



LIVABLE LANDSCAPES

An Open Space Plan for
Northampton County



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Cover photo courtesy of Becky Bradley, LVPC
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Executive Summary

Photo courtesy of Alice Lipe, LVPC

Purpose of the Livable Landscapes Plan

Many valuable open space resources worthy of discovery and preservation exist throughout Northampton County—scenic mountains and farmland views, river corridors and large forests, parks and historic sites. These features are an integral part of a high quality of life. Northampton County (County) residents have long been interested in open space resources as documented through public opinion surveys by the Lehigh Valley Planning Commission (LVPC) in 1974, 1988, 1999 and 2010. The 2010 survey revealed that nearly 73% of the respondents agreed that more parks, recreation facilities and open space are needed. Northampton County voters also have strongly supported state and County referendums to fund the creation of parks, protect important natural areas and preserve farmland. In a survey of active registered voters conducted specifically for this Plan, two of the key findings are: 1) Protecting lakes, rivers, streams, and preserving water quality were most frequently (71%) ranked the highest priority for the County, and 2) 95% of the respondents strongly agreed or agreed that protecting farmland in the County is important. Recent population growth and land use changes show the region is experiencing a strong development trend that puts pressure on open space resources and, if not managed properly, could impact much of what residents find appealing about the County.

The purpose of *Livable Landscapes – An Open Space Plan for Northampton County* is to guide the conservation, restoration and enhancement of the County’s open space resources and create linkages between the County’s vast natural resources; outdoor recreational facilities; greenways and blueways; farmland; and historic, cultural and scenic resources.

Accomplishments

Livable Landscapes – An Open Space Plan for Northampton County is an update to the current County parks plan—*Northampton County Parks – 2010* published in November 2002 by the Lehigh Valley Planning Commission. Since the publication of that plan, many tasks have been accomplished and milestones reached that further the advancement of the open space network in the County. These accomplishments prompted recognition from the Pennsylvania Land Trust Association, which in May 2015, awarded Northampton County the 2015 Government Conservation Leadership Award for leadership in the conservation of particular landscapes and crucial natural resources. A few of the key accomplishments are:

- Northampton County was selected in 2004 by the Department of Conservation and Natural Resources (DCNR) to pilot a new conservation landscape initiative, leading to the formation of Lehigh Valley Greenways, a two-county partnership that strives to connect natural and cultural resources across the Lehigh Valley.
- The Northampton County 21st Century Open Space Initiative (Open Space Program) was established in December 2004 to preserve natural areas, assist municipalities in the acquisition and development of parks and recreation sites, and provide funding for farmland preservation.
- The Gall Farm, 149 acres, was acquired in 2003 by the County for use as a future park.
- Phases 1 and 2 (approximately 50 acres) of nine phases scheduled were completed at the County’s Wayne A. Grube Memorial Park.
- 1,503 acres of natural areas were preserved, totaling \$4.20 million, through the Natural Areas and Open Space component of the Open Space Program.

- 56 projects were funded through the Municipal Park Acquisition and Development component, totaling \$5.94 million.
- Trails were constructed in the City of Easton, Palmer and Bushkill townships and Tatamy and Stockertown boroughs as part of the effort to connect the City of Easton to the Kittatinny Ridge.
- Seven municipalities in Northampton County approved a 0.25% Earned Income Tax for the preservation of farmland and natural areas since 2005.
- The County farmland preservation program preserved 10,000-acres by 2008, and the 100th farm was preserved in 2010.
- In 2010, the farmland preservation program created the Township Partnership Program.
- 13,920 acres on 152 farms, totaling \$17.73 million, were preserved through the Farmland Preservation component.

Benefits of Open Space

Open space plays a vital role in many aspects of Northampton County’s quality of life by: 1) protecting the environment, 2) providing community needs, 3) generating economic activity, and 4) providing health and wellness benefits. To document the economic benefits of open space, the Lehigh Valley Return on Environment study was completed in 2014. Results of the analysis found that open space adds significant value to the regional economy, with benefits accruing to businesses, governments and households. This study estimated the value of open space in the Lehigh Valley by measuring impacts across four areas.

Natural System Services: Open space provides value in the form of water supply, water quality, flood control, pollination, biological con-

trol, habitat and soil formation/retention estimated at \$201.7 million or more each year in Northampton County.

Air Quality: The total annual avoided healthcare costs and damage to agriculture and buildings provided by Northampton County open space is estimated to be \$27.8 million.

Outdoor Recreation: An estimated \$351.2 million is spent on outdoor recreation each year in Northampton County. Recreational activity on open space in Northampton County creates an estimated 4,518 jobs both inside and outside the County. These jobs generate about \$27.1 million in state and local taxes.

Property Value: The average premium afforded each home within ¼ mile of protected open space is \$15,400 in Northampton County.

Public Participation

To gain an understanding of the needs and opportunities related to open space in the County, the public participation process to develop Livable Landscapes included multiple components. The main elements used to solicit input were a steering committee, public meetings, key person interviews and a public opinion survey. The Plan’s Steering Committee was created to provide insight and input into the planning process; comment on information and mapping developed by the LVPC staff; act as a resource for localized activities pertaining to park, recreation and open space planning; and suggest alternatives and make recommendations to the Plan. Four meetings were held—March and June 2014 and March and September 2015. Two rounds of public meetings were conducted throughout the County in June 2014 and April 2015, presenting the project and existing resources during the first round and the survey results and draft

goals and soliciting feedback on needs and opportunities during the second round. Key person interviews were held with County staff and business owners in Northampton County. The County staff provided insight into the state of the County parks and the Open Space Program components. Finally, the public opinion survey was administered and analyzed by the LVPC, which collected mail and electronic survey data from a random sample of active registered voters in the County in 2014. A total of 898 surveys were returned from the mailing to 5000 voters.

Vision

Our Livable Landscape – a mosaic of parks, farmland, natural areas, scenic views and historical and cultural sites promoting healthy lifestyles, natural diversity and community identity.

Goals

Presented below are the goals established for the Northampton County *Livable Landscapes* plan. Policies and implementation strategies associated with each goal are presented in the Plan.

- Goal 1** – Conserve, restore and enhance natural resources
- Goal 2** – Provide and maintain an exemplary park, trail and recreation system to meet residents’ needs and enhance tourism opportunities.
- Goal 3** – Conserve, restore and enhance a greenways and blueways network.
- Goal 4** – Preserve farmland and farming to meet food production, economic and open space needs.

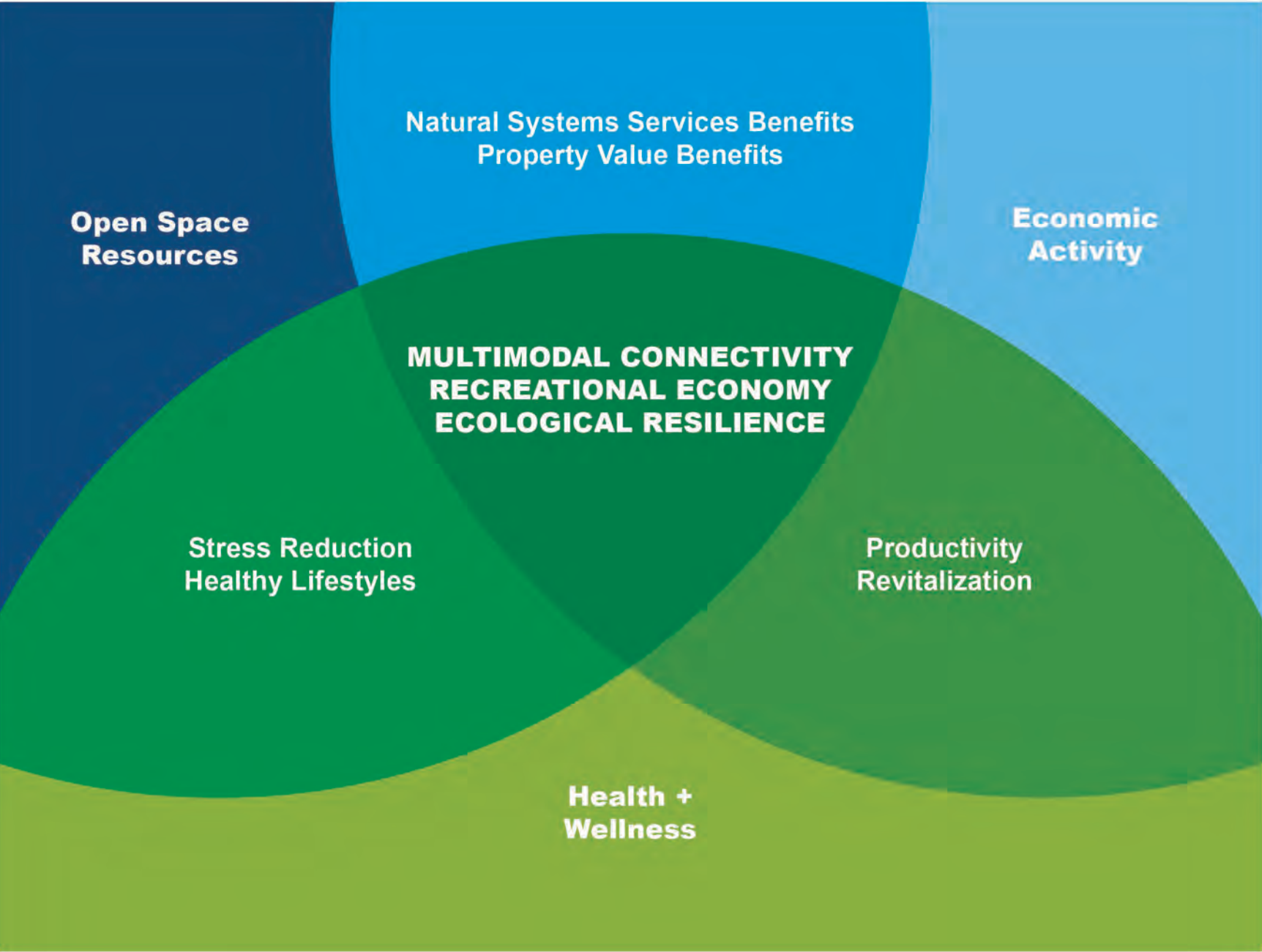
- Goal 5** – Preserve historic, cultural, and scenic resources and landscapes.
- Goal 6** – Advance County open space resources and usage through funding, promotion, education, partnerships and other strategies.

Action Plan

The Action Plan Matrix is a compilation of the recommendations from the different component sections in this Plan. Each recommendation is assigned a priority and responsible parties. The prioritization balances the needs, capacity of County agencies and budgetary realities. The priority levels are Immediate (1 to 3 years), Short-Term (4 to 7 years), or Long-Term (8 or more years). A few key recommendations are:

- Develop a master site plan for Gall Farm to guide development of the park.
- Complete development of Phases 3 through 9 at Wayne A. Grube Memorial Park.
- Work with federal and state partners to create additional regional parkland of at least 660 acres by 2020, 1,200 acres by 2030 and 1,770 acres by 2040, in addition to the currently proposed park sites, to reach or exceed 15 acres/1,000 population. Note that acquisition projects currently underway would add over 1,000 acres to regional outdoor recreation space and lessen the need for additional acquisitions to meet minimum standards.
- Consider recommended modifications to the Open Space Program and guidelines.
- Maintain or enhance funding for the County Open Space Program for all four components including Open Space and Natural Areas, Municipal Park Aquisition and Development, County Parks and Farmland Preservation.

Open Space Health, Economic + Environmental Benefits





Introduction

Photo courtesy of Alice Lipe, LVPC

Purpose of the Livable Landscapes Plan

Many valuable open space resources worthy of discovery and preservation exist throughout Northampton County—scenic mountains and farmland views, river corridors and large forests, parks and historic sites. These features are an integral part of a high quality of life. Northampton County (County) residents have long been interested in open space resources. This has been documented through regional public opinion surveys conducted by the Lehigh Valley Planning Commission (LVPC) in 1974, 1988, 1999 and 2010. The 2010 survey revealed that nearly 73% of the Northampton County population agreed that more parks, recreation facilities and open space should be acquired and/or developed in the County. Northampton County voters also have strongly supported state and County referendums to fund the creation of parks, protect important natural areas and preserve farmland. In a survey of active registered voters conducted specifically for this Plan, two of the key findings are: 1) Protecting lakes, rivers, streams, and preserving water quality were most frequently (71%) ranked the highest priority for the County, and 2) 95% of the respondents strongly agreed or agreed that protecting farmland in the County is important. Recent population growth and land use changes show the region is experiencing a strong development trend that puts pressure on open space resources and, if not managed properly, could impact much of what residents find appealing about the County. The development of a strategic open space network will help to preserve many of the remaining features treasured by County residents.

The purpose of *Livable Landscapes – An Open Space Plan for Northampton County* is to guide the conservation, restoration and enhancement of the County’s open space resources and create linkages between the County’s vast natural resources; outdoor recreational facilities; greenways and blueways; farmland; and historic, cultural and scenic resources. The County, municipalities, conserva-

tion organizations, landowners and developers can use this Plan in decision making that will maintain and enhance the County’s quality of life. Further, the Plan seeks to encourage partnerships to achieve common open space goals.

Accomplishments

Livable Landscapes – An Open Space Plan for Northampton County is an update to the current County parks plan—*Northampton County Parks – 2010* published in November 2002 by the Lehigh Valley Planning Commission. Since the publication of that plan, many tasks have been accomplished and milestones reached that further the advancement of the open space network in the County. These accomplishments prompted recognition from the Pennsylvania Land Trust Association, which in May 2015, awarded Northampton County the 2015 Government Conservation Leadership Award for leadership in the conservation of particular landscapes and crucial natural resources.

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- 1. Northampton County was selected in 2004 by the Department of Conservation and Natural Resources (DCNR) to pilot a new conservation landscape initiative, leading to the forming of Lehigh Valley Greenways, a two county partnership that strives to connect natural and cultural resources across the Lehigh Valley.
- 2. The Northampton County 21st Century Open Space Initiative (Open Space Program) was established in December 2004

after County voters cast ballots on a non-binding referendum in November 2002 to authorize \$37 million to preserve natural areas (\$14 million), assist municipalities in the acquisition and development of parks and recreation sites (\$11 million), and provide funding for farmland preservation (\$12 million).

- 3. The Gall Farm, 149 acres, was acquired in 2003 by the County for use as a future park.
- 4. Phases 1 and 2 (approximately 50 acres) of nine-phases scheduled were completed at the County’s Wayne A. Grube Memorial Park.
- 5. 1,503 acres of natural areas were preserved, totaling \$4.20 million, through the Natural Areas and Open Space component of the Open Space Program.
- 6. 56 projects were funded through the Municipal Park Acquisition and Development component, totaling \$5.94 million.
- 7. Construction is scheduled and a trail easement is in process for the western end of the Nor-Bath Trail to connect Northampton Borough to the D&L Trail.
- 8. Trails were constructed in the City of Easton, Palmer and Bushkill townships and Tatamy and Stockertown boroughs as part of the effort to connect the City of Easton to the Kittatinny Ridge.
- 9. The County farmland preservation program preserved 10,000-acres by 2008, and the 100th farm was preserved in 2010.
- 10. In 2010, the farmland preservation program created the Township Partnership Program.
- 11. 13,920 acres on 152 farms, totaling \$17.73 million, were preserved through the Farmland Preservation component.
- 12. Six trail gaps in Northampton County were identified in the Lehigh Valley Planning Commission’s *Lehigh Valley Trails Inventory – 2013*.

- 13. Funding was secured for the implementation of a County-wide Trail Gap Closure Program from the Act 13 Marcellus Shale Tax, totaling \$300,000 for 2015.
- 14. Seven municipalities in Northampton County approved a 0.25% Earned Income Tax for the preservation of farmland and natural areas since 2005.
- 15. A ½ mill tax increase was provided in the 2007 County budget to provide funding for the Open Space Program.
- 16. \$1 million annual funding was provided from 2013 to 2017 for Phase II of the Municipal Park Acquisition and Development component of the Open Space Program.
- 17. An Open Space Coordinator was hired in 2013 to administer the Natural Areas and Open Space component of the Open Space Program.
- 18. In 2014 and 2015, a joint Open Space Grant Workshop was conducted by the Pennsylvania Department of Conservation and Natural Resources, Lehigh Valley Greenways Conservation Landscape and others for municipalities, nonprofits and private firms.

Benefits of Open Space

Open space plays a vital role in many aspects of Northampton County’s quality of life by protecting the environment, providing social needs, generating economic activity and providing health and wellness benefits. The benefits of the County’s open space network—natural resources; outdoor recreation resources; greenway and blueway resources; historic, cultural and scenic resources; agricultural resources—are far reaching and are summarized below. The economic and health and wellness benefits are then further highlighted.

Environmental Benefits

- Clean water and air
- Preserve wildlife
- Reduce pollution
- Protect ecosystems
- Provide a place to enjoy nature’s beauty

Community Benefits

- Reduce crime and delinquency
- Connect families
- Support youth
- Offer lifelines for elderly

Economic Benefits

- Increase tourism
- Enhance land and property value
- Assist in business retention
- Generate revenue
- Reduce vandalism and crime

Health and Wellness Benefits

- Reduce stress
- Increase life expectancy
- Create balance between work and play
- Eliminate boredom and loneliness
- Promote physical activity and healthy lifestyles
- Reduce obesity

Economic Benefits - Highlight

Open space is an integral part of Northampton County’s quality of life, health and lower cost of living. Open space can be as large as the Kittatinny Ridge or as small as the setback on a tree-lined street. Open space can be public or private land. People expect an unend-

ing supply of clean air, water and beauty as evidenced by the LVPC public opinion surveys. However, according to *BUILD LV Lehigh Valley Annual Development Report* (2015), the total residential and non-residential lands approved by Lehigh Valley municipalities for subdivision or land development during 2014 would consume 2.73 square miles of agricultural/undeveloped land. More than just pretty places, open spaces are productive assets that generate significant economic value and supply basic needs for the County residents like clean air and water. Open space affects everything positively from scenic views, tourism, property values and economic development, and reduces costs for healthcare, stormwater management and flood mitigation. Open space also increases revenues from recreation and naturally improves air quality and water quality. Open space has such a broad influence on life from supplying basic human needs to health and well-being, jobs and the economy and supporting plant and animal diversity that, in effect, open space affects everything.

As documented in the Lehigh Valley Planning Commission's *Lehigh Valley Return on Environment* study (2014), two key trends speak to the direct relationship between open space and economic development.

- Attachment to where people live and their quality of life is positively impacting economic development.

What makes a community a desirable place to live? Gallup and the John S. and James L. Knight Foundation launched the Knight Soul of the Community project in 2008 with this question in mind. Interviewing almost 43,000 people in 26 communities over three years, the study found that three main qualities attach people to place:

- Social Offerings – Places for people to meet each other and the feeling that people in the community care about each other.

- Openness – How welcoming the community is to different types of people, including families with young children, minorities and talented college graduates.
- Aesthetics – The physical beauty of the community, including the availability of parks and green spaces.

The main drivers of attachment show little difference across communities. In addition, the same drivers rose to the top in every year of the study. Open spaces with scenic views, tree-lined streets, parks, trails and other recreation opportunities create a sense of place and attachment for people to a town or region. Attachment to place is an important metric for communities, since it links to key outcomes like local economic growth.

- The “green business” trend is tied to open space.

What do Air Products, Coca Cola, Waste Management Corporation, Knoll Furniture and Chipotle restaurants all have in common? They all want to be the “greenest” provider in their respective market sector for two reasons. First, being “green” increasingly follows the trends in their customers’ values, and second, it saves money. At the corporate level, even during the recession, “going green” increased rather than decreased. PricewaterhouseCoopers expects this trend to continue for years to come. PricewaterhouseCoopers notes that companies reporting sustainability efforts have a greater return on assets than companies that do not. For example, installing solar panels may cost more, but monthly savings on energy bills add up quickly.

