Forestry District #19 and Pennsylvania State Game Lands. Of the 92 sites listed in the inventory, 44 are completely within or have a majority of the site within State or Federal land. As highlighted in the Natural Areas Inventory, areas identified are those that are critical for protection and preservation.

The Pennsylvania Natural Heritage Program (PNHP) supports the cataloging and documentation of the native biological diversity of the Commonwealth's resources through the completion and updating of NAI's. This information is collected through the partnership between the Western Pennsylvania Conservancy, the Department of Conservation and Natural Resources (DCNR), and the Nature Conservancy. The goal of this program is to provide current, reliable, objective information for environmental decisions on conservation work and land-use planning.

Pike County's NAI will be important as the County moves forward with planning for and directing our growth and protecting our natural resources. The County's Natural Areas Inventory, which is now 17 years old, will need to be updated in coordination with the Pennsylvania Natural Heritage Program.

Important Mammal Areas (IMA)

Important Mammal Areas are sites identified as part of a national network of places recognized for their outstanding value to mammal conservation. IMA's can be large or small and can be located on public or private lands.

The Important Mammal Areas project is a joint partnership of the National Wildlife Federation, PA Wildlife Federation, PA Federation of Sportsmen's Clubs, PA Biological Survey and the Carnegie Museum of Natural History. The primary concern of this group of partners is to help ensure the future of Pennsylvania's wild mammals, both game and non-game, with particular attention to species of special concern, through recognition of important habitats.

The IMA project has identified two Important Mammal Areas within at least some portion of Pike County. Delaware State Forest, Bushkill Creek Area (PA-IMA site #40) includes just over 96,000 acres, 80,000 acres of which is owned and managed by the PA Department of Conservation and Natural Resource

Bureau of Forestry. The Delaware Water Gap, Pocono Environmental Education Center (PA-IMA site #41) covers approximately 104,000 acres and covers portions of Pike, Monroe and Northampton counties. The portion located in Pike County includes areas in Milford Borough, Westfall, Dingman, Delaware and Lehman Townships. These locations are shown on the Important Mammal Areas and Important Bird Areas Map. Recognition of these important mammal areas in the fast growing areas of the County provides an opportunity to build partnerships for the benefit of the wildlife in the County.

As mentioned above, Pike County's natural environments provide high quality and diverse habitats for mammals and wildlife. One example of the importance of Pike County's wildlife habitats both nationally and globally is the black bear population. The diverse wetland-mixed hardwood forest interface, high quality wetland and water resources and the large blocks of contiguous forestland in the county provides excellent habitat for Pennsylvania's black bears. This is supported by studies that have documented that Pike County's black bears have the highest reproductive rates in North America.

Important Bird Areas (IBA)

Important Bird Areas are sites identified as part of a global network of places recognized for their outstanding value to bird conservation. IBA's can be large or small and can be located on public or private lands.

The Important Bird Areas program was started by BirdLife International in Europe in the 1980's. This is a global coalition of partner organizations in approx. 100 countries. The National Audubon Society is the U.S. partner in the organization. In 1996, Pennsylvania developed the first statewide IBA program in the country identifying over 80 Important Bird Area sites which encompass more than 2 million acres of both public and private lands.

As part of this network, Pike County has three identified IBA's – the Upper Delaware Scenic River (PA-IBA site #60), Shohola Waterfowl Management Area – State Game Lands #180 (PA-IBA site #61), and Promised Land State Park, Bruce Lake Natural Area (PA-IBA site #62). Collectively these three sites include just over 153,000 acres of "core" acres held both privately and publicly. These core areas, recognized internationally as significant, support a diversity of bird species, including in some cases nesting, breeding and feeding areas. These locations are also shown on the Important Mammal Areas and Important Bird Areas Map. Private landowner recognition of these important areas and active private land stewardship will be an important factor in supporting these important bird areas.

Additionally, other agencies and organizations have identified areas in Pike County which are important for both migratory and nesting bird species. The

National and Pennsylvania Audubon Society has identified three major bird areas in the Pike County. Included are:

- Upper Delaware Scenic River
- Shohola Waterfowl Management Area – State Game Lands #180
- Promised Land State Park – Bruce Lake Natural Area

The Lackawaxen River and the Upper Delaware River Corridors provide important winter feeding areas for Bald Eagles. Recently, the local Audubon Chapters have submitted the Lackawaxen River Corridor for recognition as an Important Bird Area in the County, state and region.



Photo Credit: D. Soete

The Pennsylvania Game Commission reports that Pike County has the state's fastest growing nesting population of Bald Eagles. Pike County contains one of the three largest concentrations of Bald Eagles in Pennsylvania.

Conclusions

Strengths

The natural resources found in Pike County define its scenic rural character with their high visibility and ecological integrity. Its forests are expansive, stretching border to border and covering the majority of the county with a dense, multi-layered fabric of vegetation. Ecologically, they filter pollutants from stormwater as it flows toward rivers and streams and they keep the soil surface loose and absorptive, helping to recharge the underground aquifers.

The County's rolling mountain topography, sculpted by the glacial erosion of the geologic formations, can be seen from vistas and felt as one climbs and coasts its roadways. Its glacial deposits that created the vast groundwater storage capacity supply the surface with natural springs. The glaciers' finer depressions are seen in the numerous ponds, lakes, swamps and wetlands that speckle the landscape.

Its clean, cool streams contribute to high quality habitats for common and uncommon wildlife species. Its game species attract seasonal residents and visitors for fruitful hunting and fishing adventures. Its river and forest landscape

hosts numerous pairs of bald eagles, recently removed from the endangered species list.

The Commonwealth has recognized the value of these resources and purchased thousands of acres of land for the managed conservation of forests, waters, and wildlife and for outdoor recreation.

Challenges

The conditions of this spectacular natural environment create an equally inviting environment for human settlement, recreation and tourism. The character of this environment along with its proximity and access to major metropolitan centers and relatively low cost of living has brought high development pressure to Pike County. This pressure threatens to remove many of the natural features that exist and disconnect those features that remain as it expands and builds new communities. With such a rich natural environment, one challenge lies in determining how much of this natural environment to protect from development, how to protect it, and where to begin. In order for these resources to continue to provide this rich natural environment, some critical mass of land will need to be preserved. The state-owned forest, game and park lands provide a few buildings blocks but they are not enough. More importantly, they are not well-connected and do not enable wildlife to travel throughout the full range of their habitat.

Another challenge lies in the protection of resources used by current communities, namely groundwater. With the entire population and business community reliant upon groundwater for drinking water, protection and replenishment of this resource should be paramount. This will need to include the protection of wellheads and groundwater recharge areas, especially glacial aquifers, from potentially polluting land uses, the minimal increase in impervious surface, which increases stormwater and typically directs it toward streams rather than toward groundwater recharge zones, and the monitoring of groundwater recharge and withdrawals to retain a steady supply.

A third challenge exists among the multiple human uses for which these resources are conserved. For example, forests can be managed for timber production, water resource protection, wildlife, or recreation. Each management objective requires different practices to achieve the highest level of production, and in fact, a practice in support of timber production may conflict with one for wildlife. Building a public understanding of these differing resource management objectives and practices is one challenge; building public respect for differing objectives is another. Finally, coordinating objectives and practices among landowners of adjacent parcels to achieve compatibility may be a third.

A final challenge lies in strategically positioning Pike County's resource protection efforts to make a difference. Replicating the efforts of state and

federal government programs is not the answer to resource protection and in most cases is not authorized. Building a land trust within county government is not an effective solution either. These efforts would only duplicate rather than expand the opportunities for resource protection. Recognizing the protection efforts of others and working with them and their programs respects their jurisdiction and their authority. Focusing county efforts on topics, techniques and audiences that it can effectively reach is an effective strategy.

Municipal regulations should clearly and consistently delineate resources that should be protected from development and outline practices for their conservation

Opportunities

With high development pressure, Pike County has the opportunity to raise the standards for new development and weave conservation and development into its continuing community development process. From county and municipal planning to subdivision to land development and site design, there are opportunities to strengthen resource identification, evaluation, and protection standards. Some resources should be excluded from the developable area of the parcel. Others may require additional buffers to protect their integrity. Some may be suitable for production, while others should be managed for wildlife. County planning and municipal regulations should clearly and consistently delineate resources that should be protected from development and outline acceptable practices for their conservation.

Pike County also has the opportunity to promote active resource stewardship by engaging the sportsmen's clubs and summer camps that own such a significant portion of the private open space in the county. Their lands *are* their assets, and if not managed intentionally, their lands may change in character and in value over time. Reaching out to this select group of landowners with the tools and programs to manage resources sustainably could yield vast returns for them and for the County.

Additional Opportunities for Natural Resource Conservation:

1. Protect additional resource rich lands while land is available.
2. Compile a comprehensive water resources study.
3. Protect wellheads and groundwater recharge zones from incompatible land uses.
4. Minimize increases in impervious cover.
5. Monitor groundwater recharge and withdrawals.
6. Promote resource management. Allow private landowners to select their own management objective or objectives and practices.
7. Participate in and connect landowners to existing state, federal and non-profit programs. Create new county programs to fill unmet landowner needs for technical and financial assistance.
8. Incorporate resource conservation into the community design and development process. Use the full range of planning tools authorized in Pennsylvania to identify, evaluate, and protect resources for the health, safety and welfare of Pike County citizens. A list of select tools is shown below.

Tools for Land Use and Land Development

- Official Map
- Map of Conservation Lands
- Rural Conservation Zoning
- Conservation by Design Subdivision Method
- Floodplain Ordinance
- Stormwater Management Ordinance
- Water Well Construction Ordinance
- Wellhead Protection Standards
- Transfer of Development Rights
- Riparian Buffer Ordinance

Tools for the Protection of Steep Slopes and Ridgelines

- Steep Slope Ordinance
- Ridgeline protection provisions and/or ridgeline overlay zones

Tools for Water Resource Protection

- Public outreach programs on water conservation, proper sewage system management, proper storage of hazardous materials at home and in businesses, etc.
- Source water protection plans
- Identification of groundwater recharge zones; land conservation in critical groundwater recharge areas and source water protection areas
- Nutrient management plans
- Municipal Standards for well siting and construction
- On-lot management programs
- Groundwater monitoring program

Tools for the Forestland Protection

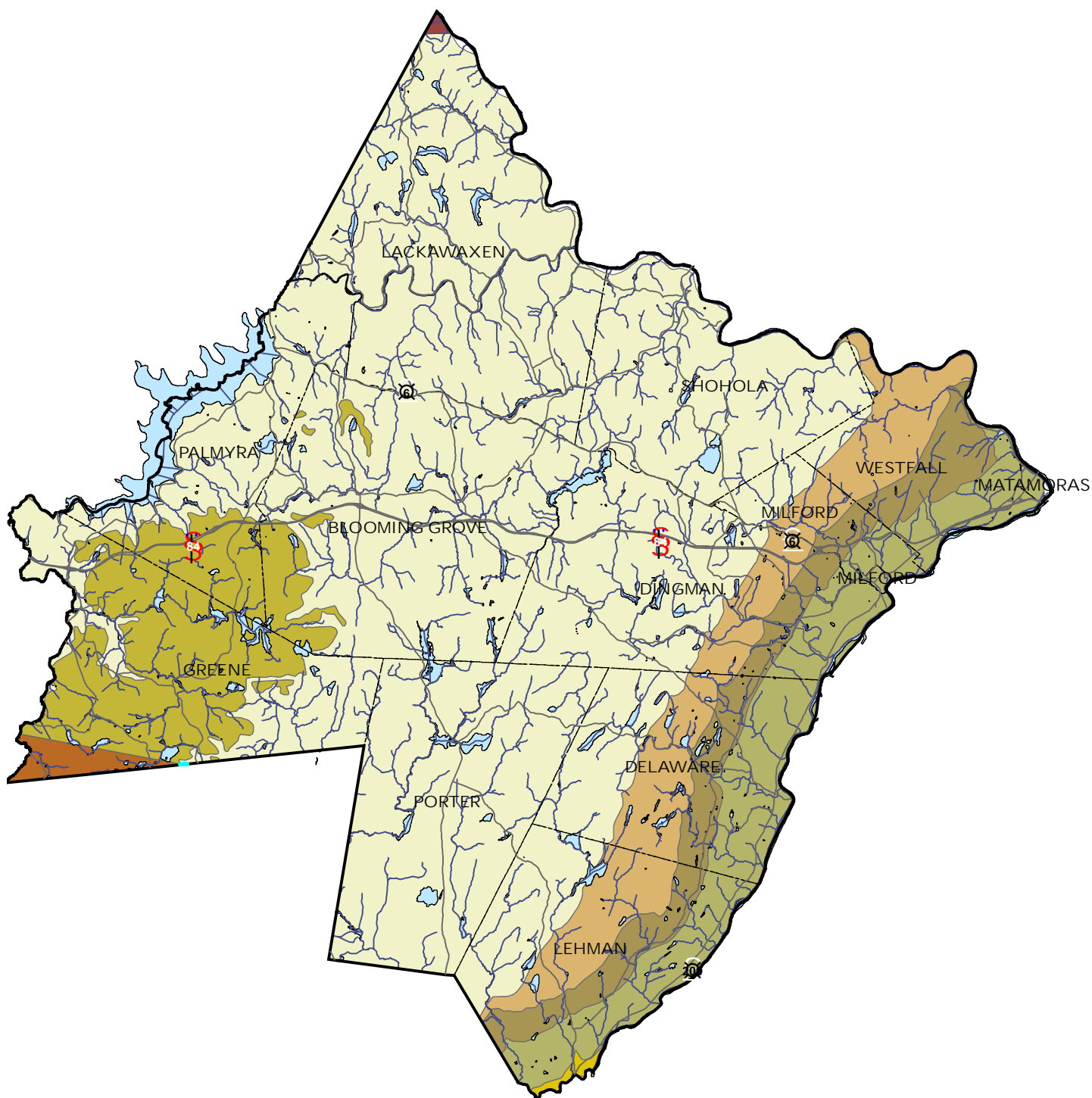
See Chapter 11, Forest Resources

Tools for the Protection of Wildlife

- Forest Stewardship Plan
- Tree Protection Ordinances

Geologic Formations

Pike County Open Space, Greenways and Recreation Plan











Mapping Preparation:
Pike County Office of Community Planning

Data Source:
Pike County GIS Data

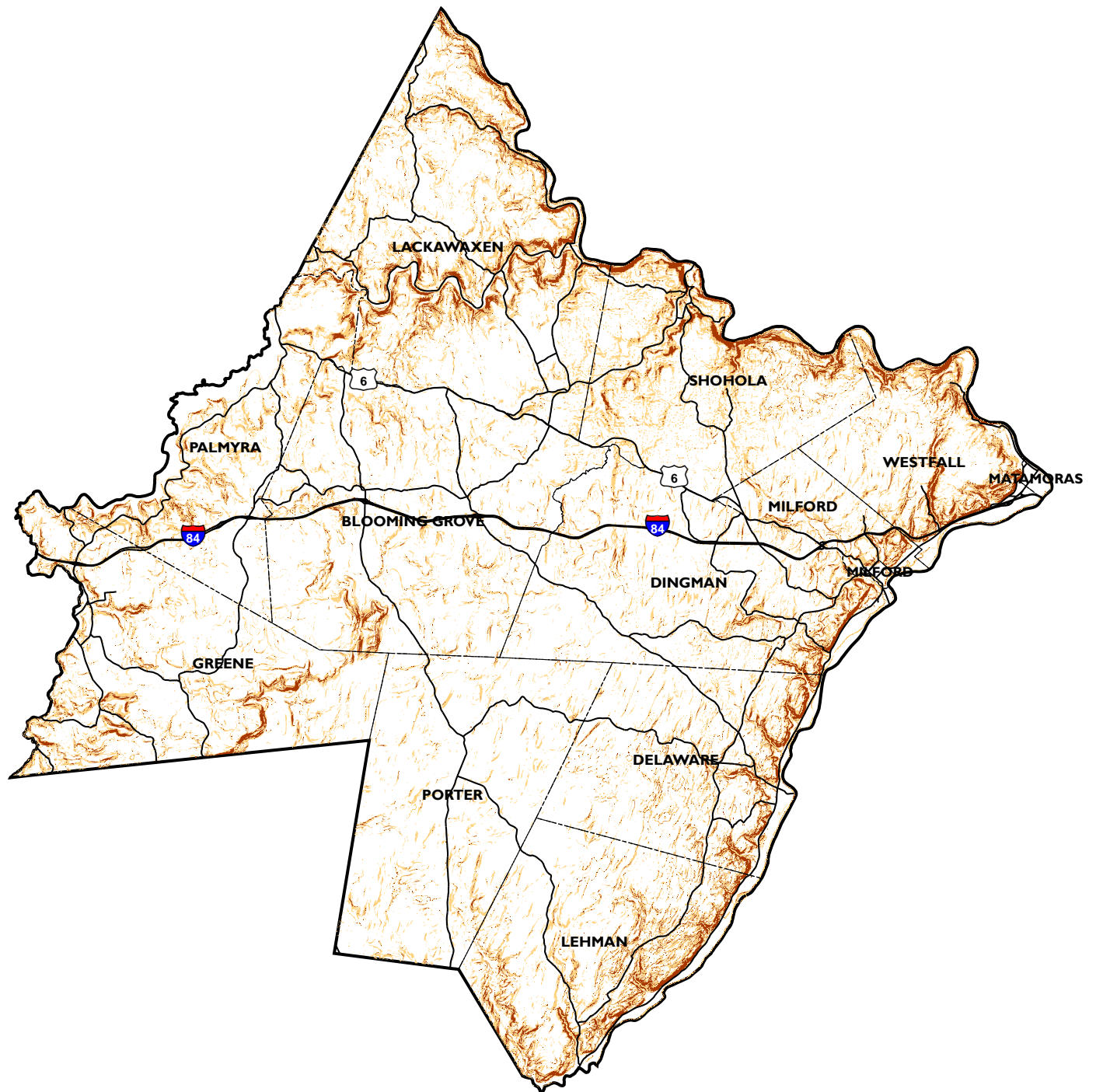
Legend

County Geology

- | | |
|---|--|
|  Catskill Formation Undiv |  Polar Gap Member of Catskill Formation |
|  Long Run and Walcksville Member |  Poplar Gap and Packerton Member |
|  Mahantango Formation |  Townsensing Member of Catskill Formation |
|  Marcellus Formation |  Trimmers Rock Formation |

Steep Slopes

Pike County Open Space, Greenways and Recreation Plan



Mapping Preparation:
Pike County Office of Community Planning

Data Source:
Pike County GIS Data
Slopes Derived from 30 Meter DEM

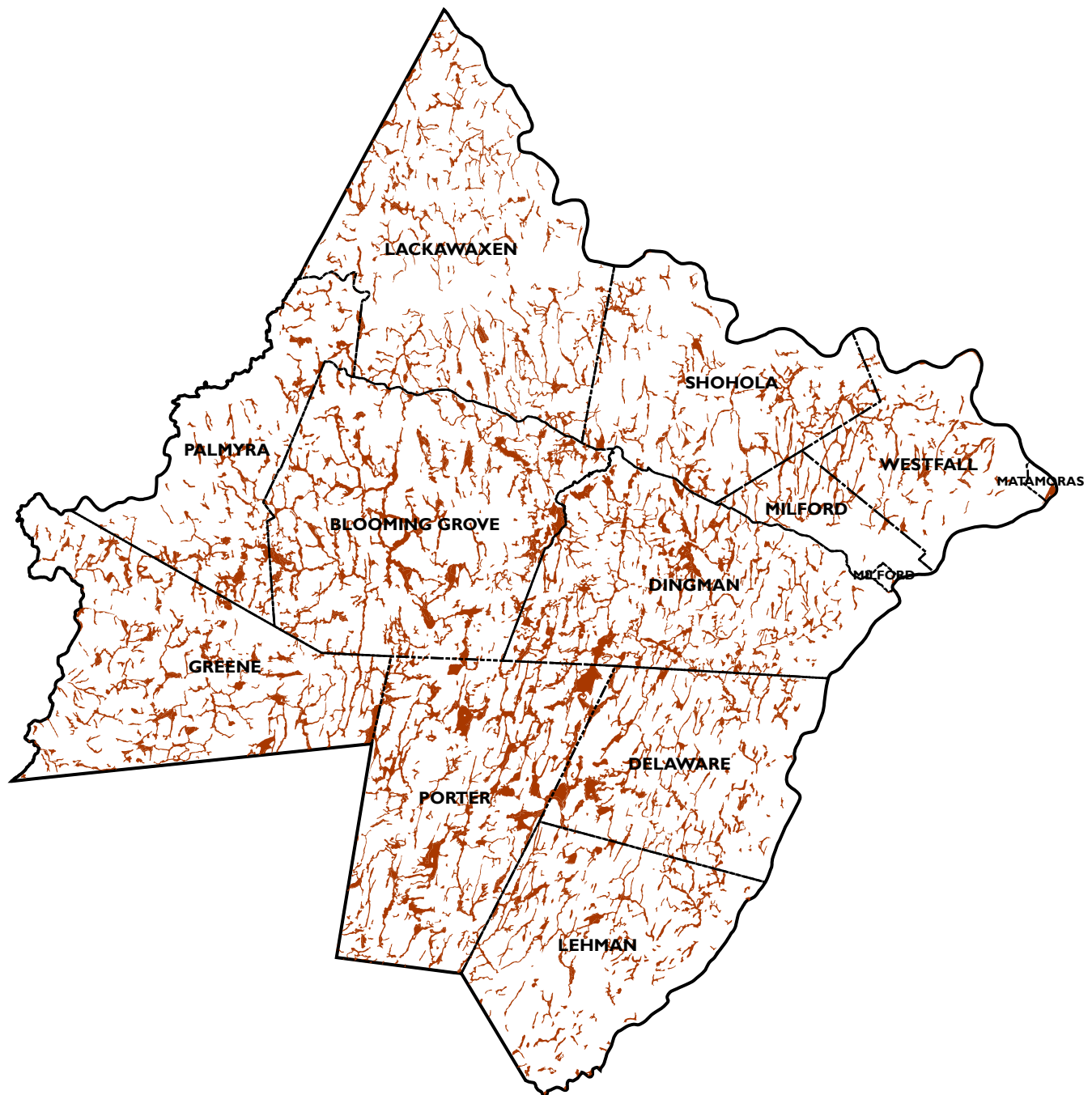
Legend

Percent Slope

- 15% - 25%
- Greater than 25%

Hydric Soils

Pike County Open Space, Greenways and Recreation Plan



Mapping Preparation:
Pike County Office of Community Planning

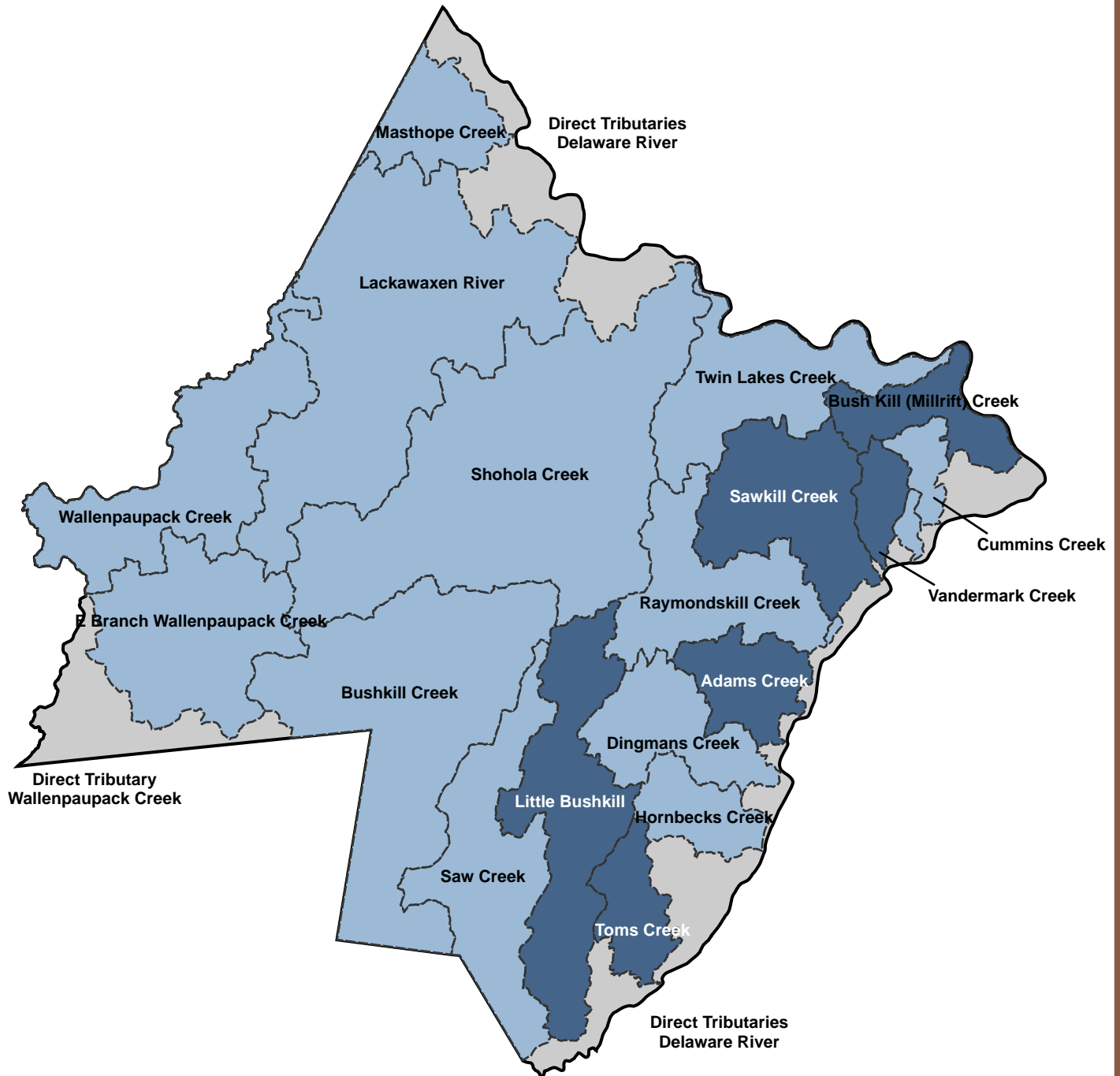
Data Source:
Pike County GIS Data

Legend

 Hydric Soils

Watershed Quality Designation

Pike County Open Space, Greenways and Recreation Plan



Mapping Preparation:
Pike County Office of Community Planning

Data Source:
Pike County GIS Data

Legend

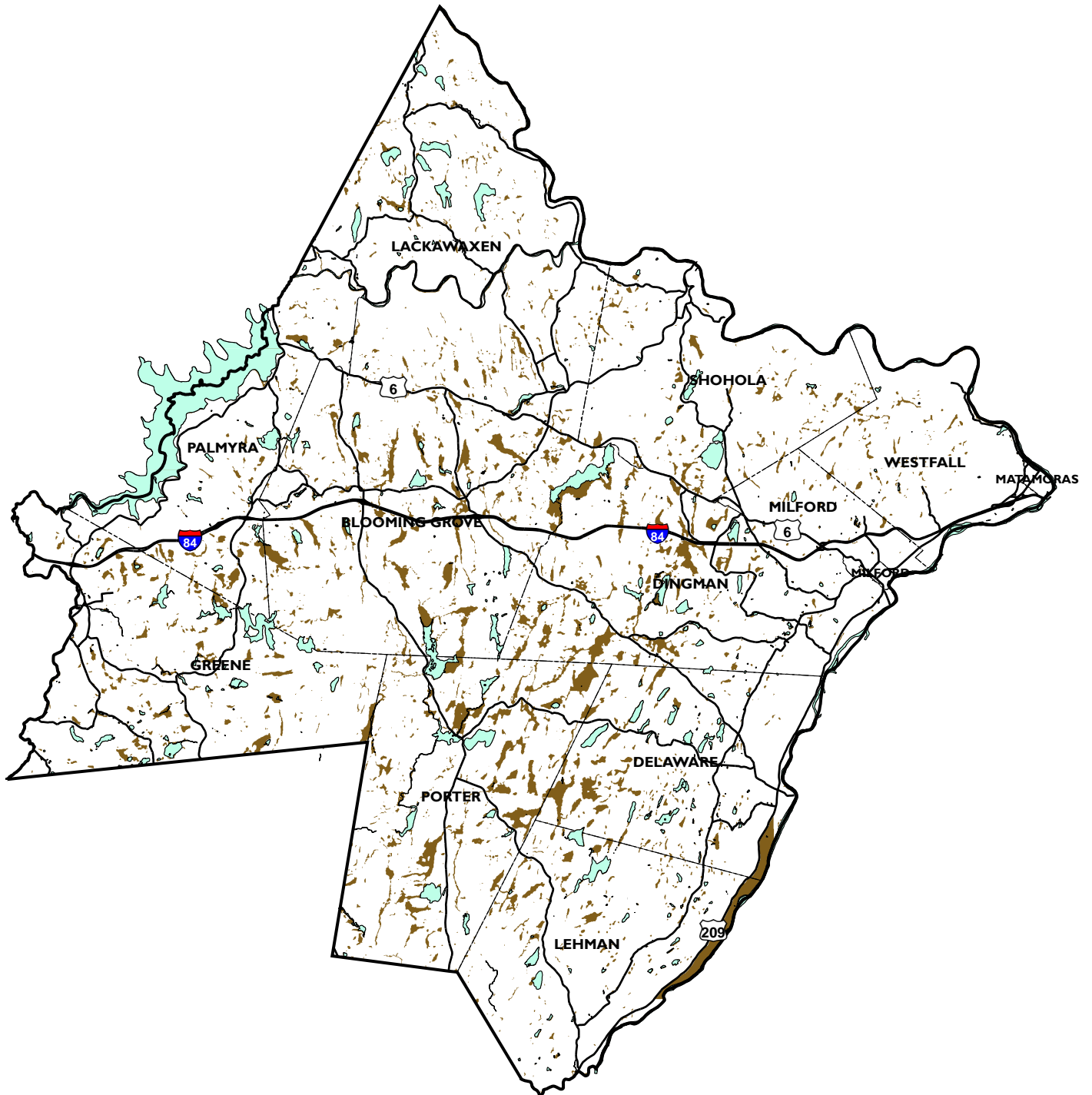
Chapter 93 Water Quality Designation*

- EV
- HQ
- Direct Tributaries

*PA Title 25, Chapter 93 should be referenced for specific water quality designations

Wetlands

Pike County Open Space, Greenways and Recreation Plan



Mapping Preparation:
Pike County Office of Community Planning

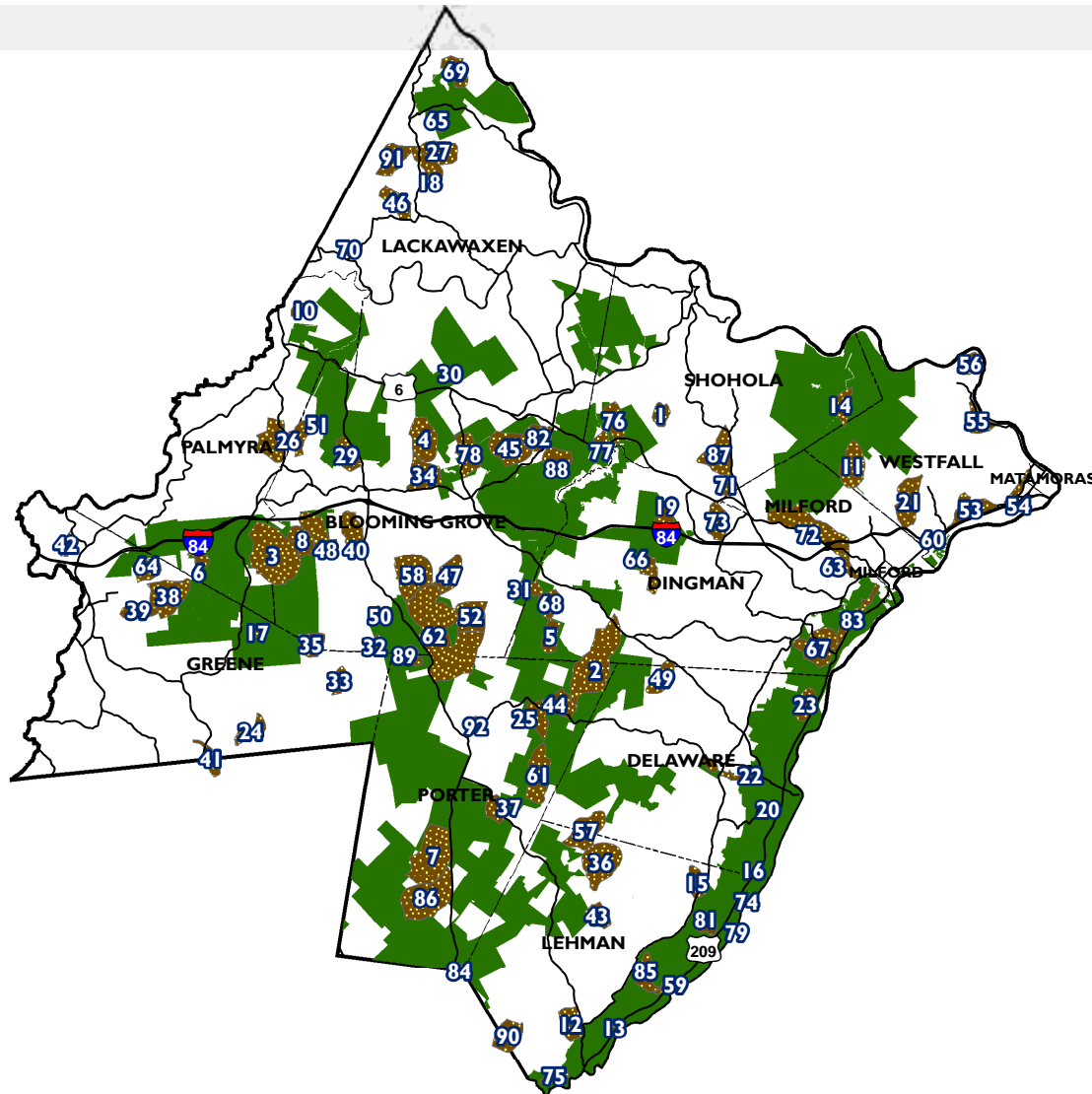
Data Source:
Pike County GIS Data
National Wetlands Inventory

Legend

-  Wetlands
-  Water

Natural Areas Inventory



Pike County Open Space, Greenways and Recreation Plan



Mapping Preparation:
Pike County Office of Community Planning

Data Source:
Pike County GIS Data

Legend

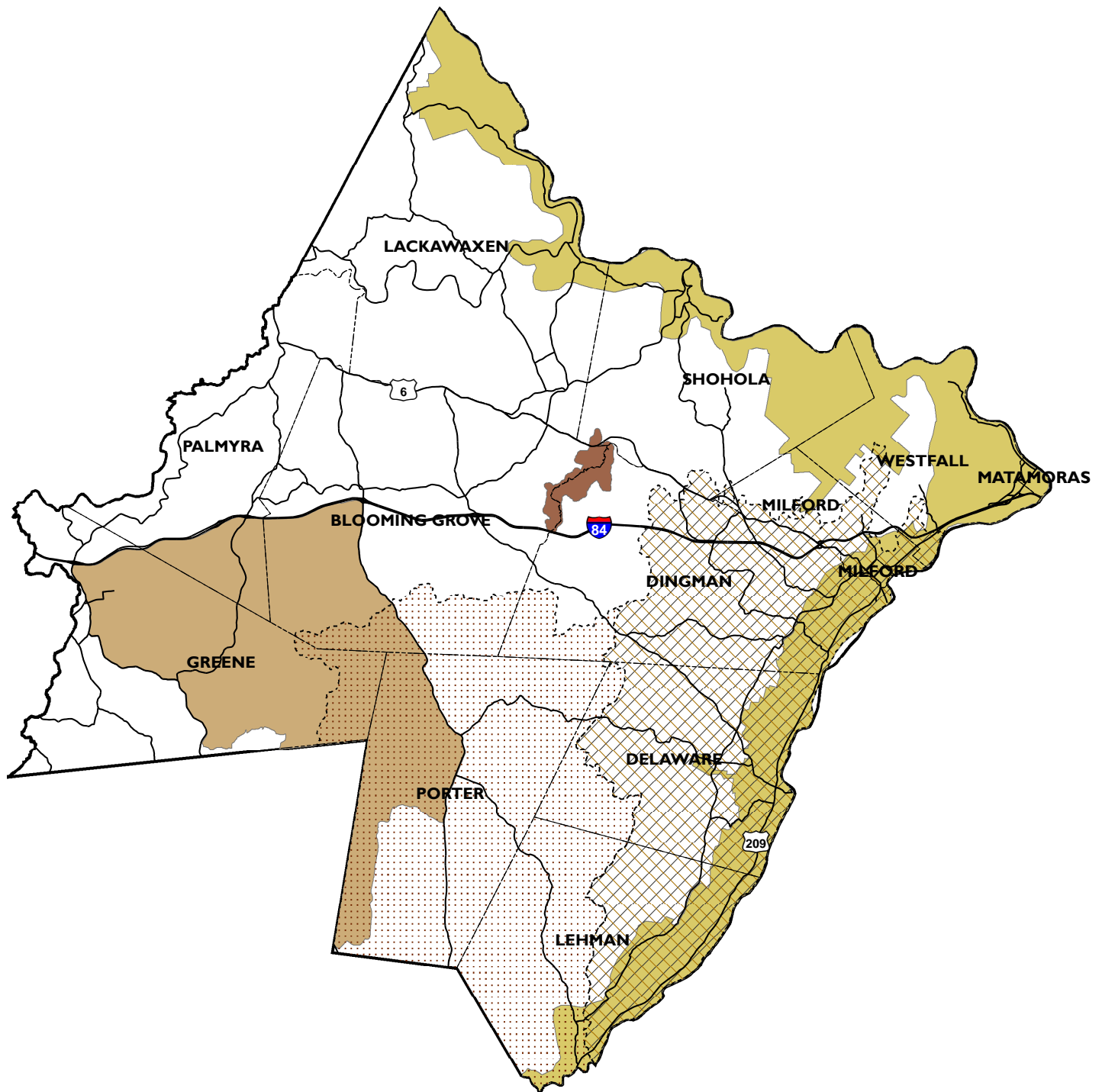
-  Natural Areas Inventory Sites
-  Public Lands

Natural Inventory Site List

ID	Site Name	ID	Site Name
1	Bald Hill	48	Long Pond Swamp
2	Bald Hill Swamp	49	Long Swamp
3	Balsam Swamp	50	Low Knob
4	Beaver Swamp	51	Maineses Pond
5	Ben Bush Swamp	52	Maple Swamp
6	Big Dam Ridge Swamp	53	Mashapacong Cliffs
7	Big Swamp	54	Matamoras Cliffs
8	Bruce Lake	55	Millrift Cliffs
9	Buck Bar Island	56	Millrift Flats
10	Buckhorn Mountain	57	Minks Pond
11	Buckhorn Oak Barren	58	Molsey Meadow Swamp
12	Bushkill Falls	59	Northern Cliff Adjacent To Bar Buck Island
13	Bushkill Shale Cliff	60	Old Port Jervis Road Shale Barrens
14	Bushkill Swamp	61	Painter Swamp
15	Camp Fire Girls Site	62	Pecks Pond
16	Cliff North Of Shapnack Island	63	Pinchot Falls
17	Conservation Island	64	Pine Lake
18	Corilla Lake	65	Point Peter
19	Crooked Mud Swamp	66	Poison Brook
20	Deckers Creek Ravine	67	Raymondskill Falls
21	Deep Brook	68	Rock Hill Pond
22	Dingman's Falls	69	Rowland/spruce Swamp
23	Dry Brook Cliffs	70	Rt 590 Roadside
24	East Mountain	71	Sagamore Swamp
25	Elbow Swamp	72	Sawkill Creek
26	Fairview Lake	73	Sawkill Mud Pond
27	Forest Lake	74	Shapnack Island
28	Fulmer Falls	75	Shoemakers Barren
29	Gates Run	76	Shohola Falls
30	Germantown Swamp	77	Shohola Falls Swamp
31	Hemlock Farms Barrens	78	Smiths Swamp
32	High Knob	79	South Of Shapnack Island
33	Lake Belle	80	Sunrise Swamp
34	Lake Gilea	81	Sunset Creek Ravine
35	Lake Laura	82	Taylorstown Swamp
36	Lake Maskenozha	83	The Cliff At Milford
37	Lake Minisink	84	Tims Swamp
38	Lake Paupack	85	Toms Creek
39	Lake Paupack South Branch	86	Twelvemile Pond
40	Lake Scott	87	Twin Lakes
41	Leavitt Branch	88	Wells Road Swamp
42	Ledgedale Swamp	89	White Birch Swamp
43	Little Bushkill Swamp	90	Winona Falls
44	Little Mud Pond	91	Wolf Lake
45	Little Mud Pond Swamp	92	Wolf Swamp
46	Little Teedyuskung Lake		
47	Little York Swamp		

Important Bird and Mammal Areas

Pike County Open Space, Greenways and Recreation Plan



Legend

- Delaware State Forest / Bushkill Creek Area IMA
- Delaware Water Gap / Pocono Environmental Education Center IMA
- Promised Land State Park - Bruce Lake Natural IBA
- Shohola Waterfowl Management Area - SGL 180 IBA
- Upper Delaware Scenic River IBA

Mapping Preparation:
Pike County Office of Community Planning

Data Source:
Pike County GIS Data
Pennsylvania Audubon Society

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Chapter 8

Public Lands and Recreation Resources

All 13 of Pike's municipalities have access to natural resource based recreation lands.

Pike County is fortunate to have over one-third of its land area held in public ownership. Over 117,000 of Pike County's 358,000 acres are held in public or quasi-public ownership for open space and recreation. Public lands include the National Park Service Delaware Water Gap National Recreation Area, public facilities associated with the Upper Delaware Scenic and Recreational River, Pennsylvania State Game Lands, Delaware State Forest, Promised Land State Park, Pike County Park, and 11 municipal parks. Quasi-public lands include properties such as school district sports and recreation facilities and PPL Lake Wallenpaupack. All three school districts in Pike County allow the public access to most of the outdoor recreational fields and playgrounds when not in use by the school district. PPL Lake Wallenpaupack is open to the public but some uses such as camping, boating and swimming require a nominal fee from users. All rivers and streams are publicly owned.



Figure 8-1: Public Open Space and Recreation Land in Pike County

Public Land	Acres
Federal	
Delaware Water Gap National Recreation Area, including the 38 acre Pocono Environmental Education Center	19,763.00
Upper Delaware Scenic and Recreational River (30.37 overall)	11.50
State	
Delaware State Forest	72,000.00
State Game Lands	25,427.00
Promised Land State Park	2,906.00
Fish and Boat Commission	5.07
County	
Pike County Park (Lease of Delaware State Forest Lands – acreage not included above under state forest lands)	325.00
Municipal	
All Municipal Recreation	767.50
School District	
Recreational (estimated)	89.50
Other	
PPL-Lake Wallenpaupack (Pike)	3,674.00
TOTAL	124,968.57

Federal Open Space and Recreation Lands

Federal Lands	Acres
Delaware Water Gap National Recreation Area	19,763.0
Upper Delaware Scenic and Recreational River	11.5

The Delaware River has the distinction of being one of the cleanest and longest free flowing rivers in the eastern United States. Delaware Water Gap National Recreation Area is named for the geologic formation on the Delaware River and stretches from the geologic Gap northeast to Milford, Pennsylvania. Pike County is fortunate to have federal recreation holdings that protect this unique natural area and the scenic river corridor.

A century before the recreation area was formed; the Delaware Water Gap was touted as a Wonder of the World. Vacationers took the rail lines from Philadelphia and New York City to view the park's natural beauty.

The National Park Service lands attract over 5.3 million visitors each year. The Delaware Water Gap National Recreation Area (DWGNRA) is one of only 18 national recreation areas in the nation. The U.S. Department of the Interior operates the Delaware Water Gap National Recreation Area and the Upper Delaware Scenic and Recreational River Corridor through the National Park Service (NPS). The U.S. Forest Service also operates in the County, managing the Grey Towers National Historic Landmark. This landmark is overviewed in Chapter 10, Historical Lands and Cultural Resources.

Delaware Water Gap National Recreation Area

The Delaware Water Gap National Recreation Area (DWGNRA) has the distinction of being the largest national recreation area in the National Park System, encompassing 68,000 acres of land in the valley between New Jersey and Pennsylvania. Of the park's 68,000 acres, 19,763 acres are located within Pike County, crossing six municipalities.



Created in 1965 as part of the now defunct Tock's Island Dam Project, the park is 40-miles long and 5-miles wide. Approximately 26 miles of the river flows through the DWGNRA in Pike County.

National Recreation Areas usually center on large reservoirs and emphasize water-based recreation for a large number of people. Parks with this designation

Key Features:

- 100 miles of trails
- 27 miles of the Appalachian Trail
- 200-miles of scenic roadways
- 200 historical structures
- 3000 acres of leased farmland
- bountiful wildlife and plant habitat,
- scenic vistas of the Delaware River Valley
- 11 waterfalls
- 3 public boat launches
- 2 public beaches

are managed by different federal agencies such as the Bureau of Land Management, the U.S. Forest Service or the National Park Service. The DWGNRA is managed under the National Park Service.

July and August are the DWGNRA peak months with an average of 650,000 visitors per month.

Of the over 5 million visitors to the park each year, 75% are day-trips by people from outside the region, 10% are local residents on day-trips, and 15% camp or stay overnight locally to visit the park. In 2005, over \$120 million dollars in revenues were generated from park trips and visits to the communities surrounding the park. Each party visiting the DWGNRA spends on average \$116 per day in the park and the surrounding area. Visits peak in July and August with an average of 650,000 visitors per month. While there is a seasonal influx of visitors during the summer months, the park remains popular through the fall and winter. Wintering bald eagles, waterfalls, hiking and other recreation activities and the scenic beauty of the park attract visitors during the off-season.

Visitors Per Year	5 million
▪ Day Trips	75%
▪ Local Residents	10%
▪ Camping or Overnight	15%

Key Destinations:

- Dingmans Falls
- Raymondskill Falls
- Milford Swimming Beach
- Child's Recreation Area,
- Dingmans Boat Access,
- Bushkill Boat Access,
- Pocono Environmental Education Center (PEEC)

Visitors commonly drive through the park to enjoy its scenic beauty and visit waterfall destinations. There are three major waterfall destinations in the park, Raymondskill Falls, Dingman's Falls and the Child's Park Recreation Area. These trails have been noted in numerous publications as some of the best and most unique waterfall trails in Pennsylvania. There are trailheads for hiking and horseback riding within the park. These trailheads, however, are not predominantly marked on the park's main map or from the main route through the park, Route 209. There are also opportunities for hiking along the river. Remnants of old farm roads, improved gravel paths and the new McDade Trail offer easy day hiking opportunities. Hiking opportunities and the Delaware River Trail are explored further in Chapter 9, Greenways, Trails, and Byways.

The Milford Beach is a public fee-use beach at the DWGNRA. This NPS beach is one of three public swim sites in Pike County. Within the DWGNRA, there is another NPS public swim beach on the Pennsylvania side of the Delaware River at Smithfield Beach in Monroe County.

Canoeing, rafting, tubing, and kayaking are the most common activities for the calm waters of the Delaware River which traverse the DWGNRA. For visitors without their own canoes and kayaks, several major liveries within the County provide guided trips for large groups and families on the Delaware River. The lack of whitewater and only



a few riffles in this section of the river make the waters in the DWGNRA area popular for visitors of all ages and abilities. Bushkill, Dingmans and Eshback boat launches are located in Pike County in Delaware and Lehman Townships, boat access is also available at Milford Beach in Milford Township. Bushkill, Dingmans and the Milford Beach accesses are improved boat launches with adequate paved parking for vehicles and charge a daily use fee. Eshback launch is a dirt and gravel access to the river but does not have a use fee.

The Pocono Environmental Education Center (PEEC) is housed in the DWGNRA. Their mission is to advance environmental awareness, knowledge, and appreciation through hands-on experience in a natural outdoor classroom. Programs for students, families and even corporate retreats focus on the natural environment and team building workshops. Interactive trails and scenic vistas of the Delaware River valley draw many day hikers to take advantage of PEEC's facility.



Photo: Pocono Environmental Education Center Visitor Center

Upper Delaware Scenic and Recreational River

Key Features:

- Wintering Bald Eagle Habitat
- 73.4 - miles of free-flowing river
- Rural-undeveloped landscape

Key Destinations:

- Zane Grey Museum
- Roebling Bridge
- Aqueduct
- D&H Canal

The Upper Delaware Scenic and Recreational River was added to the National Wild and Scenic Rivers System in 1978, through the National Parks and Recreation Act. The Wild and Scenic Rivers system requires the maintenance of designated rivers as perpetually free-flowing, and the river is primarily managed to protect water quality and flow to support fisheries, and to support recreational activities. As a part of the National Wild and Scenic Rivers System, Upper Delaware Scenic and Recreational River stretches 73.4 miles (118.3 km) along the New York-Pennsylvania border.



Roebling Bridge Photo credit: J. McBryan

The UDSRR encompasses 55,545 acres between Pennsylvania and New York State. The longest free-flowing river in the Northeast, it includes riffles and Class I and II rapids but is renowned for its placid waters. Although most land along the river is privately owned, public fishing and boating accesses are provided by the Pennsylvania Fish and Boat Commission and the New York Department of Environmental Protection. A public boat launch is located within the village of Lackawaxen, adjacent to two key destinations along the Upper Delaware River,

the Roebling Bridge Aqueduct and the Zane Grey Museum. These two landmarks are discussed further in Chapter 10, Historical Lands and Cultural Resources, to explain their significance to the early history of Pike County.

The undisturbed and contiguous forestland within the Upper Delaware River Corridor protects pristine wildlife habitat and corridors. The Delaware River serves as a winter-feeding and nesting ground for bald eagles. Open waters attract the eagles to the river primarily between December and March. The Upper Delaware has been noted as one of the top small mouth bass fishing rivers in the United States. The deep pools, riffles, small rapids and deep runs of the Delaware provide an ideal home for these river residents.

The UDSRR legislative boundary was based on hydrology and topography of the river corridor. The purpose of the boundary was to delineate the reach of the Upper Delaware Scenic and Recreational River Management Plan. Almost all land along the Upper Delaware River is privately owned. Of the total 55,545 acres authorized by Congress as the Upper Delaware Scenic and Recreational River, only 30.37 acres are federally owned; the remainder of the river corridor is non-federal, with most land under private ownership. The NPS is only permitted to own 124 acres in the entire corridor for administrative or recreation purposes; they currently own 30.37 acres, 11.5 acres in Pike County. The National Park Service works in partnership through the Upper Delaware Council (UDC) with private citizens, local and state governments and the NPS to preserve the river, its scenic, historic and recreational features, and the historic communities in the river valley.

State Open Space and Recreation Lands

The Pennsylvania Department of Conservation and Natural Resources (DCNR), Bureau of Forestry District #19 manages 72,000 acres of the Delaware State Forest in Pike County, and the 2,906 acres of Promised Land State Park is managed by DCNR-Bureau of State Parks. The Pennsylvania Game Commission manages 25,427 acres of state game lands. Additionally, small acreages are held and managed by the Pennsylvania Fish Commission for various fishing and boating access points throughout the County.

State Lands	Acres
Delaware State Forest	72,000.00
State Game Lands	25,427.00
Promised Land State Park	2,906.00
Fish and Boat Commission	5.07

Delaware State Forest

Delaware State Forest is located in Monroe, Pike, and Northampton Counties. The forest encompasses many large tracts of forest throughout 11 of Pike County's 13 municipalities, totaling 72,000 acres of land. The mission of the Bureau of Forestry is to ensure the long-term health, viability and productivity of the Commonwealth's forests and to conserve native wild plants. Delaware State Forest is generally comprised of primarily deciduous and clusters of coniferous trees. The forests of Pike County are excellent examples of healthy forested lands. The health of the forests is threatened by the invasive gypsy moth, woolly adelgid infestation and white-tailed deer browsing. These forest pests, if unchecked, as well as forest regeneration issues have the potential to change the landscape of the Pocono Mountains forests.



Key Features:

- 238 miles of trails
- 9 lakes and ponds for boating
- 2 ATV trails
- abundant wildlife and game
- 40 Natural Area Inventory Sites

Key Destinations:

- Thunder Swamp Trail System
- White Deer Lake
- Peck's Pond
- Maple Run and Burnt Mills ATV area

The Delaware State Forest protects many of the unique habitat areas documented within the Natural Areas Inventory. The amount of land protected through the Delaware State Forest has contributed to maintaining the high quality and exceptional value streams in Pike County.

The Delaware State Forest also serves as a major source for recreational activities within the County. These forest lands are open for passive recreational uses such as hiking, cross-country skiing, and wildlife observation. Also, hunting and fishing is permitted on the State forestland and streams. Horseback riding and mountain biking are also permitted on all trails and roadways within the forest, with the exception of the State Natural Areas. Over 115-miles of snowmobile trails are open to the public within the State Forest. A majority of the Delaware State Forest prohibits the use of All-Terrain Vehicles (ATV); however, there are two areas of State Forest in District #19 designated for this purpose. The Maple Run area of the Delaware State Forest in Blooming Grove Township allows use of ATV's, as does the Burnt Mills area in Porter Township. The use of ATV's is prohibited in all other areas of the State Forest.

One of the unique aspects to Delaware State Forest's recreation is the "Dancing Ridge" area located within Porter Township near the Burnt Mills ATV recreation area. Dancing Ridge is an area designated by the Bureau of Forestry for disabled sportsmen to hunt with the use of ATV's. The Bureau of Forestry with proper documentation permits this use. Many other State Forests in Pennsylvania are creating areas designated specifically for this use.

State Forest Natural Areas

The Delaware State Forest contains six designated natural areas, all of which are located throughout the forestland in Pike County. A natural area is a unique scenic, historical, geological or ecological value, which has been maintained in a relatively undisturbed manner where natural succession will be allowed to occur.

Bruce Lake Natural Area covers 4,372 acres including two lakes, Bruce Lake and Egypt Meadow Lake, located in Palmyra Township along Route 390 one mile south of Exit 26 of I-84. Bruce Lake was formed during glaciations and is completely spring fed. Virgin stands of pine and hemlock were cut in the late 1800's leaving the area vulnerable to fires that destroyed the rich humus soil layer. Egypt Meadow Lake was constructed by the Civilian Conservation Corps in 1935.

Stillwater Natural Area covers 1,931-acre tract and contains a mix of conifers and hardwoods. Stillwater is located in Porter Township, accessible from Flat Ridge Road off of Silver Lake Road. The area is also accessible from the Bald Barren Trail; a trailhead is located along Silver Lake Road. About one mile of the Little Bushkill Stream offers "stillwaters" for canoeing. This area once provided a sanctuary for Union Army deserters and young men evading involuntarily enlistment during the Civil War. Shacks were built on the islands of the swamp or in the dense growth.

Pennel Run Natural Area covers 935 acres with a portion of the Utts Swamp located within this natural area. Pennel Run is located in Porter Township, accessible from Snowhill Road. The easiest access to this site is utilizing the Thunder Swamp Trail system using the Pennel Run Trail Connector. Scrub oak, gray birch, aspen, and mixed oaks dominate the landscape of the area. Protected reptile and amphibian species are located within this natural area.

Buckhorn Natural Area which contains a high mountain swamp surrounded by mixed oaks includes a total of 535-acres in this designated natural area. The Buckhorn Natural Area is only accessible through Cut Trail connecting to Stairway Lake Trail. The trailhead is located off of Stairway Lake Road in Westfall Township. Protected species of reptiles and amphibians are located within this natural area.

Pine Lake Natural Area is a 67-acre area which includes a 10-acre glacial bog that exhibits plant zones ranging from open water to tree cover. This area is located in Greene Township on Old Greentown Road. Various flora and fauna inhabit this tract; the area has been identified in the Pike County Natural Areas Inventory (NAI).

Little Mud Pond Swamp Natural Area covers 182 acres and contains a boreal conifer swamp. The area is located in Blooming Grove Township and accessible off Weaver Road, a DCNR Bureau of Forest Road connected to Route 6. Various emergent plants grow within the glacial bog. Species normally found at more northern latitudes can be found on this 182-acre tract.

Promised Land State Park

Promised Land State Park, located at the juncture of Greene, Palmyra and Blooming Grove Townships includes approximately 2,906 acres and contains two of Pike County's larger lakes – Promised Land Lake at 422 acres and Lower Lake at 173 acres – as well as several important high quality streams. Promised Land is surrounded by over 12,464 acres of Delaware State Forest.

Key Features:

- Over 30-miles of active recreation trails, including a waterfall trail
- 486 campground sites
- over 500 acres of lake for fishing,

Key Destinations:

- Promised Land Swimming Beach
- Conservation Island

The park was Pennsylvania's fourth State Park purchased in 1902 and first opened to the public in 1905. Like other state parks in Pennsylvania, many of Promised Land's additional park facilities were constructed during the 1930's by the Civilian Conservation Corps (CCC). Today the park's lakes, beaches, and forests make Promised Land State Park one of the key destinations in the Pocono Mountains year-round. Promised Land Lake and Lower Lake offer great opportunities for cabin and campground camping, boating, fishing, and swimming at two beaches in the park.



Photo: Promised Land State Park Public Beach

Through the public process for development of this plan, use and facility issues were identified as minimal. Extensive deer browsing, which has impaired the forest understory, is a challenge within the park. Deer over browsing combined with the abundance and proliferation of hay scented ferns and other nuisance understory plants causes forest regeneration issues in the park. Deer are attracted to the area due somewhat to the adjacency of a private development. Another challenge is the state park's timber guidelines which differ greatly from the state forest. The park is only permitted to cut timber in areas that could pose a potential hazard to visitors; active timber management throughout the park is not conducted.

There are 225 leased cabins on 10-year lease terms with DCNR within the Park and surrounding state forestland. The land is owned by DCNR, managed by the Bureau of State Parks, but the buildings are the property owner's responsibility. These sites are only for persons who have permanent residence in Pennsylvania. The owners of these cabins are not permitted to rent these units or have the cabin as their permanent residence. These leased cabins within Promised Land State Park assist in continuing the legacy of the Park as an historic tourism destination.

A windmill was installed in 2006 as a renewable energy demonstration to power the Promised Land Park Office.



Promised Land State Park contains over 29-miles of trails used for hiking, mountain biking, horseback riding and many winter activities. This Park, as an attraction, is as popular during the winter months as it is during the summer months. The trails within the park are open to cross-country skiing and specific areas have been designated for snowmobiling. The lakes at Promised Land also are popular ice fishing destinations. The trail network within the park not only connects the State Park to the neighboring Delaware State Forest but also the village of Promised Land. The village of Promised Land is located in two private in-holdings within the boundaries of the State owned property. A majority of the in-holdings contain permanent residences and seasonal rental units, all of which are privately owned and outside the jurisdiction of the State Park and Forest. One large in-holding tract remains undeveloped and currently not subdivided.

Four camping areas are also included within the park boundaries. Pickerel Point, Lower Lake, Pines, and Deerfield Campgrounds provide a diversity of year-round and seasonal camping opportunities. There are 486 campsites at the park with varying degrees of amenities. Primitive Pickerel Point campground has outhouse toilets and walk-in camping sites. The most modern campground, Lower Lake has electricity, laundry, shower and flush toilets. Deerlake is the 'pet friendly' campground at the park. The other campgrounds are open from Memorial Day to Labor Day or Columbus Day.

The park offers extensive public environmental education programs throughout spring into early fall. Programs are geared towards children and families but they also offer teachers programs which accumulate Act 48 credits. All programs explore the park natural features, wildlife species and teach appreciation for the environment.

Key Features:

- Shohola Falls (SGL#180)
- Masthope Creek (SGL#316)

Key Destinations:

- 24,667 acres of hunting, fishing, hiking and recreation areas

State Game Lands

Five State Game lands, owned and managed by the Pennsylvania Game Commission, are located in Pike County. These lands encompass 25,427 acres of land within the County many of which are adjacent to State Forest Lands.

1. SGL #118 – 3,090 acres – Lackawaxen and Shohola Townships
2. SGL #180 – 11,493 acres – Shohola Lake area of Shohola, Blooming Grove and Lackawaxen Townships
3. SGL #183 – 2,778 acres – Palmyra and Blooming Grove Townships
4. SGL #209 – 4,391 acres – Shohola and Westfall Townships
5. SGL #316 – 2,715 acres – Masthope area of Lackawaxen Township

The Pennsylvania Game Commission has been charged with the overall mission of acting as steward of the Commonwealth's wild birds and mammals for the benefit of present and future generations. The focus of their mission is to protect, conserve and manage wildlife and their habitats and to provide wildlife

related education, services and recreational opportunities for both consumptive and non-consumptive uses of wildlife, and to maintain and promote Pennsylvania's hunting and trapping heritage. Large tracts of undisturbed forestland and ample supplies of food make Pike County an excellent region for large and small game. Historically some of the largest black bears harvested were hunted in Pike County's game lands and forests.

The State Game Lands are found within six of Pike County's municipalities, many with connections to other state and privately conserved lands. Beyond preserving land for the purpose of managing wildlife, the State game lands serve as a significant reserve for passive recreation in Pike County. The roads and trails are the main access for hunters, trappers, wildlife observers, and hikers to access the game lands.



On State Game Land 316 in Lackawaxen Township, horseback riding is permitted on designated access

Photo credit: J. McBryan

roads that have suitable hard surface to prevent erosion. Several trail and light-duty road linkages between State game lands and the neighboring Delaware State Forest exist. The use of ATV and other motor vehicles is prohibited on State Game Lands, except for certain suitable access or maintenance roads designated as open to vehicular travel, either year-round or at designated time periods, or to permitted disabled persons, possessing a valid hunting license issued by the Commission's Director, using ATV's on such designated roads. A list of such designated roads is made available to the permitted disabled persons following issuance of their permit. Certain rules and regulations also apply.

Pennsylvania Fish and Boat Commission Facilities

Key Features:

- Waters for lightweight fishing boats, canoes and inflatable boats

Key Destinations:

- Fairview Lake
- Delaware River

The Pennsylvania Fish and Boat Commission owns a small amount of land in Pike County which is mainly used for boating and fishing access to some of the important water resources – lakes, rivers and streams in the County. Total acreage owned by the PA Fish and Boat Commission in Pike County is just over 5 acres. Included are access sites in the following locations:

- Fairview Lake Access, PFBC Palmyra Township
- Greeley Lake Access, PFBC, Lackawaxen Township
- Matamoras Delaware River Access, PFBC, Matamoras Borough
- Zane Grey Delaware River Access, PFBC, Lackawaxen Township

Fishing and Boating Access Locations

Although the PA Fish & Boat Commission owns only limited lands in the County, public access for fishing and boating is provided at a number of other state and federal lands located throughout the county. Boating accesses exist as follows:

- Bushkill - Delaware River Access, DWGNRA, Lehman Township
- Dingmans Ferry – Delaware River Access, DWGNRA, Delaware Township
- Eshback - Delaware River Access, DWGNRA, Delaware Township
- Lake Loch Lomond Access, DWGNRA, Delaware Township
- Lake Minisink Access, PA Bureau of Forestry, Porter Township
- Little Mud Pond Access, PA Bureau of Forestry, Porter Township
- Milford Beach – Delaware River Access, DWGNRA, Milford Township
- Pecks Pond – two accesses, PA Bureau of Forestry, Porter Township
- Promised Land State Park 4 accesses on Upper Lake, one on Lower Lake and one on Bear Wallow, Greene and Palmyra Townships
- Shohola Lake 1st and 2nd launch, State Game Lands #180, Shohola Township
- White Deer Lake, PA Bureau of Forestry, Blooming Grove Township

Access and use guidelines vary depending on land ownership.

Additionally, PPL provides fishing and boating access sites to Lake Wallenpaupack open to the public at the following locations:

- Ironwood Point Lake Access, Palmyra Township
- Ledges Lake Access, Greene Township
- Wilsonville Lake Access, Palmyra Township

County Open Space and Recreation Lands

Pike County Park

The 325 acre Pike County Park site located on Schocopee Road in Milford Township is the result of a unique cooperative effort involving the Pennsylvania Department of Conservation and Natural Resources (DCNR), the Pike County Commissioners and the Trust for Public Land, a non-profit land trust. In February 1997, the Trust for Public Land purchased a 1,646 acre property known as the Milford Reservation and entered into an agreement with Pike County to lease 325 acres of the property including Lily Pond for use as a county park. On the same day, the Trust sold the entire



Photo: Lily Pond at the Pike County Park

1,646 acres to the Commonwealth of Pennsylvania. The PA DCNR assumed the role of lesser for the County's 325 acres. Presently, the County and the PA DCNR Bureau of Forestry maintain the lease agreement for the parcel.

The park contains a public lake, picnic tables throughout the park and connections to State Forest Trails. Currently the primary uses for the park are fishing and hiking trails which connect to the surrounding Delaware State Forest. The 25 acre Lily Pond, a man-made impoundment located on Craft Brook is the focal point of the park which provides fishing opportunities for visitors. Currently, the Pike County Commissioner's Children's Fishing Derby is one of the key events held at the Park each spring. The boat docks and fishing piers were removed upon recommendation of the County's insurer. Parking is available in open areas in the park but no formal parking has been established.

Several buildings exist on the site of the park. The County leases two acres, including a house/office facility along with numerous bird cages and flight enclosures to the Delaware Valley Raptor Center, a non-profit organization which treats wounded birds of prey. The "Solar Center" (formerly part of the "Milford Reservation") is a three story building, with kitchen and cafeteria, classrooms,



Photo: Cabins at the Pike County Park

dormitories, and storage areas also located on the county park lease area. The previous leasing tenants vacated in 2006 and the building remains in the County's ownership with no current lessee. Several cabins on the property are in good condition but do not have a designated use at this time.

Planned Development and Improvements

Currently the park is in its infancy. There is no county designated management or funding source for park improvements. A Master Site Plan was developed in 2000 as a guide to the future development of the park. A price tag of \$1,082,850 was estimated for its development. Technical and financial support is needed to implement the Park Master Plan.

Goals of the Pike County Park Identified in the Park's Master Plan:

- Enhance outdoor recreation opportunities for Pike County residents and visitors
- Create conservation education opportunities for Pike County residents and visitors

- Conserve the visual beauty and diverse natural resources of the Park Site
- Enhance public interest in, and support for, the Pike County Park as a community resource

The Pike County Park Master Plan outlines some of the initial implementation projects for development of the Park. A limiting factor to the park is access. Schocopee Road is an unpaved road, and entrance to the park has deteriorated over time due to erosion. Improvements to this road and entrance are some of the priority actions outlined in the Park's Master Plan.

Priority Actions Identified in the Pike County Park Master Plan:

- Construction of parking and improvements to Schocopee Road
- Construction of picnic pavilions and restroom facilities
- Creation of a formal boat launch area and parking for those facilities
- Welcome and information center for the park

Need for Additional County or Regional Parkland

The National Recreation & Park Association (NRPA) guidelines for park classification provides for the differentiation of parks based upon the park's size and function. The Pike County Park best fits the NRPA's classification of a regional park. Regional parks are typically parks acquired for their natural resources and "developed" to enable the public to enjoy, interact, and interpret the outdoor environment.

The amount of regional parkland a community or county should have is a factor of population, the presence and quality of natural resources and the public's interest in outdoor recreation and conservation. Based on the public support for conservation and expanded recreation in Pike County, additional regional parkland should be acquired while it is available. In establishing such parks, parkland could be acquired by the county or regional partnerships could be developed, as has been modeled in Monroe County.

Using a standard of 10 acres per thousand population, Figure 8-2 presents the total acreage for additional county or regional parks recommended by 2030. The need for county or regional park land ranges from 613 acres in 2007 to 1,556 acres in 2030. If seasonal residents are included in projecting parkland needs, this total need would range from 1,113 in 2007 to 2,056 in 2030.

Figure 8-2: County/Regional Parkland Acreage/NRPA Standards Analysis									
	Parkland (Acres)								
	Current County/ Regional Parkland Acreage	Projected County/Regional Parkland Needed to meet NRPA/Pike County Standard of 10 acres per 1,000 population based on Population Projections							
		2007		2010		2020		2030	
		Add'l	Total	Add'l	Total	Add'l	Total	Add'l	Total
Pike County	325	288	613	80	693	346	1039	863	1,556
Pike County with an estimated 50,000 seasonal residents	325	788	1,113	80	1,193	346	1,539	863	2,056

County or regional parks should be at least 200 acres in size, contain a water body or have access to one, and feature scenic landscapes and views. The exception to the parcel size in Pike County would be smaller parcels that adjoin larger publicly owned recreation or conservation areas, land that provides river, stream or lake access and other areas of natural or cultural significance and trails. The ratio of developed areas for recreation in relation to preservation of natural features should be 25 percent developed and 75 percent undeveloped or conserved.

Municipal Open Space and Recreation Lands

Citizens of all thirteen municipalities have access to Federal, State, or Municipal recreation resources within their own municipality. An asset for Pike County is the substantial amount of park and recreation land available to citizens and visitors to the county. Of Pike County's thirteen municipalities, nine have developed municipal recreation facilities. These facilities range from community playgrounds to expansive recreation complexes utilized regionally. Additionally, three municipalities have recently purchased or acquired land to expand or develop their recreation resources.

Figure 8-3: Municipal Parkland in Pike County

Municipality	Developed Municipal Parkland Acreage	Additional Acreage Acquired for Municipal Parkland	Total Acreage Available for Municipal Parkland
Blooming Grove Township	0	0	0
Delaware Township	140	203	343
Dingman Township	0	103 + 302 ⁺	405
Greene Township	4	0	4
Lackawaxen Township	12	0	12
Lehman Township	4	64	68
Matamoras Borough	64	0	64
Milford Borough	5.5	0	5.5
Milford Township*	0	0 ⁺	0
Palmyra Township	12	0	12
Porter Township	0	0	0
Shohola Township	6	0	6
Westfall Township	0	0	0
TOTAL	247.5	672	919.5

*County Park located in Milford Township

+Bridge Estate acquired by Dingman Township in 2007 for municipal recreation; park to be planned jointly by Dingman and Milford Townships.

Bushkill Region

Lehman Township Recreation Fields

The township owns and maintains four acres adjacent to its municipal building for the purpose of community recreation. A pavilion was constructed and is widely utilized by groups such as the local scouting groups and fire department. There are plans for the addition of a softball field and soccer fields for local youth leagues. The township has a small recreation board comprised of supervisors to manage their recreation facilities. However, there is cooperation between the Bushkill Youth Association and the township to organize league use and activities. The township also organizes seasonal events with the Bushkill Youth Association.

Lehman Township Community Park

The municipality acquired the 64.3-acre site, formerly used for the Pike County Agricultural Fair in 2005 and Magic Valley Amusement Park prior to the county's use. The Park's Master Plan calls for improvements to the upper portion of the park to include additional active recreation fields. The plans for the lower portion of the park include reuse of some existing structures for community events and creating walkways to view waterfalls and other natural features within the property. Bank stabilization and restoration is necessary on Saw Creek, which runs adjacent and through the park, due to extensive erosion damage which occurred following the Hurricane Ivan flood event in 2004. This creek runs along the lower portion of the park and feeds Winona Falls. The township has an active recreation board to manage and support their recreation facilities and guide the implementation of the park master plan.

Delaware Township Park

A 140-acre municipal complex on Wilson Hill Road exists for use by the community. These facilities include both active recreation fields for baseball, basketball, and soccer. A skate park also exists for skateboarding and rollerblading activities. The township property is also adjacent to the boundary of the Delaware Water Gap National Recreation Area. There is a master plan for the parkland written in 1992, but this plan was never adopted by the township supervisors. Currently there are no immediate plans for development or expansion on the remaining property at this park. The township has an active recreation board which dictates the use and maintenance of their park facilities.

Delaware Township Camp Akenac

Delaware Township Camp Akenac, a 203-acre former summer corporate retreat and family camp, was acquired by the township in 2006. The property contains 14 cabins, group recreation buildings, recreation fields and courts, and a full commercial kitchen to serve the visitors. Pine Crest Lake is a 12 acre lake formerly used for boating, fishing and swimming, the property also contains 20 acres of exceptional value wetlands. These wetlands are intact due to the preservation of the property as a camp. The township's acquisition provides a unique opportunity for a park that could recover most of its operating expenses with proper management of the facilities. The recreation board needs expansion of their duties to include management and regulation of this park. Many similar facilities have a full-time park manager or caretaker as well as a business plan for long-term operation. Currently, the Township has a DCNR funded Peer Study underway to help formulate an operational plan for the park.

Delaware Valley Region

Dingman Township Park

Dingman Township acquired a 103-acre site on Log Tavern Road for the purposes of developing a municipal park. The Master Site Plan for Dingman Township Park focuses on creating athletic fields, playground, and parking facilities. The plan also calls for the construction of an interpretive area for the natural wetland area located on the park property. Once constructed, this interpretive area will be the first municipality to have taken advantage of this unique environmental educational opportunity. The township's recreation commission was formed to assist in the development of the master site plan and construction of the park's facilities.

Bridge Estate, Dingman Township

Recently, a 302 acre parcel located along Route 6 in Dingman and Milford Townships was donated to the Townships to be used for recreational purposes for township residents. The townships are working on an intergovernmental agreement which would provide for a joint planning committee to work on the future plans for this parcel. It is anticipated that the parcel may be used for passive recreation purposes.

Milford Borough Parks

The Borough maintains two community parks. The Milford Memorial Park provides a playground and gathering area for local residents and their families. This park also contains a recreational basketball court and baseball field for casual play.

The Catherine Street Park contains a baseball field, basketball, and skate park for skateboarding and rollerblading and an ice skating rink. The Catherine Street Park is the larger of the two parks and if improved, the park could provide a connection to the Delaware River for the Borough of Milford. There is no planning document for the parks in Milford Borough, but improvements are planned with funds through the Community Development Block Grant program. The Borough's parks are managed through a recreation commission.



Shohola Township Rohman Park

The Township acquired a 6 acre parcel known as Rohman Park, located on Twin Lakes Road at the edge of the Historical 82 acre original site of the Shohola Glen. The municipality's development of this park includes a ball field to accommodate softball and baseball leagues in the region. The future plan for Rohman Park includes developing small picnic and concession area to serve the park. A playground and interpretative walking trail are also planned. The park's property contains foundations and evidence of the earliest settlers to Shohola Township. The Rohman Park property's adjacency to the Shohola Glen and its own historical features encourages the potential for preservation of this historical site. The preservation of the Shohola Glen would reconnect the hamlet of Shohola to the Delaware River and provide a resting stop for those recreating on the river.

Matamoras Borough Airport Park



The Borough of Matamoras operates and maintains Airport Park under the direction of the Matamoras Recreation Commission. Originally the park was an airport for training purposes by the Air Cadets during World War II. During the 1970's, the Borough acquired the then defunct airport for use for municipal recreation. Since this time the park has been extensively developed. This park offers walking

trails, recreational fields, picnic facilities, playgrounds, a roller-hockey rink, and access to the Delaware River. Numerous regional sport leagues utilize these facilities as well as the Delaware Valley School District. Due to the facility location, Airport Park services Pike County's northeastern townships as well as municipalities in New York and New Jersey. The park's master plan directs the future development, improvements, and long-term management of this park.

Matamoras Veterans Memorial Park and Education Center

The facility will be located east of the Airport Park football fields and will contain 14 memorials. These monuments will depict the various wars our country has been engaged in starting with the French and Indian War to the current war on Terrorism. The site will not only allow for reflections by veterans and families, but it will also provide an educational experience for students and other visitors.

Wallenpaupack Region

Palmyra Township Park

The Township maintains a six acre park adjacent to their municipal building. The park contains ball fields for little league and t-ball play, lighted tennis courts, a handball court, and casual play basketball courts. A pavilion and playground are also available for use at the park. There is an active recreation board which helps manage the park activities and uses.

Palmyra Beach

The Township operates the only public beach access on Lake Wallenpaupack. The beach use is fee based to support the operation costs. The Palmyra Beach is approximately six acres in size and adjacent to the Wilsonville Campground and Wallenpaupack High School's property. The township took ownership of the former Lake Wallenpaupack Visitors Center at the entrance to the beach. Additional management strategies are needed to assist with operational costs for the township.

Lackawaxen Township Rosencrance Park

The Township maintains a twelve acre site in the hamlet of Lackawaxen for municipal recreation purposes. This site includes baseball fields for senior and little league play. A tennis court and basketball court are available for casual play. A playground and pavilion are also available for use at the park. The township's park is in need of improvements to facilities and expansion to provide additional athletic fields. The township does not have planning documents for the park or a recreation board or commission. Development of a recreation committee would be advisable to investigate expansion and improvements to the park.

Greene Township Cykoski Park

This four acre site along Brink Hill Road provides a small play area for children. Development of a small ice rink and construction of a protective fence around the property are planned. The township will need to acquire additional land to improve or expand this property.

Conclusions

Pike County is devoted to the great outdoors. The county is home to about 118,000 acres of nature based recreation lands - more than the total land occupied by the two smallest counties in Pennsylvania combined!

Strengths

Recreation opportunities are available in Pike County through an array of federal, state, county, local and private recreation areas.

Federal and State Recreational Opportunities: There is plenty of space for nature oriented recreational pursuits such as hunting, fishing, trapping, hiking, boating, swimming, nature enjoyment, wildlife watching, photography and winter sports. The National Park Service owns the national recreation area. The Commonwealth of Pennsylvania through the Bureau of State Parks, Bureau of Forestry, Game Commission and Fish & Boat Commission owns these parks, forests, game lands, and fish and boat launches. These recreational resources are in fact the foundation of Pike County's major industry: tourism. Over five million people visit the federal and state parks every year. The economic value of tourism in Pike County is about \$225 million annually.

These major public outdoor recreation areas feature nearly 400 miles of trails. The trails provide opportunities for hikers, walkers, cyclists, mountain bikers, skiers, boaters, and nature enthusiasts. The trails are located on state and federal property as well as on PPL lands.

Pike County Recreation Opportunities: Pike County owns the 325 acre Pike County Park in Milford Township. It is relatively undeveloped now but has a completed Master Plan document.

Close-to-home Recreation: The municipalities and the school districts in Pike County serve the daily recreational needs of the residents. Nine of the 13 municipalities have local parks, which are primarily oriented towards children and organized sports. Municipal parkland in Pike County includes about 919 acres. The school districts are major hubs of recreation in the community. They provide both facilities and programs for community recreation.

Quasi-Public Recreation: PEEC, the Pocono Environmental Education Center provides environmental education programs and trails for recreational use. These are open to the public. PPL provides beaches at Lake Wallenpaupack as well as trails for public use.