Many sustainable companies have a longer-term vision and have committed to both natural and social capital. “Social capital” is networking among people and organizations that leads to accomplishing a goal of mutual social benefit. Many green

corporations are looking for places to share their social capital. Open space is good social capital and helpful in recruiting—many young professionals want access to quality open space.

The regional *Comprehensive Plan* for Lehigh and Northampton counties, originally crafted in the 1960s and updated through 2010, defines the role that natural resources, farmland, and park and recreation facilities serve to provide critical environmental services, fresh local food, and recreational and scenic benefits to residents. Northampton County, along with its municipalities and other organizations, have been active in acquiring and preserving farmland and open space and providing recreational opportunities. Working with Northampton County, the LVPC prepared a park and recreation plan for the County in 2002 titled *Northampton County Parks – 2010*. The LVPC also created the *Lehigh Valley Greenways Plan* (2007) and the *Lehigh Valley Trails Inventory – 2013*. These efforts provide a solid foundation of documentation and evaluation of park, recreation and open space resources for Northampton County. One piece that has been lacking, however, is an economic valuation of the benefits provided by open space to fortify these efforts. That was the purpose for the *Lehigh Valley Return on Environment* study completed in 2014.

The *Return on Environment* study found that open space adds significant value to the regional economy, with benefits accruing to businesses, governments and households. The economic benefits generated by open space accrue in different ways—some are direct revenue streams to individuals or governments, some represent asset appreciation value, and some accrue in the form of avoided costs.

The biggest challenge facing the Lehigh Valley related to open space is promoting sustainable growth while maintaining a high quality of life, a low cost of living and good health for all residents.

Building off of previous valuation studies and using standard economic analysis techniques, this study estimates the value of open space in the Lehigh Valley by measuring impacts across four areas:

- 1. Natural System Services
- 2. Air Quality
- 3. Outdoor Recreation
- 4. Property Value

Each of these areas generates the “natural capital” or economic value from the flow of goods and services supported by natural resources. These benefits represent the return on environment for the Lehigh Valley.

Natural System Services: Considering the importance of Northampton County’s open space, it is essential to recognize the role that trees, fields, meadows and wetlands play in keeping the cost of living low by filtering water, cleaning the air, controlling flooding and providing other environmental services. Key findings are:

- The highest natural system services value on a per acre basis is found in wetlands, riparian corridors and forests. Maintaining and restoring connected habitats and corridors will provide the full potential value of natural system services.
- The current green infrastructure along streams in Northampton County reduces tax dollars by avoiding more than \$66.1 million annually in expenditures for water supply (\$24.1 million), disturbance (flood) mitigation (\$34.0 million) and water quality (\$8.0 million).
- Natural areas provide over \$11.4 million annually in pollination and \$1.3 million in biological control services to agriculture, backyards and the natural landscape.
- Natural areas provide \$122.5 million annually in habitat for insects, birds, animals and plants.

- Natural areas provide \$0.4 million annually in soil formation/retention.

In summary, open space provides value in the form of natural system services for water supply, water quality, flood control, pollination, biological control, habitat and soil formation/retention estimated at \$201.7 million or more each year in Northampton County.

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Air Quality: Northampton County faces substantial air quality problems. Poor air quality is a common problem in many urban and suburban areas and can lead to a variety of human health problems, including asthma and other respiratory ailments. Additionally, air pollution can damage buildings and plants, disrupt many natural system services and can cause reduced visibility and smog. Trees remove significant amounts of air pollution and, consequently, improve environmental quality and human health. In particular, trees can remove significant amounts of nitrogen dioxide (NO2), sulfur dioxide (SO2), carbon monoxide (CO), ozone (O3) and particulate matter. Trees remove gaseous air pollution primarily by uptake via leaf stomata, though some gases are removed by the plant surface. Trees also remove pollution by intercepting airborne particles. Trees help mitigate climate change by removing carbon dioxide (CO2) from the air and sequestering the carbon in new biomass each year. As trees grow, they store more carbon by holding it in their accumulated tissue. As trees die and decay, they release much of the stored carbon back to the atmosphere. Carbon storage is an estimate of the total amount of carbon that is currently stored in the above and below ground biomass of woodlands, while carbon sequestration is a measure of how much new carbon is taken up by woodlands each year through new growth. The incidence of childhood asthma worldwide has paralleled the sharp increase in CO2 emissions, over at least the last

two decades, in part due to climate-related factors. In a report released by the Harvard Medical School and the Center for Health and the Global Environment, an increase in asthma incidence of 160% among preschool children in the United States was documented from 1980-1994. Key air quality findings from the *Lehigh Valley Return on Environment* study are:

- Air quality services provided by trees removing pollutants are estimated at \$24.7 million annually.
- Tree-covered open space stores 2,814,695 tons of carbon over the life of the current woodlands in Northampton County.
- Without carbon storage by trees, damage due to increased carbon emissions would cost \$59.1 million to mitigate in Northampton County, which, if divided by an assumed average tree life of 50 years, represents a value of about \$1.2 million annually.
- Photosynthesis by trees removes CO2 from the atmosphere, releases oxygen and extracts or sequesters 92,792 tons of carbon each year in Northampton County, providing health and other benefits of about \$1.9 million per year.

In summary, the total annual avoided healthcare costs and damage to agriculture and buildings provided by Northampton County open space is estimated to be \$27.8 million.

Outdoor Recreation: Open space generates value as residents enjoy engaging in recreation and exercise. Residents recognize that outdoor recreation and open spaces are key ingredients to healthy communities, contribute to a high quality of life, and very importantly, attract and sustain families and businesses. Eleven outdoor recreational activities were included in the study. To determine the participation rates for these activities,

The total annual avoided healthcare costs and damage to agriculture and buildings provided by Northampton County open space is estimated to be \$27.8 million.

several national, state, and local surveys were reviewed, and input was obtained from local experts. The activities and their corresponding participation rates were:

- Walking, 60%
- Fishing, 14%
- Hunting, 11%
- Birding/Bird Watching, 31%
- Wildlife Watching, 35%
- Camping, 6%
- Kayaking/Canoeing, 14%
- Bicycling, 17%
- Hiking/Backpacking, 10%
- Running/Jogging, 16%
- Nature Study, 14%

The key findings for outdoor recreation are:

An estimated \$351.2 million is spent on outdoor recreation each year in Northampton County. This represents the amount of money that residents in the County spend on outdoor activities and their total impact on the economy.

- Recreational activity on open space in Northampton County creates an estimated 4,518 jobs both inside and outside the County. These jobs generate about \$27.1 million in state and local taxes.

An estimated \$351.2 million is spent on outdoor recreation each year in Northampton County.

Property Value: Square footage, quality of schools, landscaping and structural condition can raise or lower the value of a home. So can proximity to open space. Whether it is a trail, park, scenic area or waterfront, people will pay a premium to be near open space. As a result, Northampton County’s existing open space adds to the overall

Case Studies

Genesis Bicycles, City of Easton



Genesis Bicycles opened in 1974 in the City of Easton. They provide bikes and biking accessories for both recreational riders and enthusiasts. In 2015, they received recognition for the 3rd year in a row as one of America's best bike shops from the National Bicycle Dealers Association. Tomias Hinchcliff is the President of Genesis. Tomias and Rob McVeigh, their Marketing and Event Coordinator, provided some insights on their company ties with local open space resources. Their clientele is typically from within about a 30 mile distance, but they draw a lot of customers from other parts of Pennsylvania as well as New Jersey and New York. They are very thankful for the many bike riding opportunities provided in the Easton area and Northampton County, many of which "grew up around them" after they located here. The most popular riding location for their customers is the D&L Trail. Jacobsburg State Park is also very popular. Genesis organizes many riding events such as a 30-mile D&L Trail ride, an Ice Cream ride along the canal path to Hugh Moore Park and a Bike to Brunch event, to name just a few. They began to offer bike rentals in June, and so far it seems very popular. Their hope for the future is to continue to enjoy the Easton location and to work with the community to make biking more enjoyable.

value of its housing stock. This increased wealth is captured by citizens through higher sales values of homes near open space and generates increased government revenues via larger property tax collections and transfer taxes at time of sale. Key findings are:

- The average premium afforded each home within ¼ mile of protected open space is \$15,400 in Northampton County using 16%, 5% and 0.9% for homes located in cities and boroughs, suburban townships and rural townships, respectively. Protected open space includes: 1) parks, natural areas and outdoor recreation sites that are owned by federal, state, County, municipal governments or conservancies or privately-owned property with a conservation easement, and 2) agricultural easements.
- There are 60,765 single family homes located within a ¼ mile of protected open space in Northampton County.
- The total real estate premium attributed to living within ¼ mile of protected open space in Northampton County is more than \$937.8 million (number of homes times average premium).
- The average real estate premium for single family homes within ¼ mile of protected open space in Northampton County is lowest for homes located in rural townships (\$2,100) and highest for homes located in cities and boroughs (\$23,100).

The average premium afforded each home within ¼ mile of protected open space is \$15,400 in Northampton County.

Easton Outdoor Company, City of Easton



Easton Outdoor Company opened in historic downtown Easton in 2011. Their vision is to meet the outdoor enthusiast's needs for apparel, footwear and equipment. Their goal is to provide a great customer experience by matching the customer with the appropriate product for their intended use. Easton native Adam Fairchild is the owner of the store. He opened the store in Easton to be part of the downtown rejuvenation. He also liked what the greater Easton area has to offer from an outdoor recreation perspective. He sees lots of family involvement in outdoor activities—more so than in other places he's lived—and wants to be part of helping that continue and grow. The city itself is located right at the confluence of the Delaware and Lehigh rivers providing opportunities for swimming, boating and fishing. The Delaware and Lehigh Trail offers walking, running and biking. Stretching across the Kittatinny Ridge to the north is the Appalachian Trail, which offers an amazing hiking opportunity. Many local trails provide a chance for residents to get outside and exercise. He notes that great efforts have been made, and are still being made, to connect these trails and add to the outdoor experience. Easton Outdoor has a relationship with Jacobsburg State Park—holding 5- and 10-mile runs in the park in May for the last 2 years. The 2015 event attracted 170 runners to the park! Adam is looking forward to a long stay in Easton to provide gear for outdoor recreation participants.

Saucon Valley Bikes, Hellertown Borough



In 1999, Saucon Valley Bikes was opened in Hellertown Borough by Steve LaBrake. A mountain bike rider himself since 1994, Steve left his corporate job to pursue small business ownership. He had been living in the area since 1987, and had conducted a demographic study that identified Hellertown as a gap not served by a bike shop. The shop sells family, road, and mountain bikes, with the focus on mountain bikes. The shop does rent bikes (seven currently), but that aspect is a small part of the business. The shop runs a weekly group mountain bike ride at Jacobsburg State Park on Wednesday evenings.

Steve has been on the Saucon Rail Trail Oversight Commission since the beginning of the trail's development. When the trail opened, Steve offered businesses, especially restaurants, in Hellertown a bike rack at cost. A total of 15 bike racks, which includes the racks from Saucon Valley Bikes, exist throughout the Borough. He likes when he sees the bike racks being used around the Borough. The bike shop has seen an economic benefit from the opening of the Saucon Rail Trail including the following:

- A 77% increase in sales the first 10 weeks after the trail opened in 2011.
- A 28% increase in sales the first year after the trail opened.
- June 2011 was the best month the business has had to date.

A lot of the initial business when the Saucon Rail Trail opened was from residents bringing bikes in that they already owned, but had not been ridden for a while, that needed a tune-up. At one point, the shop had about 70 bikes waiting for tune-ups.

The Saucon Valley Farmers’ Market also expanded with the opening of the Saucon Rail Trail: 12 vendors before it opened, and 48 vendors after it opened. Some of the initial business increase that Saucon Valley Bikes had was from people wanting to buy baskets for their bikes so they could go to shop at the Farmers’ Market via bike. The trail is apparently helping to create a healthier lifestyle for local residents. One customer of the bike shop had commented that now “exercise is in.” Another customer lost 80 pounds in the first year from walking and biking on the trail.

Steve believes there will be a large influx of commuter bike and gear purchases in 2017 when the trail connection to the South Bethlehem Greenway is planned.

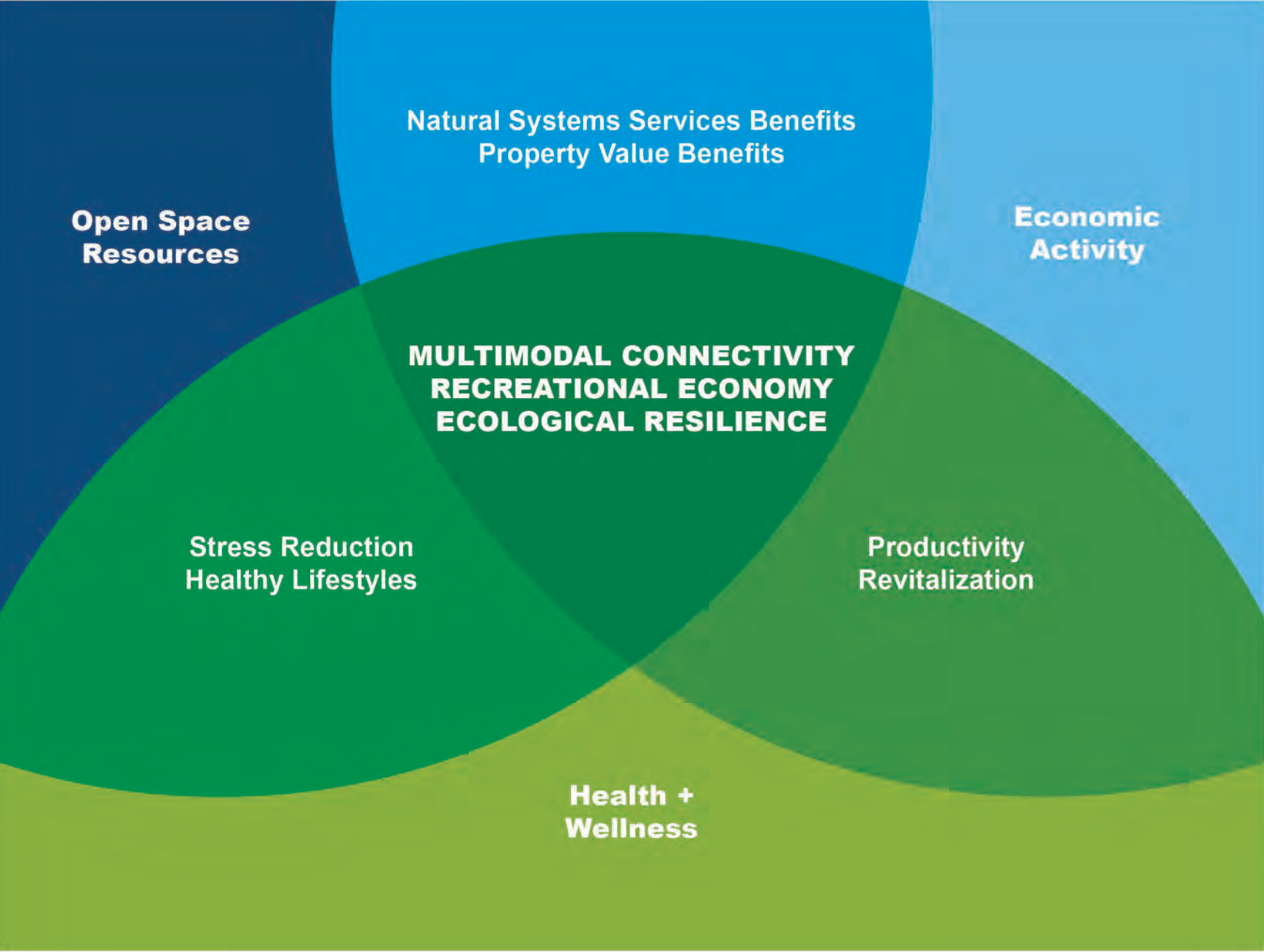
“Ride bikes! Talk about riding bikes!”

Klein Farms, Forks Township



Klein Farms is a dairy and creamery located in Forks Township. The 84 acre farm is preserved land under the Northampton County Agricultural Easement Program. The farm was established by Roy Klein in 1935. The Klein family is originally from Long Island. Roy moved to the Midwest at an early age but moved back at 18 for the promise of a quarrying job that unfortunately was not available when he got here. An uncle had a farm about a mile away, and Roy was able to borrow money from his aunt in Phillipsburg to buy the property. Roy worked at Bethlehem Steel for about 18 months to get enough money to purchase the needed farming equipment. He and his wife Ruth ran the farm for many years until their son Layne and his wife Beth eventually took over. Layne and Beth still run the farm today and have grown and diversified the business along the way. For a long time, the business was strictly a dairy farm operation, however, the Kleins decided to start making cheese in 2003 as a way to try to improve the bottom line. Beginning to make cheese is no simple thing as there’s a lot of science involved. Beth especially took on the challenge, and the Kleins had many good connections to help—like a cousin in Ohio who was a head dairy inspector. They perfected the science and sold the first cheese at the farm store in December 2004. Today, they offer a wide variety of cheeses at the store, as well as farm-made yogurt and their own beef, plus local eggs, honey and maple syrup. By the end of 2015, the Kleins will open a larger store on the farm that will again feature something new—Happy Holstein Ice Cream! Layne and Beth have a lot of help from their children and grandchildren running the farm. Their hope for the future is that the farm can keep going, with kids and grandkids eventually continuing the business. The Kleins believe the key to longevity is to continue to diversify and offer more types of farm products to their customers.