Private Recreational Opportunities: Private recreation opportunities abound in Pike County. These are important to include as they provide services that reduce the demand on public facilities. Lake Wallenpaupack is a renowned

private community of mostly second homes developed near the 5,200-acre man made lake. A number of outfitters for outdoor recreation and riding stables that facilitate outdoor recreation are located in Pike County. The county is also the home to resorts that both use and advertise the great outdoor recreational opportunities in this area.

All of the public and private recreation providers represent important partnership opportunities to both protect and serve Pike County.

Challenges

The public open spaces protect a significant amount of our County's natural resources while supporting recreation and tourism, the county's leading industry. However, there is a vast amount of privately owned land between the protected open space resources in the County. Connectivity in open space networks is critical for protecting resources which travel beyond the boundaries of our public lands. Our streams and rivers, wildlife, and plant habitats, are examples of resources which cannot be contained in limited parcels of open space. The scenic relief in the County, our rural roads, ridgelines, and scenic vistas are all examples of open space that does not follow the bounds of public lands.

State, Federal, County, Municipal, Quasi-Public and Private Recreation Lands

Major challenges encompass both the physical, managerial, and programmatic connectivity and coordination of parks and recreation in all sectors in Pike County. From a physical connectivity perspective, it is essential to connect the federal and state lands to each other as well as to other destinations in the county through trails and greenways. Securing private lands that could link these properties, whether through acquisition, easements, or important private land stewardship efforts, should be a primary goal in order to conserve large contiguous tracts of land for conservation and recreation.

In terms of the operations of the various federal and state parks and recreation areas, forests, parks, recreation areas, game lands, fish and boat accesses, the units operate fairly autonomously and independently. Major efforts are underway to coordinate planning, operations and service delivery through a number of initiatives such as the Pocono Mountains and Forests Conservation Landscapes Initiatives program and a multi-state, multi-county planning effort for the Upper Delaware Greenway.

Common management challenges of federal and state lands include:

- Protecting the parks from encroachment
- Advertising and public outreach
- Control of unauthorized use of public lands by ATVs
- Potential sale of state lands reducing preserved land in Pike County

County Parks and Recreation

Pike County does not have a parks and recreation department. There is no designated organization in charge of the Pike County Park. The county has supported the development of a park master plan and relies on a volunteer network for the maintenance of the site. Although many counties in Pennsylvania have county parks and recreation departments and this subject has been explored previously in Pike County, there is concern about funding such an operation here due to financial reasons with respect to the county's mandates to fund designated services with limited discretionary budget remaining. Finding a way to place county parks and recreation operations within the existing organizational structure and allowing it to develop over the years may be a sound approach. It could spin off into a separate county department in the future when a combination of public and non-public funding sources could support it.

Based upon resident and visitor interest in additional walking trails and limited implementation of the County Park Master Plan, trails and park development are clearly the priority needs for park and recreation programming at the county level. A countywide trail system could consist of major north-south and cross county spines that would connect the major communities, parks, and trails within federal and state lands and enable municipalities to create their own trail systems. Development of the County Park should be phased and funded.

Municipal Parks and Recreation Facilities

Several factors encompass the adequacy of municipal parks and recreation facilities including amount of parkland, configuration of parks, location, park conditions, connections between parks, and trends.

Amount of Parkland: Municipal parks in Pike County have developed in the traditional pattern of the establishment of parks to meet pressing community needs typically generated through organized sports and volunteers interested in providing youth and summer recreation programs and special events. Figure 8-4 presents the current parkland acreage by municipality along with projections for additional parkland needed through 2030, which are estimated to be approximately 1,758 acres.

Parks and Recreation Facility Configuration: Municipal parks should include a range of park types: community parks, neighborhood parks, squares and plazas in towns, sports complexes, nature preserves, special use facilities such as pools and community centers where appropriate, community school parks, and a trail and greenway network to connect the parks with community destinations. Most of the municipal parks in Pike County serve as places for organized sports are about the size of a neighborhood park. Several large

acquisitions by Delaware, Dingman, and Lehman Townships and Matamoras Borough represent larger tracts of parkland.

Figure 8-4: Local Parkland Acreage/NRPA Standards Analysis

	Parkland (Acres)								
	Current Local Parkland Acreage	Projected Local Parkland Needed to meet NRPA/Pike County Standard of 15 acres per 1,000 population based on Population Projections							
		2007		2010		2020		2030	
		Add'l	Total	Add'l	Total	Add'l	Total	Add'l	Total
Blooming Grove	0	72	72	9	81	41	122	61	183
Delaware	343	0	131	0	151	0	239	37	380
Dingman	405	85	188	32	220	148	369	212	617
Greene	4	53	57	5	62	20	82	26	109
Lackawaxen	12	69	81	10	91	41	132	60	191
Lehman	68	87	155	24	179	104	283	166	449
Matamoras	64	0	42	2	44	12	56	15	72
Milford Borough	5.5	14	20	1	20	5	25	6	31
Milford Township	0	28	28	3	31	18	48	28	76
Palmyra	12	48	60	4	64	23	87	31	118
Porter	0	7	7	0	8	3	10	3	14
Shohola	6	33	39	2	42	14	55	18	74
Westfall	0	48	48	3	51	21	72	29	101
TOTAL	919.5	544	928	96	1044	449	1581	692	2413

Since the county has only one county park, consideration could be given to establishing regional parks consistent within the four multi-municipal planning areas. One regional park could go into each multi-municipal service area. The park could be a regional park or a county park should the county decide to establish a county park system in the future. A regional park should be several hundred acres preferably with a water body or water access, significant landscape and the potential to develop regional facilities on a portion of the site. Existing clubs and camps could be considered as top contenders for regional park sites, especially if the site were to adjoin or connect publicly owned property. The priority should be on getting the land even if the site were not to be developed as a park until some time in the future. Consideration should be given to creating a legacy for the future through the establishment of a reserve of 25 to 30 percent of each regional park site for determination of use by citizens 50 years or more from now.

Facilities: The type and quality of recreation facilities need to be of good quality in order to attract and sustain public recreation use. The parks in Pike County evolved over time in response to community needs. Until recently, no park master planning has been done to guide development. Good design that attracts park visitation and serves the health safety and welfare of the community is

essential. Facilities need to serve all age groups, interests and abilities and meet the requirements or guidelines of the Americans with Disabilities Act, Consumer Product Safety Commission, and American Society of Testing Materials.

Indoor recreation facilities are lacking in Pike County. At present the school districts make the best use of the facilities but educational uses rightfully receive the highest priority. There is a need for gyms, fitness and wellness facilities, swimming pools, activity rooms and other amenities that could be housed in a community recreation center(s) for year round recreation in this cold climate.

Location: The location of parks is based upon creating convenient access to citizens for park visitation on a daily basis. Figure 5-3 presents the service radius for various park types. The challenge in Pike County is to locate municipal parks with respect to development patterns. Every municipality should have at least one park. Local park systems within the growth boundaries of the county should have the full range of park types if possible. For jurisdictions outside of the growth areas, emphasis would be on community parks and trails.

Park Conditions: Quality of parks and recreation facilities is of the utmost importance. Many parks in Pike County are in need of revitalization, especially those with sports fields. Parks and recreation facilities need to have a formal park maintenance system in place for ongoing and preventive maintenance as well as cyclic repair and replacement. The challenge in Pike County is that the municipalities have few staff available for park maintenance. Those designated for maintenance are usually roads/streets or public works departments. Volunteers are responsible for many tasks especially for sports fields. Budgets for supplies are minimal. How parks will be maintained should be a part of every park planning effort.

Connections between Parks: Trails in Pike County are now located essentially within federal and state parks. Neither municipalities nor the county have a plan for connections between parks.

Municipal Parks and Recreation Support: Only five of the 13 municipalities have a parks and recreation advisory board. Only Delaware Township has paid staff, although a few operate summer recreation programs with seasonal staff.

Trends: Parks and recreation facilities are instruments for combating today's health and social crises of obesity and its related diseases. Participation in sports including lacrosse, soccer and basketball are increasing. A major trend is toward recreation that is unscheduled and self-directed such as fitness and wellness, nature enjoyment, and socializing outdoors and indoors with family and friends year round. Family, fun and fitness are the hallmarks of community recreation.

School Districts

The school districts in Pike County have about 90 acres of land that is used for sports fields and community recreation:

- Wallenpaupack Area School District– 23 acres
- Delaware Valley School District – 21.0 acres
- East Stroudsburg School District North Branch - 45.08 acres

These lands are integral to community recreation. However, they are not permanently protected and in some cases could be built over to accommodate the need for more school buildings. Some of the campuses are landlocked and districts are actively seeking land.

The school district officials were interviewed during the planning process. Key issues related to the recreation aspect of the plan were transportation issues and strain on recreation facilities. In Pike County, the ‘late bus’ is very popular transportation for students participating in after-school activities. The issue with this type of transportation is that it does not operate during the summer months or in the pre-season for fall sports. Students without vehicles or stay-at-home parents cannot access school activities. The East Stroudsburg School District Officials noted their athletes are a week to two weeks behind other schools by the first game due to a lack of transportation to pre-season practice.

Private Hunting and Fishing Clubs and Camps

The private hunting and fishing clubs and camps are a major land resource in Pike County. They are not permanently protected and could be sold for development. Protection of these areas is crucial to county conservation goals since they occupy such a large area. There is significant interest in these camps by developers. Neighboring Monroe County has been working towards the preservation of camps there through its open space program. Pike County’s Scenic and Rural Character Preservation Program could help to undertake similar preservation efforts here but cannot provide all or even much of the funding necessary. It is quite a challenge for club and camp owners to ward off substantial financial deals for their land.

Tourism and Seasonal Residents

Tourism is the major industry of Pike County. Federal, state, county, public and private recreation facilities and trails need to be part of tourism planning and management. The Delaware Water Gap National Recreation Area alone attracts over five million visitors annually. Trails have the potential to attract visitation and overnight stays with an economic impact of many millions of dollars annually.

Visitation to Lake Wallenpaupack generates a significant volume of traffic. Seasonal traffic at peak recreation al times causes traffic jams.

Transportation

Transportation options for recreation as well as for people under the age of 16 and older, non-driving residents are limited in Pike County. Having great recreation facilities available without sufficient travel options will limit their use perhaps by those that need them the most.

Threats to Natural Resources

The forest cover of Pike County is threatened by forest pests such as gypsy moths and the wooly adelgid and forest diseases. Funds devoted to dealing with the diseases and pests of the forest are limited. Major detrimental changes in the landscape will decrease the attraction of recreational visitors to Pike County having a potentially detrimental economic impact on everything from restaurants and lodging to real estate values.

Financing

There are not enough funds to acquire parkland and develop recreation facilities at the state, county or municipal levels of government. Resources for the required human and financial support for future recreation development are limited. Partnerships and a mix of public and private resources are called for in order to devise creative methods for providing the kind of recreation opportunities that are needed by the citizens and for the economic vitality of this recreation based county.

Opportunities

There are a number of projects underway that are all converging as this plan is being completed. Seizing these opportunities will help to create a countywide system of parks, recreation and trails in Pike County.

Federal and State Initiatives

The Pocono Forests and Waters Conservation Landscapes Initiatives (CLI) program will help to coordinate land, facilities, services and marketing in a cohesive approach blending all federal and state efforts in Pike County. The CLI area includes the counties of Pike, Monroe, Lackawanna, Luzerne, Carbon and Wayne. The focus areas in Pike County include the Upper Delaware Greenway and Delaware Highlands. The five goals of the CLI include the following:

1. Identify and conserve important areas for acquisition and easements to increase the public and private land base under conservation. The goal is

5,000 acres a year over five years through partnerships with the conservancies and the wildlife and corridor management by NPS and the PA Division of Forestry in the CLI service area.

2. Facilitate local government decision-making to conserve land and revitalize communities.
3. Proactively energize the business sector to leverage financial resources and the political will to enhance and conserve natural and recreational resources. (Woodloch Pines, the Wharton School, and Pike County businesses have already done a lot of work in this area.)
4. Energize local municipalities for conservation and recreation and restoration of natural resources. (One idea under consideration is to create a one-day conference to discuss these topics.)
5. Increase cooperation among state and local government agencies and private entities with interest in conserving natural resources.

County Initiatives

Pike County's Scenic Rural Character Preservation Program and the county's \$10 million bond issue for open space are major programs to conserve Pike County's finest assets. The County Comprehensive Plan also provides direction that impacts recreation lands.

Regional Initiatives

The Conservation Partnership is set up to address outreach and education. This group includes major conservation and recreation partners, which could potentially develop and implement landowner education methods that would result in land preserved for recreation and conservation.

One multi-municipal, park, recreation and open space plans is underway. The county could apply for state funding to spur multi-municipal plans for the three other planning regions recommended for this purpose. PADCNr is very supportive of regional park, recreation and open space planning.

School District Initiatives

The school districts are all in a growth mode. Building expansion and development will be underway in the immediate future. Coordinating land acquisition efforts could result in land purchases that would suit both education and recreation and result in larger tracts of public land. Efforts should be made for the county, municipalities and school districts to coordinate planning for land acquisition.

Further Opportunities for Consideration

1. Continuing to work in partnership with other groups to advance the goals of the Pike County Open Space, Greenways, and Recreation goals. This would include active participation in:
 - The Pocono Forests and Waters Conservation Landscape Initiatives program.
 - Planning for the Upper Delaware Greenway
 - Conservation Partnership
 - Tourism planning in conjunction with the Pike County Visitors Bureau and the Pocono Mountains Visitors Bureau.
 - Governor's Program to Connect Pennsylvanians to the Outdoors
2. Establishing a position in the Pike County Office of Community Planning to oversee county park and recreation planning and operation. Over time, as Pike County Park, trails and other facilities come on-line, consider establishing a parks and recreation department. Focus county parks and recreation planning on planning and developing the countywide trail system. Develop a plan for the phasing-in of the Pike County Park Master Plan including an operating and financing plan for both capital investment and operations and management.
3. Seeking a position for a Pike County Service Forester to be located in the county and funded by the Pennsylvania Bureau of Forestry.
4. Encouraging multi-municipal park, recreation and open space plans for all four planning regions by applying for state planning funds to support the municipal efforts. Continue to provide technical support and planning assistance similar to the level provided in the Lackawaxen and Shohola project.
5. Adopting the proposed park classification system (Figure 5-3) as the model for Pike County. Implement the system with recognition and forethought for Pike County Comprehensive Plan's recommended growth areas. Park development for the growth areas would incorporate the range of park types while park systems in the remaining areas would focus on community and regional parks and nature reserves connected by trail systems.
6. Planning regional parks in each of the four planning districts. These could be operated as multi-municipal regional parks or as county parks. Acquire a total of 1,230 acres for regional parks by 2030.
7. Setting a high priority on the preservation of the private hunting and fishing clubs and camps. Some of these have the potential to become county or regional parks.

8. Working with municipalities to spur the acquisition of municipal parkland totaling 1,100 acres by 2030. Set a benchmark of acquiring 727 by 2010 to meet growth projections.
9. Working with multi-municipal park and recreation planning areas including school districts to explore the provision of indoor year round recreation facilities. Explore support issues such as transportation for the non-driving population.
10. Setting the bar for the planning, design, construction and maintenance of parks as high quality public spaces by providing technical support to communities on park master planning and maintenance. Advocate that all parks and recreation projects be rooted in a strong public participation process. Encourage municipalities to revitalize their aging facilities and adopt formalized maintenance management systems to take care of them.

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Chapter 9 Greenways, Trails and Byways

Greenways, trails and byways are all linear corridors for travel of one kind or another. Greenways are sometimes travel corridors for people and sometimes corridors just for wildlife. Trails are corridors for people but can be for walkers, hikers, skaters and rollerbladers, bikers and others depending on the trail surface. Byways are generally road-based corridors that feature scenic views of the landscape. Of these three types of corridors, trails are the most common in Pike County today.

In fact, a wide range of trails are available in Pike County from easy walking paths for all ages and abilities to rugged and challenging hiking trails for skilled backpackers. Some provide close-to-home trail opportunities, while others take people deep into the great outdoors. With nearly 400 miles of trails in Pike County, trails are an important asset for both the public and the County's tourism industry. Existing trails are shown on the countywide and regional Trails Maps.



Figure 9-1: Public Trails in Pike County

	Estimated Trail Mileage
Federal	
Delaware Water Gap National Recreation Area, including PEEC trails	27
State	
Delaware State Forest, including Bureau of Forestry roads	238
State Game Lands (<i>per maps dated 1988-1997</i>)	77
Promised Land State Park	29
County	
Pike County Park	0
Municipal	
All Municipal Recreation	0
School District	
Recreational Est.	0
Other	
Lacawac Sanctuary	1
PPL-Lake Wallenpaupack (Pike)	2.5
Total	374.5

Trails offer a host of environmental, economic, personal and social benefits to a community. They can provide a sense of place and a source of community pride. When integrated with features such as historic sites, commercial or residential

areas, and parks, they can help to improve the overall character of Pike County. They can provide people who live, work or visit here the opportunity to enjoy the diverse environments and the natural beauty of the County. The wealth of trails on federal and state land in Pike County offers a very unique opportunity to develop a countywide trail system for both wildlife and human travel through new trail connections and the addition of greenways and byways.

Trails on Federal Lands

Delaware Water Gap National Recreation Area Trail Network

Under an amendment to the Delaware Water Gap National Recreation Area's General Management Plan (1987), the National Park Service adopted a "Park Trails Plan" in 1999-2000 for the 67,000 acre Recreation Area. The Trails Plan identified a primary trail or "spine", which paralleled the Delaware River on both the Pennsylvania and New Jersey sides, as a high trail development priority. This proposed spine was envisioned to provide the centerpiece of an extensive trail network.



Joseph M. McDade Recreational Trail (McDade Trail)

In 1996, Congress appropriated funding for the DWGNRA trail spine which was designated as the Joseph M. McDade Recreational Trail to provide important regional trail connections. At completion, the 37-mile Joseph McDade Trail is intended to connect the two largest communities bordering the DWGNRA, Shawnee-on-the-Delaware in Monroe County and the Borough of Milford in Pike County. The trail will follow historic road traces, connecting historic properties, existing facilities and a variety of natural environments. It will also provide reasonable connection to the Appalachian Trail via the PA-NJ Delaware River Bridge in Delaware Water Gap. The trail is planned to offer a variety of difficulty levels including some access by those who use wheelchairs. Of the overall 37 miles proposed for this trail in the Delaware Water Gap National Recreation Area, approximately 10.8 non-contiguous miles of this trail are currently complete; 5.5 are completed in Pike County.

Pocono Environmental Education Center (PEEC) Trails

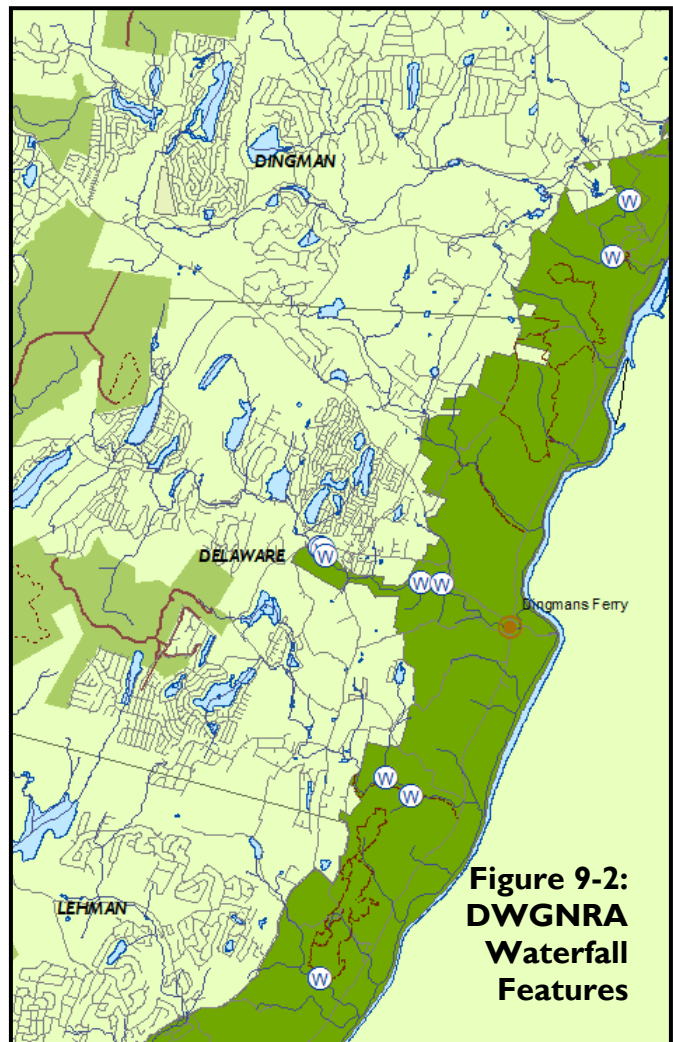


The Pocono Environmental Education Center (PEEC), located in Delaware Township just south of the Route 739 and Route 209 intersection, provides approximately thirteen miles of easy to moderate hiking trails on six different routes. A short, quarter-mile Sensory Trail provides the casual hiker with a sensory experience while blindfolded. A three-mile hike on the Tumbling Waters Trail provides scenic vistas of the River Valley and New Jersey's Kittatinny Mountains as well as a challenging downhill climb to the falls. The five-mile Ridgeline Trail as well as the Scenic Gorge, Fossil, Two Ponds trails provide ample opportunity for accessing the natural environment. PEEC's trails also provide an excellent opportunity for making the connections between some of the population centers in the Township and the Delaware Water Gap National Recreation Area, including the McDade Trail. Trail Maps and additional information is available at the PEEC visitor center.

Other DWGNRA Trails

The Conashaugh View Trail system is one of the major trail networks in the national recreation area. This network offers 9 miles of gravel roads, traversing wooded corridors and the scenic highlands. Hikers, joggers, and horseback riders frequent the Conashaugh View Trail. The trail system is located in Delaware Township with a parking area for horse trailers on Long Meadow Road.

Other trails were developed to provide access to the Raymondskill Falls, Dingmans Falls and the falls at Childs Park Recreation Area.



**Figure 9-2:
DWGNRA
Waterfall
Features**

The Raymondskill Falls viewing area is accessible by Raymondskill Road off Route 209, near mile marker 18, in Dingman Township. A short trail loop leads hikers through a hemlock ravine to the Upper Falls. The Middle Falls is accessible using steep stairs and rugged trails. Comfort facilities and two parking areas are available off Raymondskill Road.

The Dingmans Falls viewing area is accessible from Johnny Bee Road off Route 209, near mile marker 14, in Delaware Township. A viewing area provides a one-mile raised boardwalk to the base of Dingmans Falls. Steep primitive stairs and trails lead up to the top of the falls. The trail passes through hemlock groves and mountain laurel barrens to both Silverthread and Dingmans Falls.

Dingman's Falls Trail in the DWGNRA was recognized as one of the best waterfall hikes in Pennsylvania in the book 'Hike Pennsylvania.'

Child's Park Recreation Area is a 155-acre landscape consisting of a hemlock ravine straddling Dingmans Creek, several spectacular waterfalls and the ruins of an 18th century woolen mill. The recreation area has raised boardwalk trails and improved wooden stairs for viewing the falls. A small picnic pavilion is available, but there are no comfort facilities for visitors.



Photo: Raymondskill Falls, DWGNRA

A major forest restoration/rehabilitation and park improvement plan was proposed for Child's Park in 2005 by the National Park Service. The plan is still awaiting funding. The plan calls for improvements to the highly worn and eroded trails. The property's historical significance and deteriorated condition prompted the National Park Service to commission a comprehensive Cultural Landscape Report & Treatment Plan as part of the rehabilitation effort. Damage to the hemlock ravines from the wooly adelgid infestation is a key issue with the park's natural character. The rehabilitation efforts focus on regaining the historic character, improving modern functionality, enhancing visitor comfort, and addressing emergent impacts like flooding and forest blights. Rehabilitation will recapture

aspects of early park character and highlight historic features of this popular recreation site.

All three waterfall areas have been 'loved to death.' Trails are rugged and worn from extensive use and potentially threaten local waters with erosion and sedimentation as well as create safety hazards for trail users.

One of the most notable issues raised by park visitors is the lack of signage and trail blazing (maintenance). These conditions make visitors hesitant to travel off the beaten path and into the more remote areas of the park.

Proposed Trails

The NPS has proposed a 5.3 mile River Valley Network Trail which would provide a trail connection from the Dingmans Ferry River Access to the McDade Trail and would continue west along the Dingmans Creek Drainage to the Childs Park picnic area located along Silver Lake Road in Delaware Township. The Trail would provide opportunity for making connections with some of the population centers in Delaware Township. The 0.35 mile of the trail from the River to the McDade Trail would be multi-use providing for hiking, biking and cross country skiing opportunities. The section from McDade Trail to Childs Park would be a moderately strenuous hiking trail and would require approximately 1.25 miles of new trail construction.

The NPS has also proposed several other “hub and spoke” connections to the McDade Trail that would link the DGWNRA to key Pike County population centers and important cultural, historic and natural features. For example, a proposed Hornbeck Creek Trail would connect the PEEC Trail system to population centers in Delaware Township and the Adams Creek, Sproul Road and Conashaugh Link Trails would connect Dingman Township population to the river valley and the park.

Trails on State Lands

The Delaware State Forest and the Promised Land State Park together contain 145 miles of multiple use trails and 122 miles of forestry roads for recreation in Pike County. This overall system provides trails for hikers of varying skill levels and nearly all recreation types. In fact, Delaware State Forest contains approximately 5-percent of all the trails and forestry roadways in all the Commonwealth’s Forests.

Delaware State Forest

Forestry roadways comprise 122 miles of the Bureau of Forestry’s network in Pike County. Forestry roadways vary in use. Some are open and maintained for travel year-round while others are open for select hunting seasons but not maintained in the winter months. Nearly 115 miles of the trails and roadways in the Delaware State Forest are available for snowmobiling. Mountain Bikes are permitted on most trails and roadways in the forest, exceptions include natural areas and the Thunder Swamp Trail System.

The Maple Run and Burnt Mills are available for ATV riders in the Delaware State Forest. ATV use is prohibited on other trails and roads in the State Forest. The “Dancing Ridge” area within the Delaware State Forest, near the Burnt Mills ATV trails, is reserved specifically for disabled sportsmen, and ATV use is permitted with permission of the Bureau of Forestry.

Primary Delaware State Forest Trail Systems

The Thunder Swamp Trail System provides a 45-mile network of interconnecting hiking trails, 26 miles within Pike County. This network traverses Porter, Lehman, and Delaware Townships, through the Delaware State Forest and connects to the Stillwater Natural Area and Pennel Run Natural Area. Built by the Youth Conservation Corps during the 1970's, the trail provides a variety of hiking opportunities for skilled hikers. The trail is maintained through a partnership between the Bureau of Forestry and the Pocono Outdoor Club.

Blooming Grove Trail System was created as a community service by the Pike County 4-H Club members in partnership with the Bureau of Forestry. Seven miles of trails exist in this network; trails travel through hardwood swamps and a meadow within this part of the Delaware State Forest in Blooming Grove Township west of Route 402. The trail network is open to hikers, backpack campers, and snowshoe users.

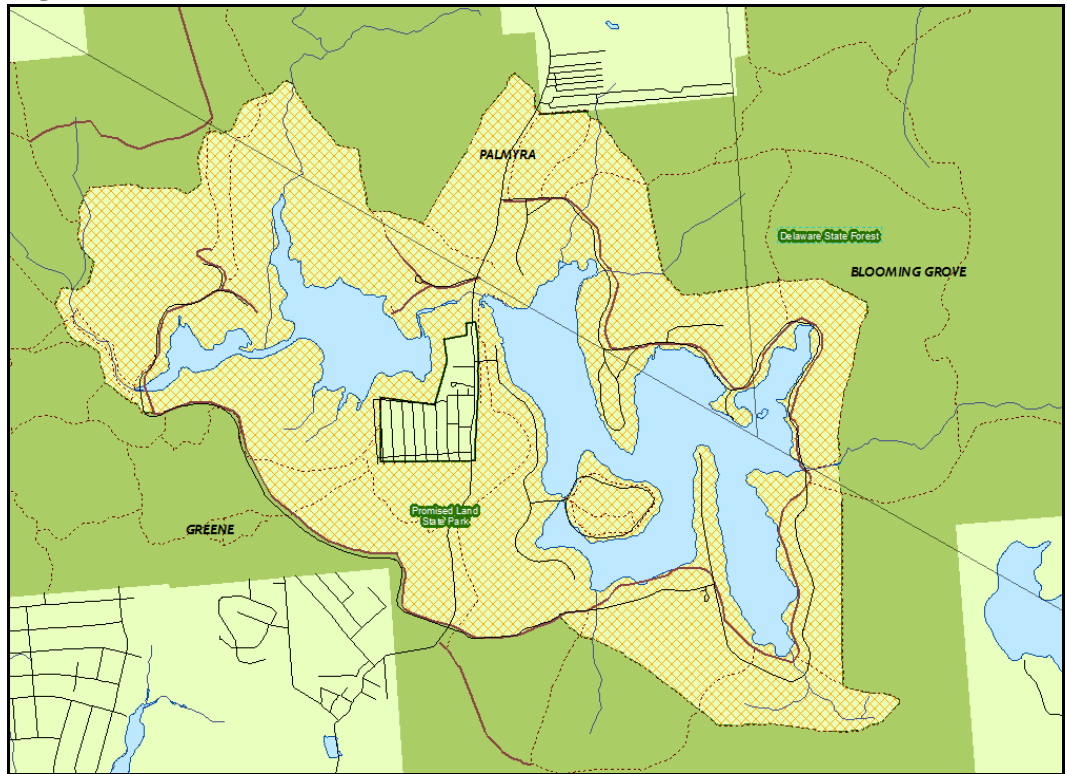
Tarkill Forest Trail is an Interpretive trail which provides excellent opportunities for understanding forest ecology, regeneration and health. The Tarkill forest demonstration area and trail are located along Route 402 just south of Interstate 84 within easy access to residents and visitors.

Burnt Mills & Maple Run ATV Trails

The Delaware State Forest has two areas designated for ATV use in Pike County. These all season trails are located in the Burnt Mills Recreation Area of Delaware State Forest in Porter Township. This 8-mile network can be accessed from a parking area on State Route 402 one mile south of Porters Lake. The Maple Run Recreation Area is located in Blooming Grove Township, accessed from Route 402 approximately 1.75 miles north of Pecks Pond.

Promised Land State Park

The Promised Land Trail System serves the 2,906 acre Promised Land State Park with over 29 miles of trails. Biking in Promised Land State Park is limited to roadways open for vehicular travel. Equestrian use in the state park is permitted on roads open to vehicular traffic with some exceptions. Snowmobiling is permitted on 17 miles of designated trails. Ample parking and easily accessible trailheads make this a very popular winter activity at the park.

Figure 9-3: Trails in Promised Land State Park

The Park's trail system provides connections to the neighboring Delaware State Forest as well as the village of Promised Land by the Mountain Laurel and Park Boundary Trails.

Pennsylvania Game Commission

The primary purpose of Game Commission lands is the protection, conservation and management of wildlife and their habitats and the provision of hunting opportunities for sportsmen. Recreational hiking and wildlife viewing are secondary uses of these lands. The five state game lands located in the County contain approximately 77 miles of unmarked trails and primitive roads available for hiking and nature-watching. One of the most notable features on game lands within the County is Shohola Falls, located on State Game Land #180. The Game Commission provides public access to this magnificent waterfall and plunge pool habitat; a public picnic area and comfort facilities are also available at the waterfall trail.



BicyclePA Routes

BicyclePA routes are designed by experienced bicyclists to provide opportunities to traverse the state primarily on the Commonwealth's highways. Pike County hosts BicyclePA Routes Y and YI.

Bike Y – Kimbles Road to the Towpath

BicyclePA Route Y is the second longest in the BicyclePA system at 409 miles. The route generally follows U.S. Route 6 through the deep forests of northern Pennsylvania from Erie in western PA to Matamoras, Pike County in eastern PA. It offers intersection with Bike Routes A and Z in the west and Route L in the east. Route Y is often the cyclist's choice for travel between Cleveland, Toledo, Detroit, or Chicago and the New York metropolitan area.

BicyclePA Route Y enters Pike County at Wilsonville adjacent to the PPL dam on Lake Wallenpaupack. It follows Route 6 east before heading north through State Game Land #183 on Kimbles Road in Palmyra Township. It continues east on Towpath Road in Lackawaxen Township before crossing the Delaware River over the Roebling Bridge onto New York Route 97. Route 97 is a designated scenic byway in New York State, also known as the Upper Delaware Scenic Byway, which will connect with the YI spur if the rider takes Route 209 south back to Pennsylvania. Riders are provided with a variety of landscapes and features along Pike County's section. Densely forested corridors, streams and bogs, historic cemeteries, lock houses along the D&H Canal and the Lackawaxen River are just some of the scenic attractions along Route Y in Pike County.

Bike YI – Route US 6, 6/209

Route YI is an alternate extension of Route Y. It follows Route 6 from the intersection of Kimbles Road to Milford, where it turns north onto Route 6/209 following this route to Matamoras and ending at the PA-New York state line. Along this sojourn, riders experience long steep hills, scenic vistas of bogs and densely wooded corridor. State Game Lands #180, which includes Shohola Falls, is an area where riders can rest, use the facilities and enjoy the game land's scenic beauty prior to continuing their journey.

Trails on County Lands

The Pike County Park contains three existing trails, which connect to additional trails in the adjacent Delaware State Forest. The Park Master Plan calls for a trail that will enable access to the natural resources with minimal disturbance to those resources. Additional signage, raised walkways and a visitor's kiosk are also listed under future improvements. Improvements to Craft Road to create an equestrian trail, horse trailer parking and the new proposed trail are

scheduled in Phase V of the plan. Currently the plan has not been implemented due to funding limitations at the County level.

Proposed Local Trails

Pinchot Greenway Trail System

The Pinchot Greenway Trail System is a proposed system that will connect the DWGNRA McDade Trail through the Borough of Milford and to the USFS Grey Towers National Historic Landmark in Milford Township. The Pinchot Greenway Trail could extend beyond Grey Towers to the Pike County Park and the Delaware State Forest. The Pinchot Greenway Trail system could also provide connection to Milford Township, Westfall Township and Matamoras Borough to the east via the Route 6 Bike Trail. The Pinchot Greenway Trail system will preserve cultural features, enhance tourism and economic development opportunities, and improve the quality of life for residents. It will also complement on-going efforts such as the Milford Enhancement Project; the McDade Trail; the Sawkill-Vandermark Watershed Study; and the Grey Towers renovation.

Trails on Private Lands

Lacawac Sanctuary

Lacawac Sanctuary although located in Wayne County, is open to and frequently used by Pike County residents. Self-guided nature trails are open to the public during daylight hours. These one-mile plus loops are a moderate hike that can be accomplished at a leisurely pace in about one hour. Highlights include the Ledges and deer exclosures on the Maurice Broun Nature Trail and an overlook of Lake Lacawac on the Lake Lacawac Nature Trail.

PPL Lake Wallenpaupack Trail System, Ledgesdale Natural Area

Part of the PPL Lake Wallenpaupack Trail System lies within the Ledgesdale Natural Area, near the southern end of Lake Wallenpaupack. This 100 acre woodland tract has been dedicated as a natural area. The area has been maintained in a natural state with trails for easy hiking, bird watching, photography and public enjoyment. Moosewood Trail and Pond Trail provide two different 10 minute (approximately ½ mile) hikes; Big Tree Trail and Lenape Trail provide close to an hour of walking enjoyment (approximately 2-3 miles).

Bushkill Falls

Recognized across Pennsylvania as the "Niagara of Pennsylvania", Bushkill Falls is a unique series of eight waterfalls, located along the Little Bushkill Creek in

Lehman Township. The main falls is over 100 feet high. This magnificent natural feature is accessible through a network of hiking trails and bridges which afford fabulous views of the falls and the surrounding forest. Although this network of trails is owned privately, it is open to the public for a small fee. It is one of the County's main tourist attractions and provides important educational opportunities featuring a Pennsylvania Wildlife Exhibit, Native American Exhibit, and numerous geologic and environmental interpretive exhibits on Pike County's important natural features.

Trails on Public Waterways

The North American Water Trails Organization defines a water trail as a recreational waterway containing guided access points and day use and/or camping sites for the boating public. A water trail provides launch ramps, parking areas, directional signage, and maps. Maps for the water trail mark known hazards such as dams and indicates the level of difficulty (classes of rapids), as well as the location of natural, scenic and historical points of interest along a waterway.

Delaware River Water Trail

"As the longest free-flowing river in the eastern United States, the Delaware River truly is a national treasure and a terrific source of recreational opportunities that allow Pennsylvanians to get outdoors, be active and appreciate its natural beauty,"
- Governor Ed Rendell

Planning for the Delaware River Water Trail is underway. At completion, the trail will stretch 220-miles from Hancock NY to Morrisville, PA (Bucks County). Organizing partners in the project include the National Park Service, Delaware River Basin Commission, and Delaware River Greenway Partnership.



Promoted through the PA Department of Conservation of Natural Resources (DCNR) and the National Park Service (NPS), the Delaware River Water Trail mission is to connect people to the river for responsible recreational pursuits. Establishing the water trail also promotes its relationship to the local and regional ecotourism industry. The river trip industry along the Delaware currently employs about 1000 people. The purpose of the Delaware River Water Trail project is to provide recreational boaters with a cohesive system of signage, river maps, a trail guide, and an interactive website. These tools will enable boaters to plan and enjoy safe, environmentally responsible river trips that eliminate or minimize impacts on the river's ecosystem and surrounding landscapes.

In 2007, the Delaware River Greenway Partnership received a \$45,000 grant from DCNR to support the development of the water trail. Funds are slated for signage, outreach and education programs and marketing of the water trail. Signs will include directional information, as well as information about access sites, trails and safety tips. Outreach will include printing 20,000 water trail guides, developing an interactive web site and incorporating Leave No Trace anti-littering messages into programming to foster stewardship of the river.

Figure 9-4: Principles of the Delaware River Water Trail	
<ul style="list-style-type: none">• The Water Trail promotes low-impact use of the rivers. A “leave no trace” ethic will reduce the potential for negative impacts to water quality and wildlife habitat.• A strong emphasis on volunteer participation will reduce project costs, provide ongoing support and maintenance for the Water Trails, and encourage resource awareness and stewardship.• The Water Trail Guide will emphasize respect for private property rights and encourage care and responsible use of public lands and facilities.	<ul style="list-style-type: none">• The availability of accurate river maps and clearly marked day use and/or camp sites will reduce the potential for recreational user conflicts and trespassing on private land.• Connecting people to the river for responsible recreational pursuits will contribute significantly to the local and regional ecotourism industry.• The Water Trail Guide and interactive website will include information on the river’s natural and human history, low-impact camping guidelines, campgrounds, outfitters, bed & breakfasts and other information.

Public Input on Trails

Through the public involvement process in this planning effort, citizens expressed their appreciation for the number and diversity of trails in Pike County and acknowledged the draw that trails are to visitors. Indeed, most residents can access a trail within a 10-minute drive from their home and many noted the significance of the Delaware River as a local and regional hiking and boating corridor.

Citizens also expressed the need for additional trails. They noted that the terrain of Pike County is rugged, making many of the nature-based trails suitable for hiking but not suitable for leisurely walking and wellness; this was of particular concern among and for senior citizens. They noted that it would be desirable for municipal and local parks to contain walking trails that would be suitable for all

ages and abilities. Others expressed concern for interconnecting private trails with a public system that could increase occurrences of trespassing on private property. Mountain bike enthusiasts also expressed interest in the need to provide additional trails within the DWGNRA for this purpose as well as pointing out the benefits of integrating this sport into the tourist promotion for the area. Finally, citizens interested in the resources on state game lands expressed dissatisfaction with the lack of marked trails on these lands.

Greenways

Greenways are a relatively new concept to Pike County and to Pennsylvania. The idea of protecting water and wildlife resources and the corridors they travel is not new, but they have not historically been designated as greenways. *Pennsylvania's Greenways: An Action Plan for Creating Connections* was the state's entry into the designation, planning and development of greenways to connect citizens to the natural environment within and surrounding their communities. This initiative identified a statewide network of greenways and promoted the expansion of this network through county and local greenway designation and development. This plan, in fact, implements the state action plan by recommending county greenways for Pike County and further advocating the designation of local greenways through local planning.

Currently, there are no designated greenways in Pike County. However, the Pinchot Greenway Trail System has been proposed and there is rising interest in designating an Upper Delaware River Greenway - a greenway likely to focus on resource conservation. With the Lackawaxen River and Bushkill, Sawkill, and other creeks and streams connecting to the Delaware River, numerous ridgelines running northeast-southwest, and large blocks of public land fragmented by mere acres of private land, there are numerous opportunities for linear corridors of protected open space to establish or re-establish connections among valued resources and the communities within them.

Byways

Like greenways, byways are also a fairly new idea to Pike County though Skyline Drive in Virginia may be a familiar example. Pennsylvania has been designating scenic byways in conjunction with municipalities or through the legislature for several years. This designation recognizes the unique attributes or values of Pennsylvania's scenic landscape, which may be archeological, cultural, historical, natural, recreational or simply scenic in nature. Once designated, the byway can be included on state tourism maps and other promotional materials, if desired by the local municipality. As such, the byway and its viewshed can become a tourism asset to the community.

There are no designated byways in Pike County. The Route 6 corridor is scenic

and well-known but has not been brought to PennDOT by local municipalities for designation. But Route 6 is not the only roadway in Pike County with scenic views into the landscape. Route 209 offers views of the Delaware River; Towpath Road offers views of the Lackawaxen River. Other state and local roadways offer scenic corridors through Pike County's forested landscapes. The County and municipalities should consider opportunities to make local designations and/or apply for state designation and promotion.

Conclusions

Strengths

Pike County has about 375 miles of trails on public lands. In addition to the trails already in place, there are major trail and corridor initiatives underway including the Upper Delaware Greenway and the Pinchot Greenway. Trails afford residents and tourists the opportunity to hike, cycle, mountain bike, cross country ski, snowmobile, ride horses, and enjoy nature and the scenic beauty of Pike County. Some of the most beautiful sights, including Pike County's renowned waterfalls, are along trails. In addition to the land trails, Pike County is an important locale for water trails, principally the Delaware River.

Pike County residents value the trails and recognize that they are important destinations for tourists. Research in other counties has found that trails are an important economic engine. For example, the York Heritage Rail Trail generates over \$10 million annually in the local economy through spending on bikes, gear, food, etc. by trail users. This trail has also spurred the establishment of thriving businesses and helped to increase property values along the trail.

The planning process revealed that there are many people and organizations in the public and private sectors that are interested and supportive of trail development. This is a key for success in creating trail networks. Major public agencies, such as DCNR and NPS, are most interested and supportive of greenway, trail and byway efforts.

Existing roadways and scenic resources provide the basic infrastructure for byways. Land use controls to sustain the landscape's scenic integrity are desirable and billboard restrictions are required for state designation but not necessary for a local designation.

While development is pressing, roughly two-thirds of the county is either protected in public lands or relatively undeveloped. Greenway and trail planning and development are easier in more sparsely populated areas before significant subdivision and land development occurs.

Challenges

Trails in Pike County are primarily located within public lands. They offer internal circulation but are not linked to one another. There is no common signage system for trails and a lack of trail signage altogether for many trails. Trail planning and development is an independent function of many organizations. Advertisement and promotion is not unified and appears to be minimal. Residents are interested in more trails and trail connections. Pike County could benefit from promotion of public trails and byways to visitors.

The major challenge and opportunity regarding trails in Pike County is creating the main county trail spines to link parks, game lands, forests, communities, rivers and streams, schools and community destinations. Connecting the existing trails into a true trail network would involve the construction of trail connections, design and construction of common signage, and support facilities such as parking and restrooms and advertising. The current arrangement of trails and trail providers in the County does not lend itself toward a comprehensive countywide system.

Challenges for greenways are similar, including a lack of countywide organizational leadership, though support is available from the Pike County Office of Community Planning. In addition, the public's understanding, or lack thereof, of greenways may pose additional challenges to designation and development, which in the case of greenways means putting resource conservation measures in place.

The major challenge regarding byways is that state designation requires a municipal application therefore the decision to pursue state designation is a local one. The County could foster interest in the PA Byways Program, but the decision to apply must come from the local municipality. If the requirements and benefits of the state program are not desirable, the County could develop its own byway program to designate and promote these corridors for its own purposes. Lycoming County has done this to focus land use controls on rural roadways.

Concern regarding private property rights and the desire of citizens in areas of Pike County to prevent trail development and river access is evident. Public education and outreach about how trails benefit communities are important. (A listing of just some of the community benefits of trails is provided at the end of the chapter.) Testimonials from citizens who once opposed trails but now embrace them might help. Trail routing that achieves the desired connection, even if it routes around an oppositional property, are still successes.

The public's perception is that many trails in the County are only for the seriously fit and dedicated recreationists. Areas designed for casual walks for people with regular footwear and which do not require extensive hiking gear and

expertise are important. Presenting a full-range of trails from easy to moderate to difficult to challenge-level (similar to ski slopes) would encourage the public's regular use of them. Having trails "out-the-door" or within a ten-minute walk would foster more frequent use.

Another challenge is that many people do not know how to access trails or undertake recreational pursuits such as camping, bird watching, or kayaking on the water trail. As the Governor's Program to Create Connections to the Outdoors has found, fear of the outdoors is a major block to people using and enjoying them. With many people moving here from the major metropolitan areas, this is especially true as interviews for this plan revealed. Providing information and programs to inform citizens and visitors how to safely engage in activities or access facilities in the great outdoors is important and promotes lifelong enjoyment and fitness.

Pike County does not have a parks and recreation department, a trail commission, or any trail organizations to assume a leadership role in trail planning development or management. A trail management entity needs to be established to develop and manage county trails.

Opportunities

Pike County has the opportunity to plan and establish a true trail network consisting of the federal and state trails linked by county trail spines to which municipalities can connect their own close-to-home trails. The trails in the County can also connect to trails regionally in adjoining counties in Pennsylvania, New Jersey and New York. The Delaware River water trail will traverse over 200 miles upon completion from Hancock, New York to Philadelphia, PA.

Working closely with state and federal agencies on two projects, the Pocono Forests & Waters Conservation Landscapes Initiative and the Upper Delaware Greenway plan will help Pike County advance all aspects of the trail network—from planning through development to advertising, promotion and programming—on a regional basis. They could similarly support the planning and development of greenways and byways.

The County could create a major "pedal and paddle" loop of about 35 land miles and 55 water miles. The land trail from Bushkill to Shohola would connect to the Delaware River water trail for return to Bushkill. This would be an unusual recreation experience that could be promoted to interest new and returning visitors and generate overnight stays. Cyclists are their own tourism market looking for new and exciting destinations, especially places that offer unique experiences such as "century" rides of 100 miles.

With the spines of the Pike County Trail Network proposed, municipalities could begin to address local trail planning and development. The municipalities

could plan their trail system before developments are proposed which would enable the municipalities to work with developers to obtain the desired linkages and develop trails in tandem with the private development process. The municipalities could establish mandatory dedication of land ordinances that would in fact acquire land for trails. The goal should be to put the trails on the ground before residential areas are developed so that potential buyers would see a neighborhood already connected to the community by trails.

Since trails and byways generate economic benefits, calculating the spending generated by trail and byway visitors would help Pike County and its partners demonstrate their value and importance and build support for expansion. Trail user studies could be conducted with a methodology used by trail operators elsewhere, such as the York Heritage Rail Trail, the Pine Creek Trail, and the Great Allegheny Passage. Similar byway traveler surveys have been used across the country to assess and guide improvements to the byway experience.

The Benefits of Trails

Trails offer a host of environmental, economic and social benefits to a community. They can provide a sense of place and a source of community pride. When integrated with features such as historic sites, commercial or residential areas, and parks, they can help to improve the overall character. They can provide people who live, work or visit the opportunity to enjoy the diverse environments and the natural beauty through:

- Auto-free safe routes for commuting and recreation
- Pleasant places to walk, run, bicycle, in-line skate, cross-country ski and ride horseback
- Safe exercising locations, especially for children and those using wheelchairs
- Affordable way to stimulate economic development
- Biggest bang for the buck in parkland - very inexpensive to build & maintain especially compared to the cost of roads and traditional parks
- Natural habitats and corridors for wildlife
- Educational and volunteer resources for schools, scouts and other community groups
- Property values increase near trails and local economies are boosted by trail users
- Contribute to a thriving county economy through spending by tourists and residents
- History is preserved, local culture is enhanced
- Provides a community meeting place and a canvas for social interaction

Trails: A Conservation Tool

Trails can be used as a tool for conservation. They are an integral part of our

natural environment and assist with preserving important natural landscapes and providing necessary links between fragmented habitats. They offer significant opportunities to protect plant and animal species. Increased and sprawling development contributes to the creation of habitat “islands”—isolating wildlife, reducing their natural habitats and survival. Trails provide the important link between these island populations and habitats and increase the available land to many wildlife species.

Trails: An Economic Development Catalyst

In nationwide studies, development projects near or adjacent to trails show property values increase from 1% – 6% over properties further removed from trail locations. Trail availability outranked 16 other options, including security, ball fields, golf courses, parks, and access to shopping or business centers,” according to a 2002 National Association of Realtors/National Association of Home Builders survey. Only highway access was ranked as a more important amenity by the 2000 homebuyers surveyed. Trails also provide a unique facility to serve a diverse population of a community that may otherwise have limited opportunities to access natural areas due to financial or transportation constraints.

The York Heritage Rail Trail brings in over \$10 million annually to the York County Economy. Trail use breaks out into 70 percent local users and 30 percent tourists.

Trails: A Key to Activity and Health

Regular physical activity is such a crucial part of good health. The goal of the Center For Disease Control is to help people understand that even modest activity such as walking is a step in the right direction. Scientific evidence shows that providing access to places for physical activity, such as trails, increases the level of physical activity in a community. Trails can provide a wide variety of opportunities for being physically active. The number one public health issue is lack of physical activity that can lead to an epidemic of obesity, causing major health issues and premature deaths. The United States Surgeon General has recognized municipalities as having a vital role in helping to combat this growing problem by providing trails and facilities for active healthy lifestyles.

Social Benefits of Trails: Creating More Livable Communities

Communities across Pennsylvania are including trails in plans to reshape their neighborhoods and create better places to live. Trail systems in communities focus on human activity in the hubs while providing transportation, recreation,

and natural amenities through the links. Trails provide what many Americans seek - close-to-home recreational areas, community meeting places, historic preservation, educational experiences, natural landscapes and beautification. Both trails and greenways help communities build pride by ensuring that their neighborhoods are good places to live, so that children can safely walk or bike to a park, school, or to a neighbor's home. Trails and greenways help make communities more attractive and friendly places to live.

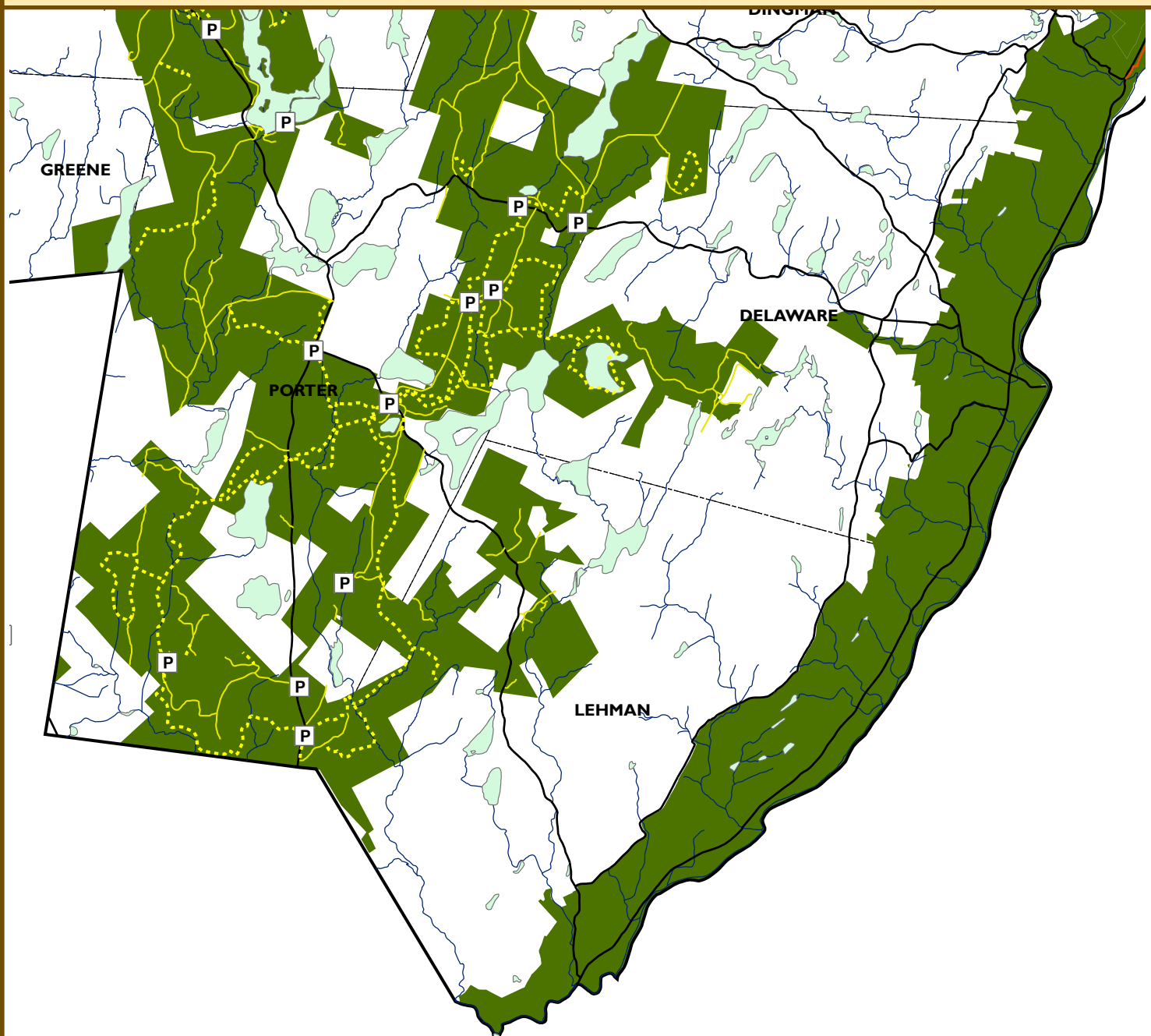
Further Opportunities for consideration

To advance greenways, trails and byways in Pike County, the County and its partners could consider opportunities such as:

1. Working with the Pocono Forests and Water Conservation Landscape Initiatives program.
2. Participating in the Upper Delaware Greenway Plan.
3. Developing master plans for the land and water trail spines of Pike County. Implement the trail master plans as funding, linkages and partnerships emerge.
4. Encouraging multi-municipal trail planning and development and provide municipalities with related technical support including sample ordinances on mandatory dedication of trails of trail development. Also provide municipalities with information on federal and state trail grants.
5. Establishing a Pike County Trail Authority to oversee coordination and advancement of trails in Pike County. Consider assigning the negotiation of municipal partnerships and agreements with volunteer groups for the maintenance of county trails as a main responsibility of the Trail Authority. Determine if greenway development can be effectively overseen by the same authority, or if a different organization is needed.
6. Setting a goal of constructing 100 miles of trails over the next ten years. Formulate target mileage for subsequent years.

Trails - Bushkill Region

Pike County Open Space, Greenways and Recreation Plan



Mapping Preparation:
Pike County Office of Community Planning

Data Source:
Pike County GIS Data
DCNR PA Bureau of Forestry

Legend



Parking Area



Bureau of Forestry Trails



Bureau of Forestry Roads



McDade Trail Constructed



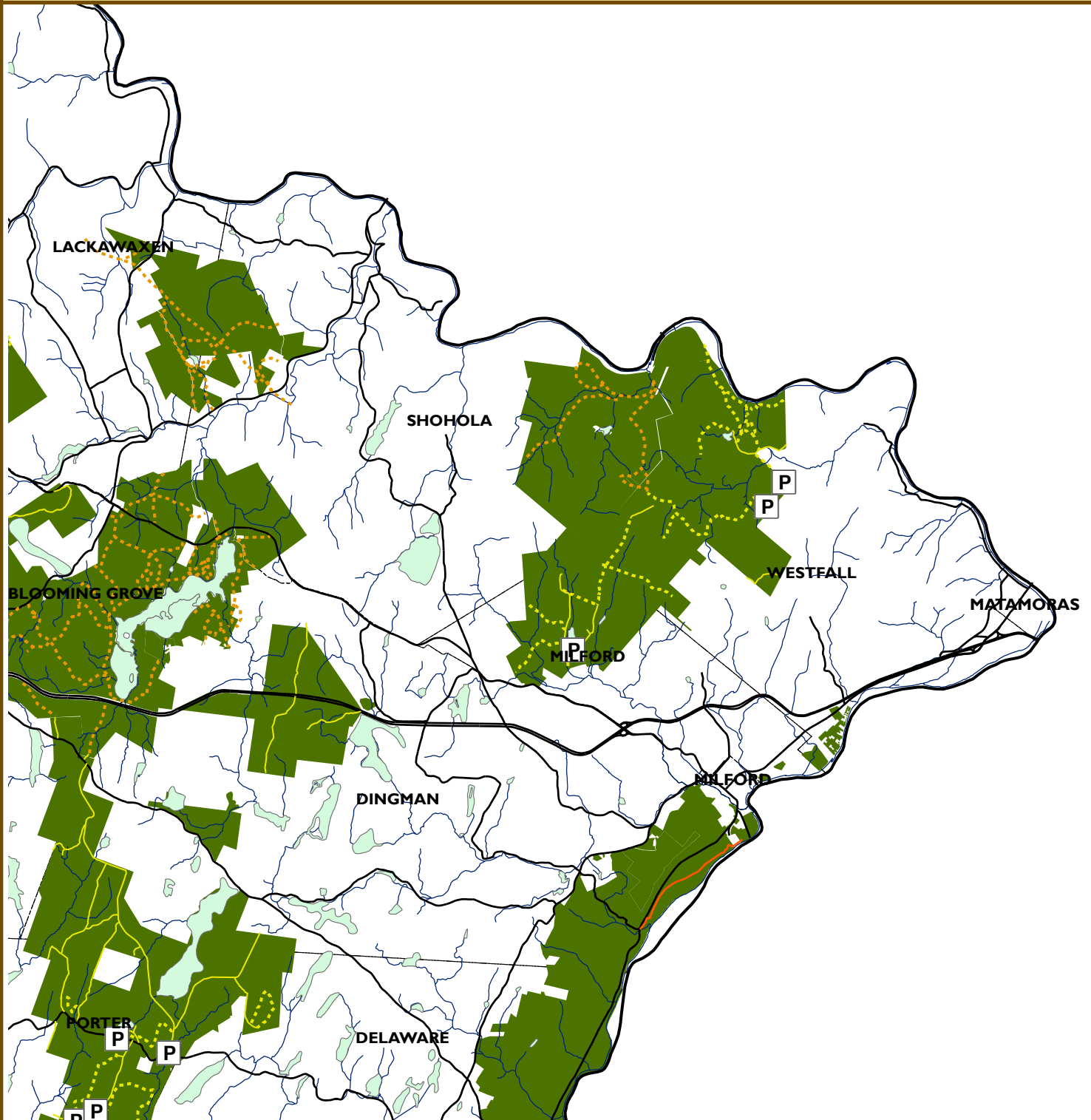
Stream



Public Lands

Trails - Delaware Valley Region

Pike County Open Space, Greenways and Recreation Plan




Mapping Preparation:
Pike County Office of Community Planning

Data Source:
Pike County GIS Data
Pike County Office of Community Planning
DCNR PA Bureau of Forestry
NPS Bureau of Parks and Recreation

Legend

 Parking Area

 State Gameland Trails

 Bureau of Forestry Trails

 Bureau of Forestry Roads

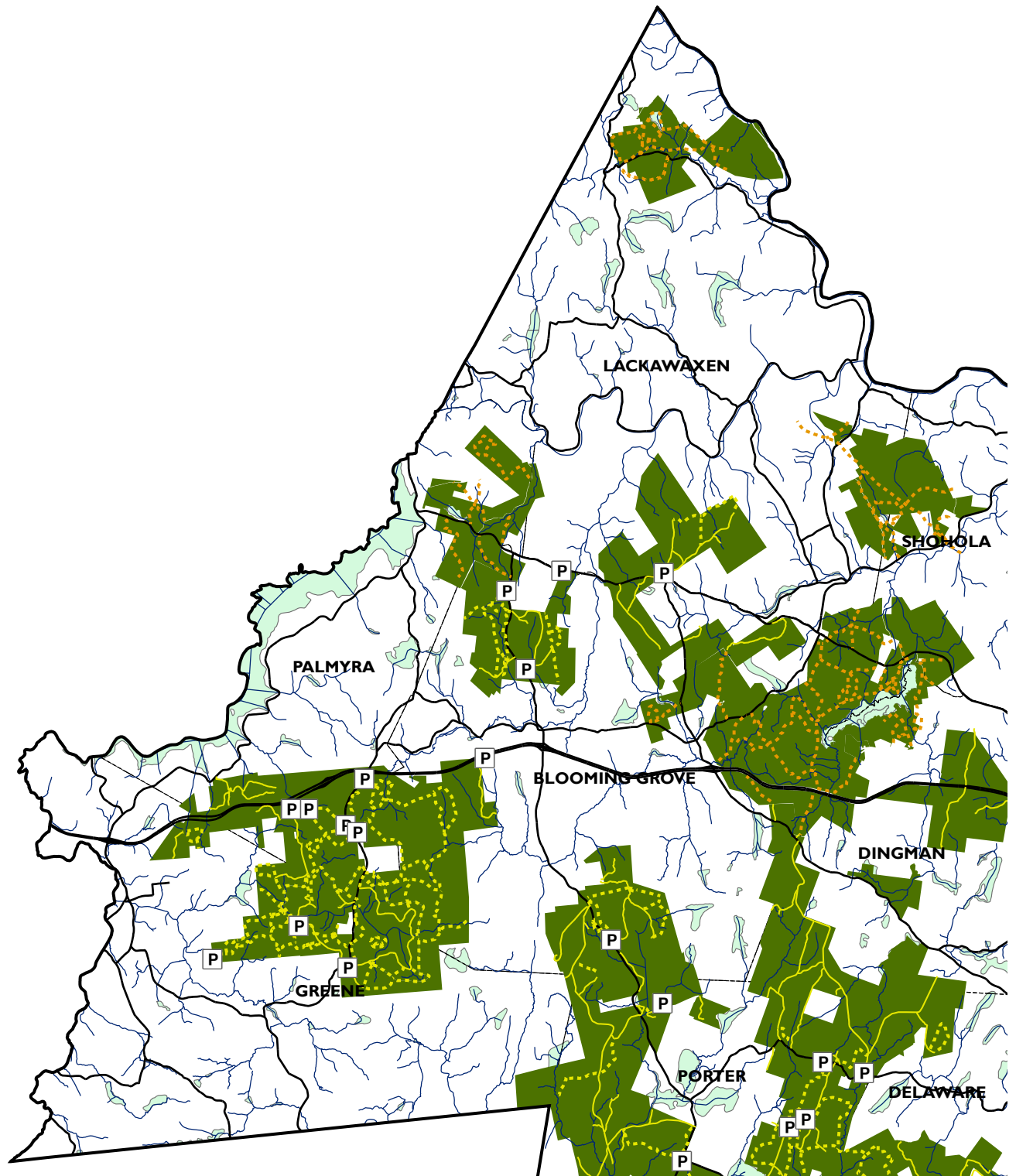
 McDade Trail Constructed

 Stream

 Public Lands

Trails - Wallenpaupack Region

Pike County Open Space, Greenways and Recreation Plan



Mapping Preparation:
Pike County Office of Community Planning

Data Source:
Pike County GIS Data
Pike County Office of Community Planning
DCNR PA Bureau of Forestry
NPS Bureau of Parks and Recreation

Legend

- | | |
|---------------------------|--------------|
| Parking Area | Stream |
| State Gameland Trails | Public Lands |
| Bureau of Forestry Trails | |
| Bureau of Forestry Roads | |

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Chapter 10 Historical Lands & Cultural Resources

Historical lands and cultural resources can foster a sense of pride and provide a unique identity within the community. Pike County has 27 properties listed on the National Historical Register. Of these, four properties are recognized as nationally important historical landmarks. Hundreds of other properties and structures are acknowledged as locally important in County historical studies. Local historians have studied and written about the hundreds of historical structures and sites in Pike County. Locations of these sites are shown on the Historical Sites Map. Their writings emphasize the importance of these resources to the regional and local culture.



Circa 1835

Pike County has had several famous historical residents including Gifford Pinchot, founder of the U.S. Forest Service, Charles Peirce, philosopher and scientist, and author Zane Grey. In their literary and professional works, the beauty of rural Pike County was a notable factor. Today's residents and visitors

value the same rural, scenic beauty of the County as these early residents. Historical structures and remnants of Pike County's early history contribute to the scenic and rural character.

Early Settlements

The Lenni-Lenape and Iroquois Indians were the earliest inhabitants of the land that would become Pike County. As they traveled lands along the Delaware River, the Lackawaxen River and their tributaries, they left behind significant archeological artifacts. Development can cause disturbance and destruction of these historical resources. These historical artifacts are most endangered in areas along the Delaware that are not within state or federal ownership. The Tri-State Bend section of the Delaware River—the area between Matamoras and Milford, which is privately held land and experiencing significant growth – may be the most susceptible to loss of archeological artifacts.

Colonization from settlers in New York and Connecticut began in the early 1700's. The forested lands and rocky terrain attracted hunters and trappers from the northern colonies to this area known as the 'frontier' of Pennsylvania. By the late 1700's, colonists had established timbering, bluestone quarrying and agriculture as the primary industries along the Delaware River. The construction of the Delaware and Hudson Canal in the 1820s brought prosperity to the region. Until 1899, the D & H Canal transported timber and bluestone from Pike County as well as coal destined for urbanized regions in New York from the Wyoming Valley, to the Lackawaxen and Delaware Rivers and on to the Hudson River.



Today, little evidence of the canal remains and most of the canal property and adjacent towpath are privately owned. Many of the lock houses along the canal have either been lost through time or have been converted to private homes. The hamlets of Rowland, Glen Eyre, Bayoba, and Kimbles are still familiar places but currently host only a few private homes at best. The Rowland

Store is one of the few remaining commercial operations. This corridor provides excellent opportunities for connecting the local villages with important historic, cultural, natural resources and wildlife sites which could strengthen economic and tourism related business in the region. A project to provide better access to the river while preserving and protecting the rural character would be ideal. Scenic pull-offs have been successful in other areas to alleviate issues with trespassing and safety and to accommodate those interested in enjoying scenic resources.

Historical Resources for Recreation and Heritage Tourism

Recreation and tourism provide key opportunities to link citizens and visitors with historical resources in Pike County and enlist their help in protection efforts.

Grey Towers

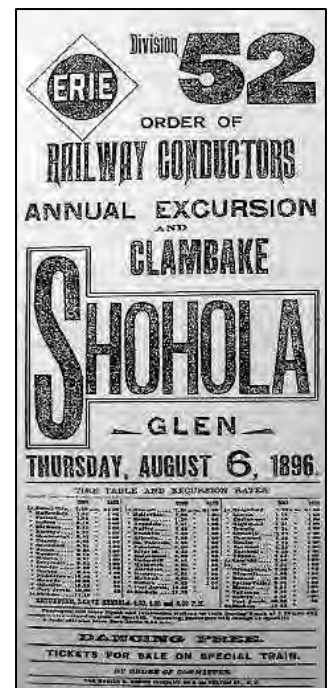
Grey Towers is the former home of Gifford Pinchot, the first Chief of the United States Forest Service and twice the Governor of Pennsylvania. A National Historic Site, it is one of the most popular historical destinations in Pike County attracting 13,000 persons on average per year. The site is owned and operated by the US Forest Service. Open to the public, this site offers guided tours of the home and the gardens.



Trails celebrate the legacy of Gifford Pinchot, offering interpretive experiences that highlight forestry for visitors. Vistas at the Grey Towers site offer some of the most breathtaking views of the region's forested ridgelines. Citizen interest has been expressed in connecting the Delaware State Forest trail network to Grey Towers and the Borough of Milford.

Shohola Glen

The transportation and exchange of timber, stone and farm products helped spread the word of the area's beauty to the major cities along the coast. Vacationers from the New York and Philadelphia regions quickly became interested in spending weekends and summers in Pike County. Many hotels, boarding houses and recreation attractions were located along the Delaware and Lackawaxen Rivers. The Shohola Glen recreation area and switchback railroad was one of most popular attractions in the County at that time. At the height of its popularity at the turn of the century, it attracted over 100,000 visitors a year. However, by the Depression Era, the Shohola Glen had fallen out of favor and the recreation area was closed.



Like the D&H Canal, little evidence of this popular site remains. Several major floods destroyed the Glen over the decades since its closing. A few foundations and traces of structures exist on this property. The area has quietly returned to its natural state and is currently under private ownership.

Shohola Township's Rohman Park lies adjacent to the primary site of Shohola Glen. The Township has planned an interpretive walk around two historic foundations within Rohman Park. Due to its location between the original Shohola Glen site and the Delaware River, Rohman Park offers an excellent opportunity to begin reconnecting the village of Shohola to the Upper Delaware Scenic and Recreational River. Cooperating with landowners to purchase conservation easements for "missing link" lands would be a first step. A trail that provides access to the Delaware River through Rohman Park would connect those using the river to Shohola village, bringing economic benefits to the village of Shohola. Further trail extensions could create an opportunity for historical interpretation of the Shohola Glen.

Zane Grey House

The Zane Grey Museum is located in the village of Lackawaxen along the Upper Delaware Scenic and Recreational River. Zane Grey, an American author famously known for his adventure novels, resided in Lackawaxen from 1905 to 1929. Following his death in 1939, the house was operated as the Zane Grey Inn for 25 years. In 1973, the house was converted to a private museum. Memorabilia, photographs, and books were displayed in the rooms that served as Grey's office and study.

The museum was purchased by the National Park Service in 1989. NPS recognized the site as an asset to the Upper Delaware Scenic and Recreational River because of Grey's relationship with the Delaware River and its effect upon the budding writer. During the June flood of 2006 the Zane Grey Museum was extensively damaged and was closed until Summer 2007. The museum items were removed from the site prior to the flood. The Zane Grey house now has a display dedicated to the flood of 2006 and the restoration of the home.



Today, NPS rangers and volunteers provide guided tours through the museum and make a variety of Zane Grey books available for sale. The grounds offer a historical interpretative walk around the grounds of the property. NPS places a

high value on the integrity of the property. A number of structures on the property are currently being restored. The orchard is slated for restoration and preservation of the heirloom species of apples and pears. Newer buildings not related to the home's heritage are scheduled for removal.

Roebling Bridge Aqueduct

The Roebling Bridge is the oldest existing wire suspension bridge in the United States. Begun in 1847 as one of four suspension aqueducts on the Delaware and Hudson Canal (D&H), it was designed and built under the supervision of John A. Roebling, future engineer of the Brooklyn Bridge. Portions of the D&H Canal, including the Roebling Bridge, were designated a National Historic Landmark in 1968. The Roebling Bridge is also designated a National Civil Engineering Landmark.



Milford Borough Historic District

Milford Borough is Pike County's only registered historic district. The boundaries of the district roughly encompass the gridded portion of Milford. The borough has an architectural review board which assists in preserving the historical character of Milford.

Villages of Pike County

There are over 30 recognized hamlets or villages in the County. These are unincorporated settlements generally recognized by name locally. Several villages still have residents, a local postal office and a modest downtown, while others are historically important areas that have little or no active development today. Whether active areas of residence or commerce or not, the villages can serve as destination hubs for services or historic interpretation in the Pike County Greenway Network or along the County's scenic byways.



Threats to Historical Resources

In recent years several of Pike's historic resources have been negatively impacted by time and modern development. The Lord House, in Blooming Grove Township at the intersection of Route 739 and Blooming Grove Road is just one example.

The Lord House was built in 1850 by Simeon Lord as a hotel for those who traveled along the Bethany-Dingman's Choice Turnpike. The Lord House also served as the Lord's Valley post office until 1955 when the Hawley post office assumed service for Lord's Valley. In 1976, the house was still in good condition and listed on the Commonwealth's register of historic buildings. Since then, years of neglect and the influx of contemporary commercial and industrial operations on properties adjacent to the house have deteriorated its historical integrity. Due to sound construction, the building is still intact, but its present use and appearance contribute neither historic nor economic value to the Lords Valley community.



Lord House, 1976



Lord House, 2007

Local efforts are necessary to protect and maintain the quality and integrity of the historical resources in Pike County. These resources are an aspect of the scenic rural quality that residents and visitors value. Integration of historical resources into Pike County's Open Space, Greenways and Recreation network may afford more opportunities for preservation of these resources as hubs or destination points.

Historic and Cultural Resource Organizations

Pike County Historical Society

The Pike County Historical Society is housed in the building known as 'The Columns' in the historic district of Milford. The Society was founded in 1930 to maintain the historical legacy of Pike County through preservation, leadership, and education. Their collections include historical photos, documents and artifacts from Pike County's history. The society's Columns Building is a key attraction to vacationers visiting the Borough of Milford.



The Lincoln flag, housed at the Pike County Historical Society, was brought there by Jennie Gourlay, an actress who performed the night Lincoln was assassinated at the Ford Theater.

Conclusions

Strengths

Pike County has a rich heritage that supports its growing tourism economy. From Native American history to sites which highlight Pennsylvania's role in the founding of the United States of America and the development of our nation's economy, Pike County can offer visitors an extraordinary range of heritage sites. The county's most famous sites, like Grey Towers and the Zane Gray House, are complemented by over 30 historic towns and villages, structures such as the Roebling Bridge, the national recreation area, forests, parks and game lands. The museums, festivals and other cultural events spawned by the county's heritage add value to visitation, quality of life, and the economy. Pike County's unique historic sites are points of local pride for the residents.

The beauty of Pike County's rural landscapes, rivers, trails, and scenic views add to the quality of the visitor experience. According to the 1999 Pennsylvania Heritage Tourism Study¹ survey, over 50% of those who had traveled to a heritage site said they had visited an outdoor recreation site as well, demonstrating the strong connection between heritage and outdoor recreational travel. The words heritage travelers used most frequently to describe their visits to Pennsylvania were "educational", "scenic" and "fun". Pike County's superior heritage tourism products offer vacation-quality experiences.

¹ Shifflet, D.K. & Associates. (1999) Pennsylvania Heritage Tourism Study. Harrisburg: PADCNr.

Challenges

Pike County has already experienced negative impacts on its historic sites and structures as a result of neglect, development pressures, lack of sufficient capital and too few human resources to undertake the scale of work necessary to plan, fundraise, rehabilitate, maintain and promote the heritage of the area. As time passes and development increases, historic sites are deteriorating and historic landscapes are being lost.

Opportunities

The history of Pike County, as reflected in its structures, sites, landmarks, landscape and program, can be fully and soundly integrated into the Open Space, Greenways and Recreation network. Heritage tourism and ecotourism are two very compatible visitor segments. The historic sites, structures, and villages can become hubs and destinations in a countywide trail network. According to the Heritage Tourism Study, heritage travelers stay longer and spend more than other tourists, making it very attractive to continue to develop and market this sector of the tourism market. Given the growth that is occurring in this market segment, heritage tourism presents an attractive economic development opportunity with important quality of life benefits.

An important opportunity to consider is adopting the concept of cultural heritage landscapes as a component of historic resources and related planning in Pike County. Important cultural landscapes abound in Pike County. One of the most significant is the Blooming Grove Hunting and Fishing Club dating back to 1871.²

What are Historic Landscapes?

Historic landscapes are places that, through their physical characteristics and features, reflect the interaction of human beings with the environment. They may be associated with a historically significant activity, event or person, or otherwise manifest the values or traditions of a culture. Sometimes called cultural landscapes or heritage landscapes, historic landscapes often incorporate both natural resources, such as vegetation, bodies of water and topographical characteristics, and human-made features, such as buildings, monuments and path systems. Ranging in size from a small plot to thousands of acres, historic landscapes may be the setting for an important building or might be significant in their own right³.

² MANTA – essential business information on demand, <http://www.manta.com>

³ Doherty, Joanna. (2005) **Terra Firma: Putting Historic Landscape Preservation on Solid Ground**. Boston: Massachusetts Department of Conservation and Recreation. P 3.

The development of a historic landscape preservation plan — a written report that documents a resource's history and significance and delineates an appropriate treatment — is critical to the protection of an historic landscape. The plan would include five components: historic research about the site, inventory of existing conditions, analysis of the features and integrity of the site in terms of its historic or cultural significance, development of a preservation approach and treatment plan, and a maintenance plan. The preservation plan could include a range of options from public education to acquisition of historic landscapes. Such a plan should be developed to coordinate and prioritize preservation efforts.

The Pocono Forests & Waters Conservation Landscapes Initiatives (PFWCLI) offers a potential mechanism for Pike County to undertake the development of a historic landscapes preservation program. Achieving success on the ground during the five-year anticipated life span of the PFWCLI would help to institutionalize an historic landscapes preservation program in Pike County as well as spur other successes in open space and historic resources protection. This Pike County Open Space, Greenways and Recreation Plan would advocate that large and potentially historic tracts of land emerge as top priorities to address including the camps and hunting clubs, such as the Blooming Grove Hunting and Fishing Club, Porters Lake Club and others.