Open Space Health, Economic + Environmental Benefits



Health and Wellness Benefits - Highlight

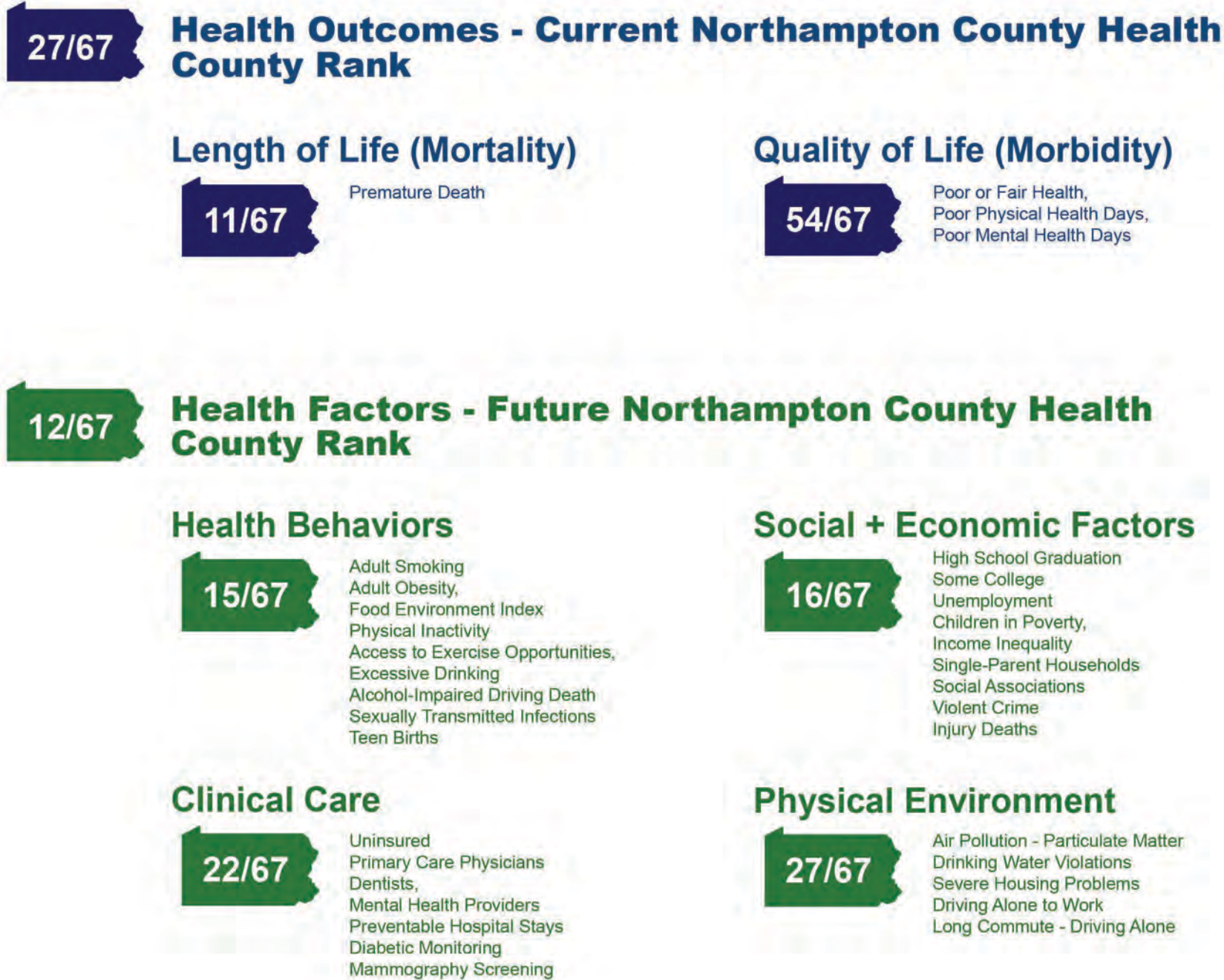
The way communities are planned, designed and built can greatly influence people’s health. The built environment influences people’s levels of physical activity, the safety of travel, the quality of the outdoor air, access to jobs and services, access to healthy food choices, and opportunities to enjoy the many local recreation opportunities—like local parks, pools and ball fields. A well-designed neighborhood offers transportation choices, accommodates people at all stages of life, encourages physical activity and social interaction, and offers a mix of housing that is close to a good range of jobs.

Recent statistics on mortality and morbidity (the state of being unhealthy or diseased) released by the Health Care Council of the Lehigh Valley (HCC) demonstrate the impact of open space resources on community health. Morbidity statistics include the number or percentage of residents who are overweight, have diabetes, and have cancer or heart disease. Mortality statistics track the manner of death and the frequency and total number of deaths caused by specific morbidity. As the numbers reveal, high quality hospitals and healthcare keep the Lehigh Valley’s mortality rankings as some of the best in Pennsylvania, but the overall occurrence of these negative health indicators—the morbidity—is often quite high. The Health Care Council is working to identify key health focus areas for the Lehigh Valley in a document to be finalized in June 2016.

County Health Rankings: The County Health Rankings & Roadmaps program is a collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health

Institute. The annual County Health Rankings measure vital health factors, including high school graduation rates, obesity, smoking, unemployment, access to healthy foods, the quality of air and water, income, and teen births in nearly every county in America. The annual Rankings provide a revealing snapshot of how health is influenced by where we live, learn, work and play and provide a starting point for change in communities. The Roadmaps provide guidance and tools to understand the data, and strategies that communities can use to move from education to action. The Roadmaps are helping communities bring people together from all walks of life to look at the many factors that influence health, focus on strategies that work, learn from each other, and make changes that will have a lasting impact on health.

The County Health Rankings has two components—Health Outcomes and Health Factors. Health Outcomes, which represent how healthy a county is now, has two elements that are measured—length of life and quality of life—that are weighted evenly (50% each) in the calculation. Health Factors, which represent what influences the health of a county, has four elements that are measured—health behaviors, clinical care, social and economic, and physical environment—that are weighted at 30%, 20%, 40%, and 10%, respectively. These elements consist of several data that are measured. In the 2015 rankings for Pennsylvania’s 67 counties, Northampton County has a Health Outcomes rank of 27 and a Health Factors rank of 12 (1 is best, 67 is worst). Details of the rankings are shown in the graphic on the following page.



Related Plans and Studies

State Level

Natural Connections – Pennsylvania’s State Comprehensive Outdoor Recreation Plan 2014–2019: The 2014 plan outlines five priorities to help foster outdoor recreation for all Pennsylvanians.

- Health and Wellness
- Local Parks and Recreation
- Tourism and Economic Development
- Resource Management and Stewardship
- Funding and Financial Stability

These five priorities each address primary challenges and opportunities. Case studies at the end of each priority section highlight successes, but others exist that demonstrate examples of how recreation is improving the lives of Pennsylvanians. To help carry out these five priorities, key state and local agencies and recreation providers will be guided by the 20 recommendations and 83 action steps found in this plan. A matrix of these action items, along with implementing partners, is included in the plan.

Livable Landscapes addresses many of the 20 recommendations throughout this Plan. Health and wellness is highlighted in the Benefits of Open Space section as how the built environment can encourage physical activity, and the Transportation Linkages section asserts that providing transportation options such as walking and bicycling can have air quality and health benefits. Close-to-home outdoor recreation is described in the Municipal + School District Resources section, with an analysis of the distribution and amount of outdoor recreation opportunities in the Outdoor Recreation Guidelines section, and is emphasized by several goals, policies, implementation strategies and recommendations. Increasing community prosperity

through economic benefits is primarily detailed in the summary of the Lehigh Valley Return on Environment in the Benefits of Open Space section. The Natural Resources section summarizes the elements of the Natural Resources Plan and the conservation priority areas in the County. The County’s Open Space Program is used to preserve these natural areas and maintaining or enhancing the funding to this program is recommended, plus pursuing a variety of other funding opportunities.

Pennsylvania Greenways An Action Plan for Creating Connections (2001): This action plan is designed to provide a coordinated and strategic approach to creating connections through the establishment of greenways in Pennsylvania and was the direct response to Governor Ridge’s Executive Order 1998-3, charging Pennsylvania’s Department of Conservation and Natural Resources (DCNR), Department of Environmental Protection (DEP), and Department of Transportation (PennDOT), assisted by the Pennsylvania Greenways Partnership Commission, to develop an action plan for advancing a Pennsylvania greenways partnership program. Four goals--Plan and Establish Greenways Connections, Create a Greenways Organizational Framework, Provide Greenways Funding, Provide Greenways Technical Assistance and Outreach—and 12 related strategies were developed to aid in accomplishing the program vision.

Regional Level



Monroe County Open Space, Greenway & Recreation Plan (2014)

This plan is an update to the *Monroe County Open Space Plan An Action Guide to Preserving and Enhancing Monroe County’s Green Infrastructure* (2001). Twelve years later, public support remains as strong as ever, with priorities shifted slightly to refocus future conservation and recreation efforts. Priorities identified in the plan include: 1) Conserving Open Space and Habitat, 2) Farmland Preservation, 3) Connecting Greenways and Trails, 4) Protecting Water Resources, 5) Supporting Recreation Commissions to Improve Recreation

Facilities and Services, 6) Recognizing the Economic Value of Natural Lands, and 7) Continuing the Legacy of Monroe County Funding for Open Space and Recreation. Plan recommendations fall under the following topics: Funding, Partnerships, Resources, Education, Sustainable Environmental – Economic Development Projects and Policy/Management/Catalyst.



Carbon County Comprehensive Plan & Greenway Plan (2013)

The *Carbon County Comprehensive Plan and Greenway Plan* provides an overall set of policies for the future development and conservation of Carbon County over the next 15 years. The purpose of the plan is to help ensure this change is positive and that Carbon

County retains the qualities that make people want to live, work and visit the county. Issues considered during the development of the plan include:

1. What are the community’s assets and how to build upon them,
2. What are the community’s concerns and how to overcome them,
3. What does the community want to change and to encourage the changes, and
4. What does the community consider most valuable and how to preserve those features.



Lehigh County Parks—2005 (1997)

The purpose of this plan is to update the 1990 plan, which contained recommendations that were implemented by Lehigh County.

Additional sections were included in this update, such as important natural areas, potential greenways, rail-to-trail projects, the Delaware and Lehigh National Heritage Corridor, management of Lehigh County parks and open space, and recommendations for specific County parks and open space properties.



Bucks County Open Space and Greenways Plan (2011)

The *Bucks County Open Space and Greenways Plan* provides a decision-making, implementation and management tool designed to protect and create linkages between the County’s vast natural resources, open space and farmland, recreational facilities, and historic and cultural resources. The plan is designed to identify an interconnected network of greenways that protect ecologically valuable lands, provide open space and recreational opportunities, protect important habitat areas and migration paths for wildlife, and provide access to the County’s historic and cultural resources. Specifically,

the plan identifies corridors that could potentially host trails for public recreation, wildlife viewing, lessons in history and alternative transportation.



Warren County [New Jersey] Open Space and Recreation Plan (2008)

The *Open Space Plan* provides a blueprint of what the Monroe County Planning Board recommends as areas that should be preserved as public open space in the county, irrespective of the jurisdiction or ownership of the land. The plan discusses specific projects and target areas that should be pursued by the county’s land preservation program. These target areas are intended to be pursued by the county, and where possible, as partnerships with other jurisdictions, nonprofit groups, and other county agencies to meet the objectives of the plan.

County Level

Comprehensive Plan The Lehigh Valley ... 2030 (2010)

The *Comprehensive Plan* deals mainly with the future physical environment of the Lehigh Valley (Lehigh and Northampton counties) between 2000 and 2030. The plan presents a balanced program of environmental, economic and developmental proposals. This recognizes the fact that the Lehigh Valley is a mixture of agricultural, rural, suburban and urban features. The plan starts by reporting on public opinion researched in a public opinion survey. Next, the plan describes basic forecasts about future growth. It outlines proposals for natural resource and agricultural preservation. Sections on land use, economic development, housing, transportation and community facilities follow. These sections detail measures that need to be taken to assure compatibility between preservation, development and infrastructure. Finally, the plan presents a section on historic preservation.

Key development concepts advocated in the plan are:

- conservation of important natural areas and conservation of farmland;
- new growth contiguous with major existing urban areas;
- new growth in designated urban areas where community utilities already exist or can be expanded;
- increased residential densities in designated urban areas;
- no urban growth in areas designated for natural resources or farmland;
- better use of tools already authorized in the Pennsylvania Municipalities Planning Code;
- extensive infill, redevelopment and reuse of properties in cities and boroughs;
- combined economic and community development efforts to provide well-paying jobs and improve the tax base of municipalities in distress; and

- continued development of transportation facilities, community utilities and public parks to meet the needs of the region as it grows in the future.

Lehigh Valley Greenways Plan (2007)

This plan stems from the inventory and analysis of the *Comprehensive Plan* identifying the resources that serve as the framework for a regional greenways network and providing recommendations on how to take full advantage of the opportunities they present. The development of the *Lehigh Valley Greenways Plan* vision involved many partners and groups that were interested in greenway and conservation efforts for some of the region’s major waterways and natural areas. The LVPC worked closely with these entities to encourage the creation of greenway and trail linkages, the long-term preservation and protection of priority natural resources, and the enhancement and creation of natural, recreational, cultural, historical and scenic areas of interest in the Lehigh Valley.

The plan identified four types of greenways in the Lehigh Valley:

- Cultural/recreational greenways, which support human activity
- Conservation greenways, which support ecological purposes
- Multi-use greenways, which support a combination of human and conservation activities
- Scenic greenways, which provide a visual connection across the landscape

The plan analyzed existing resources within the Lehigh Valley to identify a greenways network of hubs, nodes and corridors. Hubs are large centers of activity (e.g., parks, cities, boroughs) that serve to anchor the greenway network; nodes are natural, recreational, cultural or historic places of interest; and corridors are the linear connecting elements, linking hubs and nodes. The plan identified 31

corridors, eight hubs and 63 nodes. The plan also provides information on a range of techniques that can be used to conserve open space from absolute to minimal protection.

MOVE LV Long Range Transportation Plan (2015-2040)

The *MOVE LV Long Range Transportation Plan* (LRTP), covering both Lehigh and Northampton counties, is the \$2.5 billion transportation investment strategy for the Lehigh Valley. The LRTP considers the improvement of the region’s roads, highways, bridges, transit system, sidewalks and trail networks. The LRTP is updated every four years, is federally mandated and helps guide the transportation decision-making process through policy and investment decisions. There are three main goals that the LRTP achieves:

1. To document the current operational status of the transportation network
2. To identify travel network deficiencies
3. To identify projects to mitigate those deficiencies

The LRTP introduces the various travel modes found within the Valley, including highway, transit, rail freight, air, bicycling and pedestrian facilities. The LRTP discusses the importance of asset management, system maintenance, access management and public safety in the planning process. An emphasis on safety is incorporated into every aspect of transportation planning and across all modes of travel. The LRTP also speaks to the relation between transportation projects and the natural environment.

Natural Heritage Inventory of Lehigh and Northampton Counties, Pennsylvania—Update 2013

The *Natural Heritage Inventory of Lehigh and Northampton Counties, Pennsylvania – Update 2013* is a document compiled and written by the Pennsylvania Natural Heritage Program (PNHP), which is a

partnership between The Pennsylvania Department of Conservation and Natural Resources, the Western Pennsylvania Conservancy (WPC), the Pennsylvania Game Commission and the Pennsylvania Fish and Boat Commission. The PNHP is a member of NatureServe, an international network of natural heritage programs that gather and provide information on the location and status of important ecological resources (plants, vertebrates, invertebrates, natural communities and geologic features). The purpose of the network is to provide current, reliable, objective information to help inform environmental decisions.

The 2013 update builds on the original *Natural Areas Inventory of Lehigh and Northampton Counties* completed in 1999 by the Pennsylvania Science Office of The Nature Conservancy and updated in 2005. The document contains site descriptions on the locations of rare, threatened, and endangered species and the highest quality natural communities in the two counties. Accompanying each site description are general management recommendations that would help to ensure the protection and continued existence of these natural communities and species of concern. The recommendations are based on the biological needs of these elements (communities and species). The recommendations are strictly those of WPC and do not necessarily reflect the policies of the state or the policies of the counties or townships for which the report was prepared.

The inventory resulted in the designation of 123 Natural Heritage Areas in the Lehigh Valley (Northampton County results are reported in the Inventory + Assessment chapter under Natural Heritage Areas). These Natural Heritage Areas are based on the locations of 325 individual occurrences of 111 species of concern and eight types of high quality natural communities. These include:

- 2 Mammals
- 7 Birds
- 7 Reptiles
- 4 Amphibians
- 4 Mussels
- 1 Dragonfly
- 5 Butterflies
- 2 Moths
- 79 Plants
- 8 Natural Community types

Lehigh Valley Return On Environment (2014)

This report is summarized in the Economic Benefits section in the Introduction of this Plan.

Lehigh Valley Trails Inventory—2013

In 2009, the LVPC completed a comprehensive update to the trails inventory for Lehigh and Northampton counties. The update compiled data from municipal plans and studies across the two counties and produced the *Lehigh Valley Trails Inventory—2009*. The goal of the 2009 inventory was to assist local officials in planning for future trails in the Lehigh Valley. The 2013 update, in addition to incorporating updated trail information, includes two new components: identifying priority trail gaps and providing guidelines to designing safe road crossings for trails. These two new components are part of a statewide effort by the DCNR to help organizations and municipalities implement trail initiatives. The inventory now documents 59 trails or trail networks in the Lehigh Valley (Northampton County numbers are reported in the Inventory + Assessment chapter under Trails), totaling approximately 653 miles (all status levels—Open, Under Construction, Proposed or Conceptual) in the two counties, with 333 miles of Open trails.

Planning Process

Phases

The *Livable Landscapes* preparation process consisted of the following steps:

- Inventory of existing open space resources
- Gather input from County staff and from various public participation strategies
- Analysis of needs and opportunities for open space resources
- Development of vision, goals, policies, implementation strategies and recommendations
- Action plan development
- Plan review and development of final plan

Public Participation

To gain an understanding of the needs and opportunities related to open space in the County, the public participation process to develop *Livable Landscapes* included multiple components. The main elements used to solicit input were a steering committee, public meetings, key person interviews, and a public opinion survey. A summary of these components is described below.

Steering Committee: The Plan Steering Committee (Committee) was created to provide insight and input into the planning process, comment on information and mapping developed by the LVPC staff, act as a resource for localized activities pertaining to park, recreation and open space planning, and suggest alternatives and make

recommendations to the Plan. Four meetings were held—March and June 2014 and March and September 2015. The following is an overview of each of these meetings:

- Meeting 1: March 28, 2014** — Background information about the project was presented, including:
1. a review of the LVPC 2010 Lehigh Valley Land Use Public Opinion Survey as related to parks, natural resources and farmland preservation, and
 2. previous LVPC efforts related to open space—the Natural Resources Plan; *Lehigh Valley Greenways Plan*; data inventories of natural resource features, parks, trails, greenways, historic sites, agricultural security areas, and agricultural easements.

An overview of the scopes for the open space plan and the *Lehigh Valley Return on Environment* study were presented. A draft of the public opinion survey was distributed and committee members were asked to complete the survey and offer suggestions for changes.

Meeting 2: June 6, 2014 — Existing open space conditions were reviewed by LVPC staff to inform the committee about the various information available (data and existing plans) for completing the plan. Eight maps of different open space resources related to the project were presented. The existing goals from the *Comprehensive Plan The Lehigh Valley ... 2030* and the *Lehigh*

Valley Greenways Plan were reviewed with the Committee to solicit input on any changes to existing goals or suggestions for new topics to be addressed. Northampton County staff provided an update on the results of getting approximately 200 surveys completed at various events and locations across the County. These results are separate from the survey of registered voters conducted at a later time during this planning process. LVPC provided an update on the *Return on Environment* study.

Meeting 3: March 4, 2015 — The LVPC presented a short summary of the results from the *Lehigh Valley Return on Environment* study, the results of the public opinion survey of Northampton County active registered voters, and the draft goals. An exercise was conducted to obtain ideas on developing the vision statement. General information about vision statements was reviewed, and a few examples from national organizations were presented. Six vision statements from other county park, recreation and open space plans were presented to obtain comments

from the committee. The plan's draft Table of Contents was presented. Northampton County staff discussed the upcoming public meetings and asked for ideas on locations to hold them.

Meeting 4: September 15, 2015 — The LVPC presented an overview of the preliminary draft plan through a PowerPoint presentation. The actual draft plan would be forwarded to the Steering Committee the following Monday, September 21, after the draft was presented to the LVPC Environment Committee at their monthly meeting. The PowerPoint reviewed the following topics of the Plan—Benefits of Open Space (highlighting the Economic Benefits, with the Lehigh Valley Return on Environment report, and Health and Wellness Benefits), Demographics and Land Use, Existing Resources, Public Participation, County Staff Meetings, Field Work, Data Analysis, and the Vision, Goals, Policies and Selected Recommendations. Comments were solicited and discussed.

Public Opinion Survey: This survey was administered and analyzed by the LVPC, which collected mail and electronic survey data from a random sample of 5,000 active registered voters in Northampton County from October 7, 2014 through November 26, 2014. The random nature of the survey is intentional to obtain opinions from the full cross-section of County residents rather than a survey of existing park and open space users. The purpose of this survey is to assist Northampton County staff, the LVPC and the Plan’s Steering Committee to understand the open space needs of the community. The mail survey included an optional QR code (accessible by smartphones) unique to an online version of the survey. A total of 870 mail surveys and 28 electronic surveys were completed—an 18% response rate.