Further Opportunities for consideration

Developing a reasonable, practical and achievable method to plan, preserve and maintain the historic and cultural resources in Pike County is a challenge. With all of the pressing issues and limited resources available, historic preservation falls low on the priority list. Nevertheless, there is some urgency required here in attending to historic preservation as recent history shows that neglect and modern development have resulted in loss and degradation of valuable historic resources and their stories. The County and its partners could consider opportunities such as:

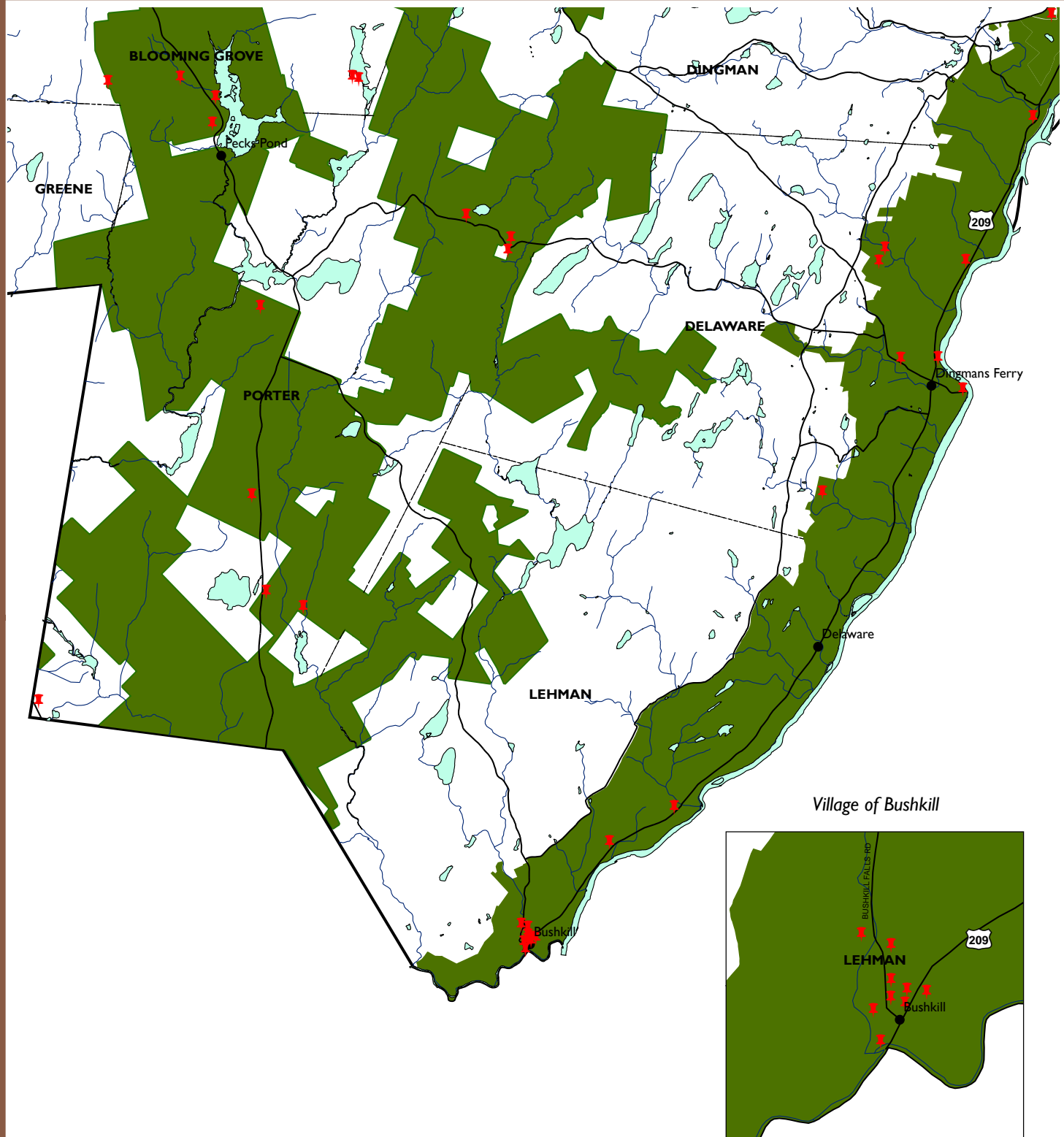
1. Coordinating the development of a historic landscapes preservation program for Pike County working with and through a partnership with the PFWCLI.
2. Tapping the expertise of national organizations with a local presence. For example, the Department of the Interior has set standards for historic landscape preservation. The National Park Service units and national historic sites are located here. While coordination with NPS will be part of the PFWCLI, NPS and the historic sites staff might be an effective source of direct expertise, ideas and support in the long term.
3. Assisting with finding possible funding sources for rehabilitating historic buildings for commercial or other uses. As an example, the Federal Rehabilitation Investment Tax Credit (RITC) program, a USDI National Park Service initiative administered through the PA Historic and Museum

Commission provides a viable option for private investment to be used to rehabilitate and preserve historic buildings.

4. Focusing on large historic landscapes as priorities for historic preservation when prioritizing and targeting efforts that would produce the most impact and benefit, Examples would include the historic hunting clubs and camps.
5. For projects, sites, structures or landmarks that are smaller either in size or importance, encouraging the multi-municipal and municipal planning efforts to address historic preservation as part of comprehensive planning and open space, greenway, and recreation planning.
6. Planning for pedestrian and bicycle access to historic sites through trail and tourism planning.
7. Providing technical assistance about grants and preservation benefits to support the efforts of other municipal, regional or community organizations.
8. Building partnerships with citizen groups to carry out historic preservation efforts, where possible. Citizen groups are often instrumental in providing local knowledge and volunteer time to preservation projects.
9. Seeking grant funding to develop a historic preservation plan for Pike County. Use the funds to retain a professional planner with expertise in this area and who would foster a strong public participation component in developing the plan.
10. Coordinating with the Pike County Visitors Bureau and the Pocono Mountain Visitors Bureau on marketing heritage tourism and developing ideas for new attractions.
11. Creating history trails within the County's greenway and trail system to link and interpret historic sites -- considering these routes as candidates:
 - the scenic byways of Pike County
 - the Pinchot Greenway Trail (Grey Towers to the Delaware State Forest, Pike County Park and Borough of Milford)
 - Shohola Glen-to-Delaware River Trail, connecting Rohman Park's in Shohola Township to the Shohola Glen to reconnect the village of Shohola to the Upper Delaware Scenic and Recreational River.

Historical Sites - Bushkill Region



Pike County Open Space, Greenways and Recreation Plan



Mapping Preparation:
Pike County Office of Community Planning

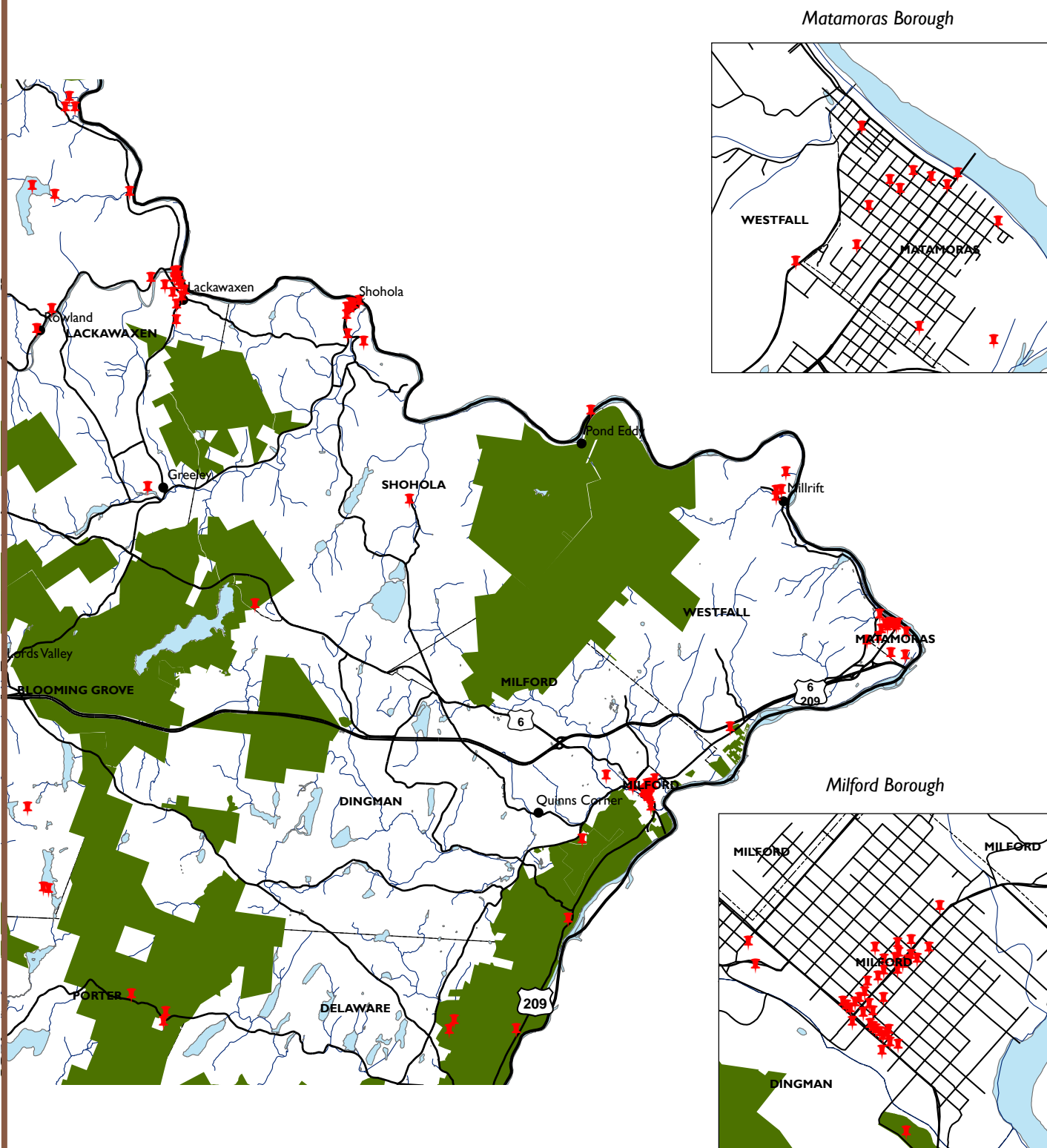
Data Source:
Pike County GIS Data

Legend

-  Historical Sites
-  Public Lands

Historical Sites - Delaware Valley Region



Pike County Open Space, Greenways and Recreation Plan



Mapping Preparation:
Pike County Office of Community Planning

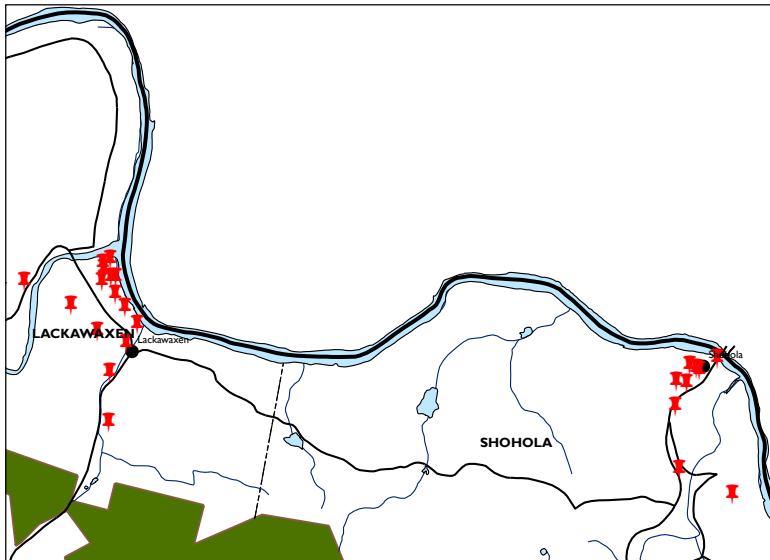
Data Source:
Pike County GIS Data

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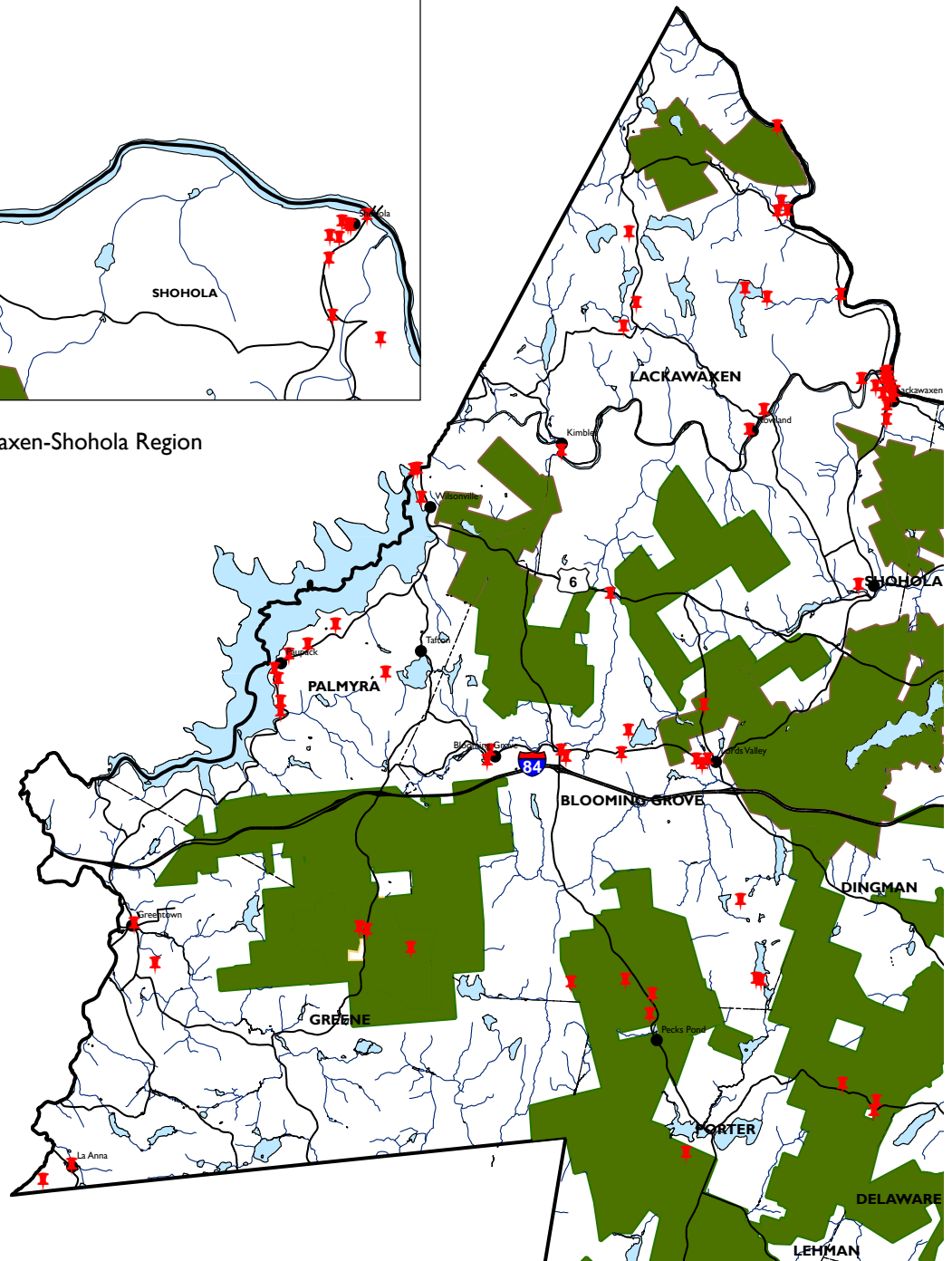
-  Historical Sites
-  Public Lands

Historical Sites - Wallenpaupack Region

Pike County Open Space, Greenways and Recreation Plan





Lackawaxen-Shohola Region



Mapping Preparation:
Pike County Office of Community Planning

Data Source:
Pike County GIS Data

Legend

-  Historical Sites
-  Public Lands

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Chapter I I Forest Resources



Photo Credit: D. Soete

Pike County's forest resources, represented on the "Forest Cover Density Map," show that just over 287,500 acres or 80% of Pike County's land area is covered by forestland with forest cover greater than 70%. Pike County's forest resources, both public and private, represent one of the largest expanses of contiguous forestland in eastern Pennsylvania and the broader region, making it a tremendous resource for not only county and Pennsylvania residents but also close to 11 million people of the metropolitan areas of New York and New Jersey to the east. As Central Park is to New York City, Pike County's forestland has been compared to the park in that it provides one of the largest "green" areas surrounded by metropolitan and commercialized areas in the mid-Atlantic tri-state region.

These large blocks of Pike County's public and private forestland provide tremendous benefits to water quality, scenic rural character, excellent wildlife habitat and our forest product, recreation and tourism economy making it a truly priceless public asset. Our forestland provides for an abundance of high quality forest products, which help to support the county, region and state's \$5 billion forest products industry that employs almost 100,000 people.

When viewed from another perspective, the forestland represents a huge water and air purification system. Our large contiguous forestland coverage is of critical importance to the high quality and exceptional value waters of the County providing filtration of water pollutants in critical groundwater recharge areas and along stream corridors and protection from thermal stress on water resources by providing forest canopy cover for our critical headwaters streams, as two key examples. Maintenance of the long term health and sustainability of these forest resources, largely held in private ownership, will be a key to maintaining the high quality of our water resources.



Photo Credit: D. Soete

Additionally, these forests provide for a myriad of year-round recreational opportunities and an important aesthetic and scenic setting that is vital for Pike's recreation and tourism industry. When viewed as a whole, our forestland provides one of only a few areas recognized state-wide and nationally as “excellent wildlife

habitat” for plants and animals.

Pike County's forest system is a combination of these resources, uses, and values, as well as a functioning biological system with intrinsic values to be held in trust for future generations.

Our forest resource is a critical and unique resource to Pike County.

Forest Composition

A forest by definition is an area densely populated by trees and other woody plants. Pike County's forest habitats, as is much of the Pocono region, is varied because of the glaciated geology and soils and the variety of environments in and around the Pocono plateau region. These varied environments include ridges, ravines, lakes, streams, bogs and barrens.

Foresters consider Pike County as being in a transitional zone between the two major types of eastern deciduous forests – mixed oak and northern hardwoods.

Most of the upland in Pike Co. is occupied by a Mixed Oak forest. The primary tree species are Chestnut oak, White oak, Red oak and Red maple. The primary associated species are Sweet birch, White pine, Hickory, Eastern hemlock, Black oak, Scarlet oak, Pitch pine, and Sassafras. Shrubs that commonly occupy the understory would include Blueberry, Blackhaw, and Mountain Laurel. A wide variety of wild native plants, such as Lady's Slipper, trillium and other native herbaceous species, flourish when they are not being devoured by deer. Lowland

areas, which include wetlands and stream drainages are occupied primarily by Red maple, Yellow birch, Black gum, Eastern hemlock, Red and Black spruce, and Tamarack. Shrub species commonly found would be Rhododendron, Highbush blueberry, and Greenbriar.

The exception to the Mixed Oak areas is in the Southwest corner of the County, part of Palmyra Township and Greene Township, where Northern Hardwoods occupy most of the forested land. Tree species found most commonly in this area are Sugar maple, American beech, Sweet birch, White ash, and Black cherry. Associated species would be Red maple, American basswood, and Eastern Hemlock. Understory species are mainly Striped maple and Beech brush. Mostly because of severe deer browsing, much of the ground is blanketed with fern.

Wetlands, bogs and glacial swamp habitats, resulting from the Wisconsin Glacier from approximately 10,000-15,000 years ago, are also very common throughout the County.

Forest Health and Sustainability

Forest fragmentation and the other direct effects of growth and development in the County are a readily identifiable impact to forest health and sustainability.

Forest regeneration, while not as readily identifiable, poses another large challenge to forest health and sustainability facing Pike County forest communities today. The forest as we know it may be altered permanently, both in species composition and

structure, if forest regeneration is not addressed with strong stewardship and management initiatives.



Photo Credit: D. Soete

“Forest regeneration is seriously impaired in most of Pennsylvania’s forest lands.” (McWilliams et al. 1995) A number of factors work in concert to inhibit re-growth of our forests.

A recent study completed by Penn State entitled “*Regenerating Hardwood Forests: Managing Competing Plants, Deer and Light*” documents the challenges Pennsylvania’s forests face in natural forest regeneration. The 1995 study on which the report is based looked at 85 randomly selected timber harvest sites and found that 47 percent were unsustainable because they failed to retain

desirable species of trees, establish adequate regrowth, and leave enough light to nurture existing regeneration. The three key factors identified in the report - competing plants, deer browse damage and inadequate light - pose a triple threat to the regeneration of our forests.

Although this study documents the factors which effect Pennsylvania's forestland regeneration, this report is extremely applicable to Pike County's forests. All of these factors play a key role in the sustainability of Pike County's forest resource over the long-term.

White-tail deer browse

In understanding the impacts of white-tail deer overbrowsing on Pike County forests, one has only to look into Pike County's forest from an edge, opening or road. A fairly well defined line approximately four feet above the ground (the approximate head height of the average deer) shows the demarcation between natural vegetation growth and growth impacted by deer browse. This line is known as the "browse line." The pervasiveness of this browse line throughout our Pike County forest underscores the influence that deer populations have on our forest habitat.



A well researched study completed in 2006 by PA DCNR Bureau of Forestry personnel from across the state documents the effect of white-tail deer populations on woodland regeneration throughout the state. The report shows habitat damage is heaviest in north central Pennsylvania and in the Pocono Mountains region. Preliminary data

for the Delaware State Forest District #19 region, which includes Pike County, showed severely browsed forests with poor regeneration; almost 50 % of the study plots showed no regeneration and only 20% of the study plots had desirable regeneration.

Photo Credit: D. Soete

Deer populations have grown significantly since the turn of the century (Kosack 1995, Yahner 1995). Based on surveys conducted by the PA Game Commission in 2000, deer densities are documented to exceed the habitat sustainability goals set by Commission biologists in nearly every county in the state. The study indicated that Pike County's 2000 deer population was 45 to 75% above the forest habitat sustainability goals of the PA Game Commission. As populations of deer have increased in recent years, the impact on forest re-growth has become critical. Forest regeneration may be inhibited by deer foraging on acorns and oak seedlings as well as the direct impact on saplings by deer browsing most

vegetation within reach. Recent studies by McWilliam (1995) and Townsend, D. (in press) have shown tree seedling regeneration to be inadequate for maintaining our forests across the state during the last several years.

Deer overbrowsing has also simplified the structural diversity of our forest habitats. Rare plants, such as orchids, as well as the under-story, sub-canopy, shrub and herbaceous layers in the forest continuum are all reduced by overbrowse, thus limiting the habitats for species that depend on understory and ground cover levels of the forest for cover. The resultant impact on wildlife includes declines in forest birds using under-story habitats (deCalestra 1994) and declines in small mammals. Invertebrate densities are also decreased as the herbaceous layer that provides cover for forest floor invertebrates has been altered. Deer population health is also impacted by the poor quality of the forest with smaller deer produced in heavily browsed forests (G. Alt, PGC data).

One method of trying to address Pike County's forest regeneration as it is impacted by deer overbrowse is the implementation of fencing both on public and private lands in critical areas where regeneration is needed. Pike County's landowners in both the public and private sectors are investing thousands of dollars in fencing to exclude deer from forest management areas recently timbered. Financial resources of these landowners previously used for wildlife habitat management and conservation in the implementation of forest management plans are now being spent, at least in part, on fencing to exclude deer from forest regeneration areas.

Inadequate light, competing plants and other factors

Shading of the forest floor caused by prolific nuisance species such as hay scented fern and some grass stands also inhibits the regrowth of seedlings and impacts forest regeneration. Hay scented fern is a critical limiting factor to forest regeneration in areas of Pike County further impacting the regeneration of our over-browsed forest habitats. Non-native invasive plant species, many of which also are prolific in their reproduction, compete with native forest species causing a critical threat to forest regeneration and cause changes in the forest understory structure.



Drought, acidic deposition, and forest pests can further complicate forest regeneration. Non-native invasive invertebrates may be altering the soil structure and working in concert with non-native plants to inhibit native species

re-growth (Maerz, J. pers. comm.). Add to these key factors such additional stresses as drought, pollution affecting soil fertility, acid deposition, gypsy moth defoliation and other forest pests such as hemlock wooly adelgid and Pike County forest health and regeneration has serious challenges.

The lack of regeneration has implications for the future of forest habitat for wildlife. Some foresters suggest that the dominant tree species may shift as a result of deer over-browsing and the other regeneration factors. The impacts of this species shift on forest wildlife have yet to be determined and will be important to research and evaluate.

The decline in forest regeneration is complex and has many contributing factors. But despite its complexity, the long-term health and sustainability of our forests depend on public management decisions and private stewardship actions. Ecological research will also play an essential role in helping to guide forest management decisions at the state level for our “public forests.” These public decisions will provide guidance and funding that can assist our Pike County landowners in better understanding the important impact “private land management decisions” can have on the long-term health and sustainability of our Pike County forestland resource.

Low Grade Timber

Low value timber presents another challenge for private landowners interested in managing their forests. This is a major concern for Pike County landowners. In Pike County, the overall timber quality of our mixed oak forests is poor in comparison to other parts of the state. The soils and geology of the county generally produce



low site indices for growing timber. In addition, past timber harvest operations have left many sites with very poor residual stocking which are exacerbated by the forest regeneration issues as listed above. This is not to say that there is no higher quality timber, only that the amount of high quality timber does not offset the norm. The main challenge for landowners and land managers is trying to accomplish in one forest management treatment what should normally be undertaken in several successive treatments over time. Finding markets for small diameter and low quality growing stock is crucial for successful management.

Addressing Pike County’s long-term forest sustainability can only be accomplished through the development of partnerships with the private forest

landowners in the county. Private lands are a significant portion of Pike County forestland resource. Any successful program for conservation of the resource must be focused on providing technical, financial, and marketing assistance for these private stewards of our forests.

Forest Ownership and Management

Pike County's state forest resources cover just over 72,000 acres or 20% of the land area in the county. These 72,000 acres are owned and actively managed by the Pennsylvania Department of Conservation and Natural Resources, Bureau of Forestry. Forest District #19, Delaware State Forest is responsible for the long-term management - health, sustainability, and economic viability – of these Pike County public assets.

Additionally, the state Game Commission owns and manages some 25,000 acres of land in the county much of it contiguous forestland. However, the main objective of the land management on these parcels is for wildlife rather than sustainable forests, although many of the long-term benefits such as water quality protection, provision of wildlife habitat, scenic value of these lands is the same as our state forestlands.

Perhaps Pike County's largest forest resource are the large privately held forested land tracts owned primarily by long established hunting, fishing and sportsmen's clubs and seasonal camps. These lands are a major component of Pike County's forest resources. In Pike County, these lands play a similar role as do the large blocks of agricultural lands in counties such as Chester, Lancaster, Lebanon or Berks. The scenic, rural, ecological and economic benefits of these private lands are a tremendous value to our overall community.

County records indicate approximately 122,477 acres of privately held lands are enrolled in Act 319 "Clean and Green" a reduced tax assessment for individuals who agree to maintain their land for agricultural use, agricultural reserve, or forest reserve use over the long-term. In the county, the majority of these Clean and Green lands are forest lands rather than agricultural. As an example, lands held by private hunting clubs make up close to 45% of the total land area enrolled in Act 319. However, many of these lands are becoming more susceptible to the potential of development pressure and the possible fragmentation of these large forested tracts. Owning large amounts of land in the County is becoming an increasingly difficult responsibility. Decreasing hunting and fishing club membership, waning interest in hunting with our youth, increasing costs of operating camps, and overall increasing local school tax burden, impact the owner's ability to maintain their land.

Loss of land to development not only fragments the forested open space network, but also can increase the costs of local services. Maintaining road networks, emergency and fire protection services, and increasing school

enrollments are all factors which affect the cost of living in a community. Planning for open space is essential not only to protecting our resources but also to assuring that we are developing our communities' sustainability.

The impact of these private lands on addressing Pike County's long-term forest sustainability cannot be overemphasized. Development of partnerships with the private forest landowners in the county and programs which benefit the private forest resource will be the most important factor in conservation and protection of this resource into the future.

Forest Stewardship

Pennsylvania's Forest Stewardship Program in Pike County

The Forest Stewardship Program is a voluntary program which helps forest landowners learn how to improve and maintain the ecological health of their land. Landowners themselves identify the goals and objectives for their land, and the Forest Stewardship program links the landowner with people who can help to carry out those goals in a way which maintains the long term health and sustainability of the forest resource.

Since 1990, the program has been funded in all 50 states by the US Department of Agriculture, Forest Service. In Pennsylvania, the Department of Conservation and Natural Resources Bureau of Forestry administers the forest stewardship program and provides the technical and professional help for landowners. To best achieve this, the Bureau of Forestry actively develops and sustains partnerships with landowners, communities, non-profits, and other organizations.



Implementation of the Forest Stewardship program in Pike County is provided through a Service Forester stationed at the regional Forestry District office. PA Bureau of Forestry District #19 which covers Pike, Monroe and Northampton Counties currently has two full time Service Foresters who work with landowners in the three counties. The foresters work out of the District #19 office in Swiftwater, Monroe County.

All private landowners are welcome to participate in the Forest Stewardship Program and can work with the local Forest District #19 and the service forester or with their own paid private consulting forester to develop a forest stewardship plan for their property. The forester assists the landowners with the development of forest management practices based on the goals and objectives of the landowner. Objectives such as maximizing timber production, improving wildlife habitat or establishing forest riparian buffers to protect high quality water resources are all important landowner objectives which can be addressed in a forest stewardship plan. Properties of at least five acres or more of forestland may be eligible for cost-share assistance from the state DCNR Bureau of Forestry for development of their stewardship plan.

To date, Bureau of Forestry personnel and local consulting foresters have worked with 41 landowners in Pike County to voluntarily develop and implement forest stewardship plans on approximately 19,187 acres of forestland in the county. Continued contact with these landowners is a critical aspect of plan implementation.

This Forest Stewardship program plays an extremely important part in the long term maintenance and sustainability of our Pike County Forest Resources. With such a large percentage of Pike County's forest resources being owned and managed by private forest landowners, it is imperative that Pike County take an active role in promotion of forest stewardship with landowners throughout the county. Avoiding forest timber operations which no longer provide for sustainability of the resource, implementing forest management practices which take into account critical forest regeneration issues such as forest pest management, deer browse and other issues, and providing for forest canopy in critical headwaters areas and stream buffer areas are all critical to the future of Pike County's forest resources.

The ultimate objective is the development of forest stewardship opportunities which will help to maintain the long term health and sustainability of our forest resources.

Promotion, Education, Implementation of Private Forest Stewardship

Addressing Pike County's long-term forest sustainability can only be accomplished through the development of partnerships with the private forest landowners in the county. Private lands are a significant portion of Pike County's forestland resource. Any successful program for conservation of the resource and long term sustainability of our forests must be focused on providing technical and financial assistance for these private stewards of our forests.

Development and implementation of forest stewardship and/or forest management plans which take into account the need for proper forest regeneration, addressing such issues as noxious and/or invasive plant species, adequate light, white-tail deer browse, and provision of adequate crop trees for regeneration seeding, will provide one of the most important steps to maintaining the health of Pike County's forestland.

Integrating forestry best management practices and implementing critical erosion and sediment control measures on timber harvest operations, particularly on private forest lands, can play an important role in long-term forest regeneration and sustainability in the County.

Implementation of these plans and practices can only be accomplished through a proactive forest stewardship outreach program with all private landowners. The key to this outreach will be forging partnerships with private landowners, providing adequate funding for forest stewardship planning and implementation and providing adequate professional forest staff at both the county and state levels.

Act 319, Clean & Green

The Act 319 program, commonly referred to as "Clean and Green" is a state program designed to help protect agricultural and forestland by providing a tax benefit to owners of land enrolled in the program. This Act provides reduced tax assessment to individuals who agree to maintain their land for agricultural use, agricultural reserve, or forest reserve use over the long-term.

This program benefits landowners who own ten (10) acres or more of farm, forest or open land. Enrollment is completed through the County tax assessment office. Once enrolled, the County reassesses and taxes the parcel on the basis of its "use value" rather than its higher "market value."



If after enrolled, however, a landowner chooses to remove their land from the Act 319 program through a change of use or development, the owner is subject to up to 7 years of rollback taxes plus 6% interest. Rollback taxes are charged on the part of the land that was enrolled in the program for the period of the enrollment or the last seven years, whichever is less.

While this program can function as an effective tool for forestland protection

state-wide, Pike County's land values have escalated to the point that the rollback tax and interest penalty are no longer a deterrent to removing land from the program. Once thought to be cost prohibitive to remove land from "Clean and Green", Pike County is now facing the potential development of forested tracts no longer held in this forest reserve program.

Forest Legacy Program

The Forest Legacy Program (FLP) is a federally funded US Department of Agriculture (USDA) program administered by the US Forest Service. The FLP was established by Congress, as part of the 1990 Farm Bill, to protect environmentally important forest areas that are threatened by conversion to non-forest uses and to maintain those lands as working forests. The FLP involves a partnership between the US Forest Service, State lead agencies, local sponsoring agencies, and interested landowners.

As part of the Federal Forest Stewardship Program, the FLP provides grants to participating states for assistance with acquisition of land and land interests (easements) to conserve vulnerable forests in perpetuity. To be accepted into the program, land or land interests must be located within a designated Forest Legacy Area (FLA) and must meet specific eligibility criteria.

Pennsylvania's Forest Legacy Program

The Pennsylvania Department of Conservation and Natural Resources, Bureau of Forestry, in cooperation with the State Forest Stewardship Committee (SFSC), is the "lead agency" responsible for implementing the Forest Legacy Program in Pennsylvania. Pennsylvania has participated in the FLP since August 2002. PA Department of Conservation and National Resources (DCNR) Bureau of Forestry, taking input from a wide variety of interests into consideration, established seven (7) goals as part of the Forest Legacy Program in the State. The goals, as established, are:

- To maintain traditional forest uses, emphasizing commercial timber harvesting following Best Management Practices (BMP's), and secondary recreational activities.
- To maintain productivity of forests for future generations.
- To reduce the trend towards forest parcelization.
- To conserve significant tracts of contiguous forest.
- To conserve water resources and riparian zones.
- To conserve important habitats for plants, fish, and wildlife.
- To restore degraded forested ecosystems.

The overall purpose of the FLP in Pennsylvania is to help protect and conserve working forests while maintaining private ownership of the land. Pennsylvania's FLP goals are to be achieved through voluntary easements protecting forestland from development and through planning and promoting forest stewardship. The goals are to be accomplished through developing and sustaining partnerships with landowners, communities, non-profits, and other organizations to conserve forestland over the long-term.

Local Sponsorship of the Forest Legacy Program

To participate in the Forest Legacy Program, a Forest Legacy Area (FLA) must be established by a local sponsoring organization. Forest Legacy Areas are large forested areas which are within definable boundaries such as a county or group of counties, watersheds, or other landscapes of at least 100 square miles and which meet three eligibility criteria. Forest Legacy Areas must contain lands that are: 1) threatened, 2) environmentally important, and 3) provide opportunities for continued traditional forest uses.

A **threatened** forest is an area of forestland that exhibits the potential for loss of traditional forest use (land use change) or loss of environmental value due to fragmentation and parcelization. Examples of threats include areas near existing/planned commercial/high-density residential development or where such conditions are likely to result in conversion to non-forest use or which would result in loss of environmental integrity. Threatened forests may exhibit extensive land transfers, be proximal to newly developed/proposed transportation corridors or in areas where second home and resort development are actively proposed. Threatened forests are areas which are changing from forestland to another use that does not allow the forest ecosystem to function naturally.

An **environmentally important** forest is a forest area that has at least one of the following attributes: scenic resources, public recreation opportunities, riparian areas, fish and wildlife habitat, known threatened or endangered species, known cultural resources, or other ecological values.

A forested area which **provides opportunities for continued traditional uses** sustains communities economically by providing raw materials for the timber or paper industry and by supplying fuelwood and special forest products (i.e., medicinal herbs, maple sugar). These traditional uses may include activities such as forest recreation.

Pike County's forested landscape provides an excellent opportunity for the formation of a Forest Legacy Area. In February 2004, Delaware Highlands Conservancy (DHC), acting as the local sponsor, worked with the PA Bureau of Forestry to gain approval for Pike County as a Forest Legacy Area.

As a result of Delaware Highlands Conservancy's sponsorship of the FLP, Pike County forestlands are now eligible for application to the Forest Legacy Program. Landowners within Pike County may now submit applications particularly for funding of conservation easements on critical forestlands. These applications are reviewed against criteria such as development pressure, timber management potential, natural features, water resource protection, proximity to additional protected forested acreage, etc.

As the local sponsoring organization, Delaware Highlands Conservancy works with interested/willing local landowners in the development of Forest Legacy Program applications, providing information and direction.

The Conservancy also coordinates public informational sessions, provides information, assistance, and outreach to local landowners, and works to package matching funds to make up the 25% non-Federal share required for easement purchases. The Conservancy also works with interested landowners to 'bundle' the applications together which gives applicants an opportunity to be considered as a group of contiguous parcels increasing the significance of the forested lands in the application.

If selected to the FLP, a conservation easement is negotiated for the approved lands. The conservation easement extinguishes all of the development rights (commercial and residential) for that parcel in perpetuity. The FLP will pay up to 75% of the appraised value of the resulting reduction in property value in unrestricted funds to the landowner. Specific provisions of the conservation easement are negotiable and typically allow for recreational uses, forest management and commercial forest activities regulated by a Forest Stewardship Plan, mining on not more than 10% of the total parcel at one time, the building of roads and trails, etc.

Forestland that is currently protected through a conservation easement is not eligible for the program. Easements that were acquired prior to the establishment of a Forest Legacy Area – in this case Pike County FLA – are not eligible for the program.

This federally funded Forest Legacy Program (FLP) is driven by the need to protect our working forests – a critical resource in Pike County where our forestland plays an important role in our local economy and is critical to the protection of water quality. Unfortunately, the use of FLP funds by Pike County



landowners is limited. This limited role of the use of these funds for forestland preservation is not for lack of interest but rather because of the phenomenally competitive nature of the program and the lack of funding for the program nationwide.

Since the start of Pennsylvania's participation in the FLP program through summer 2007, only one easement has been completed in the state. That easement was completed in 2005 on the 1,200 acre Milford Experimental Forest in Pike County. Completion of this easement involved funding from both the FLP and the Pennsylvania Department of Conservation and Natural Resources, and support from The Conservation Fund, The Delaware Highlands Conservancy and other organizations and agencies. The easement took three years to complete, hundreds of hours of effort and the support of all levels of government.

Pike County's FLP Sponsor, Delaware Highlands Conservancy has continued to take an active role in working with Pike County landowners to develop extremely viable FLP applications for each year since establishment of the FLP in Pike County.

Recently, Delaware Highlands Conservancy submitted three applications in Pike County totaling approximately 5,750 acres for consideration of funding under the Federal Fiscal Year 2008 Forest Legacy Program. The largest Pike County application included some 4,244 acres in the critical headwaters area of the Little Bushkill Creek, an exceptional value watershed with heavy development pressures. Pike County's three applications ranked first, second and third at the state level. The US Forest Service evaluates, ranks and recommends funding for FLP applications; it only considers the top three projects from each state. Pike County's forest legacy applications are strong submissions; however, competition at the national level for limited federal funding has been the main reason Pike County landowners have not fared well under the program. In the FLP 2005-2007 grant award period, only \$175 million was awarded nationwide for 48 projects across the country; two projects totaling \$2.5 million were in Pennsylvania but none in Pike County. The proposed projects list for 2008, valued at \$29 million, shows no other projects in Pennsylvania.

Landowner Incentive Program

Landowner Incentive Program funds are federal and are provided through the US Fish and Wildlife Service, Division of Federal Assistance. State wildlife and environmental agencies can access the funding for use in landowner outreach programs and for purchase of voluntary conservation easements on areas of critical wildlife habitat. In Pennsylvania, both the Game Commission and Fish and Boat Commission have applied for and received federal dollars to help fund assistance programs for private landowners in recognition of the importance of private lands to wildlife conservation.

In Pennsylvania, the Landowner Incentive Program is two tiered. Private Landowner Assistance Program (PLAP), tier 1 provides a non-competitive pool of funds used to provide private landowner technical assistance. Under this program, a network of Regional Wildlife Diversity Biologists (RWDB) provide technical assistance to private landowners to help with resource management plans and implementation of conservation practices which target “species of concern.” Prior to the establishment of the program, the PA Game Commission provided limited private land habitat assistance programs for species of concern.