The number of completed surveys results in a margin of error of +/- 3% at the 95% confidence interval. This means that if the same survey of Northampton County active registered voters were conducted with 100 different sample populations, the percentage of respondents who would answer the same way would be within 3% of the data collected for at least 95 of those 100 sample populations. Weights were calculated for the data based on the age of respondents. Subsequent analysis was performed using the weighted data. The weighted sample helps correct for under/over represented demographic groups in relation to the actual Northampton County active registered voter population. Highlights of the results are presented below, with the complete survey results available in the Appendix.

Public Meetings: Two rounds of public meetings were conducted over the course of the project. The first round was held in June 2014 in Allen Township, City of Easton and Washington Township. A general overview of the project was presented along with maps displaying

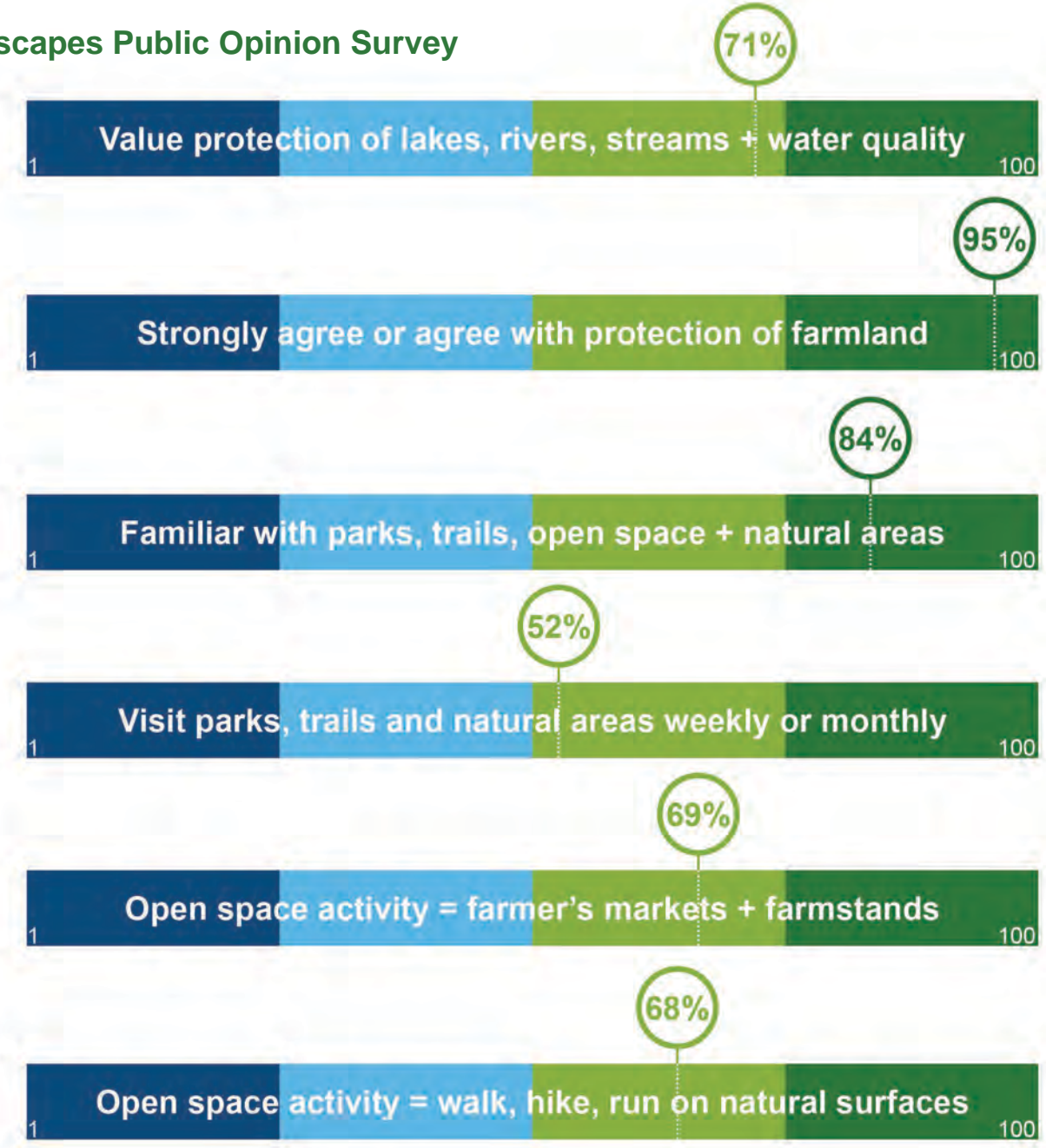
existing conditions for different open space resources. The second round was held in April 2015 in Hellertown, Nazareth and Wind Gap boroughs. The random survey results were reviewed along with the draft goals and vision statement. An opportunity was provided for public input on needs and opportunities for open space resources. In both rounds of meetings, outreach/education/promotion and trails/biking/connectivity were the topics with the most comments. Other comment topics included development, farmland, historic sites, scenic views, accessibility/mobility, dog/pet areas, signage, health, park locations, etc.

Key Person Interviews: Key person interviews were held with County staff and owners of local outdoor recreation businesses and a preserved farm with a dairy/creamery business. The County staff provided insight into the state of the County parks (Gordon Heller, Superintendent, Department of Public Works, Parks and Recreation Division) and the Open Space Program components (Maria Bentzoni, Farmland Preservation Administrator, Department of Administration; Bryan Cope, Open Space Coordinator, Department of Community and Economic Development). Owners and staff of two bike shops (Tomias Hinchcliff, President, and Rob McVeigh, Marketing + Event Coordinator—Genesis Bicycles; Steve LaBrake, Saucon Valley Bikes), an outdoor recreation equipment business (Adam Fairchild, Easton Outdoor Company) and the preserved farm (Layne and Beth Klein, Klein Farms Dairy & Creamery) revealed how their businesses are impacted by, and are a part of, the open space system. Summaries of the business interviews are included as case studies in the Economic Benefits – Highlight section of this Plan.



Photo courtesy of Teresa Mackey, LVPC

Livable Landscapes Public Opinion Survey



County Profile

Photo courtesy of Alice Lipe, LVPC

Setting

Established in 1752, Northampton County is part of a two-county region (along with Lehigh County) known as the Lehigh Valley and is located in central eastern Pennsylvania. The region is located within 300 miles of several large metropolitan areas of the eastern United States, including Pittsburgh, Boston, Baltimore and Washington, D.C. and is particularly accessible to Philadelphia and New York City.

Northampton County is bounded on the north by Kittatinny Ridge (Blue Mountain), on the east by the Delaware River, on the south by the Pennsylvania Highlands, and on the west by Lehigh County. The County encompasses approximately 377 square miles, or 241,438 acres.

Northampton County is a third class Pennsylvania County (population between 250,000 and 500,000) comprised of 38 municipalities, including two cities, 17 townships and 19 boroughs.

Demographics

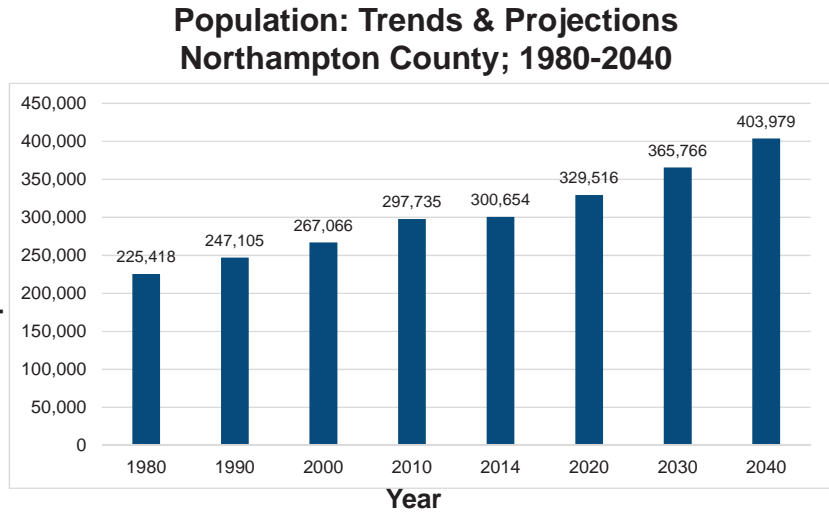
The demographics of a region play an important role in identifying the open space and recreational needs of the community. Planning for the needs of all residents and age groups should be considered, as well as planning for the demographic changes over time.

Population Trends

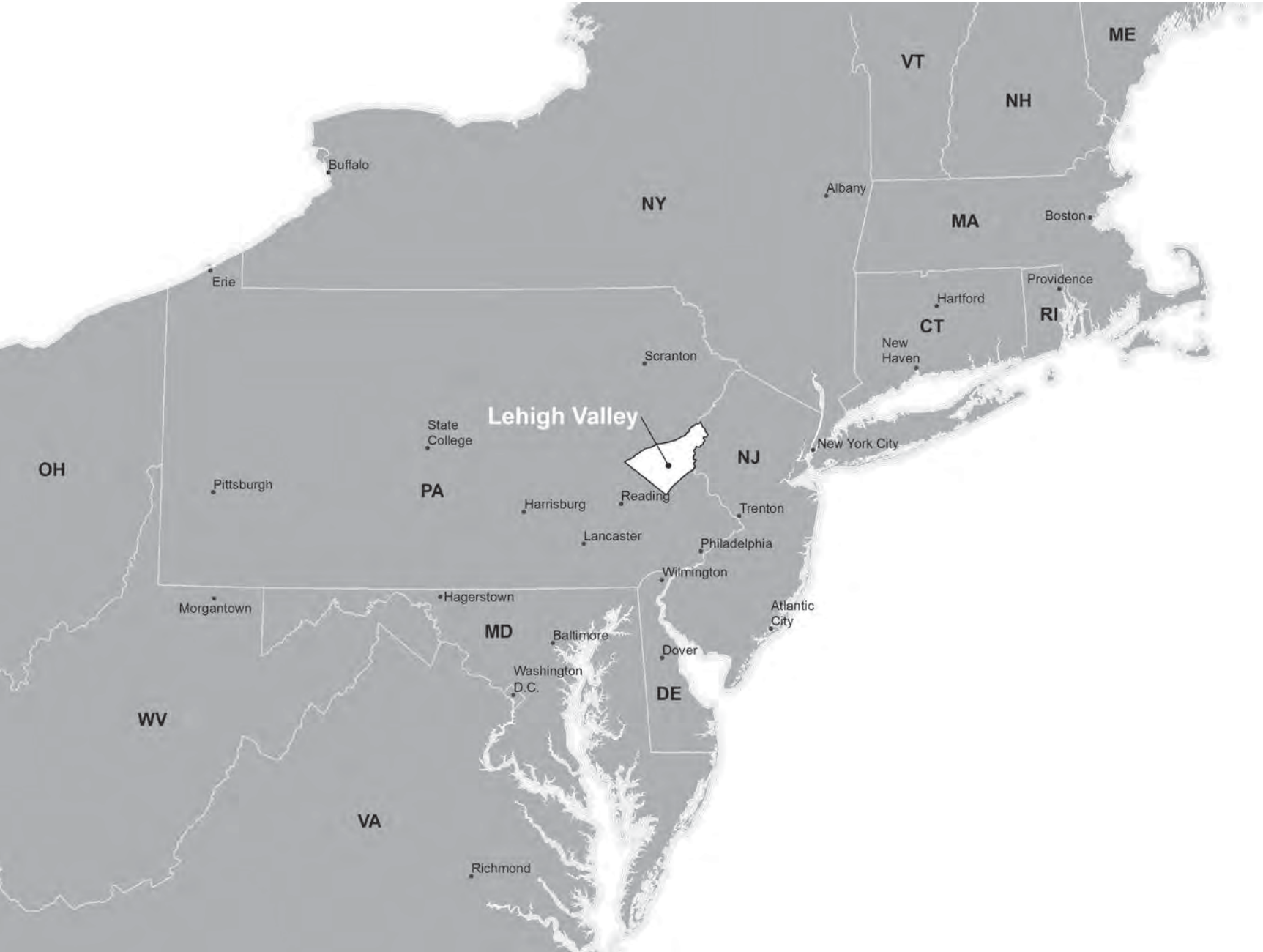
Northampton County has experienced steady and sustained population increases over the last several decades. During the 1980s and 1990s, decennial growth remained steady; however, between 2000 and 2010, the County’s growth increased by approximately 30,700 residents. Not only did this 11.5% growth rate exceed the state’s

growth rate of 3.4% between 2000 and 2010, it was also higher than the 9.7% rate for the nation overall, substantiating the notion that Northampton County is experiencing considerable growth. Northampton County ranked 9th out of all 67 Pennsylvania counties in percentage growth between 2000 and 2010. Census estimates for 2014 indicate that Northampton County grew from 297,735 persons in 2010 to 300,654 persons in 2014, or 1.0% growth over this period. Based on this percentage growth, the County ranked 16th out of all Pennsylvania counties.

Projections prepared by the LVPC in 2012 anticipate continued population increases within the County through 2040. From 2010 to 2040, the County’s population will increase by almost 106,000 residents, or 11.9% growth per decade, bringing the total population to approximately 404,000. In comparison, the County’s population grew at a rate of 10.7% per decade over the previous 30 years.



Source: U.S. Census Bureau, 1980-2010 Decennial Census and 2014 Estimate; Lehigh Valley Planning Commission, 2020-2040 Forecasts.



Age

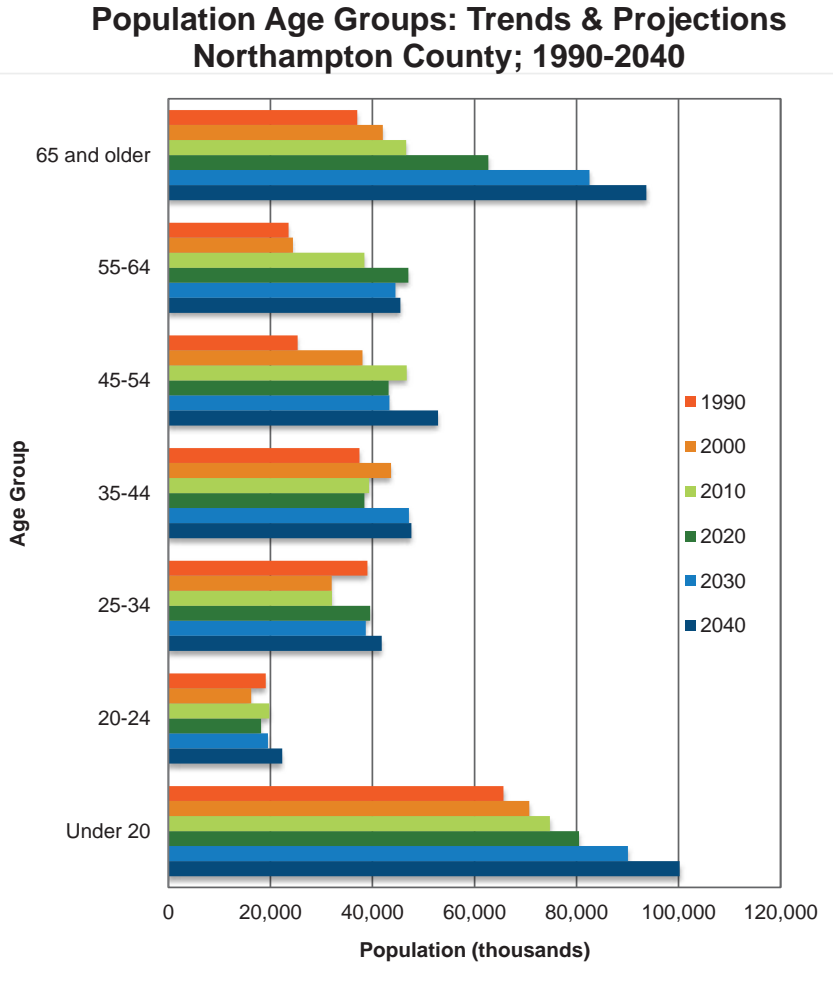
The age composition of the County’s population has changed considerably over the last 20 years. Northampton County, like many areas of the country, has experienced a general aging of its population. This is reflected in the considerable increase in median age for the County (34.9 years to 40.9 years) from 1990 to 2010. Population in the age groups of 65 years and older and persons under 20 exhibited sustained growth over the past two decades. Conversely, the young adults (20-24) and the formative household age group (25-44) exhibited erratic growth trends during this time.

LVPC forecasts indicate that all age groups in the County will increase in population from 2010 to 2040. The largest increase, both numeric and in percentage, during this time period is for the 65 and older group, with approximately 47,000 additional persons, or a 101% increase. The under 20 age group has the next largest increase, with approximately 25,400 additional persons, or a 34% increase from 2010 to 2040. The 25-34 age group will also see about 9,700 additional persons, or a 30% increase. The smallest increase identified is for the 20-24 age group, with a gain of about 2,500 persons over the 30-year period, or a 13% increase.

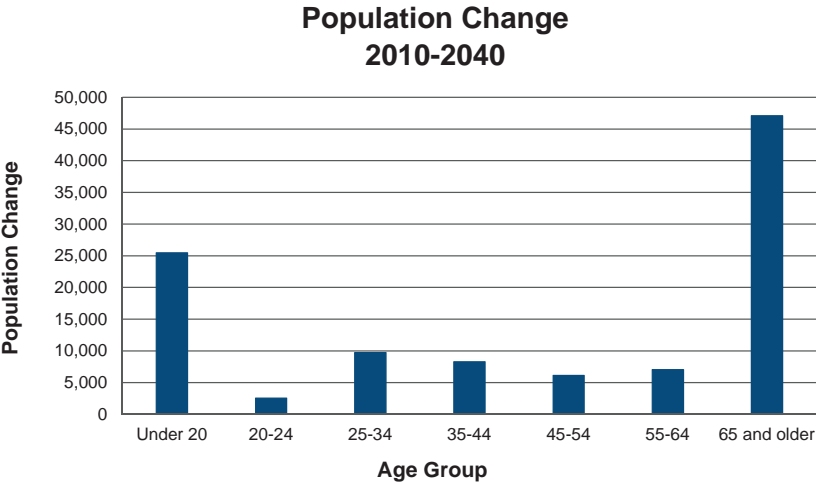
By 2040, the number of people age 65 and older is projected to be approximately 93,700, or over 23% of the County’s population. In 2010, this group accounted for almost 16% of the population. The number of people in the under age 20 group is projected to be 100,200, or approximately 25% of the County’s population in 2040. This age group accounted for the same percentage of population in 2010. Even though there is a 30% increase in persons in the 25-34 age group from 2010 to 2040, the percentage of the total County population for this age group for 2010 and 2040 is relatively unchanged. All other age categories see a drop in percentage of total population by 2040.



Photo courtesy of Teresa Mackey, LVPC



Source: U.S. Census Bureau, 1990-2010 Decennial Census; Lehigh Valley Planning Commission, 2020-2040 Projections.



Source: Derived from U.S. Census Bureau, 2010 Decennial Census and Lehigh Valley Planning Commission 2020-2040 Projections.

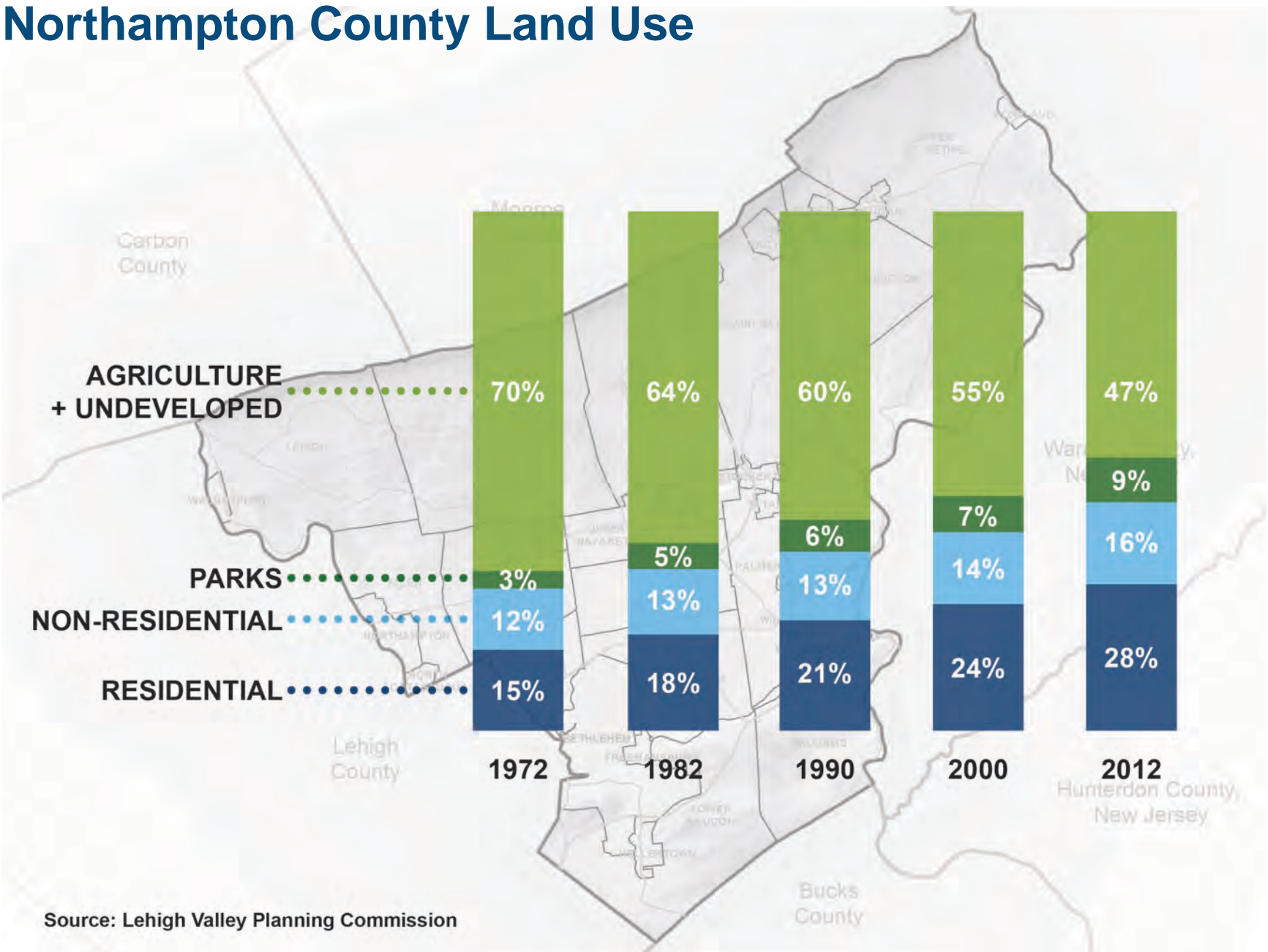
Land Use

An assessment of land use data can be used to identify land development trends, the extent of development and the availability of additional land areas to provide for County residents’ open space and recreation needs. The LVPC has been estimating existing land use since the mid-1960s. The existing land use estimates have been used for general planning, forecasting and measuring land use change throughout the years. The LVPC utilizes eight categories of land use in its estimation process. These categories are residential; commercial; industrial; wholesale and warehousing; transportation, communications and utilities; public/quasi-public; parks and recreation; and agriculture/undeveloped. Non-residential development has generally taken place in both the urban core and the slate belt region of the County. Residential development, on the other hand, has expanded into the more rural areas of the County, consuming large amounts of open space in the process. As the County’s population continues to grow, more pressure to develop in these rural areas is likely to occur.

Since 1972, residential and non-residential uses in Northampton County have increased from 27% of the land area to 44% in 2012, with residential uses accounting for the majority of the increase. As a result of this urbanization, agriculture/undeveloped land has continued to decline, indicating that these areas remain under intense development pressure in the County. In 1972, agriculture/undeveloped land accounted for 70% of the land area of Northampton County; in 2012, this land use type accounted for less than half of the land area of the County. Parks and recreational land uses have more than doubled since 1972, accounting for 8% of the County’s land area in 2012.

These development patterns, combined with the projected population growth, underscore the vulnerability of the County's remaining undeveloped lands and highlight the importance of planning for the open space and recreational needs of the County's residents.

Northampton County Land Use



Existing Land Use

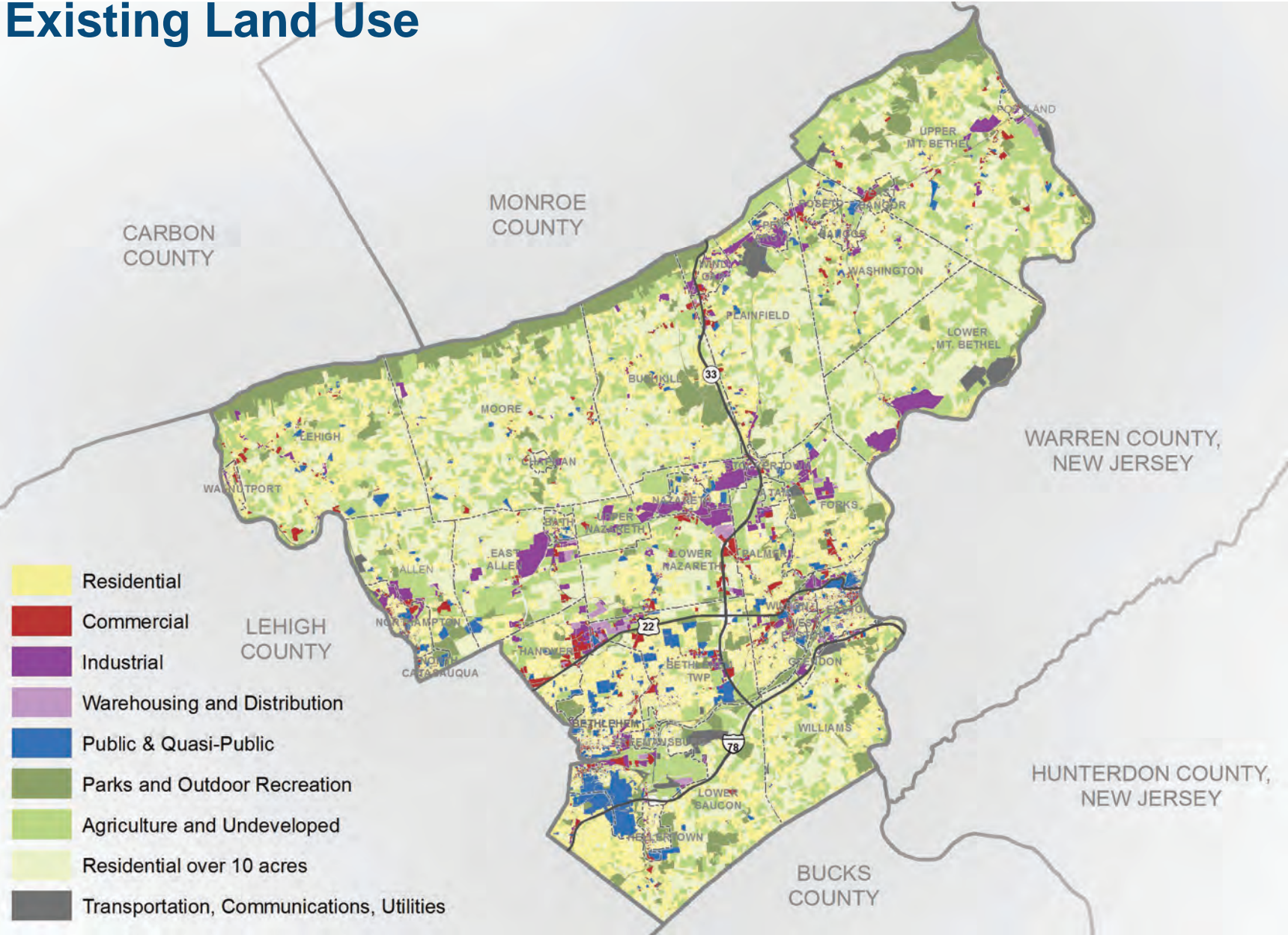


Photo courtesy of Teresa Mackey, LVPC

Inventory + Assessment

Photo courtesy of Becky Bradley, LVPC

Natural Resources

Natural resources in the Lehigh Valley include rivers and streams, wetlands, floodplains, natural heritage areas, mountains and woodlands. Interconnected natural resources provide numerous benefits. They provide habitat and maintain biodiversity; protect and enhance water quality; provide aesthetically pleasing areas to experience; filter pollutants from water, soil and air; recharge groundwater aquifers; provide recreation opportunities; and buffer developed areas from flooding ultimately saving lives, money and property. Voters have spoken very clearly in public opinion surveys conducted over the past 40 years that they want to preserve these important natural resources.

The LVPC maintains databases of the open space resources in the County. Over 2,400 acres of land are classified as natural resource areas, which do not have any recreational facilities, with approximately 75% of these sites being protected (i.e. lands owned by federal, state, County, or municipal governments or conservancies; or privately-owned property with a conservation easement). The largest sites are the County-owned Greater Minsi Lake Corridor, municipal reservoir lands, and conservation easements on private land. Although the State Game Lands occur on the largest contiguous wooded areas in the County, they are not included in this section because of their associated outdoor recreation component. They are included in the Outdoor Recreation Resources discussion later in this chapter. Three County sites are currently classified as Natural Resource Areas and are reported below, but possible future plans to add recreation components would result in them being re-classified as outdoor recreation resources. See County parks map in the Outdoor Recreation Resources section for locational information.

County-Owned Natural Resource Areas

Gertrude B. Fox County Park

Location: Center Street and Bierys Bridge Road, City of Bethlehem and Hanover Township

Size: 7 acres

Description: A wooded area along Monocacy Creek established in 1987 by the County to honor the park's namesake, who was an environmental activist in the Bethlehem area. She was one of the recipients of the first Theodore Roosevelt Conservation Award, presented by President George H.W. Bush in 1990. The parcel is landlocked and is only accessible from Monocacy Creek. The site is within the Monocacy Creek Greenway as identified in the *Lehigh Valley Greenways Plan* (LVGP). An active rail line runs along the southeastern side of the property. No amenities or recreation facilities exist at this site.

Assessment: The original plan was to connect this site upstream to the County-owned Archibald Johnston Conservation Area (AJCA), which is less than one stream mile away, but the previous adjacent property owner was not interested at that time. Although ownership of the AJCA may be transferred to Bethlehem Township in the future, connecting the Gertrude B. Fox County Park to that site would preserve the stream corridor as part of the Monocacy Creek Greenway.

Recommendations:

- Pursue discussions with the new property owner(s) of adjacent parcels to connect this park upstream to the Archibald Johnston Conservation Area.
- Transfer ownership to City of Bethlehem and/or Hanover Township should be considered.

Greater Minsi Lake Corridor

Location: Along Blue Mountain and National Park drives and Institute and Totts Gap roads in Upper Mount Bethel Township

Size: 545 acres

Description: A natural area corridor consisting of several parcels, connecting Minsi Lake in the south to the Delaware Water Gap National Recreation Area (DWGNRA) in the north. The majority of the site is located within the Minsi Lake Vernal Pools and Totts Gap Swamp Natural Heritage Areas, both of State Significance. The headwaters of Slateford Creek, designated as Exceptional Value Waters by the Pennsylvania Department of Environmental Protection (DEP), are located in the easternmost parcel. The site is within the Greater Minsi Lake Corridor Greenway and adjacent to The Nature Conservancy's Minsi Lake Vernal Pool Preserve. A pair of manmade lakes (Twin Lakes) were constructed by the previous owner and are only accessible through a locked gate along Totts Gap Road. No facilities exist at this site.

Assessment: In addition to providing a habitat connection between Minsi Lake and the DWGNRA, a trail connection between the two was also part of the original intent. If the trail is to be aligned on County land, additional property would need to be acquired to provide area for trail development. If additional development of the site is intended to provide more formal public access, a feasibility study should be conducted to determine if developing the site as a nature preserve is the best use of the site.

Recommendations:

- Acquire land or an easement in the southern part of the corridor to create better County-owned or managed connectivity for proposed trail development.

- Develop a trail connecting Minsi Lake to the Delaware Water Gap National Recreation Area.
- Conduct a feasibility study to determine the best use of the property in addition to the proposed trail.

Mud Run

Location: Lower Mud Run Road near South Delaware Drive (Rt. 611), Lower Mount Bethel Township

Size: 10 acres

Description: A mostly wooded site along Mud Run, a Cold Water Fishes designated stream. The site is located in the Mud Run Greenway and is adjacent to the Delaware River Greenway as identified in the LVGP. The Martins Jacoby Watershed Trail Network (conceptual) runs through the site.

Assessment: The County has not identified any future plans for this property, but the property should remain as a natural area as part of the Mud Run Greenway.

Recommendations:

- The site should remain as is. There are no future plans to develop this site at this time, but the site could be used for trail access if the Martins Jacoby Watershed Trail Network were to be developed.
- Transfer ownership to Lower Mount Bethel Township should be considered.

Topography

The predominant geographic features of Northampton County are the Kittatinny Ridge—referred to locally as the Blue Mountain, separating Northampton County from Monroe and Carbon counties to the north—and the Pennsylvania Highlands, which form a scenic mountainous backdrop for the cities of Bethlehem and Easton to the south. The Delaware River forms the eastern boundary with New Jersey, and the Lehigh River and Monocacy Creek form the majority of the western boundary with Lehigh County. Between the Kittatinny Ridge and the Pennsylvania Highlands is a seven mile wide limestone valley where most people in Northampton County live and work. The topography ranges from 1,700 feet above sea level along the northern ridge to 200 feet above sea level in the river valleys and creates a landscape with abundant natural landmarks and scenic beauty.

Geology

Pennsylvania is a state rich with exceptional geologic features and heritage. The DCNR’s Pennsylvania Geological Survey is striving to promote the awareness, appreciation and conservation of such outstanding geologic features by documenting their presence. The geologic mapping service has mapped six physiographic provinces throughout Pennsylvania. Each province is made up of sections characterized by terrain, subsurface rock type, soil and history. Northampton County primarily contains two physiographic provinces—the Ridge and Valley, and New England—with a very small area of the Piedmont Province in the southern tip of the County.

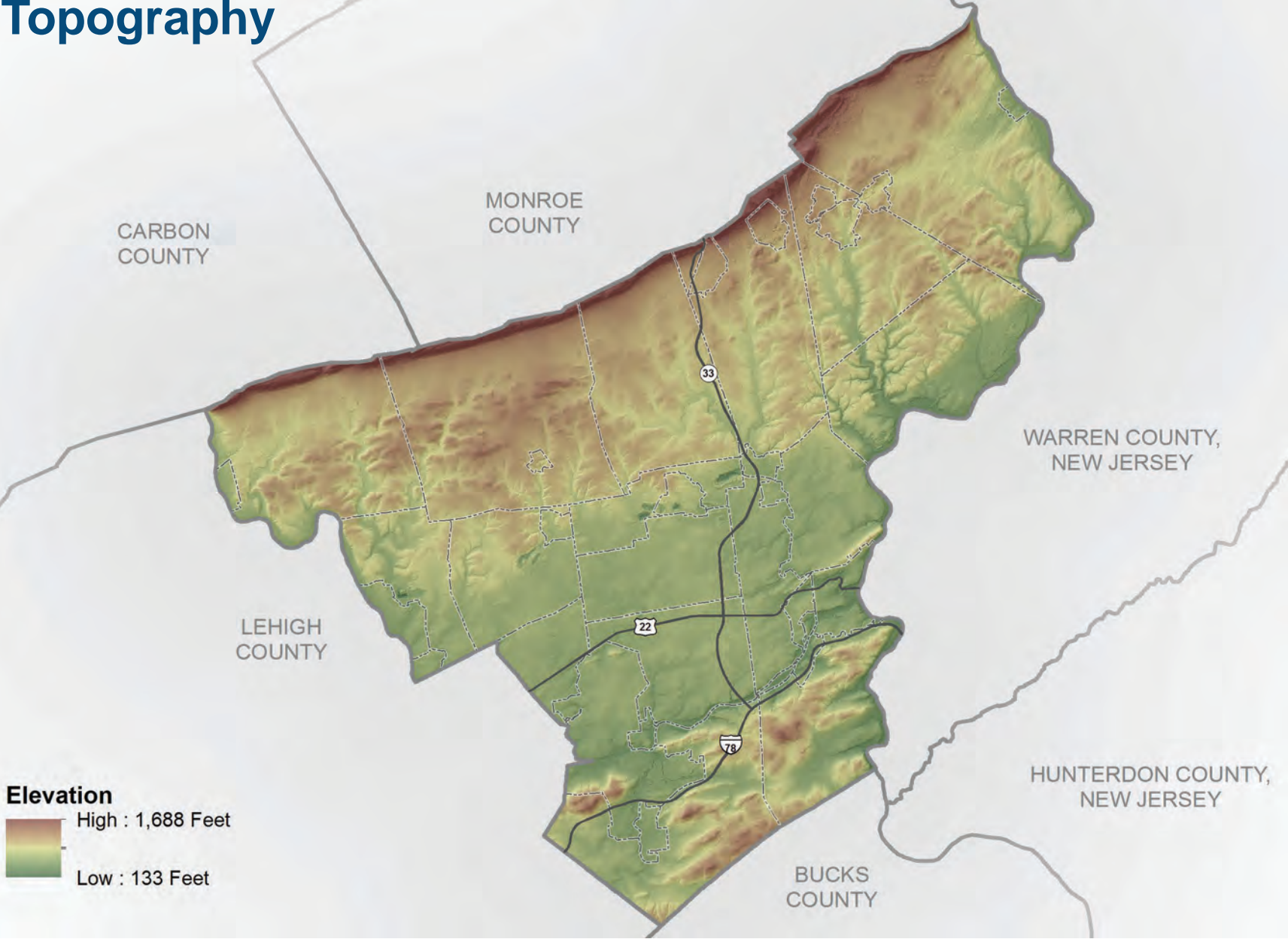
The Ridge and Valley Province, characterized by forested, flat-topped ridges and fertile valleys, contains seven sections, two of which, the Blue Mountain and Great Valley sections, are found in Northampton County. The Kittatinny Ridge along the northern edge of the County contains the Blue Mountain Section. South of the

Kittatinny Ridge is the Great Valley Section, a very broad lowland area characterized by carbonate bedrock and well-drained, fertile soils. The flat, undulating terrain of the central portion of Northampton County has been used intensively for agriculture, and most of the areas where urban development has taken place are underlain by limestone bedrock. In Northampton County, 26 of the 38 municipalities are underlain entirely or in part by carbonate rock. These carbonate formations are located in the urban core, provide the primary raw material for the local cement industry, and lie under the most fertile soils. Carbonate rock has the potential for sinkhole formations, which are fairly common in the County. When sinkholes occur in developed areas, they can cause severe property damage, injury and the loss of life, disruption of utilities and public services, and damage to roadways.