The Landowner Incentive Program (LIP), tier 2 provides a competitive pool of funds which can be used for funding private landowner conservation easements. The funds are being used in Pennsylvania by the PA Fish and Boat Commission (PFBC) and the PA Game Commission (PGC) to partner with land trusts and private entities to secure long-term conservation easements on private lands to protect and enhance important habitats for at-risk species. The program's purpose is to support on-the-ground projects that enhance, protect, or restore habitats that benefit at-risk species on private lands. High-priority projects benefit multiple at-risk species, have permanent benefits, and involve multiple project partners.

In 2006, two Pike County applications, totaling approximately \$1M, were submitted to the PA Game Commission for consideration of funding under the LIP program. Both proposals were approved by the PA Game Commission on October 3, 2006 at their regular Commissioners meeting in Harrisburg.

The funds will be used to protect critical forested wildlife habitats through the purchase of conservation easements on two important privately held parcels in the County. Funds will be used to protect approximately 300 acres of dry and mesic forest in Lackawaxen Township, Pike County. The habitat is unbroken northern hardwood forest which provides diverse woodland habitats for species of concern such as the wood thrush, broad-winged hawk, black throated green warbler, and timber rattlesnake. The parcel is immediately adjacent to State Game Lands #116.

The second easement will protect 300 acres of rolling upland forest, stream, wetlands and ponds immediately adjacent to the Delaware State Forest in Lehman Township, Pike County. The property provides habitat for bald eagles, otters, timber rattlesnakes and forest interior birds.

While the LIP Program has been utilized by our Pike County forest landowners to protect critical wildlife habitats in the County, this pool of funding, which is funneled from the US Fish and Wildlife Service to the Pennsylvania Game Commission, is limited and/or non-existent in some years. Pike County's funded applications were the first easement purchases under the program in the state. Limited staffing to apply for and administer the LIP funding at the state Game

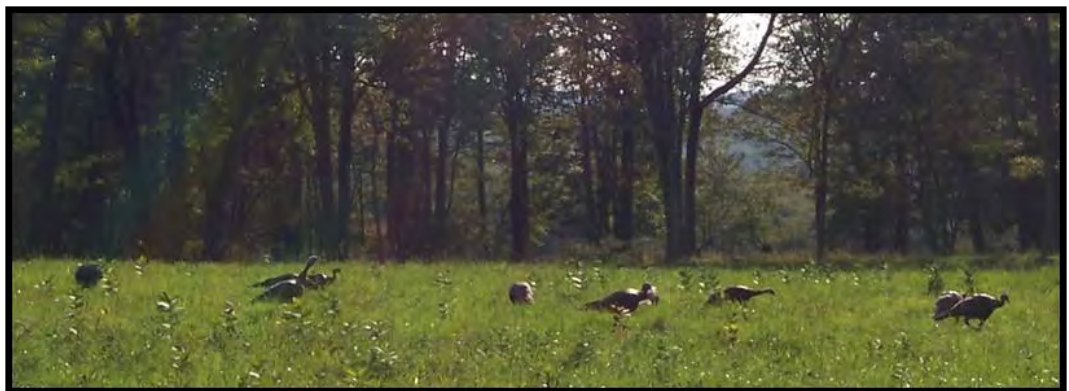
Commission level also plays a role in the availability of funds to Pike County private landowners.

Issues and Concerns for Forestland Preservation Funding

Forestland preservation rated high among Pike County residents in the resident survey conducted as part of the Pike County Comprehensive Plan update completed in 2006. 90.3% of the survey respondents felt forestland preservation was a top planning issue facing the county over the next ten years. Water quality protection rated as the highest planning issue with 95.2% of the respondents feeling this was the critical issue facing the county. Making the connection between excellent water quality and the proper management of our large contiguous forested tracts in the county must be an important focus not only for future planning for the county but also in the public education and outreach for private landowners.

Protection of critical forestland tracts through fee simple acquisition from willing landowners or purchase of conservation easements particularly in areas of high quality and exceptional value headwaters streams will provide for both surface and groundwater protection over the long term. Additionally and as critically important to our forest resource is the need for conservation and stewardship on private forest lands.

Pike County is in a unique position when attempting to preserve in perpetuity any of our critical privately held forested tracts. Many of the largest forested tracts in the county are held in private ownership by hunting and fishing clubs and associations which, by nature, are interested in conservation of their lands



over the long term. These landowners, many of whom are voluntarily willing to preserve their lands in perpetuity, are faced with difficult decisions. They can work with local land trusts to set aside their lands in a conservation easement without the benefit of financial compensation for that easement. In many cases, these landowners have out of pocket costs for legal fees, appraisals and other expenses related to these “donated” easements. Or these landowners can begin the process of working with partners such as the County, municipalities and local land trusts to seek funding for purchase of their conservation easements.

Funding availability through various programs, the competitive nature of the programs and certain funding criteria imposed upon the lands by the granting agency pose difficult decisions for these landowners.

As an example, although PA DCNR has funding for acquisitions and easements, the DCNR funding requirement for “public access” on areas where state funds have been used for purchase of easements limits its use on many of the privately held forest tracts in the county.

Additionally, the Pennsylvania Agricultural Land Preservation Program as currently enacted and administered excludes the opportunity for preservation of large tracts of forestland. Currently, the State Agricultural Conservation Easement Purchase Program regulations promulgated under authority of the Agricultural Security Law (Act of June 30, 1981, P.L. 128, No 43), 7 PA Code Chapter 138e includes timber and wood products in the definition of “crops.” (138e.3.Definitions) However, as per the regulations, agricultural conservation easements under the State’s and Pike County’s agricultural land preservation program can only be purchased on parcels which include 50% “harvested cropland.” The definition of “harvested cropland” (138e.3.Definitions) specifically excludes timber and wood products. As an example, one hundred acres of Pike County land would need to include 50 acres (50%) harvested cropland in order to preserve 50 acres of forestland. Thus, Pike County’s vast forest and timber resources can only be protected on a very limited basis and only in conjunction with “harvested cropland” through “agricultural conservation easements.”

Pike County is moving forward with partners such as Delaware Highlands Conservancy, our local land trust and Forest Legacy Program Sponsor, to support Pike County forestland applications under this federal program. Our unique forestland habitats and the hard work of members of our long-established hunting clubs on long-term forest stewardship have largely provided for the success of our Pike County applications at the state and national level under this program. However, funding is limited and our Pike County applicants are competing nationwide.

Recently, a small amount of funds funneled from the US Fish and Wildlife Service to the Pennsylvania Game Commission under their Landowner Incentive Program (LIP) have been accessed by our Pike County forest landowners for long-term protection of key wildlife habitats. But again, this pool of funding is limited and/or non-existent in some years.

The Pike County Board of Commissioners recently took several important steps to work towards open land/forestland preservation. With funding assistance from the PA Department of Conservation and Natural Resources (DCNR), the Commissioners tasked the Planning office with the development of this County-

wide Open Space, Greenways and Recreation Plan which provides goals and strategies for protection of open space in Pike County.

Additionally, the County Commissioners, following a 68% “yes” vote on the November 2005 ten million dollar open space bond referendum, developed the Scenic Rural Character Preservation Program and appointed a nine member Board to administer this program. This Board is moving forward with implementation of a municipal grants program for planning and acquisition funds for open space some of which can be focused on forestland preservation.

Even with these steps forward, because of Pike County’s unique position - unlike our southeastern county’s which have large agricultural preservation opportunities – our progress will be limited without some source of added forestland preservation funds at the state and federal levels.

Conclusions

Strengths

The forests in Pike County are perhaps its most characteristic resource. Whether new leaves in spring or fabulous ranges of color in fall, the hardwood forests in Pike County offer outstanding seasonal interest. One only has to think of “the Poconos” and the miles and miles of forested mountaintops come to mind.

Beyond their scenic value, the forests are integrally related to the presence and quality of many other natural resources. The forests purify the air. They filter the water flowing past their roots as it travels toward the rivers and streams or through the soil toward the aquifers. They shade small streams that would



otherwise become too warm for certain fish and aquatic wildlife. They drop leaves and branches into these waterways, providing food and shelter to the same wildlife. They provide habitat for terrestrial wildlife, too—mammals, birds, reptiles, insects, etc. The forest – Pennsylvania’s native land cover – is truly invaluable. Pike County residents acknowledged this when they rated forest

resource protection second only to water resource protection among priority concerns in the 2004 community survey.

A significant portion of private forest land is owned by sportsmen's clubs and seasonal camps. Collectively owning more than 52,000 acres of open space, this is a very small, dispersed but powerful group of landowners in Pike County. The future development or conservation of roughly 15% of Pike County lies in their hands.

Voluntary programs are available to assist private forest landowners in managing their forests for their own goals and in retaining the land as undeveloped or open space. These programs provide technical and financial assistance in forest management planning and practices.

Challenges

The forests in Pike County are threatened by both internal and external forces. Internally, hardwood forest health is suffering from poor regeneration. Causes include deer overbrowse, competition from native and non-native species, and inadequate light at the ground surface. These conditions have already begun to suggest that the composition of the forest will change over time. Other environmental conditions, e.g.



drought, insects, disease, and acid deposition, have further degraded the health of the forest and the quality of the harvested timber. Low quality timber yields narrower market options and lower market prices for landowners.

The cost of landownership, limited forestry staff, and limited forest protection funding are the external factors in the sustainability of forests in Pike County.

The cost of land ownership, namely taxes, for clubs and camps continues to rise as new development elsewhere in the County requires more public facilities and services. Pennsylvania's Clean and Green Program provides some tax relief but does not significantly reward forestland ownership. When the financial gain of developing the land is added up, the often waning interest of club membership and summer camp adventure pales in comparison. When budgets are overrun, many clubs and camps see no other alternative than to sell.

Communicating that there are win-win solutions to protect the forestland and provide some financial benefit to this dispersed audience is one challenge Pike County will need to overcome. The fact that there is no forest landowners

association in Pike County makes this challenge even harder. For those willing to listen to such possible solutions, some will certainly suspect “strings” are attached to program participation. Clear communication will be essential.

Professional forestry technical assistance for private forest land owners is very limited in Pike County. The County has no professional foresters on staff in its planning office or its conservation district. The office of the two DCNR Bureau of Forestry service foresters is located in Monroe County. While perhaps central to the three-county services region, the office is not easily accessible to Pike County forest landowners and for the significance of forest resources, seemingly not dedicated to Pike County.

The largest barrier to permanent forest resource protection is lack of funding for easements. While funds are available from state and federal sources, such as the Forest Legacy Program and the Landowner Incentive Program, they are extremely limited and highly competitive. Voluntary forest stewardship provides short term management for forest conservation, but cannot ensure the long term protection of the forest and its functions from development.

Opportunities

The Route 6 Heritage Corporation has developed an “artisans trail.” Along this trail of galleries and shops, visitors can see artisans working in their studios and displaying their works and crafts. Many artisans use local materials. Given that Route 6 passes through Pike County, there may be an opportunity to market local timber to local and trail artisans, who may not require high quality stock.

Perhaps the most significant opportunity for forest resource protection lies in promoting options for conserving forest while retaining ownership and use among sportsmen’s clubs and camps. As stated above, demonstrating the value of easements to this group of landowners could lead to the protection of 15% of the County from development, or roughly half of the remaining privately owned open space in the County. Organizing an outreach program for this select group of landowners should be explored.

The remaining 65,000 acres is owned by individuals – a much larger and likely more diverse audience. Establishing a forest landowners association whereby landowners can share experience, market contacts and best practices could provide a venue for an outreach program to forest land owners at-large.



The Agricultural Land Preservation program does allow the use of agricultural land preservation funds to protect farms with harvested cropland and woodlands. With the new county program in place and few farms eligible for this funding in the short term, those that are eligible and have both cropland and woodland should be carefully considered.

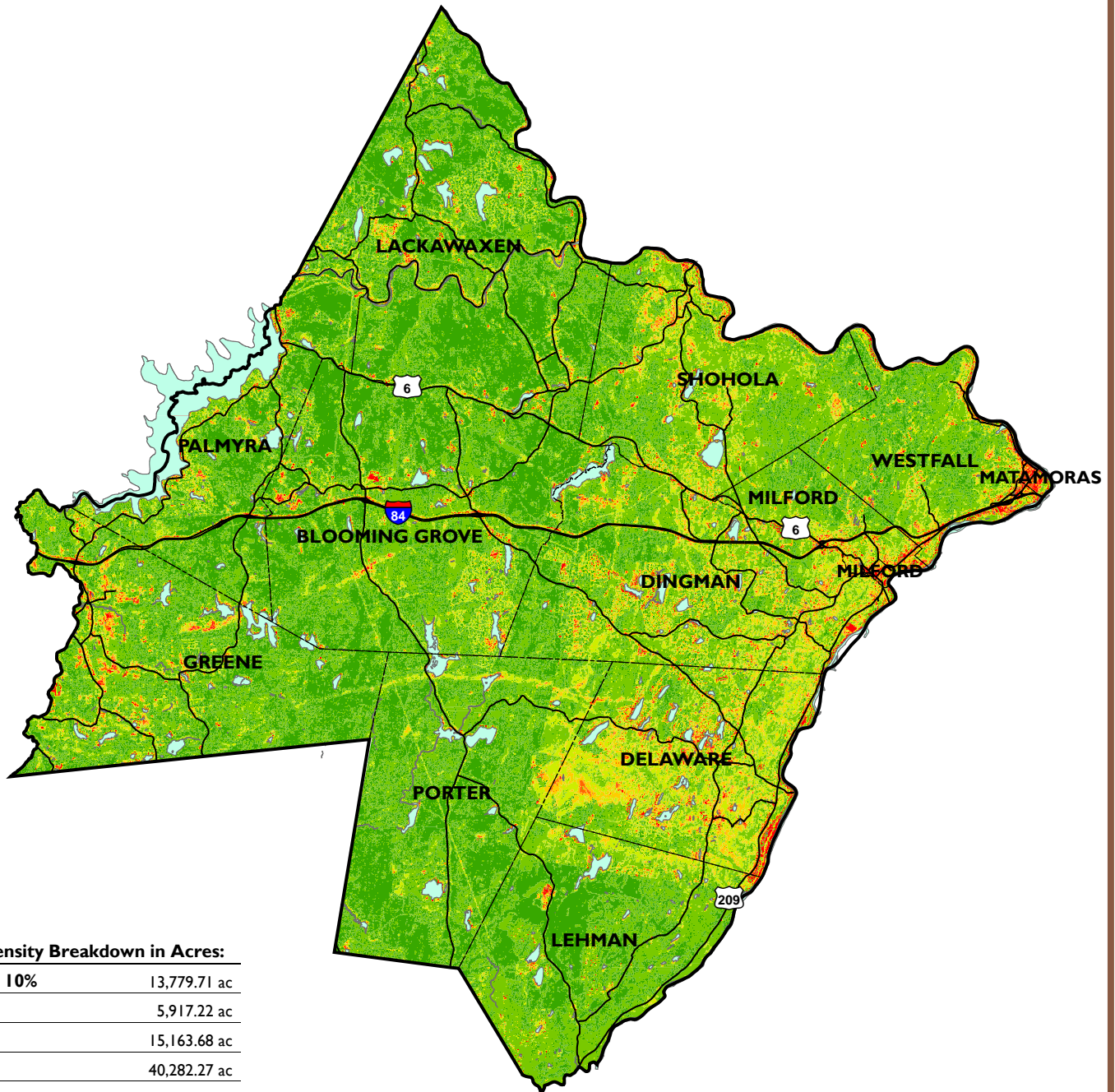
Further Opportunities for consideration

To advance forest resource conservation and preservation in Pike County, the County and its partners could consider opportunities such as:

1. Promoting participation in the forest stewardship program.
2. Promoting best practices for forest regeneration.
3. Conducting outreach to sportsmen's clubs and summer camps on forest easements.
4. Exploring the establishment of a forest land owners association for Pike County.
5. Exploring options for professional forestry staff located in Pike County.
6. Seek additional funding sources for forest easements.

Forest Cover Density







Pike County Open Space, Greenways and Recreation Plan



Forest Density Breakdown in Acres:

Less than 10%	13,779.71 ac
11-30%	5,917.22 ac
31-50%	15,163.68 ac
51-70%	40,282.27 ac
71-90%	164,583.13 ac
Greater than 90%	122,943.4 ac
Total Acres	362,669 ac

Legend

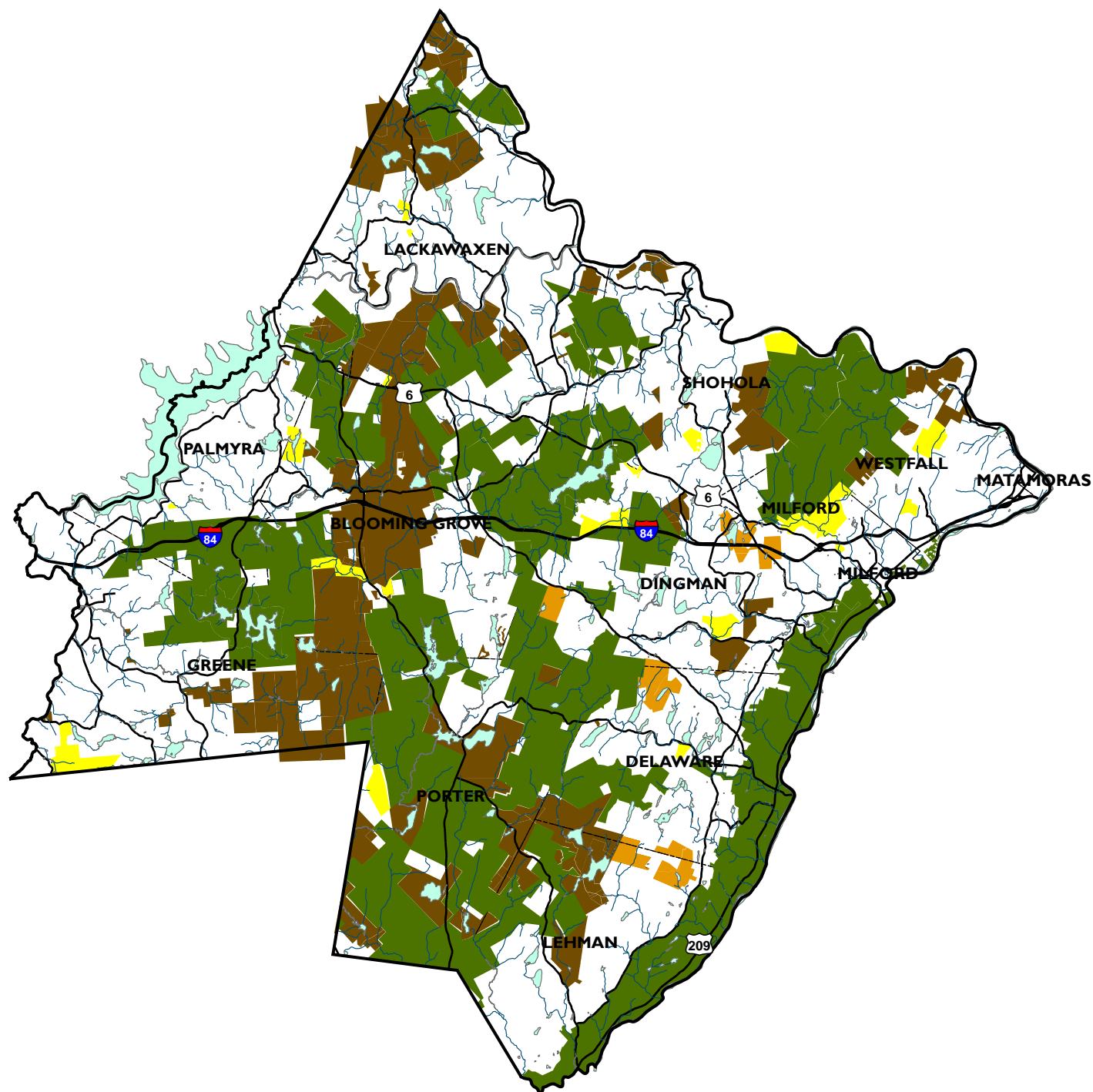
	Less than 10%		51 - 70%
	11 - 30%		71 - 90%
	31 - 50%		Greater than 90%

Mapping Preparation:
Pike County Office of Community Planning

Data Sources:
Pike County GIS Data
Penn State Fractional Vegetative Cover

Hunting Club and Summer Camp Lands





Pike County Open Space, Greenways and Recreation Plan



Mapping Preparation:
Pike County Office of Community Planning

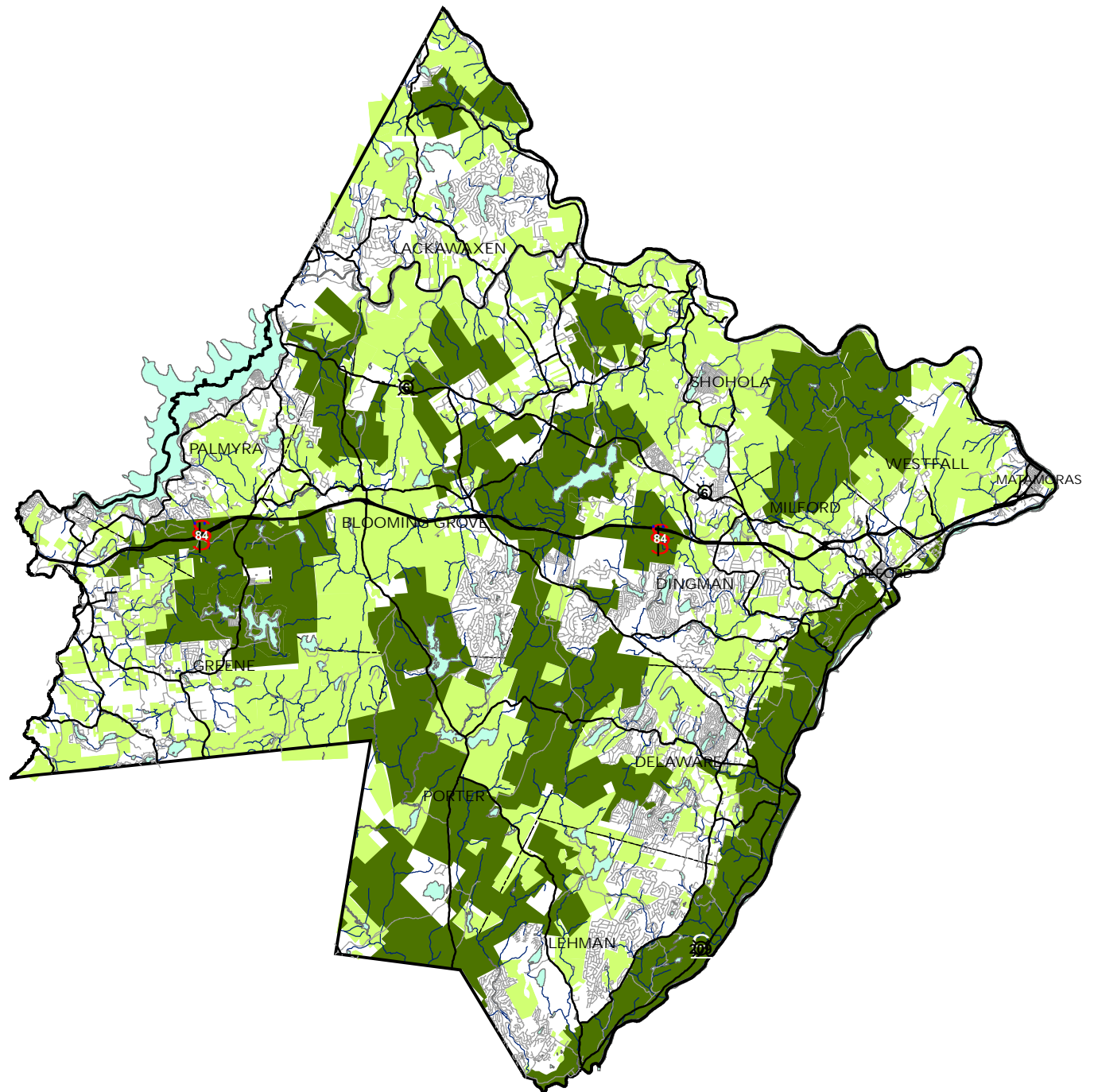
Data Source:
Pike County GIS Data

Legend

-  Easements
-  Scout and Summer Camps
-  Hunt & Fishing Club Property
-  Public Lands

Act 319 "Clean and Green"

Pike County Open Space, Greenways and Recreation Plan



Mapping Preparation:
Pike County Office of Community Planning

Data Source:
Pike County GIS Data

Legend

-  Public Lands
-  Act 319 "Clean & Green"

Chapter 12 Farmland Resources



Although forestland covers most of Pike County, the landscape is diverse and contains just over 22,000 acres of productive farmland soils or about 6.29% of its total land area. The USDA Census of Agriculture for 2002 listed Pike County as having 51 farm operations with just over 10,113 acres in agricultural production. While this acreage does not seem large in comparison to other areas of the state, Pike County's agricultural industry is a productive resource which contributes approximately \$1.7 million per year in agricultural products to the local and state economy.

Pike County's farms include areas dedicated to typical farm products such as dairy, poultry, livestock, and field crops but also include more specialized and unique farm production operations. Fruit crops, nuts, vegetables, horticultural specialties such as Christmas trees, flowers, nursery, ornamental and greenhouse products, and forest and wood products operations are a part of Pike County's farmland operations. Additionally, some horse, llama, and other livestock as well as several aquaculture operations are active farming industries in the county. These specialty operations create a unique position for Pike County in the agricultural community.

In contrast to the larger agricultural areas of southeastern Pennsylvania, Pike County's farms are small but specialized providing an integral part in our local economy. While the overall size and economic production of Pike County's farmland industry does not play a large role in the state's agricultural economy,

Pike County's farmland resources do play a significant role in the scenic rural character of our local communities. The small family farms, which include pastureland, harvested hayland, orchards and similar agriculture areas, provide scenic open space areas which have a proven value to both residents and tourist visitors to the County.

Pike County's farmland is valued as a food producing resource for generations of Pike County citizens and as an important open space resource for our communities. The County has recognized this importance with the establishment in 2006 of Pike County's first Agricultural Land Preservation Program. As the County's prime agricultural soils become increasingly scarce with the continued growth pressures placed on our communities, the critical importance of protecting the future value of our farmland resources cannot be overemphasized.

Current Conditions

Of Pike County's total land area approximately 2.9% is listed in the 2002 United States Department of Agriculture (USDA) Census of Agriculture as being in some type of farm operation. This 2.9% represents approximately 10,113 acres. According to the USDA 2002 Census, 51 farms were operational in Pike County in that year, a decrease of 16% from the 61 farms listed in the 1997 Census. The following figures provide specific information from the USDA Census of Agriculture on number of farms, total Pike County acreage in farms, and average size of farms for the years as listed.



Figure 12-1: Pike County Farms and Land in Farms

AG Census Year	# of Farms	Land acres in Farms	% of Pike land Area	Avg. size of Farm in acres	Market Value of Agricultural products Total including direct and organic	
1954	335	38,725	11.0%	115	n/a	n/a
1964	100	16,775	4.8%	167	\$946,935	n/a
1969	42*/58	8,551	2.4%	147	\$587,319	\$580,000*
1974	37*/43	7,829	2.2%	212	\$818,000	\$816,000*
1997	61	6,795	1.9%	111	\$1,557,000	n/a
2002	51	10,113	2.9%	198	\$1,796,000	n/a
*1959 Definition/New 1974 Definition						
SOURCE: USDA Census of Agriculture, National Agricultural Statistics Service, www.nass.usda.gov						

The following Figure provides information on the relationship of Pike County to Pennsylvania's overall agricultural acreage. It also lists Pike County's adjoining neighbors Monroe and Wayne Counties for comparison.

Figure 12-2: Farms and Land in Farms 1997 and 2002

	# of Farms		Land acres in Farms		Avg. size of Farm	
	1997	2002	1997	2002	1997	2002
Pennsylvania	60,222	58,105	7,819,648	7,745,336	130	133
Pike	61	51	6,795	10,113	111	198
Monroe	257	324	29,877	32,938	109	120
Wayne	704	661	114,754	113,167	163	171

Source: USDA Census of Agriculture, National Agricultural Statistics Service

Approximately 29 farms or slightly more than half of Pike County's total number of farms listed in the 2002 AG Census were less than 100 acres in size. Eleven farms were listed as being between one and nine acres; three were between 1,000 and 1,999 acres in size with the overall average at 198 acres.

Of the total 51 farms in the Census, thirty-nine (39) had value of sales less than \$5,000. Twenty-nine of the total farms had value of sales less than \$2,500. Ten farms had sales listed in the 2002 Census of Agriculture as being between \$2,500 and \$4,999. Six farms had value of sales worth \$100,000 or more.

Economics of Pike County's Agriculture

The USDA, National Agricultural Statistics Service Census of Agriculture lists the market value of agricultural products in Pike County for the year 2002 as \$1,796,000 up 15% from \$1,557,000 in 1997. Crop sales accounted for approximately \$1,262,000 of the total value with livestock, poultry and their products accounting for \$534,000 of the total. In comparison our adjoining counties of Wayne and Monroe were listed as follows:

Figure 12-3: Market Value of Agricultural Products (including direct and organic), 1997 and 2002

	Total Sales in \$1,000		Average Sales per farm in dollars	
	2002	1997	2002	1997
Pennsylvania	\$4,256,959	\$4,247,368	\$73,263	\$70,532
Pike	\$1,796	\$1,557	\$35,211	\$25,530
Monroe	\$6,579	\$5,753	\$20,305	\$22,383
Wayne	\$21,474	\$23,855	\$32,487	\$33,896

Source: USDA 2002 Census of Agriculture, National Agricultural Statistics Service

For comparison, Pike County's agricultural income in 1964 amounted to \$947,017 of which \$270,988 was derived from dairy products, \$385,939 from poultry products, \$63,886 from livestock and products; \$67,885 from field crops, and \$5,794 from fruits, nuts and vegetables. The total county agricultural income including forest and horticultural products amounted to slightly less than the manufacturing income for the same period in 1964.

Off-farm work by the operator or members of the farmer's family in Pike County has provided a major source of income to the farm.

Figure 12-4: Off-Farm Employment to Subsidize Income, Pike County

AG Census Year	# of Farms	Operators Reporting work off-farm	% of Total
1954	335	186	55%
1964	100	52	52%
1969	58	38	65%
1997	61	Not Available	Not Available
2002	51	20	39%

Source: National Agricultural Statistics Service

Many farms are reluctant to borrow money for working capital or expansion because of uncertain future agricultural income.

While Pike County's farming community may not play a significant part in the State's agricultural economy, Pike County farming remains a productive resource which contributes to the local economy. The future economic viability of our Pike County agricultural industry could be strengthened with recognition of the benefits and importance of these open lands to our communities and tying these resource areas to our tourism economy.

Pike County Prime Farmland Soils

Prime farmland is one of several kinds of important farmland defined by the United State Department of Agriculture. It is of major importance in providing the Nation's short and long-range needs for food and fiber. Because the supply of high quality farmland is limited, the USDA recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Pike County's prime farmland soils as identified by the USDA Natural Resources Conservation Service are critical areas for protecting the future of our County's agricultural resources. Prime Soils are those which are valued for their agricultural productivity and suitability for agricultural practices. Farmland of statewide importance is valued for its productivity when managed under best management practices. The following figures list the soil types described by the

USDA Natural Resource Conservation Service as “Pike County Prime Farmland” or “Farmland of Statewide Importance in Pike County.” The figures also provide detail on the acreage of Pike County’s total land area which lies within these soil classifications.

Figure 12-5: Farmland Soils in Pike County		
Pike County Prime Farmland Soils		
Map Symbol	Soil Description	Total Acres
14	Braceville fine sandy loam	196
15	Pope fine sandy loam	208
24A	Delaware fine sandy loam, 0 to 3 percent slopes	1,721
24B	Delaware fine sandy loam, 3 to 8 percent slopes	767
25B	Wurtsboro channery fine sandy loam, 0 to 8 % slopes	2,226
26	Philo loam	1,365
27	Barbour fine sandy loam	749
29B	Wellsboro channery loam, 0 to 8 percent slopes, stony	2,094
60B	Mardin channery silt loam, 0 to 8 percent slopes, stony	1,464
75	Unadilla silt loam	279
89B	Chenango gravelly fine sandy loam, 0 to 8 percent slopes	4,391
320B	Lackawanna channery loam, 3 to 8 percent slopes, stony	1,455
	TOTAL	16,915
Farmland Soils of Statewide Importance		
Map Symbol	Soil Description	Total Acres
5B	Suncook loamy sand, 0 to 8 percent slopes	282
25C	Wurtsboro channery fine sandy loam, 8 to 15 % slopes	477
29C	Wellsboro channery loam, 8 to 15 percent slopes, stony	672
60C	Mardin channery silt loam, 8 to 15 percent slopes, stony	646
89C	Chenango gravelly fine sandy loam, 8 to 15 % slopes	516
108B	Wyoming and Chenango soils, 0 to 8 percent slopes	1,694
108C	Wyoming and Chenango soils, 8 to 15 percent slopes	402
320C	Lackawanna channery loam, 8 to 15 % slopes, stony	458
	TOTAL	5,147
Total Prime & Statewide Importance Farmland Soils		22,062 acres
Total Prime & Statewide Importance Farmland Soils outside Public & Protected Lands		16,840 acres

Source: Pike County GIS and USDA, Natural Resources Conservation Service

Pike County has approximately 22,062 acres of important farmland soils. Included in this acreage are some 16,915 acres which lie within the Pike County “prime farmland” soils classification of the USDA Natural Resources Conservation Service, and an additional 5,147 acres of Pike County soils which are classed as soils with “statewide significance” for agriculture. These 22,062 acres are spread throughout the county; their distribution and location are shown on the Agricultural Lands Map.

Using Pike County Geographic Information Systems (GIS) mapping and the USDA Soils datamart, it has been determined that approximately 76% or 16,840 acres of these critical farmland soils fall outside public and permanently protected lands in the County. Approximately 3,529 acres of these prime farmland soils fall within Pike County growth areas as identified in the Pike County Comprehensive Plan. Another approximately 6,000 acres of these soils fall within areas of the county which are already developed, leaving 7,000 acres of prime farmland soils within private ownership on undeveloped lands in the county. These areas represent Pike County's critical farmland resources and should be considered for targeted outreach to landowners on agricultural preservation.

Recent trends in land use in some parts of the County have resulted in the loss of some critical farmland soil areas to residential or other urban uses. Nationally, loss of this "prime" farmland to these other uses puts pressure on marginal lands which generally include soils which are more erodible, susceptible to drought and less productive and cannot be easily cultivated. In Pike County, loss of these important farmlands to residential or other development generally mean the areas will be lost to farmland production forever.

Significant Agricultural Areas in Pike County

Pike County has areas which historically have been more conducive to agricultural production based on soils, topography and location. These areas, while mostly lying within the Pike County "prime farmland" soils classification, may not fully follow the critical soils distribution as mapped. These areas have been identified using Pike County GIS datasets as well as historic records and are reflected on the Agricultural Lands Map.

These significant agricultural areas include areas which are currently being farmed as well as those which have played a key role in Pike County's agricultural history. A brief description of these significant areas follows.

A large portion of Pike County's harvested cropland lies in the eastern corridor of the County along the Delaware River. This land owned by the US Department of Interior National Park Service is part of the Delaware Water Gap National Recreation Area. The National Park Service leases the river bottomlands for crop production and grazing activities to local farmers.

Approximately, 809 acres in the Recreation Area are devoted to agricultural production. Just over 30 acres is leased to farmers for grazing of alpacas. The balance of the total DWGNRA acreage in farmland production is under tillage



for corn and hay production. This land, as part of the Federal National Recreation Area, is protected from development and can remain in harvested cropland barring any changes in federal legislation prohibiting its use for agricultural purposes. County support at the Federal level for this continued use in the National Recreation Area and encouragement of partnerships with active farm operators for agricultural leases will be key in the continued operation of these agricultural activities in the Delaware River Valley in Pike County.

Other significant agricultural lands are located on privately held lands in several areas throughout the County. The western and northern portions of the county including Blooming Grove, Greene, Palmyra, and Lackawaxen Townships contain a large majority of the remaining active farmland. Additionally, there are several large pockets of agricultural land located throughout other Pike County municipalities - Milford, Dingman and Westfall Townships, in particular. These agricultural lands are used largely for hayland, pasture or fodder crops associated with a few dairy, beef, llama, sheep and goat operations, and special crops unique to the area such as blueberries, and orchard products.



Also unique as a farming enterprise in the County are two aquaculture operations. Both of these operations raise native trout for private use as well as local commercial distribution.

The County's "significant" agricultural areas as identified as well as the "prime farmland soils" both play a critical role in the long term viability of Pike County's agricultural industry. These areas should be the key targets for farmland preservation activities for the County. Based on the intention of the Pike County Agricultural Land Preservation Program of protecting larger concentrated areas of farmland, the "significant" and "prime" areas will take priority. It should be noted, however, that the boundaries of these areas are not intended to be hard-edged or immutable and the County Agricultural Land Preservation Board will use the map developed through this open space planning effort as a guide for farmland preservation activities.

First Steps toward Farmland Preservation

In December 2006, nine Lackawaxen Township landowners joined together to petition the Township Supervisors to establish the first Agricultural Security Area in the County totaling just over 1,378 acres of farm and forest land. In August 2007, Lackawaxen Township Board of Supervisors approved the addition

of approximately 1,200 additional acres to this ASA at the request of three local landowners bringing the Lackawaxen ASA total to 2,599 acres. A second ASA was established in Dingman Township in February 2008 including some 695 acre of active farmland bringing the total Pike County acreage in Agricultural Security Areas to 3,273. The landowners included in these ASA's are currently the only landowners who can be considered for purchase of agricultural conservation easements under the county's program. Locations of these ASA lands are shown on the Agricultural Lands Map.

Pike County's Agricultural Land Preservation Program

The purpose of the Pike County Agricultural Land Preservation Program is to protect and promote the continued agricultural use of valuable agricultural lands by acquiring agricultural conservation easements on actively farmed lands within Agricultural Security Areas (ASA's). The purchase of these easements from willing and interested landowners will provide these landowners with a viable option for retaining the small farm operations and our local communities' rural character.

The creation of the County's Agricultural Land Preservation Program not only signifies the county's commitment to Pennsylvania's farmland preservation program but also acknowledges the importance to the County of preserving and maintaining Pike County's agricultural lands as a valued economic, natural, ecological, cultural, and historic resource. The Program will help to strengthen and protect from urbanization our quality farmland for the production of food and other agricultural products.

The Pike County Commissioners established the County's first Agricultural Land Preservation Program by resolution on March 22, 2006. The Pike County Agricultural Land Preservation Board was created by the same resolution to administer the County's program.