The New England Province in the County has one section, the Reading Prong, which consists of isolated hills and ridges divided by stream valleys. South Mountain, a landmark ridge on the southern border of the City of Bethlehem, is part of the Reading Prong and a larger region of mountains called the Highlands, which extend from eastern Pennsylvania through New Jersey and New York to northwestern Connecticut, forming a vital linkage between the Berkshires and the Blue Ridge Mountains.

The Piedmont Province area in the County has the Gettysburg-Newark Lowland Section, with most of the Section located in Bucks County and running west. The Gettysburg-Newark Lowland Section is characterized by rolling low hills and valleys and isolated ridge tops.

Topography



Steep Slopes

Slopes with grades of 15% or greater are steep, and slopes with grades of 25% or greater are very steep as classified by the *Comprehensive Plan The Lehigh Valley ... 2030*. Steep slopes (inclusive of very steep) are vulnerable to damage resulting from site disruption, particularly related to soil erosion. Erosion of steep slopes can be a serious problem as all soils are subject to movement as the slope of the landscape increases. If disturbed, these areas can yield heavy sediment loads on streams and wetlands degrading water quality and disturbing aquatic habitat. Increased sedimentation also increases flood hazards by reducing the floodwater storage capacity of drainage ways. The steepest slopes in Northampton County are located on the Kittatinny Ridge, South Mountain, along the Lehigh and Delaware rivers and in the stream valleys. Approximately half of all steep slopes are wooded; very few steep slopes are used for cropland or pastures due to their lack of suitability for agriculture.

Woodlands

Woodlands are valued for many reasons, providing recreational opportunities such as nature study, hunting, hiking and horseback riding. Woodlands can be used for firewood harvesting, commercial timbering, and as land use buffers and boundaries between non-compatible land uses. Many species of birds and wildlife depend on large, unbroken wooded tracts for survival. Woodlands also mitigate environmental stressors by reducing stormwater runoff, filtering groundwater recharge, controlling erosion and sedimentation, moderating local microclimates, and purifying the air. There are over 55,000 acres of woodlands (in stands of greater than five acres) in Northampton County. The largest concentrations are found along the mountain ranges and hillsides adjacent to major stream and river corridors. Woodlands are commonly found on other environmentally sensitive areas such as steep slopes and floodplains, adding to their

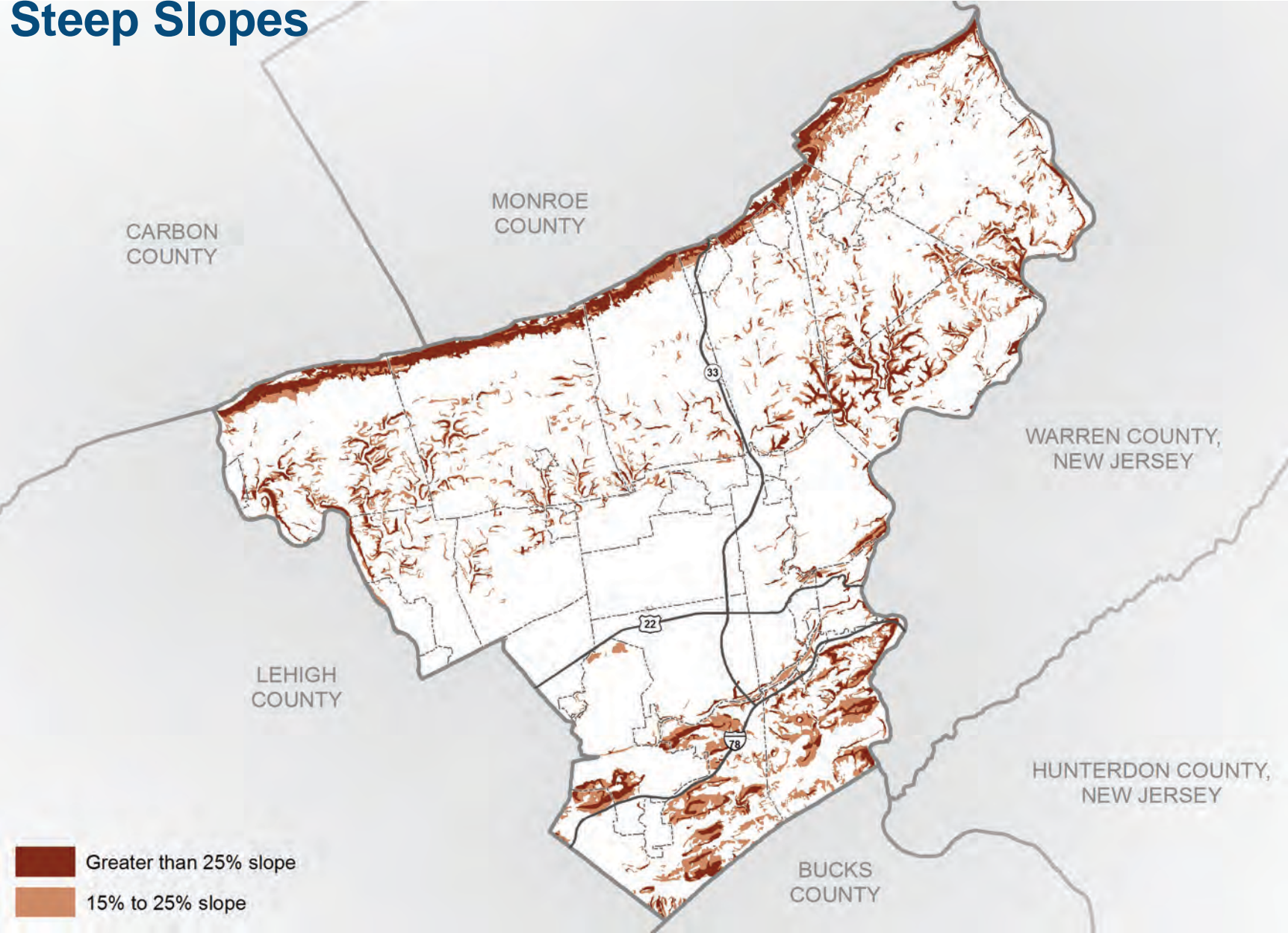
significance and need for protection. Communities can minimize the loss of the region’s woodland resources with land development and site design ordinances or policies.

Interior Woodlands

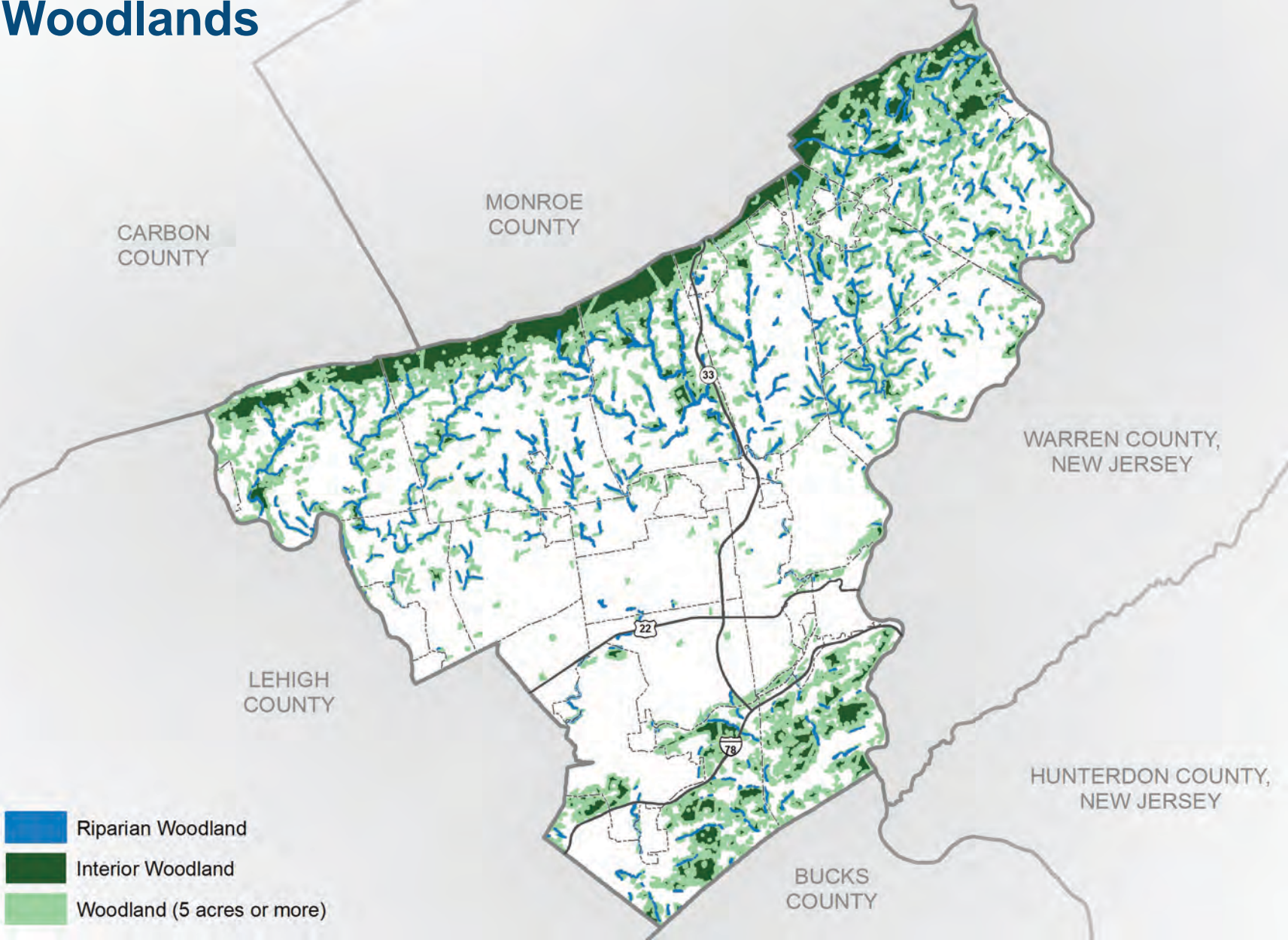
Interior woodlands are areas that are a minimum of 300 feet from the edge of the woodland patch and, therefore, do not have the environmental conditions that exist along the edges of the woodland, which is known as the edge effect. The habitat characteristics—light, wind, moisture, predation rates, tree density and composition—found at the edges are quite different from the conditions in the forest interior. Many wildlife species (e.g., certain songbird species) require the habitat characteristics provided in interior woodlands for survival. The size of the interior woodland is a factor in determining the number of species that exist (i.e. a higher number of species are found in larger tracts). The majority of interior woodlands in Northampton County are found on the Kittatinny Ridge, along the isolated hill and mountain tops of the Highlands, and the northern parts of Bushkill and Upper Mount Bethel townships.

Many forested areas in the County have been fragmented, a trend across Pennsylvania and other historically forested states. Development is encroaching along the edges of the woodlands, increasing the area where the edge effect dominates. Conversely, some isolated wooded areas may become reconnected due to succession (the natural change in vegetation species and structure over time), occurring when farmland is abandoned and reverts to woodlands. Striving to keep large tracts of interior woodlands intact will help to preserve native ecosystems across the landscape and provide habitat for many wildlife species.

Steep Slopes



Woodlands



Riparian Woodlands

Riparian woodlands are recognized as a vital feature for protecting and restoring waterways. A riparian buffer is an area of natural vegetation that is maintained along the shore of a water body to protect water quality and stabilize channels and banks. The riparian vegetation affects the stream channel shape and structure, as well as the stream’s canopy cover, shading, nutrient inputs, and amount of large woody debris entering the stream. The buffer serves to reduce the amount of pollutant runoff entering the stream by trapping sediment and reducing soil erosion.

Grassland and forested buffers are both effective at trapping sediment, however, forested buffers provide many additional benefits. Riparian woodlands supply food for aquatic organisms in the form of leaf-litter and debris, maintain and cool water temperatures through shading, and provide habitat for many desirable species of amphibians, reptiles, mammals and birds. If wide enough, riparian buffers function as corridors for the movement of large and small mammals. Riparian buffers also provide numerous benefits to landowners and the community by: 1) protecting groundwater recharge areas, 2) providing flood control, 3) providing stormwater management, and 4) stimulating economic opportunities by creating valuable open space that increases residential property values and the tax base.

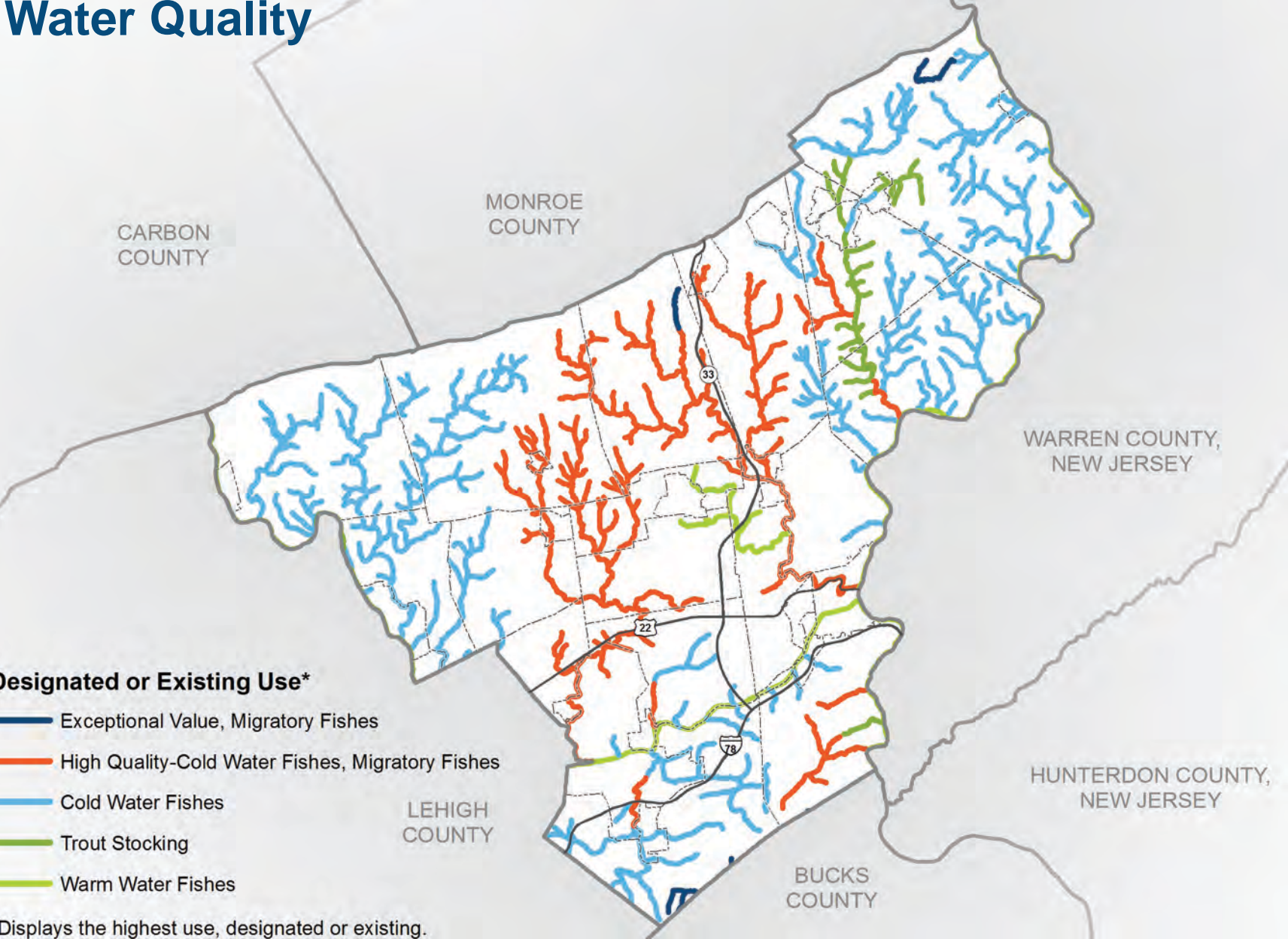
Riparian buffers in Northampton County have been seriously impacted over the years. Farming operations often have been practiced without sufficient regard to protecting streams. Residential and other forms of urban development have put stress on local streams as structures are located close to stream edges. Proper planning, education and improved subdivision and land development ordinances may help change some of these practices.

Hydrography

The rivers and streams of Northampton County have played a significant role in its history and development. The County’s two cities and some of its major boroughs grew along the banks of the Lehigh and Delaware rivers as major industries began their existence along the Lehigh and Delaware Navigation Canals. Today, the industrial heritage of the County is reflected and interpreted by commemorative parks, historical remnants and museums. Many municipal parks and trails in Northampton County are located near rivers and streams and along canal towpaths. River and stream corridors can also serve, or have the potential to serve, as blueways (defined in Greenways and Blueways section), providing a link between population centers and recreation areas. The multitude of recreational activities associated with waterways is an important County asset. The Lehigh and Delaware rivers are large enough to provide boating and fishing opportunities. Wildlands Conservancy’s annual Lehigh River Sojourn is a multiple-day paddling adventure down the Lehigh River, starting in the Pocono Mountains in Carbon County to Northampton Borough in Northampton County. Hundreds of people have participated in this recreational opportunity over the years, learning about and experiencing the river.

In addition to their historical and recreational benefits, the waterways of Northampton County provide critical wildlife habitat areas. Many species of birds, aquatic animals and mammals depend on river and stream corridors for travel, cover and nesting places. The Delaware River, the longest undammed river east of the Mississippi River, and its adjacent forested watersheds comprise one of the major corridors for the movement of biota in eastern Pennsylvania. Additionally, some of the best trout habitat and fishing in eastern Pennsylvania can be found in Northampton County in the Monocacy and Bushkill creeks. Consequently, high quality rivers and streams are of critical importance for the preservation of wildlife and the recreational opportunities they support.

Water Quality



*Displays the highest use, designated or existing.

Recognizing the importance of water quality for the preservation of Pennsylvania’s water supply and wildlife, and as required by the federal Clean Water Act, the Pennsylvania Department of Environmental Protection (DEP) established a Water Quality Standards program documented in 25 Pa. Code, Chapter 93. The standards are based upon water use: 1) Designated Use — specified for each water body or segment whether or not the use is being attained, and 2) Existing Use — the use actually attained in the water body on or after November 28, 1975 whether or not the use is included in the water quality standards. All Commonwealth waters are protected for a designated aquatic life use as well as a number of water supply and recreational uses as listed below:

- Exceptional Value (EV) Waters — waters that constitute an outstanding national, state, regional or local resource, such as waters of national, state or county parks or forests, or waters that are used as a source of unfiltered potable water supply, or waters that have been characterized by the Pennsylvania Fish and Boat Commission as “Wilderness Trout Streams,” and other waters of substantial recreational or ecological significance.
- High Quality (HQ) Waters — a stream or watershed with surface waters that have high quality which exceeds levels needed to support propagation of fish, shellfish and wildlife and recreation plus environmental features that require special protection.
- Cold Water Fishes (CWF) — maintenance and/or propagation of fish species and flora and fauna that are native to cold water habitats.
- Trout Stocking Fishes (TSF) — maintenance of stocked trout from February 15 to July 31 and maintenance and propagation of fish species and flora and fauna which are native to warm water habitats.
- Migratory Fishes (MF) — passage, maintenance and propagation of fishes which ascend to flowing waters to complete their life cycle.

- Warm Water Fishes (WWF) — maintenance and propagation of fish species and flora and fauna that are native to warm water habitats.

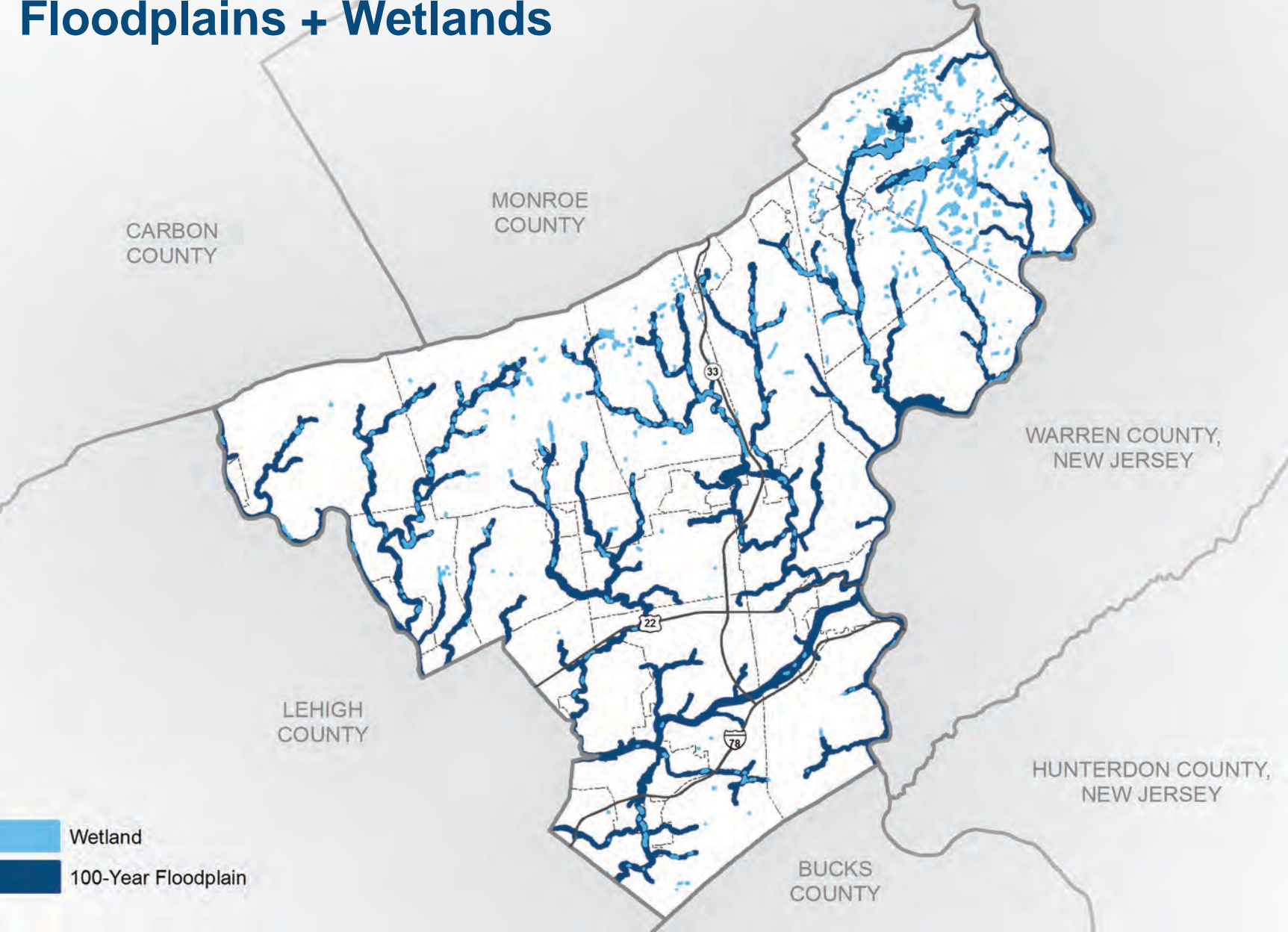
The majority of streams in Northampton County have a Designated Use of either HQ-CWF (e.g., Monocacy and Bushkill creeks) or CWF. Northampton County has two streams with a Designated Use of EV—Slateford Creek in Upper Mt. Bethel Township and Cooks Creek headwater tributaries in Lower Saucon Township. The northern part of Sobers Run in Bushkill Township has an EV Existing Use classification higher than its Designated Use. DEP is evaluating this stream segment to determine if the Designated Use should be upgraded to match the Existing Use. The associated riparian buffers and surrounding floodplains of streams and rivers represent opportunities for blueway development.

Floodplains

A floodplain is the low lying area adjacent to a stream, river or water-course that is subject to periodic flooding. Naturally vegetated areas within floodplains help to trap sediment from upland surface runoff, ultimately leading to the creation of proper downstream conditions required for aquatic life. These areas also store large amounts of water, which can be a source of aquifer recharge and prevent loss of life, health hazards and property damage. Many of the most scenic areas in Northampton County are found within the floodplains of the Lehigh and Delaware rivers and the larger streams. Regulation of floodplains further helps to protect open space and critical habitat areas, and preserve and enhance water quality and quantity.

For regulatory purposes, a floodplain is defined by the Federal Emergency Management Agency (FEMA) as the flood elevation that has a 1% chance (100-year flood area) or a 0.02% chance (500-year flood area) of being equaled or exceeded each year. Thus, although

Floodplains + Wetlands



unlikely, the 100-year flood could occur more than once in any given year. The 100-year flood, which is the standard used by most federal and state agencies, is used by the National Flood Insurance Program (NFIP) as the standard for floodplain management. The Pennsylvania Floodplain Management Act (Act 166 of 1978) requires municipalities identified as being flood prone to enact floodplain regulations, which, at a minimum, meet the requirements of the NFIP. To minimize flood damage and protect floodplains, the County *Comprehensive Plan* recommends municipalities prohibit new structures and fill in the 100-year floodplain, except for certain infrastructure as recommended by the Pennsylvania Code, Pennsylvania’s official publication of rules and regulations.

Wetlands and Hydric Soils

Wetlands are areas that are filled by surface or groundwater sufficiently often and long enough to support a variety of vegetation typically adapted for life in saturated soil conditions. According to the DEP and United States Army Corp of Engineers, a wetland must have hydrophytic vegetation (plant life that thrives in oxygen poor/saturated soil conditions) and hydric soils (soil formed when oxygen was lacking due to prolonged inundation or saturation) to be designated as such. Wetlands include swamps, marshes and bogs. Many of these areas are considered seasonal wetlands (i.e. they are dry during one or more seasons every year). The quantity of water present and the timing of its presence determine the functions of a wetland. Even wetlands that appear dry for significant portions of the year (e.g., vernal pools) can provide significant habitat for a variety of species. An excellent example of wetland habitat is found in the Minsi Lake Corridor of Upper Mount Bethel Township. The Minsi Lake Vernal Pools area, identified as a Natural Heritage Area with a State Significance rank, is recognized by many conservation groups as a critical area for preservation. (Note: A natural heritage area’s significance rank represents the site’s biodiversity importance. Ranks are calculated by a score that represents the ranks of each species

of concern present at the site weighted by the quality of those populations.)

Wetlands are one of the most biologically diverse systems in the world and perform a variety of important physical and biological functions. Wetlands have important filtering capabilities for collecting runoff before it reaches rivers and streams, maintaining stream flow during periods of drought, and assisting in groundwater replenishment. As documented in the *Lehigh Valley Return on Environment* study (2014), wetlands provide higher natural system service benefits on a per acre basis than any other land cover. Additionally, wetlands are ideal locations for environmental education opportunities and scenic viewsheds.

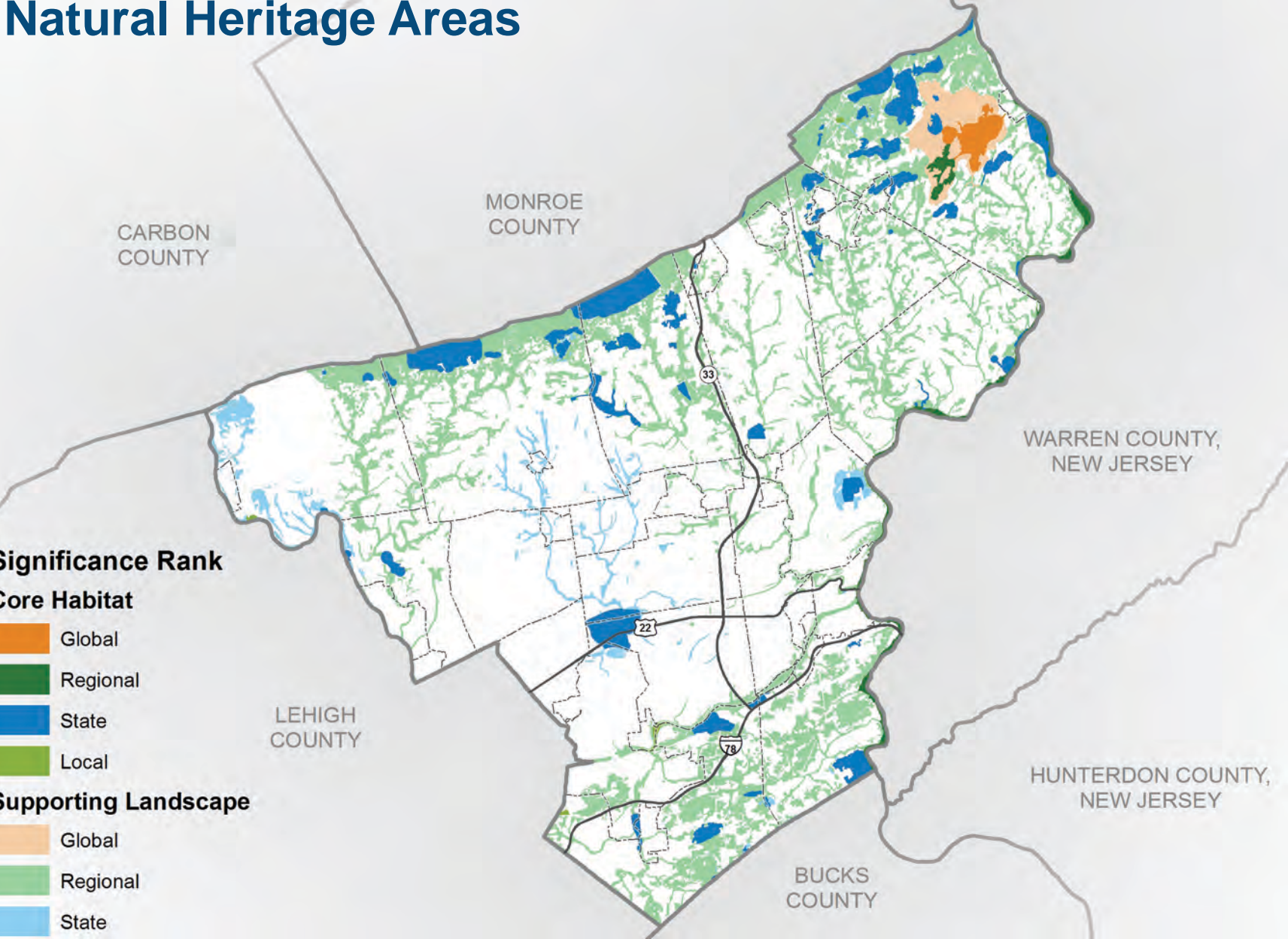
Wetlands provide higher natural system service benefits on a per acre basis than any other land cover.

According to the U.S. Fish & Wildlife Service’s National Wetland Inventory, Northampton County has 939 individual sites that are classified as wetlands. Wetlands and their associated hydric soils are found in every municipality; however, the largest concentrations occur in Upper Mt. Bethel Township and along the base of the Kittatinny Ridge. There are many problems associated with developing on or near wetlands and hydric soils (e.g. wetlands located in floodplains are often flooded, hydric soils are easily compacted, and high groundwater table areas are not suitable for the installation of on-lot septic systems). Aside from the issues associated with developing on wetlands, the environmental value of these areas make them critical for preservation.

Natural Heritage Areas

Northampton County has many natural areas worthy of protection, such as rare plant and threatened and endangered animal species locations, highest quality natural habitats, and outstanding geologic features. Working with the Western Pennsylvania Conservancy, in

Natural Heritage Areas



2013 the LVPC updated and released the Natural Areas Inventory for the Lehigh Valley titled—*Natural Heritage Inventory of Lehigh and Northampton Counties, Pennsylvania – Update 2013*. The study updated the previous versions from 1999 and 2005. The update identified 87 Natural Heritage Areas in Northampton County, 77 sites having a core habitat and supporting landscape boundary and 10 sites having only a watershed supporting landscape boundary. The core habitat/supporting landscape mapping process is a new way to delineate the site boundary. Core habitats represent critical habitat that cannot absorb significant levels of activity without substantial negative impacts to the species of concern or natural community. Supporting landscapes are directly connected to core habitat and maintain vital ecological processes and/or secondary habitat that may be able to withstand some lower level of activity without substantial negative impacts to elements of concern.

The Natural Heritage Areas are known to contain the plants, animals, natural communities and habitats most at risk of extinction at the local or global level. The study identified 111 species of concern in the Lehigh Valley, including several of global conservation concern and eight high quality natural community types. The majority of Natural Heritage Areas (NHA) identified in the *Natural Heritage Inventory* are associated with wetlands, riparian zones, floodplains and vernal

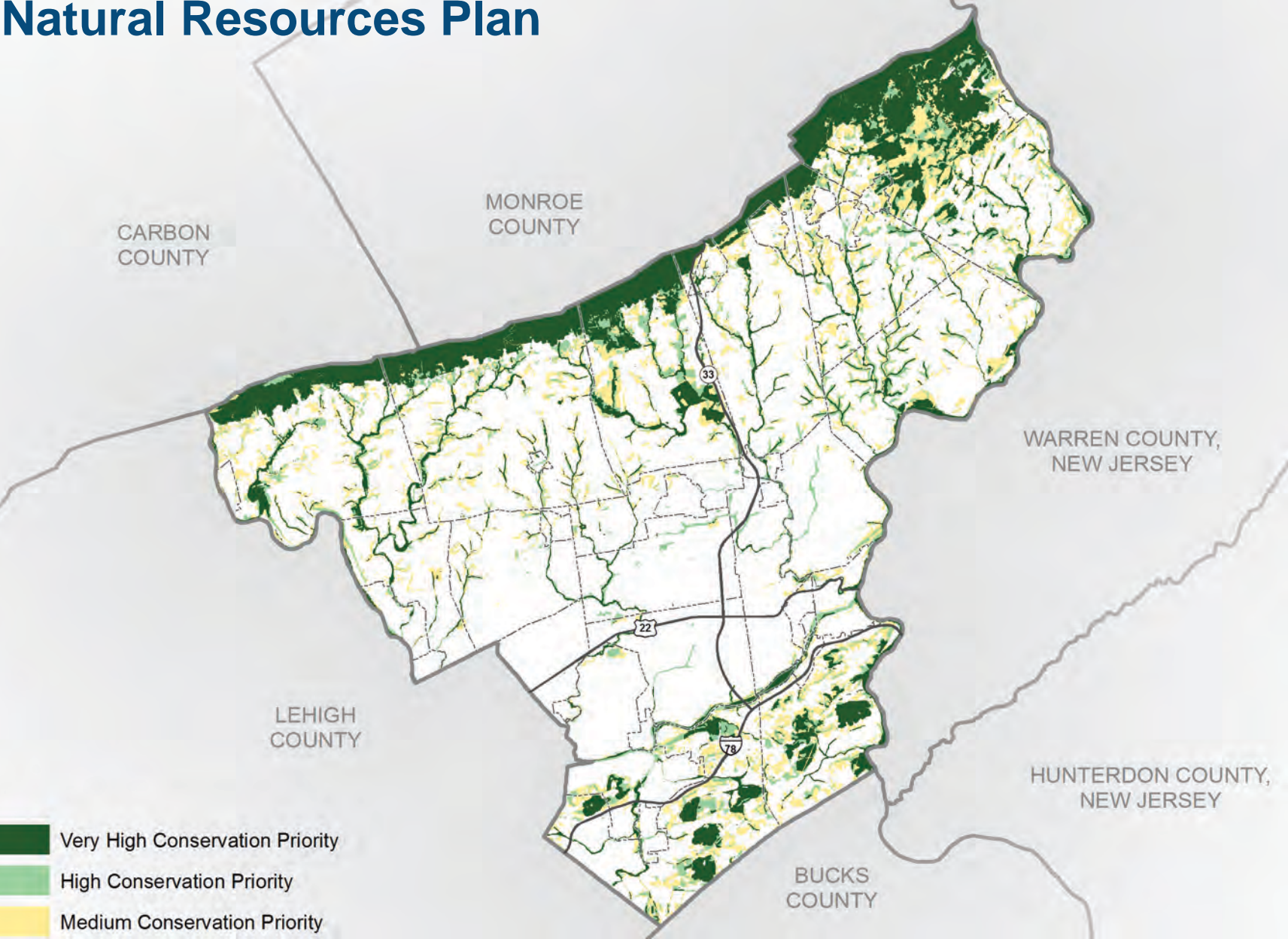
pools. Two NHAs in Northampton County—Coffeetown Woods and Minsi Lake Vernal Pools—have been partially protected by land conservancies and are open to the public for nature exploration as the Mariton Wildlife Sanctuary (Natural Lands Trust) and the Minsi Lake Vernal Pools Preserve (The Nature Conservancy).

Natural Resources Plan

The Natural Resources Plan was developed as part of the *Comprehensive Plan The Lehigh Valley ... 2030* and identifies the important natural resource areas in the Lehigh Valley and how to preserve them. Eleven different natural resource components were used to produce the Natural Resources Plan: floodplains, hydric soils, the Blue Mountain natural area, *Natural Areas Inventory*, river resource areas, steep slopes, water quality, wetlands, woodlands, interior woodlands and riparian woodlands. The eleven elements were weighted and layered using a Geographic Information System (GIS). The calculations resulted in a range of values, with the higher numbers indicating where the greatest combination of natural resources occurs in the Lehigh Valley. Three conservation priority levels were created for the range of values. The three conservation priority areas total 80,411 acres in the County, with only 17% being protected to date.

Natural Resources Plan Conservation Priorities			
Conservation Priority	Description	Acreage	Protected Acreage
Very High	Areas that should be given first consideration for public and private conservation acquisition programs.	36,966	11,329
High	Areas that should also be considered for acquisition, especially if they are part of a larger natural feature identified as very high conservation priority. In some cases, such as floodplains and steep slopes, high priority areas might be adequately protected through municipal zoning.	16,044	1,191
Medium	Areas that should be protected through zoning regulations, conservation subdivision design and conservation farming practices. Many of these areas may include small stands of woodland or poorly drained soils that are either part of local farm operations or are part of larger residential lots.	27,401	1,271

Natural Resources Plan



Outdoor Recreation Resources

Northampton County residents have grown accustomed to high quality local and regional outdoor recreation sites that include parks, trails and natural areas. A number of municipalities have long been committed to their park systems and preservation of natural areas. Protecting the natural environment and creating public parks are a tradition resulting in outstanding places like Hugh Moore Park in the City of Easton and Monocacy Complex in the City of Bethlehem. The County has a wide variety of outdoor recreational opportunities—520 sites totaling 21,001 acres (8.7% of the County land area) that are owned by federal, state, County, municipal and private entities. The outdoor recreation sites are classified based on their function, a variation of the National Park and Recreation Association’s classification system adjusted to meet local needs. Of these sites, 87% are open to the public, with a small number of these (5%) that may have limitations to their use (e.g., private land with conservation easements, public school properties). The remaining 13% are not open to the public (e.g., homeowner’s association recreation areas, proposed parklands leased for farming, private school properties). Natural resource areas that do not have a recreation component are reported in the Natural Resources section of this chapter.