The specific purposes of the Pike County Agricultural Land Preservation Conservation Easement Purchase Program are as follows:

- *To protect and promote the continued agricultural use of viable agricultural lands by acquiring agricultural conservation easements which prevent the development or improvement of the land for any purpose other than agricultural production and allowed related agricultural activities.*
- *To encourage landowners to make a long-term commitment to agriculture by offering them financial incentives and security of land use.*
- *To encourage the formation of Agricultural Security Areas within the County by working with landowners and municipal officials.*

- *To protect normal farming operations in agricultural security areas from incompatible non-farmland uses that may render farming impracticable.*
- *To protect normal farming operations from complaints of public nuisance.*
- *To assure conservation of viable agricultural lands in order to protect the agricultural economy of this Commonwealth.*
- *To provide for the administration of purchases and gifts of agricultural conservation easements on behalf of the County.*
- *To maximize agricultural easement purchase funds that protect the investment of taxpayers in agricultural conservation easements.*
- *To concentrate resources in a manner that will ensure the purchase of easements for the protection of the largest amount of farmland possible.*
- *To recommend to the Pike County Board of Commissioners the execution of all agreements or other documents necessary to effect the purchase of such agricultural conservation easements in the name of Pike County and/or the Commonwealth of Pennsylvania.*
- *To promote efforts to enhance the agricultural industry in Pike County and maximize Pike County's agricultural lands' contribution to county tourism.*
- *To encourage the use of additional farmland preservation techniques through public and private organizations in Pike County.*
- *To provide for the conduct of such other responsibilities as may be authorized pursuant to the Agricultural Area Security Law.*

The Pike County Agricultural Land Preservation Program is also an extremely important component of the County's Scenic Rural Character Preservation Program. Working with voluntary landowners and municipal officials to create Agricultural Security Areas (ASA's) in our prime farming communities will provide important opportunities for protecting viable agricultural lands throughout the County and retaining critical open space areas, successfully implementing this important component of the overall Pike County Scenic Rural Character Preservation Program. The County's Scenic Rural Character Preservation Program funds will be maximized through the County's Agricultural Land Preservation Program since there are grant and matching funds available for the purchase of agricultural conservation easements through the PA Department of Agriculture Farmland Preservation Program.

Administration of Pike County's Agricultural Land Preservation Program

To successfully implement Pike County's Agricultural Land Preservation Program, the Pike County Board of Commissioners in early 2007 appointed a five-member Pike County Agricultural Land Preservation Board in accordance with the provisions contained within the Agricultural Area Security Law (3 P.S. §§ 901-915), as amended by Act 149 in 1988. The mission of the board is to assist in the preservation of areas of actively farmed land in protected agricultural districts and to implement the other purposes of the program as outlined.

The Board's primary goals are the implementation of the Agricultural Land Preservation program including:

- Promoting efforts to support the agricultural community in Pike County and maximize Pike County's agricultural lands' contribution to the county's agricultural and tourism economy.
- Encouraging the use of additional farmland preservation techniques through public and private organizations in Pike County.
- Encouraging the formation of Agricultural Security Areas (ASA's) within the County by working with landowners and municipal officials.
- Administering the program for purchasing and/or accepting gifts of agricultural conservation easements within Agricultural Security Areas (ASA) on behalf of the County and in accordance with Act 149. Administration includes adopting rules and procedures for the program, adopting bylaws governing the operation of the board, executing all agreements or other documents necessary to affect the purchase of such easements in the name of Pike County and/or the Commonwealth of Pennsylvania, maximizing agricultural easement purchase funds and protecting the investment of taxpayers.

The Pike County Agricultural Land Preservation Board submitted its Agricultural Land Preservation Easement Purchase Program to the Pennsylvania State Agricultural Land Preservation Board in January 2007. This program represents the County's policies and procedures to be used in preserving farmland in Pike County both now and in the future. The Pennsylvania State Agricultural Land Preservation Board approved the Pike County Program at their meeting held on February 15, 2007. The Pike County Commissioners then approved the final program document on April 25, 2007 fully establishing the program. As a result Pike County became eligible for State matching and grant funds for the program in 2008.

Funding for Pike County's Agricultural Land Preservation Program

At the recommendation of the Pike County Agricultural Land Preservation Board, the Pike County Commissioners will annually allocate funds from the County's General Budget for implementation of the County's Agricultural Land Preservation Program. Additionally, the Agricultural Land Preservation Board can work with the Pike County Scenic Rural Character Preservation Board to allocate funds from the Scenic Rural Character Preservation Program for the agricultural land preservation program. Certification of all County funds allocated to the program must be provided annually to the Pennsylvania Farmland Preservation Program in January of each year.

The State's Farmland Preservation Program annually provides both grants and matching funds to Counties with approved Farmland Preservation Programs and county funds certification. The State funding allocation process is based on a number of yearly variable factors including such considerations as realty transfer tax, agricultural production and the county's yearly allocated funds to the program. Usually the higher the county allocation to the program, the higher the state matching funds will be for the County for that year. State allocations of farmland preservation funds to the counties are made in March/April of each year. State funds must be used for purchase of easements within a two year period.

Over the past several years, the Legislature's allocation of Growing Greener 2 funds for the State's Agricultural Land Preservation Program has allowed state grant and matching funds to be funneled to the Counties to increase the County's Agricultural Land Preservation program funding, in some cases, by over ten-fold. Pike's adjoining Counties of Monroe and Wayne have benefited greatly over the past several years by this Growing Greener 2 funding for the AG Program. The following figure lists recent year funding for the Monroe and Wayne County Agricultural Land Preservation Programs:

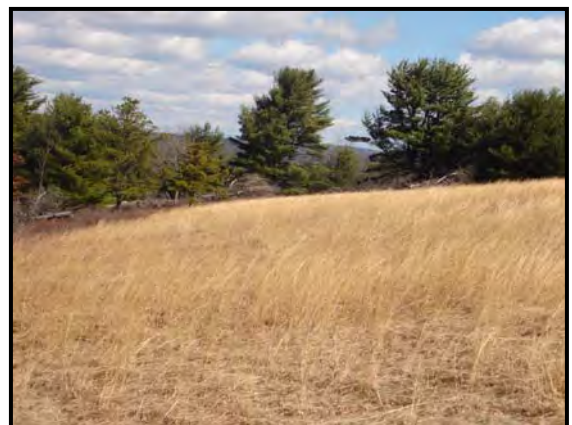
Figure 12-6: 2006 and 2007 Monroe and Wayne County AG Preservation Funding		
Monroe County AG Preservation Program (established 1990)	2006	2007
County Appropriation	\$343,418	\$62,104
State Grant & Match	\$2,439,156	\$751,018
Total AG Funds for County Program for year	\$2,782,574	\$813,122
Wayne County AG Preservation Program (established 1991)	2006	2007
County Appropriation	\$30,000	\$75,000
State Grant & Match	\$544,218	\$236,175
Total AG Funds for County Program for year	\$574,218	\$311,175
NOTE: Pike County's AG Preservation Program was not approved by the state until February 2007; funding allocations begin in 2008.		

It is not anticipated that future year's allocations from the state to the counties for their Agricultural Land Preservation Program will reflect the Growing Greener 2 amounts of the past several years. While state funding in the form of grant and matching funds can be anticipated, the state matching will not be at the levels of recent years when these Growing Greener funds were available. Pike County Commissioners should take this into consideration in future annual allocations to the county program.

Since Pike County's Agricultural Land Preservation Program was not approved by the State Agricultural Land Preservation Board until February 2007, funding allocations from the state did not begin until 2008. The Pike County Agricultural Land Preservation Board asked the Pike County Commissioners for a 2008 allocation of funds for the program. The Commissioners approved a \$35,662 "first year" allocation to the program for 2008 - \$30,000 coming from the Scenic Rural Character Preservation Program and \$5,662 coming from Act 319, Clean and Green rollback tax interest collected in 2006 and 2007. This total was certified to the PA Department of Agriculture in January 2008 and an announcement of state funds for the Pike County program was made in early March. Based on the state allocation formulas for grants and matching funds for the Agricultural Preservation Program, the state allocation to Pike County for 2008 was \$226,902 giving Pike County a total of \$262,564 for purchase of agricultural conservation easements under the Agricultural Preservation Program. State funds must be utilized within a two year time frame.

Only landowners enrolled in Agricultural Security Area's (ASA's) totaling 500 acres or more within the county are currently eligible for purchase of agricultural conservation easements under the program. As more landowners become interested in the program and additional ASA's are established, the annual allocation can be increased to work towards the purchase of easements.

It should be noted that soon after the establishment of the County's Agricultural Land Preservation Program by the Commissioners in 2006, the Commissioners designated \$500,000 of the County's Scenic Rural Character Preservation Program Bond funds to be used for the agricultural land preservation program. An annual certification of funds to the State will need to consider the potential of using the funds in the two year timeframe as specified by the state. In addition to these SRCP Funds, the Agricultural Land Preservation Board will be discussing the long-term viability of the program with the Commissioners so that annual budget allocations from the County's General Fund can be provided for the program.



Additionally, through the County's Act 319 Clean and Green program some funding can be provided to Pike County's Agricultural Land Preservation Program. Any tax parcels which are withdrawn from the Clean and Green program are required to pay rollback taxes plus interest for the period of enrollment or seven years whichever is less. The interest paid on these rollback taxes must be forwarded to the State's Agricultural Land Preservation Program unless there is a County Agricultural Land Preservation Program. The rollback taxes and interest collected must be reported to the State each year; the interest amounts can remain with the County for the County's Agricultural Land Preservation Program.

As increased development pressures continue in the county, there is potential for additional lands to be removed from the Act 319 Clean and Green program. The interest paid on the rollback taxes for these parcels must be allocated directly to the County's AG preservation program.

To date, the County has not purchased any farmland preservation easements. This is largely due to the fact that the Pike County program was only officially approved by the state in early 2007, and the first state allocation of funds for the Pike County program was announced in March 2008. Pike County Agricultural Land Preservation Board and Pike County Commissioners are now moving forward to work with willing landowners to preserve important farmlands.

Conclusions

Strengths

While farms in Pike County are few in number and cover only a small portion of the County, they represent an essential compliment to the forested component of the scenic rural landscape. Whether producing crops or livestock, cleared farmland introduces visual complexity into scenic views. It offers an alternative pattern of vegetation and a boundary or edge to the forest. These openings in the otherwise forested landscape provide a brief view of the forest from the outside.



Many of these small pockets of agricultural activity have been in operation for decades. If any have been in continuous operation for more than 100 years, they would qualify for designation as a century farm. Despite their history, several

farms are growing or raising contemporary farm products such as llamas and alpacas for their wool or native trout.

The Pike County Commissioners have acknowledged the importance of preserving and maintaining the County's prime agricultural lands through the establishment of the Pike County Agricultural Land Preservation Program. Pike County's Agricultural Land Preservation Program is a relatively new tool for open space protection in the County – one dedicated almost solely to farmland protection. The program takes advantage of state funding available to assist counties in the permanent protection of quality farmland. With a relatively small farmland acreage, the County should strive to protect as much of the farmland as landowners are interested in protecting.

Challenges

The reduction of Pike County farmland corresponds directly to the increase in the amount of residential development in the County. While other natural factors such as attrition of the farm community and degradation of productive soils have been felt in Pike County, the growth of residential communities represents the major threat to Pike County's agricultural industry.

Because residential areas have been developed in a manner that can be described as suburban sprawl, farming areas in Pike County have become fragmented. Most farmland in the County is located on relatively flat land, which presents few impediments to construction. Because Pike County is such a high growth area and only a marginal amount of land can be considered prime for development, increased pressures fall on farmland.

In the coming years, the Pike County agricultural community will continue to face challenges to profitable production. Rising costs of farm operation, fluctuating farm product market prices and demand, steadily increasing property/school taxes and the



continued pressure from development provide difficult hurdles for small farmers in the County who want to continue their operations and keep the “family

farms” in the family. These factors reduce the competitive position of the Pike County farmer in regional markets and further contribute to the decline of the agricultural community.

These major pressures on Pike County farmers from outside sources may force farmers to seek the greatest short term rewards from their land. This situation causes traditional conservation practices to be ignored by farmers when high production costs, low market prices and heavy debt service create pressures for the highest immediate returns.

The preservation of the agricultural industry and its landscape will require a great effort. While growth and development will continue to consume the County’s open spaces, it is in the County’s best interest to preserve these valued agricultural lands. Failure to act may result in the loss of local food supply sources, economic productivity, and the scenic heritage of one of Pike County’s prime assets.

Opportunities

Continued support of the County's Agricultural Land Preservation Program is the primary opportunity for farmland protection in the short term. However, supporting the farming economy with new markets for products – and farm-based services – will further sustain the industry.

Agritourism represents an opportunity for Pike County farmers to market their products directly to visiting consumers, increasing the revenues earned by agriculture and tourism. Agritourism is defined as any activity conducted on a working farm for the enjoyment of visitors and that generates income for the owner. Winery tours, corn mazes, farm-stay vacations are a few examples of such activities. From the perspective of agricultural operators, these kinds of activities may provide a means to expand existing operations, diversify or supplement income. Agritourism could provide opportunities for land preservation, local revitalization and job creation particularly in rural communities. A recent study of agritourism providers statewide showed that agritourism is present in every county in Pennsylvania and is predominant in the southeast region and in Allegheny, Centre, Erie and Luzerne Counties.



A recent Center for Rural Pennsylvania study provided specific suggestions on how agritourism might be strengthened with assistance from the state. The report listed the following recommendations for the state.

To help with the viability of agritourism as a resource for farm and rural communities, a state infrastructure to provide agritourism education and training for farmers, tourism professionals, civic leaders and stakeholders is needed. The state should also consider adopting an expanded definition of agritourism to address use of land issues. A more comprehensive effort should be made to market the state's agritourism and rural tourism opportunities. The state should consider initiating an agritourism development fund and account for agritourism in its data gathering activities.

Pike County residents do not have to go far for a good example of a successful agritourism operation. The Journeys End Farm in Sterling, Wayne County which operated for close to 70 years as a children's camp has found a new market with its Family Farm Camp opportunities. Farm stays at Journey's End are drawing people from nearby metropolitan areas to experience first hand the agricultural lifestyle and opportunities our region can provide. Additionally, Sussex County,

New Jersey to Pike County's east has had tremendous success in promoting their agricultural industries as tourism opportunities.

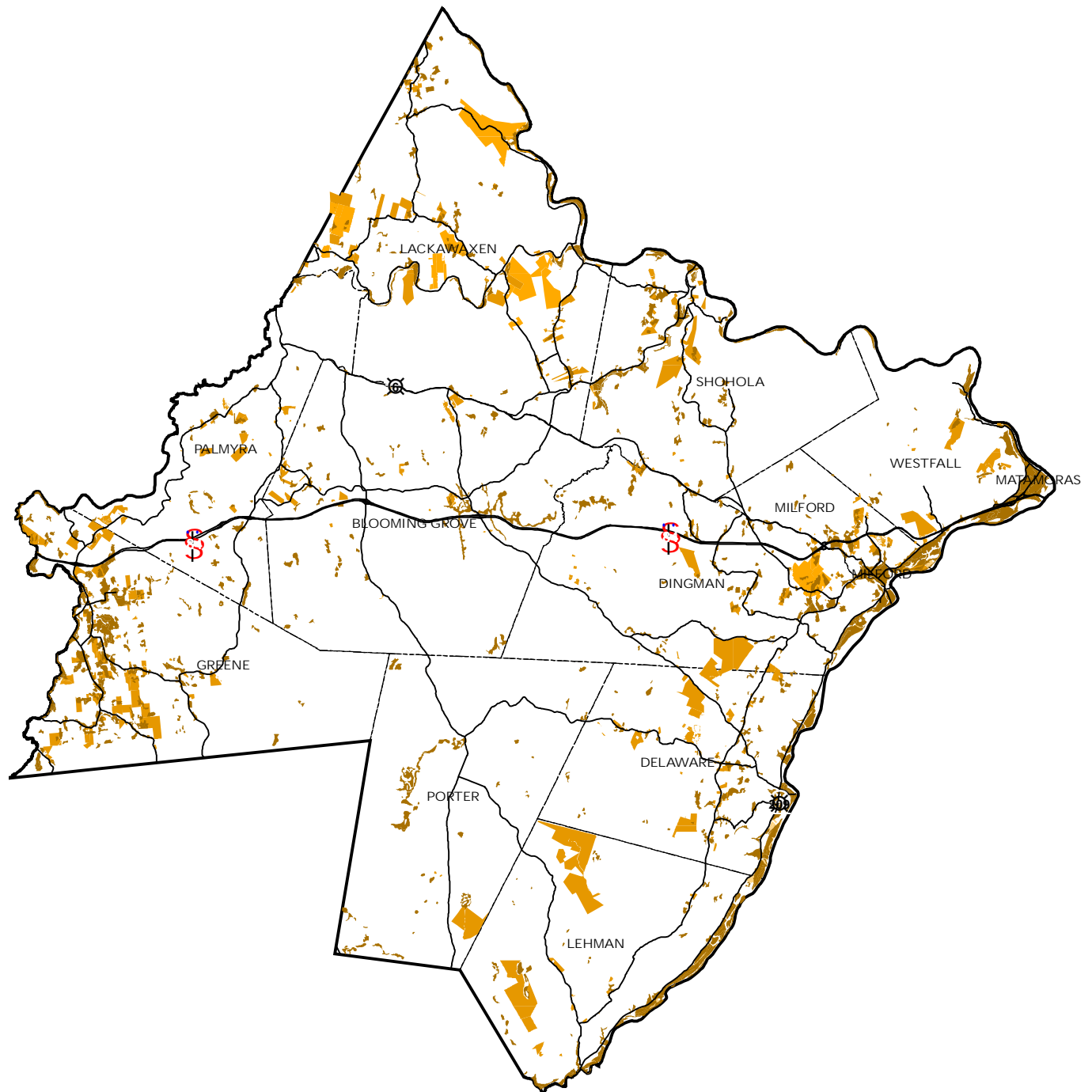
Further Opportunities for consideration

In protecting, promoting and sustaining the continued operation of our Pike County agricultural industry, the County and its partners could consider opportunities such as:

1. Continuing to bring the Agricultural Land Preservation Program into full operation. This young program will need time and effort to fully meet farmer's needs.
2. Exploring opportunities and interest in agritourism among local farmers.
3. Promoting Pike County agritourism opportunities through outreach locally, state-wide, and regionally.
4. Evaluating marketing opportunities with the Pike County and Pocono Mountain Visitors Bureaus.
5. Documenting the agricultural heritage of Pike County. Designating century farms that have been in continuous operation for 100 years or more.

Agricultural Lands



Pike County Open Space, Greenways and Recreation Plan



Mapping Preparation:
Pike County Office of Community Planning

Data Source:
Pike County GIS Data
NPS GIS Data

Legend

-  Agricultural Security Areas
-  Historically Significant Agricultural Areas
-  Soils of Countywide Importance
-  NPS Agricultural Production Leased Fields

Glossary

Aesthetic and Scenic Value: This value includes elements which contribute to the rural character and the quality scenic relief in the County. The scenic and aesthetic values are those qualities of our living environment that build the cultural, historic, and natural character of the County and contribute to the overall quality of life.

Easement and/or Conservation Easement: A land preservation agreement that offers perpetual land protection. An easement permanently protects the important conservation values of a property usually by limiting future development although other restrictions may be included in the easement. This legal agreement is between a willing landowner and the county and/or land trust who monitor and enforce the easement agreement over the long-term.

Ecological Communities: These biological communities include important core species, features and the necessary supporting communities which assist in protecting the quality and diversity of those communities.

Ecotourism: It is typically defined as travel to destinations where the flora, fauna, and cultural heritage are the primary attractions. Responsible ecotourism includes programs that minimize the adverse effects of traditional tourism on the natural environment, and enhance the cultural integrity of local people. Therefore, in addition to evaluating environmental and cultural factors, initiatives by hospitality providers to promote recycling, energy efficiency, water re-use, and the creation of economic opportunities for local communities are an integral part of ecotourism.

Greenways: Greenways are linear corridors of public and/or private open space lands. Greenways can be based on linear land or water features, such as ridgelines, stream corridors and valleys, or trail corridors. Greenways that pass through developed communities can include streetscapes, public greens, parks and other common outdoor spaces that protect and enhance natural and cultural resources.

Greenways serve a variety of functions and benefits including natural resource conservation or protection, wildlife habitat and migration, community revitalization, transportation, economic development, community education and recreation. Greenways can also direct attention and funding for environmental restoration and community revitalization to areas in need.

Linkages/Connectivity: An actual and/or potential land or water feature which provides connection to protected lands - public lands or land conservation easements.

Livable Communities:

Communities built to emphasize the connection between natural features, land use and variety of transportation choices. The communities include many features which support the principles of 'smart growth.' Characteristics of these communities include: mixed land uses; conservation design; range of housing choices; walkable neighborhoods; sense of place; preservation of open space and farmland; rehabilitation and redevelopment in existing communities; and, a variety of transportation choices and/or are pedestrian/bicycle friendly.

Open Space: Open space is the land and water features of the natural landscape that have not been developed for intensive human uses, such as residential neighborhoods, business districts and industrial sites. Open spaces include, but are not limited to, wildlife areas, ridgelines, river and stream corridors, wetlands, parks and recreation areas, as well as productive forestry and agricultural lands. Open space can be publicly or privately owned and managed for production, conservation or outdoor recreation. Open space can protect and enhance environmental quality, provide wildlife habitat, and provide locations for active and passive recreation. An open space network refers to a system of large open spaces and connecting corridors called greenways.

Open Space Network: Refers to an interconnected network of land or water that supports natural processes, habitat, while potentially providing sources for active and passive recreation. In addition, this includes working lands, mountain, forest, aquatic, and rural landscapes. Working lands are managed forest lands and productive farmland. Pike County's working lands complement the large tracts of contiguous forestland, undisturbed stream corridors, scenic vistas and the many other elements of the County's rural landscape.

Recreation: Recreation is defined as any of the activities that people participate in during their leisure time. For this planning effort, the term recreation refers to the parkland and outdoor facilities that people use for leisure activities, organized programs, and their management and operations. The plan primarily addresses outdoor recreation though the planning process revealed interest in more year-round indoor and outdoor recreational opportunities.

Active Outdoor Recreation: Recreational activities engaged in for the purpose of relaxation or enjoyment where the primary activity requires physical exertion and the primary focus is on human activity. The construction of facilities for these activities may impact environmental processes or fragment habitat. Activities and venues include but are not limited to: unstructured play at playgrounds; organized games, pick-up games or individual skills practice, at ballfields, tennis and basketball courts, or other sports facilities.

Passive Outdoor Recreation: Recreational activities engaged in for the purpose of relaxation or enjoyment where the primary activity

requires minimal exertion and the primary focus is on social activity or on the environment. Facilities in support of passive recreation minimally impact the environment or existing habitat and are primarily non-consumptive. Activities include but are not limited to: wildlife observation, scenic enjoyment, picnicking, walking, and hiking.

Resource Based Recreation: Recreational activities that rely on or require natural resources for the execution of the activity, including camping, hunting, fishing, boating, and trapping.

Smart Growth: Smart growth is a concept which provides long-term strategies that address sprawl and incorporate growth with sustainable use of land and water resources. The Smart Growth Network, U.S. Environmental Protection Agency (EPA), and International City/County Management Association (ICMA) have described smart growth as “development that serves the economy, community, and the environment. It provides a framework for communities to make informed decisions about how and where they grow. Smart growth makes it possible for communities to grow in ways that support economic development and jobs; create strong neighborhoods with a range of housing, commercial, and transportation options; and achieve healthy communities that provide families with a clean environment.” There are ten basic smart growth principles (highlighted in the Pike County Comprehensive Plan) which can provide focus and direction for applying the concept in local communities.

Watershed Protection: Activities which assist in the protection and effective management of the quality of watershed lands and/or surface or groundwater resources – including the inherent functions and values the land and water resources provide - for the benefit of human, environmental and economic health, safety and welfare. These activities may be focused directly on surface and groundwater resources or on the land areas and surface conditions that impact these waters. Such land areas may include but are not limited to: floodplains, wetlands, steep slopes. Surface conditions may include but are not limited to: land development or other human activities.

References

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Groundwater Resources of Pike County, Pennsylvania, Water Resource Report #65 by Drew K. Davis, Pennsylvania Geological Survey Fourth series, 1989

A History of Pike County, by Norman B. Lehde, 1989

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Pennsylvania Census of Agriculture, 1964, 1969, 1974, 1997, 2002, US Department of Commerce, Social and Economic Statistics Administration, provided by US Department of Agriculture National Agricultural Statistics Service cooperating with Pennsylvania Department of Agriculture; www.nass.usda.gov

Pike County Historic Resources Study including Volumes I through 5 – Pike County Previously Surveyed Historic Resources by Municipality, by Anna Vemere Andrzejewski and Holst, Nancy, Cultural Heritage Research Services, Inc for Pike County Planning and Human Development Office, 1997

Pike County Park Master Plan, by Urban Research and Development Corporation and Mellon Biological Services for Pike County Commissioners, August 2000

Soil Survey of Pike County, Pennsylvania, An Interim Report Part One and Two, USDA Natural Resources Conservation Service, 1995

Source Water Protection Plan for Milford Springs, Milford Township, Pike County, Pennsylvania prepared for The Municipal Authority of the Borough of Milford, prepared by Todd Giddings and Associates, Inc, June 2006

Upper Delaware Scenic and Recreational River Management Plan prepared by the Conference of Upper Delaware Townships in cooperation with the USDI National Park Service, 1986

Additional Resources:

<http://www.800poconos.com>

Pocono Mountain Visitors Bureau

PA Geologic Survey

<http://www.dcnr.state.pa.us/topogeo/map13/map13.aspx>

<http://crm.cr.nps.gov/archive/25-03/25-03-3.pdf>

Tocks Island History

www.dcnr.state.pa.us

Natural Areas and State Resources

PA DCNR Bureau of Forestry Delaware State Forest Public Use Map

PA DCNR, Promised Land State Park Trail Map

<http://www.nps.gov/dewa/planyourvisit/index.htm>

Water Gap Information

BENEFITS OF GREENWAYS: A PENNSYLVANIA STUDY

<http://www.pagreenways.org/toolbox/Benefits.pdf>

NPS Greenways-Upper Delaware River

<http://www.nps.gov/phso/rtca/grnmgmt4.htm#upper>

Review of Municipal Comprehensive Plans and Ordinances

Municipality	Comprehensive Plan		Zoning	SALDO
	Adopted	Last Updated	Adopted or amended	Adopted or amended
PIKE COUNTY	1993	2006	NA	NA
BLOOMING GROVE TOWNSHIP	1986	NA*	2000	1992
DELAWARE TOWNSHIP	1965-68	2006	2005*	2005*
DINGMAN TOWNSHIP	1973	1999	2005	2003
GREENE TOWNSHIP	NA	NA*	NA	2000
LACKAWAXEN TOWNSHIP	1995	2005	2001	1992
LEHMAN TOWNSHIP	1968	2001	2004	1994
MATAMORAS BOROUGH	NA	NA*	1994	1985
MILFORD BOROUGH	1979	2006	1997	2002
MILFORD TOWNSHIP	1985	2006	2001	2003
PALMYRA TOWNSHIP	1975	NA*	2003	2001*
PORTER TOWNSHIP	1999	NA	2005	1999
SHOHOLA TOWNSHIP	1975	1996	1990	1991
WESTFALL TOWNSHIP	1987	1997*	2005	1991

* As of January 2008, these municipalities were working on updates and/or new plan development.

Blooming Grove Township

Adopted in 1986, the Blooming Grove Township Comprehensive Plan is currently in the process of being updated. Section II includes goals and objectives addressing community character, natural resources and environmental qualities, stormwater management, transportation, community facilities and services, commercial and industrial development, and housing. Several of the goals and objectives, relate to resource conservation, environmental protection and open space preservation. In 2007, Blooming Grove Township began an update to their existing plan; this update will provide an opportunity to strengthen municipal goals and objectives for protection of open space and natural resources as well as add sections on resource conservation and consider the inclusion of a Map of Conservation Lands.

Delaware Township

In December 2006, Delaware Township adopted a new update to their municipal comprehensive plan. Their original plan was completed in the late 1960's and was very progressive for the time, including a wide range of background information, goals and objectives which addressed a wide range of growth and development

issues, and recommendations with strategies and implementation techniques, such as cluster development.. The 2006 Comprehensive Plan update follows the tradition of being progressive in the conservation of natural resources and promotion of better development practices. Included in this plan is a plan for conservation and open space which includes a weighted value system for evaluating parcels for conservation value into the future

Dingman Township

The 1999 Comprehensive Plan Update assessed the municipalities existing natural resources and recreation lands and suggested potential strategies for managing the remaining undeveloped property in the township. A portion of the township's land lies within the Delaware Water Gap National Recreation Area; this land is regulated by the National Park Service, US Department of the Interior. The township has acquired land for development of a municipal park and has completed a park master site plan for development and long term management of these facilities.

Greene Township

Greene Township is the only municipality in the County without zoning. The Township began work in 2007 on their first Comprehensive Plan. Greene Township's Subdivision and Land Development Ordinance was updated in 2000 and a floodplain ordinance was adopted in 2001, granting some protection to the natural resources in the municipality. The SALDO places basic protections for the development of land in the municipality. Zoning could provide additional protection of natural resources.

Lackawaxen Township

The Lackawaxen Township Comprehensive Plan was adopted in 1975 prior to enactment of the Township Zoning Ordinance. A Comprehensive Plan Update was adopted in 1995 to supplement the 1975 Plan.. The 1995 Lackawaxen Township Comprehensive Plan Update, in Section VII, includes broad goals and objectives addressing community character, natural resources and environmental qualities, stormwater management, transportation, community facilities and services, commercial and industrial development, and housing. Several of these were targeted to resource conservation, environmental protection and open space preservation. In 2006, Lackawaxen Township partnered with Shohola Township in the development of a Multi-Municipal Comprehensive Plan with the inclusion of a detailed open space plan.

Lehman Township

The Lehman Township Comprehensive Plan update of 2001 includes broad goals and objectives addressing land use, housing, environmental conservation, community facilities and services, transportation, and historic preservation. The

Plan also includes a number of specific objectives aimed at conserving natural resources and preserving open space. The strong base created through this document will support further development of ordinances aimed towards resource conservation.

Matamoras Borough

Matamoras Borough currently does not have a comprehensive plan for their community. Late in 2007, Matamoras Borough signed a cooperative agreement with Westfall Township to work on the development of a Multi-Municipal Comprehensive Plan and Open Space Greenways, and Recreation Plan for the two municipalities.

Milford Borough

The Comprehensive Plan of 1979 was a traditional document which outlined the existing conditions of the community. Since the adoption of the original comprehensive plan the community experienced some fluctuations in population, but this area is at build-out and little remains of existing natural resources. The issues of maintaining the streetscapes and historical character are the priority issues in the borough. In a multi-municipal partnership in 2006, Milford Borough partnered with Milford Township to create a multi-municipal comprehensive plan. This new 2006 plan encompasses many of the better planning practices, for maintaining local character and historic preservation in the Borough.

Milford Township

The Comprehensive Plan of 1985 was rather progressive in noting the need to protect and preserve the rural and natural character of the community. The goals and objectives set forth in this plan were integrated extensively through the updates to their municipal ordinances. In a multi-municipal partnership in 2006, Milford Township partnered with Milford Borough to create a multi-municipal comprehensive plan. This new 2006 plan encompasses many of the better planning practices, for not only maintaining local character but also encouraging land conservation.

Palmyra Township

The existing Palmyra Township Comprehensive Plan was developed in 1975; until recently, no updates to the plan were completed since its original adoption. The 1975 document outlines soil, water, and land-use conditions in the municipality, but there was minimal development in this portion of the County at the time. Much of the residential development was seasonal communities surrounding Lake Wallenpaupack. With increase in development in the municipality in recent decades, various ordinance updates to protect natural resources have been adopted. Palmyra Township was also the first municipality to adopt mandatory dedication or fee in-lieu of ordinance provisions to support

their municipal recreation and open space. Late in 2007, Palmyra Township began an update to their Comprehensive Plan and to their subdivision ordinance to better address goals which manage growth and natural resource protection standards.

Porter Township

Porter Township is very unique for both Pike County and the State because of the amount of public land held by the PA DCNR, Bureau of Forestry in the Delaware State Forest and because of limited development on the remaining available private lands. Much of this available private land is held in ownership by hunting & fishing clubs. The 1999 Comprehensive Plan for the township fully recognizes the unique position of the township and sets forth strong direction towards conservation and best planning practices for future development. The Township anticipates beginning a new update to their plan and ordinances in 2008.

Shohola Township

Shohola's Comprehensive Plan, last updated in 1996, highlights the importance of the natural environment in the township. The Natural Resources and Environmental Qualities Goal found in this plan provides for the preservation, protection, management and enhancement of Shohola Township's natural resources and environmental qualities for present and future generations. This goal is supported by a number of very good objectives aimed at conserving natural resources and preserving open space. In 2006, Shohola Township partnered with Lackawaxen Township in the development of a Multi-Municipal Comprehensive Plan with the inclusion of a detailed open space plan.

Westfall Township

Westfall Township's 1997 Comprehensive Plan generally outlines existing conditions of the natural resources in the municipality. However, the plan lacks appropriate goals, objectives, or implementation for protection of resources and conservation. While this township is located along the border of the New York and New Jersey metropolitan regions, the township has remained relatively undeveloped except for the commercial corridor along Route 6 and 209. Topography and road infrastructure has been a major limiting factor in the rest of the township. Late in 2007, Westfall Township signed a cooperative agreement with Matamoras Borough to work on the development of a Multi-Municipal Comprehensive Plan and Open Space Greenways, and Recreation Plan for the two municipalities.

Related Planning Efforts

County and Countywide Plans and Studies

Pike County's Comprehensive Plan (2006)

In response to historic and projected growth rates in the County, the Pike County Commissioners charged the Pike County Planning Commission with the task of updating the County's **Comprehensive Plan** in late 2003. The planning process took well over two years. The plan was completed and adopted in 2006. The findings of community surveys, public meetings, and research conducted during the planning process highlighted the need for managing growth, improving the quality of development which occurs in the County, and protecting resources through private stewardship and municipal land use regulations. The Pike County Comprehensive Plan's vision, goals and priority actions emphasize these intentions for continued community development and resources conservation.



OUR VISION FOR PIKE COUNTY IN THE 21ST CENTURY

"Pike County will be a community where social, ethnic, economic, intellectual and cultural diversity is cultivated; individual, family and community health is nurtured; the environment is protected; growth is managed; and individual dignity is revered.

Pike County will continue to experience population growth in the 21st Century, but that growth will not degrade the quality of life within the County. ... growth will be compatible with the need to conserve Pike County's natural, cultural, historic, and recreational resources. The County will promote programs that will enable residents' access to ... educational services, historic and cultural resources.... Systems will be in place to provide for clean water supply and pollution-free waste disposal in appropriate growth areas, and protect water quality and quantity in the County. There will be appreciation for, protection of, and sustainable use of the County's resources for the social and economic benefits of the populace. Enhanced tourism opportunities and related service businesses will complement employment opportunities available within Pike County. Economic development will occur with recognition of the need to preserve the County's environmental, cultural, and historic resources.

continued

Pike County will see continued development of intergovernmental cooperation in planning and providing of services and programs to the County's residents. Municipal officials in the County will continue to address the needs of their residents and cooperate with the County and other municipalities to assure that land use planning in the County will be compatible with the conservation of the County's resources."

Top 4 PRIORITY ACTION ITEMS

I. Protect Natural Resources within the County

1. Prepare a County Open Space and Greenways Plan
2. Consider whether to establish an open space bond fund through voter referendum
3. Provide technical and organizational assistance to municipalities for multi-municipal open space and recreation plans
4. Make GIS mapping of natural resources available to municipalities
5. Assist municipalities in preparation of Potential Conservation Lands maps
6. Assist municipalities in ordinance and plan audits to determine build-out potential and degree of resource protection
7. Encourage protection of target-identified areas in open space plans
8. Encourage an organization to assume responsibility for monitoring "protected" lands
9. Provide technical assistance, including model ordinance provisions, to municipalities to adopt provisions in their zoning and subdivision and land development ordinances to protect natural resources
10. Support formation and actions of regional or municipal Environmental Advisory Councils

II. Protect the County's Water Resources

1. Establish riparian buffers along watercourses
2. Provide technical assistance, including model ordinance provisions, to municipalities to adopt provisions in their zoning and subdivision and land development ordinances to protect water resources
3. Update existing and complete new Act 167 Stormwater Management Plans and ordinances prepared pursuant to the Plans, to encourage Best Management Practices
4. Prepare a County-Wide Water Resources Plan.

III. Protect Scenic and Historic Resources

1. Provide technical assistance, including model ordinance provisions, to municipalities to adopt provisions in their zoning and subdivision and land development ordinances to protect scenic and historic resources and regulate signage
2. Support formation and actions of regional or municipal historical commissions
3. Encourage retention of natural buffers within developments and retention of natural and historic landscapes

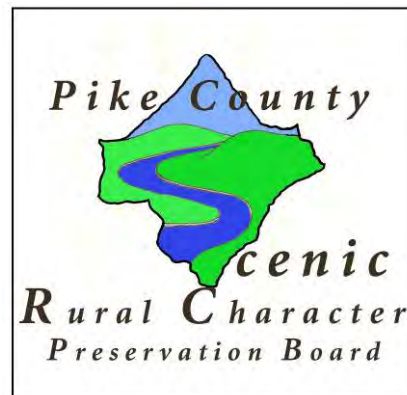
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IV. Manage Growth Within the County

1. Support development of identified growth areas with consistent governmental policies and financial incentives
2. Support development of identified growth areas with locations of community facilities
3. Support development of identified growth areas with road improvements
4. Support development of identified growth areas with sewer planning
5. Support development of identified growth areas with water supply planning
6. Support development of identified growth areas with ordinance provisions allowing higher densities of development when appropriate infrastructure is available
7. Support revitalization efforts in existing Boroughs, Villages and hamlets and provide technical assistance

Scenic Rural Character Preservation Program

In November 2005, Pike County voters affirmed the importance of preserving and protecting the natural resources and the County's scenic rural character by approving the Pike County Scenic Rural Character Preservation bond referendum. The approval of the bond by the Pike County electorate was an important expression of citizens support for taking action to protect the County's natural resources, preserving critical open space, providing parks and recreation areas and improving planning efforts at both the County and Municipal levels. In April 2006, the Commissioners established the Scenic Rural Character Preservation Board, a nine-member Board with two alternates. The Board's first task was to develop a more detailed framework for administering the County's Scenic Rural Character Preservation Program (SRCP).



The goals of the Scenic Rural Character Preservation Program are best described in the adopted Mission Statement for the Program taken directly from the November 2005 bond language:

“to provide for the protection of drinking water; wildlife habitat, preservation of scenic ridges and critical open space; protection of water quality of rivers, lakes and streams; parks and recreational areas; improved county and municipal planning; related acquisitions of real property or interests therein from willing sellers on a voluntary basis; and to provide education, outreach and funds for such purposes.”

County and municipal implementation of open space planning and acquisition efforts as well as the implementation of the objectives of this plan will be eligible for funding under the program. The Pike County Agricultural Land Preservation Program represents another important component of the County's Scenic Rural Character Preservation Program.

Pike County Agricultural Land Preservation Program

The Pike County Commissioners established the county's first Agricultural Land Preservation Program in 2006. Final approval of the program came in 2007 with adoption of the Program Manual and procedures by the Pennsylvania Department of Agriculture and the County Commissioners in February 2007. The purpose of

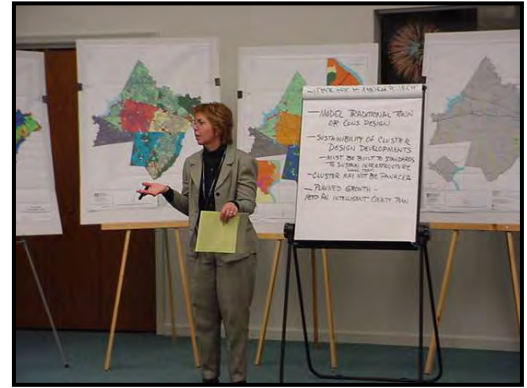


the Agricultural Land Preservation Program is to protect and promote the continued agricultural use of valuable agricultural lands in the county. The program carries out this mission by acquiring agricultural conservation easements on actively farmed lands located in Agricultural Security Areas (ASA's). The purchase of these easements from willing and interested landowners protects our quality farmland for the production of food and other agricultural products, acknowledges the value of agricultural land as a natural and economical resource, and provides landowners, local officials and community residents with tools to retain our rural character.

The Pike County Office of Community Planning manages the Agricultural Land Preservation Program in conjunction with the five member Pike County Agricultural Land Preservation Board established in 2006 and appointed by the County Commissioners. Creating the County's Agricultural Preservation Program and working with voluntary landowners and municipal officials to create Agricultural Security Areas (ASA's) in our prime farming communities will provide important opportunities for the successful implementation of the overall Scenic Rural Character Preservation Program and the further development of the County's Open Space network.

Community Planning Initiative

In recent years, municipal officials in Pike County have sought technical and financial assistance to support the review, revision and implementation of municipal comprehensive plans and land use regulations, specifically to enhance their natural resource protection efforts. In response, the Pike County Office of Community Planning and Pike County Conservation District launched the Community Planning Initiative (CPI) in 2005.



Through the CPI, the various partners review municipal comprehensive plans and land use ordinances and prepare a Report of Findings to all participating townships and boroughs. The Report outlines how regulations could be improved relative to the conservation objectives stated in the comprehensive plan as well as contemporary best planning and management practices. The CPI follows through with financial support for development of new or revised zoning, subdivision and land development ordinance provisions that implement the CPI Report of Findings. A Geographic Information System (GIS) specialist was enlisted to illustrate natural resource inventories and provide various map and data formats to assist the local municipality with its plan review process.

Forecasting Land Use Change in Pike County & Wayne County, Pennsylvania (2006)

In an effort to develop land use strategies that can accommodate population and economic growth without sacrificing the natural resources and quality of life that attract visitors and residents, Pike and Wayne Counties jointly undertook a land use study to model and provide forecasts of future development patterns. The effort was part of a broader modeling project for the Upper Delaware River Basin.

The model methodology analyzed the urbanization process by illustrating trends in impervious surface coverage. Areas with 10 percent or greater impervious surface were depicted for the years 1984, 1988, 1995 and 1999. The resultant maps show that new development with 10 percent or greater impervious surface has increasingly located away from historic community centers. From this pattern and population projections, the model forecasts the approximate location of new development required to serve the projected population. The model products include large wall maps and tabular data showing where and how much growth is likely to occur.

The Conservation Partnership

The Pike County Conservation District and Pike County Office of Community Planning have worked closely with other agencies and organizations to provide an aggressive series of educational programs on growth management for local citizens and municipal officials. The Conservation Partnership, an alliance of government, non-government, non-profit and grass roots organizations, originally met late in 2004 with the intent of sharing information and calendar dates to prevent redundant programming and conflicting schedules. From the initial meeting, the Partnership realized there were many more opportunities to enhance efforts by working in unison. With shared goals for natural resource conservation, sustainable communities and citizen involvement in community planning and resources management, members of the Partnership pooled their resources to present programs that reach a broad range of participants across Pike, Wayne and Monroe Counties and into neighboring New York State. The Partnership also focuses efforts in several other areas including: identifying, prioritizing and exploring funding options and actions to conserve some of the most environmentally sensitive areas in the County; supporting the County Commissioners in providing education on the \$10 million Scenic Rural Character Preservation Bond Referendum and helping to implement the bond after its approval by Pike County voters in November 2005. The Partnership also provided an important networking opportunity in development of the County's Open Space, Greenways and Recreation Network Plan.

The truly collaborative efforts of the Conservation Partnership have been recognized at both the state and national levels. In 2005, the Conservation Partnership received a Northeast Pennsylvania Environmental Partnership Award. The 2006 workshop series was recognized by the Northeastern Pennsylvania Nonprofit and Community Assistance Center's 2006 Annual Community Awards for projects and programs that have made an extraordinary impact upon the quality of life within the communities they serve.

Today, Conservation Partnership members include:

- Pike County Conservation District
- Pike County Office of Community Planning
- Delaware Highlands Conservancy
- Penn State Cooperative Extension
- The Nature Conservancy
- Alliance to Keep Pike Green
- Pinchot Institute for Conservation Studies
- Upper Delaware Visioning Committee
- PA Department of Conservation and Natural Resources
- National Park Service Delaware Water Gap National Recreation Area
- National Park Service Upper Delaware Scenic and Recreational River
- The Lackawaxen River Conservancy
- Pocono Environmental Education Center

Other Related Plans and Studies

The Nature Conservancy Open Space Connectivity Study for Northeast Pennsylvania (2008)

The Nature Conservancy's Open Space Connectivity Study, currently under development, identifies habitats needed to facilitate the movement of selected representative species. More specifically, the study presents a conservation plan that describes the interconnected network of core habitat areas, wildlife linkage corridors, and sustainable buffer lands that represent the native species and ecosystems of the region and identifies conservation options to facilitate the maintenance or enhancement of these core areas and corridors. This project will advance efforts to ensure the long-term survival of eco-regionally critical species, natural communities, and ecosystems in the Upper Delaware River corridor. Local and regional project partners included The Nature Conservancy of Pennsylvania, The USDI National Park Service, PA Department of Conservation and Natural Resources, Duke University and Western Pennsylvania Conservancy. These partners are also working with the County's of Pike, Monroe and Northampton. Additionally, species experts from PA Fish and Boat Commission, PA Game Commission and various academic institutions are providing expertise and guidance.

Pinchot Greenway Trail Feasibility Master Plan (2003)

The Pinchot Greenway Study was initiated to determine the feasibility of creating multi-municipal trail connections, protecting significant natural and cultural resources within the area, and creating economic and enhancement opportunities in the Borough of Milford and surrounding areas. The project resulted in the recommendation of a pedestrian and bicycle route between the Delaware Water Gap National Recreation Area's McDade Trail and the U.S. Forest Service facility at Grey Towers. This trail connection would link Milford Borough, Milford Township, Dingman Township, and several cultural, recreational, and natural resource features, such as the U.S. Forest Service Grey Towers home of Gifford Pinchot, the Pike County Park, the town center historic sites of Milford, and the Sawkill Glen along the exceptional value Sawkill Creek.

Sawkill-Vandermark Rivers Conservation Plan (2006)

The Sawkill and Vandermark Creek Watersheds span approximately 30 square miles and portions of five municipalities on the eastern edge of Pike County. The watersheds are a mosaic of forest, fields, parks, natural areas, and residential and commercial development. The creeks and their tributary watersheds are characterized by exceptional water quality and have been afforded special protection under Pennsylvania state law as either high quality (HQ) or exceptional value (EV) waters. These designations help to ensure that the water quality and the biological communities native to these waterways are maintained through the state's anti-degradation requirements.



The Sawkill-Vandermark Rivers Conservation Plan funded by Pike County and the Pennsylvania Department of Conservation and Natural Resources (DCNR) provides the watershed community and local decision makers with information, management recommendations and tools to protect the Sawkill and Vandermark Creeks and their associated ecological, recreational and aesthetic resources. The primary goals of the plan focus on enhancing public access to, and enjoyment of, these existing assets and enabling continued economic growth while ensuring sound stewardship so that future generations may also benefit from them for years to come. The plan was developed by the Pike County Office of Community Planning in conjunction with the local municipalities and DCNR. As a result of this planning effort, the Sawkill and Vandermark Creeks are listed on Pennsylvania's Rivers Registry.

Upper Delaware Scenic and Recreational River Management Plan (1986)

The Upper Delaware River Scenic and Recreational River Management Plan was developed to assist municipalities along the Upper Delaware River in protecting the river and its resources. Threats to water quality from several proposed developments during the 1970s sparked citizen concern and interest in protecting the river. The Conference of Upper Delaware Townships (COUP) was formed in 1981 by the eight New York river towns and seven Pennsylvania river townships to conserve, protect, maintain and enhance the river corridor's unique resource values and social and economic vitality. This group was a driving force behind federal designation of the Upper Delaware as a Wild and Scenic River and the development of the river management plan.

The plan was completed in 1986 with the involvement of National Park Service (NPS), the Commonwealth of Pennsylvania, the State of New York, the Upper Delaware Citizens Advisory Council, the Delaware River Basin Commission, local landowners, commercial and recreational interests, and local and national conservation groups. The 15 communities within the legislative boundaries of the Upper Delaware Scenic River are responsible for implementing the River Management Plan. Notably, the use of eminent domain by the federal government has been restricted to preserve private property rights. At least 11 towns convene as the Upper Delaware Council (UDC), an inter-state agency comprised of public agencies and private interests, to review local plans for conformance to the River Management Plan. The UDC makes corridor-wide recommendations to the NPS. The NPS then forwards such recommendations to the U.S. Secretary of the Interior for review and approval. The NPS cooperates with New York and Pennsylvania to manage recreation on the river and river access points.

Conclusions

In recent years, Pike County has shown increasing attention to the changes taking place in the County and their impact on the quality of life and on the natural environment. Citizens, too, have expressed their support for continuing investment in Pike County's scenic, rural legacy. State and regional partners have stepped up communication, planning, and coordination to make the most of their staff and funding resources and in support of public education and community involvement in planning for livable, economically viable communities and the conservation and sustainable use of natural resources.

Recreation and Open Space Inventory

Municipal Parks and Facilities

Recreation Sites	Number of Recreational Facilities	Type of Recreational Facilities	Description of Recreational Facilities (Regulation Size)
Delaware Township			
2 sites totaling 343 acres <ul style="list-style-type: none"> 140 acre Delaware Township Park (at Township Building) 203 acre Camp Akenac 	4	Ballfields	3 60' baseline softball fields, 1 90' senior division baseball field
	1	Playground	
	1	Skate Park	Ramps, parking, lighting
	1	Pavilion	
	1	Half-Court Basketball	
	1	Concessions	Available for lease
	2	Compost Toilets	
Dingman Township			
103 acre Dingman Township Park <ul style="list-style-type: none"> Reserved/ Undeveloped 			
Greene Township			
4 acre Cykoski Park <ul style="list-style-type: none"> Awarded \$34,000K in CBDG money for park 	1	Playground – swing, slide, and merry-go-round	
	1	Ice skating rink	
Lackawaxen Township			
12 acre Rosencrance Park	1	Playground	
	1	Pavilion	15'x30' w/ 2-bathrooms
	3	Ballfields	1 90' infield, 2 60' infield
	1	Soccer	
	1	Tennis Court	
	1	Basketball Court	

Recreation Sites	Number of Recreational Facilities	Type of Recreational Facilities	Description of Recreational Facilities (Regulation Size)
Lehman Township			
2 sites totaling 68 acres <ul style="list-style-type: none"> 64 acre Lehman Township Community Park 4 acre Township Ballfields 	1	Ballfield	Adaptable for multiple league types
	1	Playground	small playground at township park
	1	Pavilion	24'x16'
Matamoras Borough			
2 sites totaling 65 acres <ul style="list-style-type: none"> 64 acre Airport Park - Park well developed and provides access to Delaware River if improved. Heavily used park. Parking facilities, restrooms, pavilions, concessions, batting cages, historic monuments. 1 acre Veterans Memorial Park and Education Center 	1	Baseball	90' baseline
	3	Softball/Little league	60' baseline
	2	Tennis Courts	unlighted
	2	Basketball Courts	recreational courts, needed improvements
	1	Soccer	Overlaps with 2-little league fields
	1	Hockey Rink	Roller hockey, lighted
	1	Walking Trail	No destination and only 3' wide
	1	Access to Delaware River	fishing and crude boat access. Not promoted because of needed improvements
Milford Township			
4 sites <ul style="list-style-type: none"> Barckley Memorial Park Kennedy Triangle Nearing Memorial Park Triangle Park-Broad-Sarah St 			
Milford Borough			
2 sites totaling 5.5 acres <ul style="list-style-type: none"> Ann Street Park 3rd Street Park 	1	Skate Park	3rd street park under construction
	2	basketball courts	Ann Street park, recreation Basketball
	1	Little league baseball	3rd Street park, new fence
	1	Playground	Ann Street Park
	1	Ice Rink	3rd Street Park

Recreation Sites	Number of Recreational Facilities	Type of Recreational Facilities	Description of Recreational Facilities (Regulation Size)
Palmyra Township			
2 site totaling 12 acres	2	Tennis Court	
▪ 6 acre Palmyra Township Public Beach	2	Ball field	
▪ 6 acre Palmyra Township Park	1	Public Beach	Snack bar, bathrooms, memorial day to labor day (for fee)
Shohola Township			
6 acre Rohman Park			
▪ Awarded CBDG money in 2007			

School District Facilities

Outdoor Recreational Facilities Inventory	Baseball Field	Basketball Court (Outdoor)	Field Hockey Field	Football Field	Multipurpose Field	Nature Center	Playground	Practice Field	Running/Walking Track/Trail	Soccer Field	Softball Field	Tennis Court	Other	Estimated Acreage of Recreational Facilities	Open to the public after school (Y/N)
Delaware Valley SD															
Delaware Valley Elementary					X									N/A	Y
Delaware Valley Middle	X	X	X	X	X		X	X	X	X	X	X	X	27	Y
Delaware Valley High	X	X	X	X	X		X	X	X	X	X	X	X	27	Y
Dingman-Delaware Primary							X		X					N/A	Y
Dingman-Delaware Elementary					X		X							N/A	Y
Dingman-Delaware Middle	X	X	X	X	X			X	X	X	X			47.5	Y
Shohola Elementary	X				X		X							31.75	Y
Wallenpaupack SD															
Wallenpaupack High	X		X	X	X	X		X	X	X	X			N/A	Y
Wallenpaupack Middle	X	X					X				X			N/A	Y
Wallenpaupack North Intermediate	X	X	X		X			X				X		N/A	Y
Wallenpaupack North Primary					X		X	X		X				N/A	Y
Wallenpaupack South Elementary						X	X							N/A	Y
Hawley Kindergarten Center							X							N/A	Y
East Stroudsburg SD															
Bushkill Elementary	X	X			X		X			X				32	Y
East Stroudsburg North High	X	X	X	X				X	X	X	X	X		32	Y
Lehman Intermediate	X	X	X	X				X	X	X	X			32	Y
JM Hill Elementary	Does not serve Pike County														
JT Lambert Intermediate	Does not serve Pike County														
Middle Smithfield Elementary	Does not serve Pike County														
Resica Elementary	Does not serve Pike County														
Smithfield Elementary	Does not serve Pike County														
East Stroudsburg Elementary	Does not serve Pike County														
East Stroudsburg South High	Does not serve Pike County														

Appendix

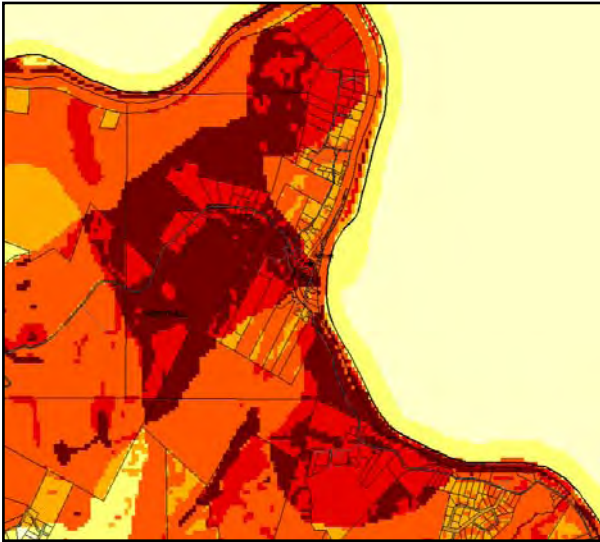
Community Association Open Space and Recreation Lands as identified by the Municipalities

Municipality	Facility Name	Location	Description
Delaware Township	Pocono Mountain Lake Forest		Tennis Courts, Basketball, Hardball, Clubhouse, Pool, Playground, dedicated greenspace areas
Delaware Township	Traces of Lattimore		Beach, Boat Launch, Picnic Area, Fields, Tennis Courts, Paddle tennis Courts, half-court basketball, dedicated greenspace areas
Delaware Township	Wild Acres		Park, Ballfield, clubhouse, beach, dedicated greenspace areas
Dingman Township	Conashauga Lakes Community Assoc.	Onedia Road	Ball sports, boating, fishing, swimming playground
Dingman Township	Crescent Lake	Habula Road	Common Area-pump house-wooded
Dingman Township	Gold Key Estates	Gold Key Road	Common Area-mostly wooded?
Dingman Township	Indian Trails	Indian Trail Road	Boating, fishing, swimming, ball sports, playground, picnicking
Dingman Township	Lake Adventure Community Assoc.	Doe Road	Boating, fishing, swimming, boating, picnicking, playground
Dingman Township	Log Tavern Lakes	Chevene Drive	Boating, fishing, swimming, ball sports, playground, picnicking
Dingman Township	Pocono Mountain Water Forest	Lakewood Drive	Boating, fishing, swimming, hiking, picnicking
Dingman Township	Pocono Mountain Woodland Lakes	Sunflower Drive	Wooded, wetland
Dingman Township	Sunnylands Community Inc.	Turf Road	Marsh area according to topo and aerial photo
Lehman Township	Pine Ridge Community Assoc.	Milford Road	Common Recreation & Green Areas
Lehman Township	Pocono Mountain Estates 5A Community Assoc.	Milford Road	Common Recreation & Green Areas
Lehman Township	Pocono Mountain Estates Community Assoc.	Milford & Mink Pond Roads	Common Recreation & Green Areas
Lehman Township	Pocono Ranchlands Property Owners Assoc.	Mink Pond Road	Common Recreation & Green Areas
Lehman Township	Saw Creek Estates Community Assoc.	Winona Falls & Wickes Road	Common Recreation & Green Areas
Lehman Township	Taniment Time Share Association	Bushkill Falls Road	Common Recreation & Green Areas
Lehman Township	The Falls Community Association	Winona Falls Road	Common Recreation & Green Areas
Lehman Township	Winona Lakes Property Owners	Winona Lakes & E. Sugar Mt. Roads	Green Areas

Camps or Other Open Space Areas as identified by the Municipalities

Municipality	Facility Name	Location	Additional Information	Description
Dingman Township	Camp Netimus	Raymondskill Road		Ball sports, horse riding, hiking, camping, swimming, boating, fishing
Dingman Township	Camp Witness-First Evangelical Free Church	Black Bear Ridge		Camping
Dingman Township	Del Forno Tract	Springbrook Road		Conservancy Program
Dingman Township	Buck & Beaver Camp	Springbrook Road		Ball sports, hiking, swimming
Dingman Township	Milford Hills			Open Space being created
Dingman Township	Mount Haven	Pompeii & Log Tavern Roads	Pike Dingman Holding	Ball Sports, Horseback riding
Dingman Township	Nitche's Pond			Boating, fishing, swimming
Dingman Township	Pedersen's Pond			Boating, fishing
Dingman Township	Strub Tract	Dwarfskills Falls Road		Conservancy Program
Dingman Township	YMHA-YWHA Camps	Sawkill Road	Hebrew Camp	Ball sports, horse riding, hiking, camping, swimming, boating, fishing
Lackawaxen Township	Roebeling Bridge			
Lackawaxen Township	Ski Big Bear	Masthope Road		Ski and conference center
Lackawaxen Township	Woodloch Springs Resort			Golfing, Tennis
Milford Township	Grey Towers	Owego Turnpike	US Government	
Porter Township	Camp Pawe			Act 319
Porter Township	Camp William Penn			Act 319
Shohola Township	Coursen-Bernox Conservancy	Twin Lakes Road		

The Conservation Suitability Analysis



The Conservation Suitability Map illustrates lands with high conservation value based on the location of natural, cultural, and recreation features as well as the potential for extending and linking public and other protected lands.

The County's Open Space, Greenways, and Recreation Network Plan Study Committee defined five factors or values of open space in Pike County: **aesthetic and scenic value, ecological community value, recreational value, watershed protection value and linkages between lands with these values.** These five factors each have definable features and are spatially identifiable, i.e. can be shown on a map. The project team compiled geographic information systems (GIS) feature data for each of the five factors identified above, resulting in five thematic maps.

Factor Definitions

Aesthetic & Scenic Value

This value includes elements which contribute to the rural character and the quality scenic relief in the County. The scenic and aesthetic values are those qualities of our living environment that build the cultural, historic, and natural character of the County and contribute to the overall quality of life. This value was represented by the following GIS data layers:

- Active Farms and Inactive Farmland
- Historic Sites (200' buffer from point)
- 100+ Acre Parcels
- Riparian Corridors (300' buffer on river & streams centerlines)
- Route 6 Scenic Byway
- State and Federal Lands
- Wetlands

Ecological Community Value

Ecological Communities include important core species, features, and the necessary supporting communities which assist in protecting the quality and biological integrity of these resources. Included in these core ecological communities are Pike County's exceptional value watersheds as designated by PA Title 25, Chapter 93, Water Quality Standards; the identified Natural Areas Sites listed in the Pike County Natural Areas Inventory (1995); Important Bird Areas; Important Mammal Areas, and Eagle nesting sites.

All the watersheds in Pike County are rated high-quality (*hq*) or exceptional value (*ev*). Pike County's *exceptional value* watersheds were included within this factor due to their higher ranking for water quality and to prioritize these areas in their importance. Exceptional value watersheds contribute to habitat of aquatic communities and are host to some of the unique habitats in the County. The Natural Areas Inventory (NAI) Sites were inventoried by the Pennsylvania Science Office of the Nature Conservancy. The NAI represents areas with the highest natural integrity for plant and animal species and biological diversity. Important Bird Areas (IBA) are areas recognized by the National Audubon Society for outstanding bird conservation communities and habitat. Important Mammal Areas (IMA) in Pennsylvania are areas recognized by the Pennsylvania Biological Survey, Mammal Technical Committee, and represent areas with species of special concern or areas with high mammalian diversity. PA Department of Conservation and Natural Resources (DCNR) has identified eagle nest sites in order to provide better protection to these sensitive species. Pike County provides habitat for breeding pairs of Bald Eagles, and the waters of the Delaware and Lackawaxen Rivers provide winter feeding grounds for these species. This value was represented by the following GIS data layers:

- Eagle Nest Sites
- Exceptional Value Watersheds
- Important Bird Areas (recognized by National Audubon)
- Important Mammal Areas (recognized by Pennsylvania Biological Survey)
- Pennsylvania Natural Areas Inventory Sites
- Wetlands

Linkage Value

Linkage Value identifies lands which are adjacent to protected lands - public lands or land conservation easements. These lands may be more applicable to future protection or acquisition due to their connectivity to existing protected lands. Connectivity is critical for habitat preservation, wildlife corridors, and watershed protection and in some cases creation and expansion of recreation resources. Linkages can also provide buffers to preserve the integrity of historic sites. This value was represented by the following GIS data layers:

- Lands adjacent to conservation easements
- Lands adjacent to historic sites
- Lands adjacent to public land
- Public Lands (federal and state land, county and municipal parks)

Recreational Value

Recreational Value contains lands where public recreation exists or is proposed for future development. Public recreation refers to recreational uses or facility types such as: outdoor athletic facilities, parks, playgrounds, paths/trails, aquatic recreation or launching areas. Providing opportunities for recreation and maintaining those facilities are critical for maintaining quality of life for the residents of the County. This value was represented by the following GIS data layers:

- Bicycle PA (50' buffer from Route 6, Towpath and Kimbles Road centerline)
- County and Municipal Parks
- Delaware River
- Historic Sites (200' buffer from point)
- PA Fish Commission Boat Access locations
- Promised Land State Park
- Trail ROW (50' buffer from centerline)

Watershed Protection Value

Watershed Protection includes data layers which assist in preserving and protecting the quality of watersheds and waterbodies in Pike County. All the watersheds in Pike County are rated high-quality (HQ) or exceptional value (EV). The EV watersheds were included within this factor due to their higher ranking for water quality. Floodplains and riparian corridors are critical for watershed protection due to their direct relationship to water quality in the County. Wetlands and prime soils both contribute to filtration of runoff and maintaining the quality of waterbodies. Steep slopes are highly susceptible to erosion which affects the quality of streams and rivers. Protecting vegetation and minimizing disturbance on steep slopes is critical for protecting the quality of adjacent water bodies. Large undeveloped parcels of land contribute to protecting water quality and groundwater recharge areas. The PA Delaware State Forest and the USDI National Park Service, Delaware Water Gap National Recreation Area are included in this factor because these lands are largely forested and undisturbed, which contribute to protection of water quality. Privately owned parcels over 100 acres and land enrolled in Act 319 (forested land) are types of land which contribute to groundwater protection due to more of the land remaining undeveloped. Since many parcels enrolled in Act 319 are less than 100 acres in size, the smaller Act 319 parcels have been included for this factor. This value was represented by the following GIS data layers:

- Exceptional Value Watersheds
- Floodplains
- 100+ Acre Parcels
- Prime Soils
- Private Forest lands listed in the Act 319 program
- Riparian Corridors (300' buffer on river & streams centerlines)
- State and Federal Land
- Steep Slopes (DEM derived)
- Wetlands

Individual Factor Maps

On each of the above listed factor maps, land areas are deemed “more suitable” for the open space network if they contain multiple features of a given factor and are shown as bolder and brighter on the map; lands are deemed “less suitable” if they contain fewer features and are shown in lighter colors. While these maps illustrate land suitability based on one of the five factors, additional analysis was used to determine land

suitability for the open space network based on all factors and the importance of one factor relative to another. Depending upon the importance rating of each factor, land areas of the county will vary in their significance to the open space network, and thus their priority for planning measures.

Composite Factor Map

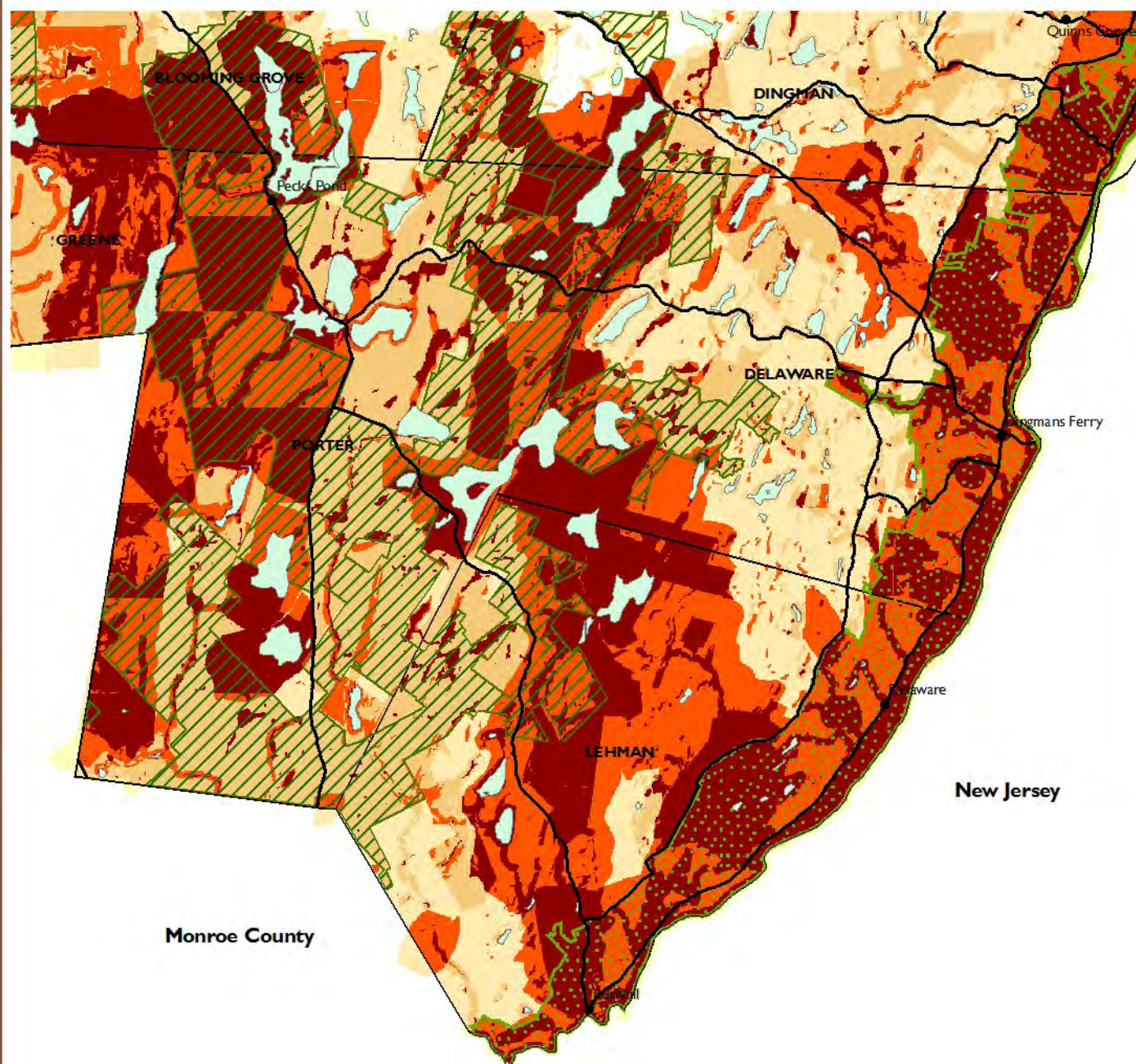
An interactive computer modeling program, the Decision Support Model, was used to compile the input on the relative importance of each factor and generate a composite map of all five of the factor maps which illustrates land suitability for the open space network. The Decision Support Model allows participants to assign importance ratings to each open space factor using an interactive sliding scale which ranges from 'Not that important' to 'Extremely Important.'

Factors	Importance relative to other factors				
	Not that important	Somewhat important	Important	Very important	Extremely Important
Watershed Protection					X
Ecological Community			X		
Linkage			X		
Recreational			X		
Aesthetic & Scenic		X			

The Decision Support Model applies these ratings as weights to the factor data and generates a composite map reflecting this weighting scheme. Lands deemed most suitable for the open space network are shown as bolder and brighter on the map than areas deemed less suitable. The Decision Support Model can also aggregate importance ratings from multiple participants, resulting in a composite rating scale and map reflecting the average weighting of all participants.

Using the importance ratings and factor maps, the Model generated an illustrated composite suitability map. The Countywide Study Committee, Regional Focus Groups, and citizen input at Public Meetings throughout this planning process provided the necessary "expert testimony" to assist in refining this composite map to create the overall Pike County Conservation Opportunities Map.

Pike County Open Space, Greenways and Recreation Plan Conservation Suitability Map



Mapping Preparation:
Pike County Office of Community Planning

Data Source:
Pike County GIS Data

Analysis Support:
Gannett-Fleming Decision Support Model

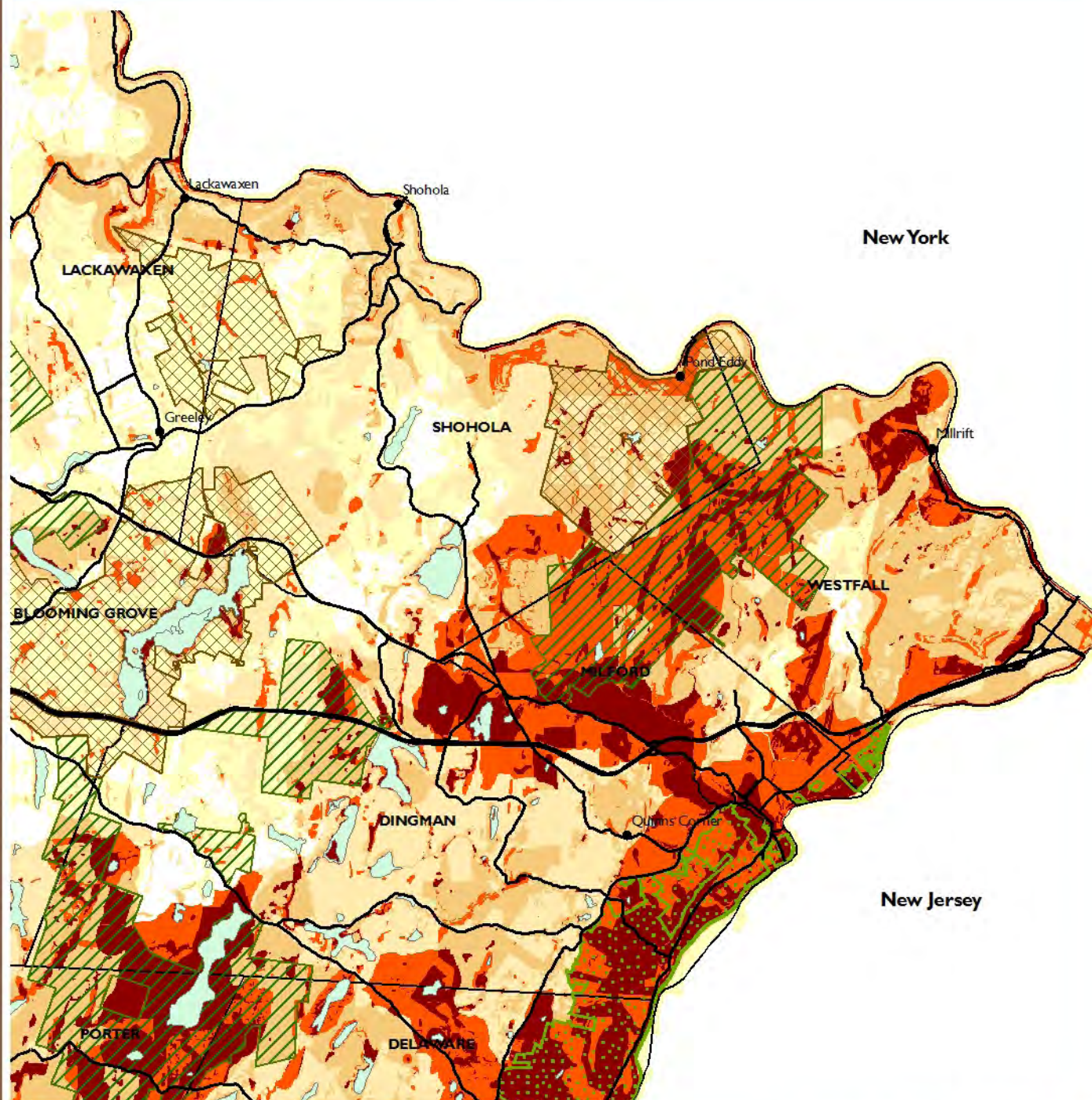
Legend

-  State Gamelands
-  Delaware State Forest
-  DWGNRA

Conservation Suitability

-  More Suitable
- 
- 
- 
- 
-  Less Suitable

Pike County Open Space, Greenways and Recreation Plan Conservation Suitability Map



Mapping Preparation:
Pike County Office of Community Planning






Data Source:
Pike County GIS Data

Analysis Support:
Gannett-Fleming Decision Support Model

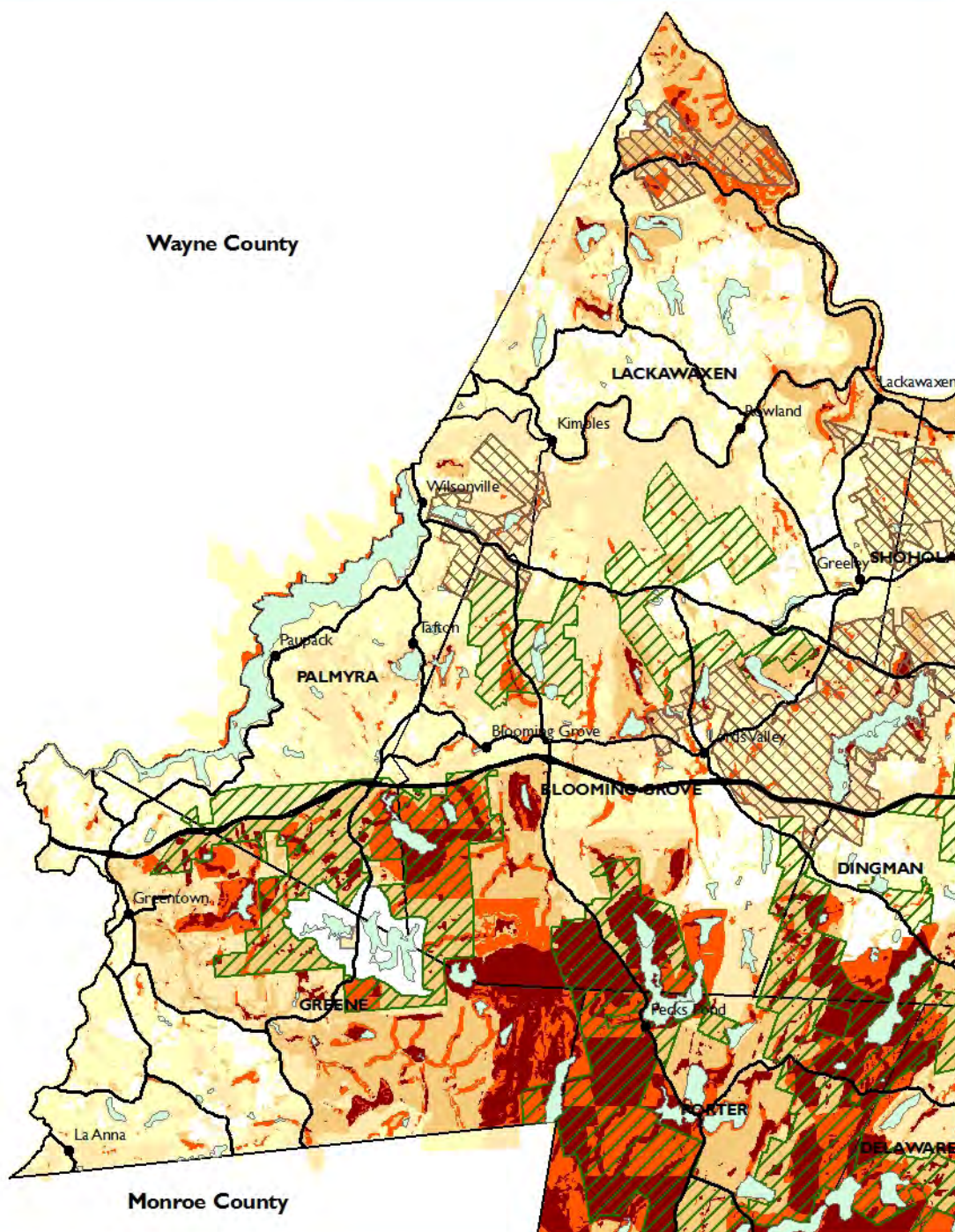
Legend

-  State Gamelands
-  Delaware State Forest
-  DWGNRA

Conservation Suitability

-  More Suitable
- 
- 
- 
- 
-  Less Suitable

Pike County Open Space, Greenways and Recreation Plan Conservation Suitability Map



Mapping Preparation:
Pike County Office of Community Planning

Data Source:
Pike County GIS Data

Analysis Support:
Gannett-Fleming Decision Support Model

Legend

-  **State Gamelands**
-  **Promised Land**
-  **Delaware State Forest**

Conservation Suitability

-  **More Suitable**
-  **More Suitable**
-  **More Suitable**
-  **More Suitable**
-  **Less Suitable**
-  **Less Suitable**