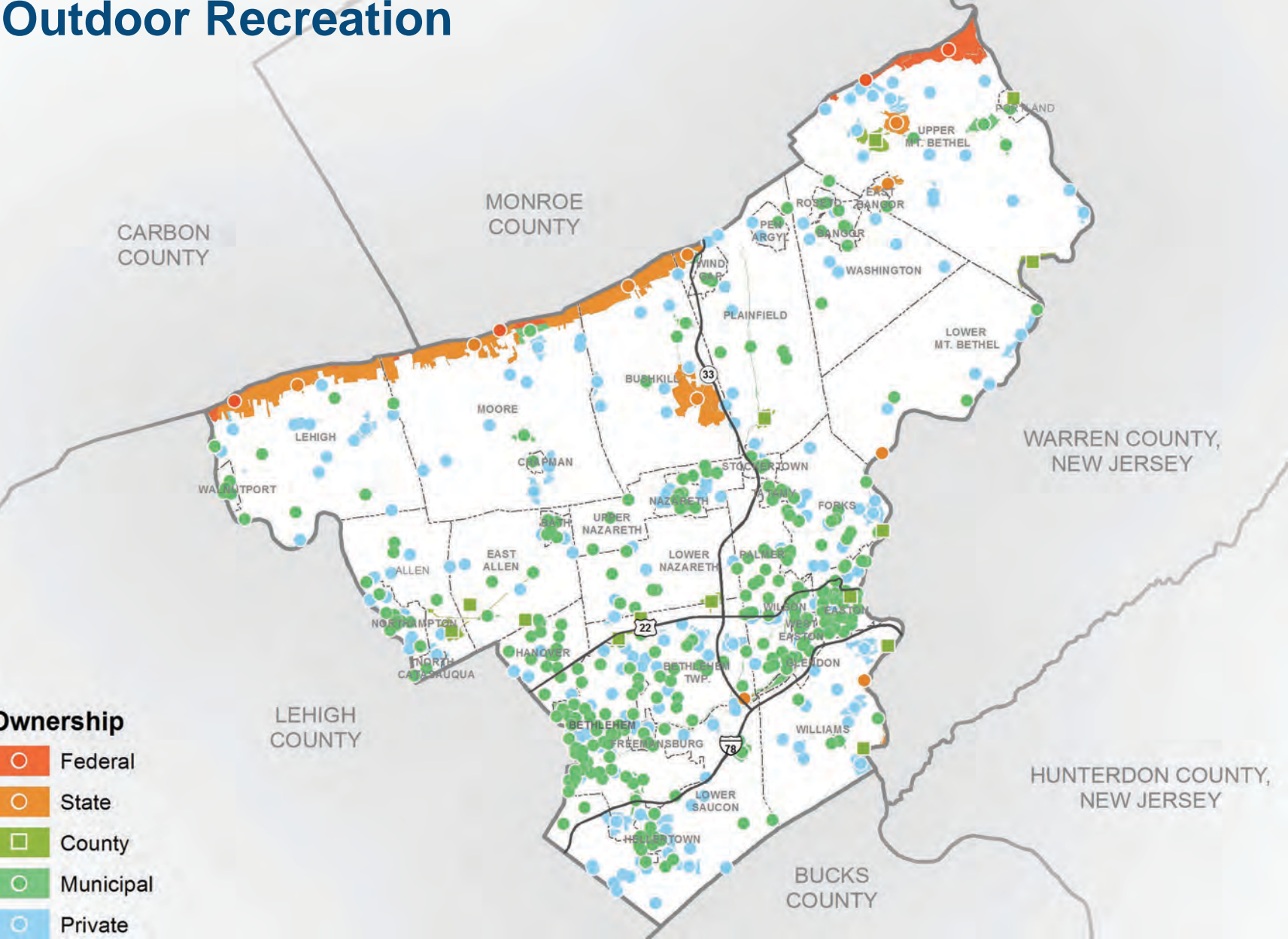
Owner	Number of Sites	Acres
Federal	2	1,738
State Game Lands	1	5,400
State Parks	2	1,282
Pennsylvania Fish & Boat Commission	4	460
County	14	957
Municipal	292	4,655
Private	205	6,509

Federal Resources

Delaware Water Gap National Recreation Area (DWGNRA) is a 70,000-acre park that stretches north to Interstate 84 in Pennsylvania and New Jersey and has approximately 1,200 acres in the northeastern part of the County. The DWGNRA provides nature and historic site experiences for visitors, featuring more than 100 miles of hiking trails along streams, ridges, and mountaintops and historic villages, structures, and landscapes from the colonial past. The Slateford Loop Trail, a 3.1 mile hiking and cross-country skiing trail located at the southern end of the park in the County, runs through a former slate quarry and farm.

Appalachian National Scenic Trail (A.T.) is a 2,185 mile long public footpath that traverses the scenic, wooded lands of the Appalachian Mountains. The trail was built by private citizens and completed in 1937. Currently the trail and its associated lands are managed by the National Park Service, U.S. Forest Service, Appalachian Trail Conservancy, numerous state agencies, and thousands of volunteers. The A.T. runs along the top of the Kittatinny Ridge, weaving for 54 miles between Northampton County and Monroe and Carbon counties to the north, primarily located within the County’s State Game Lands, but also runs through 525 acres of National Park Service trail lands and less than 3 acres of private land.

Outdoor Recreation



Park, Outdoor Recreation and Natural Area Classifications*

Classification	General Description	Location Criteria	Size Criteria
Mini-Park	Used to address limited, isolated or unique recreational needs, active or passive.	Less than a ¼ mile.	Less than 5 acres.
Neighborhood Park	Neighborhood park remains the basic unit of the park system and serves as the recreational and social focus of the neighborhood. Focus is on informal active and passive recreation.	¼ to ½ mile distance and non-interrupted by nonresidential roads and other physical barriers.	5 acres is considered minimum size; 5 to 10 acres is optimal.
School Recreation Area	These are the recreation and sports facilities associated with public and private schools.	Determined by location of school district property.	Variable—depends on function.
Community Park	Serves broader purpose than neighborhood park. Focus is on meeting community-based recreation needs, as well as preserving unique landscapes and open spaces.	Determined by the quality and suitability of the site. Usually serves two or more neighborhoods and ½ to 3 mile distance.	As needed to accommodate desired uses usually between 30 and 50 acres.
Large Urban Park	Large urban parks serve a broader purpose than community parks and are used when community and neighborhood parks are not adequate to serve the needs of the community. Focus is on meeting community-based recreational needs, as well as preserving unique landscapes and open spaces.	Determined by the quality and suitability of the site. Usually serves the entire community.	As needed to accommodate desired uses. Usually a minimum of 50 acres, with 75 or more acres being optimal.
Regional Park	Area of natural or ornamental quality for outdoor recreation, such as picnicking, boating, fishing, swimming, camping, and trail uses; may include play areas.	Several communities, approximately 1/2 hour driving time.	100 acres

Park, Outdoor Recreation and Natural Area Classifications*			
Classification	General Description	Location Criteria	Size Criteria
Passive Recreation	Parks that provide only passive recreation opportunities (e.g., walking, fishing) can be natural or in lawn, or a mix. Minimal facilities (e.g., benches) may be provided.	Variable	Variable
Green Space	Green areas with no facilities, usually owned by municipalities, including subdivision open space areas, urban parcels. Can be lawn or mix of lawn and natural.	Variable	Variable
Natural Resource Area	Lands set aside for preservation of natural resources, remnant landscapes, and visual aesthetics/buffering.	Resource availability and opportunity.	Variable
Greenway/Trail	Corridors of green space, with or without a trail.	Resource availability and opportunity.	Variable
Special Use	Covers a broad range of parks and recreation facilities oriented toward single-purpose use.	Variable—dependent on specific use.	Variable

*Variation of the National Park and Recreation Association's classification system adjusted to meet local needs.

Federal + State Resources

Delaware & Lehigh National Heritage Corridor and State Heritage Area (DLNHC) is a joint effort of private groups and interested citizens, county and municipal governments, the Commonwealth of Pennsylvania and the federal government to conserve cultural and natural resources in the five-county region of Pennsylvania that traverses the historic Delaware and Lehigh canals. Since the DLNHC’s designation by Congress in 1988 as a National Heritage Area, their mission has been to restore historic places, conserve green space for public use, and preserve and interpret our heritage to enhance life for generations to come. The DLNHC stretches 165 miles from Wilkes-Barre to Bristol, passing through five counties—Luzerne, Carbon, Lehigh, Northampton and Bucks. Fifteen municipalities in Northampton County along the Delaware or Lehigh rivers are within the corridor.

State Resources

Jacobsburg Environmental Education Center is 1,146 acres and provides programs for pre-school aged children to college students, focusing on the natural and cultural history of the park. The Henry Rifle was once made here, and the Jacobsburg National Historic District lies almost entirely within the park and gives visitors insight into a colonial gun manufactory. Henry’s Woods, an old growth forest, surrounds Bushkill Creek. There are 18.5 miles of trails for hiking, mountain biking and horseback riding. Other activities available in the park include picnicking, fishing, hunting and cross-country skiing.

Delaware Canal State Park is a 60-mile long towpath park, paralleling the Delaware River between Easton and Bristol, with 7 miles located in the County. The park consists of river islands, farm fields and historic towns. The Delaware & Lehigh Trail, designated as a National Recreation Trail, runs on the towpath once trod by mule teams pulling cargo-laden boats along the canal. Activities include hiking, biking, cross-country skiing, picnicking, canoeing, boating, fishing, hunting and education.

State Game Land #168 (SGL) is the largest outdoor recreation resource in the County, with 5,400 acres on the Kittatinny Ridge in four municipalities (Lehigh, Moore, Bushkill and Plainfield townships) and is part of nearly 1.5 million acres of SGLs across the state. The SGL is managed by the Pennsylvania Game Commission, whose mission is to manage Pennsylvania’s wild birds and mammals and their habitat for current and future generations. Lawful hunting and trapping are permitted during open seasons. The Appalachian Trail has most of its Northampton County alignment within the boundaries of the SGL.

Pennsylvania Fish and Boat Commission (PFBC) has four sites totaling 460 acres within the County, providing fishing and boating access at the East Bangor Dam, Rt. 33 Boat Access (Lehigh River), Sandt’s Eddy Boat Access (Delaware River), and Minsi Lake. Through a lease agreement with the PFBC, the County is responsible for light maintenance of the land surrounding Minsi Lake.

County Resources

In response to recommendations made by the LVPC, Northampton County started a major County-wide park program in the late 1960s. The County and the LVPC have been actively involved in park planning, acquisition and development ever since. In 1971, the LVPC completed the first *Regional Recreation and Open Space Plan* (updated in 1980). Subsequently, the LVPC staff prepared a parks plan in 2002—*Northampton County Parks – 2010*.

To help generate funds for park and open space projects, the Lehigh Valley Green Future Fund was created in 2000 to explore the possibility of bond issues in Northampton and Lehigh counties. The group, composed of local civic leaders and government officials, recommended that each county adopt a \$30 million bond issue. The monies from the bond would be used to: 1) acquire important natural areas, 2) create and improve parks, 3) enhance trail and greenway networks, and 4) preserve agricultural lands. In 2002, nonbinding referendums were put on the ballot and were strongly supported by voters in each county (64% in Northampton and 70% in Lehigh).

In 2010, the LVPC conducted a land use public opinion survey of 4,500 to 5,000 Lehigh Valley residents. This method, involving a mail-out/mail-back survey, was used successfully by the Commission in 1974, 1988 and 1999. All of these public opinion surveys were conducted in conjunction with updates to the *Comprehensive Plan*

for *Lehigh and Northampton Counties*. Results from the 2010 survey indicate a desire for more open space—73% strongly agreed or agreed that more parks, recreation facilities and open space should be acquired and/or developed in their county. The 2010 survey results, along with the support shown in the 2002 referendum, provides a clear vision of what the residents value about the Lehigh Valley—the long-term preservation of its natural and cultural heritage.

Northampton County owns 14 park and outdoor recreation sites totaling 957 acres, plus a lease agreement with the PFBC to maintain the 185 acres of land surrounding Minsi Lake. These sites range in size from 0.6 acre to 251 acres; are located in urban, suburban and rural areas; and include active and passive recreation opportunities. Two parks—Wayne A. Grube Memorial Park and the Diefenderfer Tract—are partially developed. In 2003, the County also acquired a property for future park space called the Gall Farm, which is not yet developed as a park. The County park and natural lands, summarized below, offer a wide variety of recreational opportunities for residents and tourists.

The primary focus of the County park system is to provide passive recreation opportunities. Active recreation facilities are available at some sites for use by groups renting pavilions or for general public use if available.

County Parks

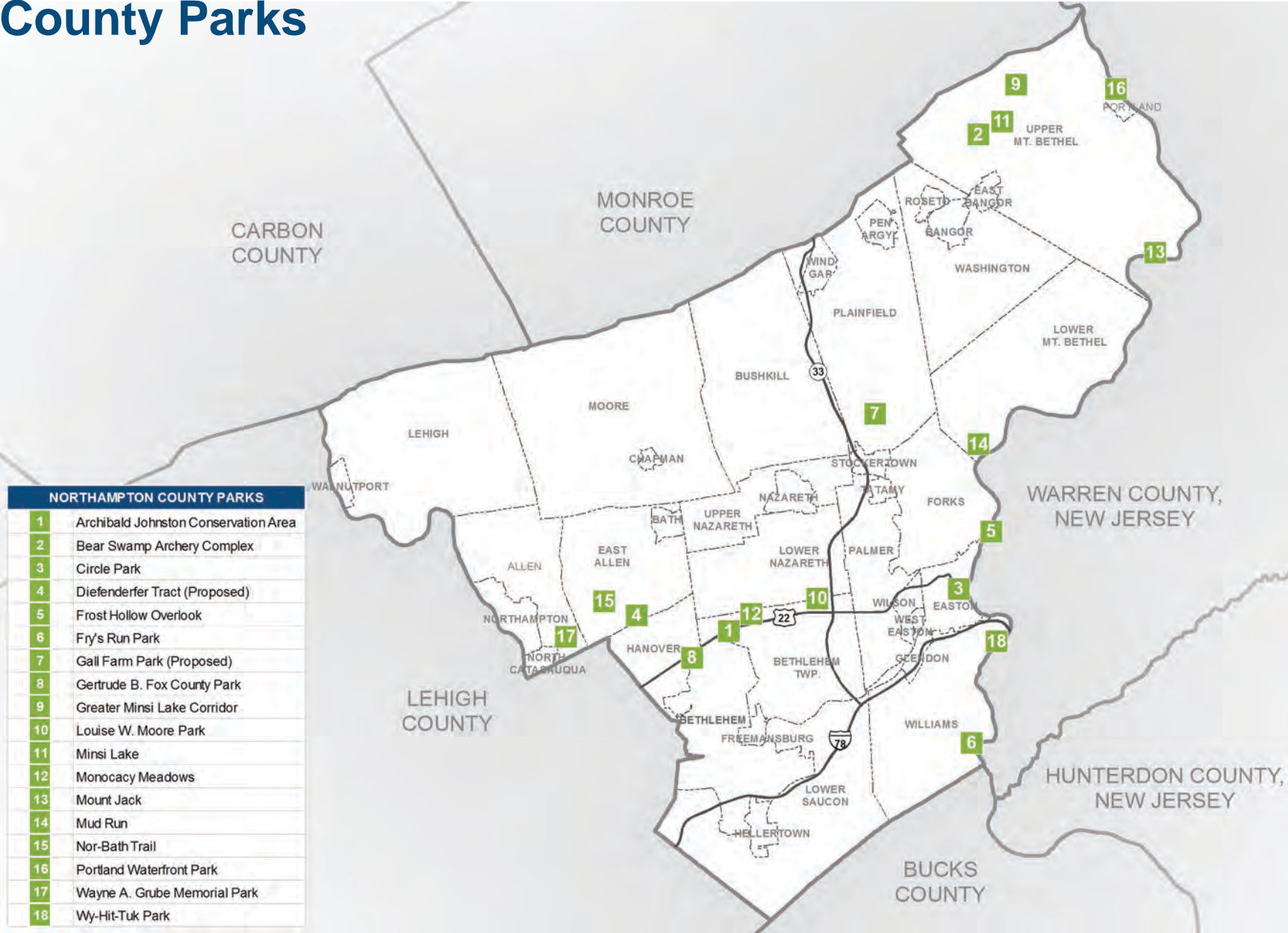




Photo courtesy of Teresa Mackey, LVPC

Archibald Johnston Conservation Area

Location:

Routes 22 and 191, Township Line and Santee Mill roads, Bethlehem Township and City of Bethlehem

Size/Classification:

48 acres/natural resource area

Description:

A wooded stream corridor along the Monocacy Creek. The site is mostly located within Dutch Springs Natural Heritage Area (State Significance) and is within the Monocacy Creek Greenway as identified in the LVGP. An active rail line runs along the stream and through the middle of the site. Facilities are minimal—an

unimproved former driveway along the stream is usable as a trail (but there is no parking at the entrance off Santee Mill Road) and an empty kiosk by the stream. Formal access is through the adjacent Bethlehem Township's Janet Johnston Housenick & William D. Housenick Memorial Park, a passive recreation park that is being developed.

Assessment:

The site is classified as a Natural Resource Area, but it does have a recreational component, although not formally developed—the streamside former driveway used as a trail. There is no signage indicating entrance to this County site when entering from the township park. Walk-in access is possible from Santee Mill Road on the former driveway. The original plan was to connect this site downstream to the Gertrude B. Fox County Park, which is less than one stream mile away, but the previous adjacent property owner was not interested at that time. Although ownership of this site may be transferred to Bethlehem Township in the future, connecting this site to the Gertrude B. Fox County Park would preserve the stream corridor as part of the Monocacy Creek Greenway.

Recommendations:

- Transfer the site to either Bethlehem Township or a land conservancy when the opportunity arises.
- Cooperate with Bethlehem Township and land conservancies in planning the conservation area component of this County site.
- Pursue discussions with the new property owner of the adjacent parcels to the west of the site to connect downstream to the Gertrude B. Fox County Park.



Photo courtesy of Teresa Mackey, LVPC

Bear Swamp Archery Complex

Location:

Lake Minsi Drive, Upper Mount Bethel Township

Size/Classification:

251 acres/regional park

Description:

An archery complex and natural area of woodlands, wetlands and a tributary to and the main stem of the East Fork Martins Creek. Bear Swamp and Bear Swamp Powerline Natural Heritage Area (State Significance) are partially located on the proper-

ty. The site lies within the Greater Minsi Lake Corridor Greenway as identified in the LVGP, is adjacent to two sportsmen's associations, and has a regional conceptual trail that crosses the park. Facilities include a loop boardwalk trail (approximately 0.5 mile); a wooden interpretive building used for environmental education located at the entrance to the trail; and archery facilities, which include a target range, the Hunt Course with a loop trail and picnic table, and the Olympic Field with a pavilion, grill, and tables for use by organized groups only with a permit (not limited to archery [e.g., Scouts use the area for camp]). Northampton County Federation of Sportsmen's Clubs previously helped with archery target set-up, but the targets have been vandalized and stolen over time and are no longer maintained.

Assessment:

This site is classified as a Regional Park geared toward nature-based recreational activities. Although part of the swamp is on County property and protected, a large portion remains in private ownership. To protect the swamp in its entirety and the Bear Swamp Natural Heritage Area as defined in the County *Natural Heritage Inventory*, more land would have to be added to this County site.

Recommendation:

- Cooperate with partners to acquire land adjacent to the southern boundary of the Bear Swamp Archery Complex and the part of the East Fork Martins Creek corridor that flows west from the swamp.



Circle Park

Location:

Centre Square, Northampton and 3rd streets, City of Easton

Size/Classification:

0.6 acre/special use

Description:

This park was the site of the first Northampton County courthouse, built in 1765 and demolished in 1862, on the steps of

which one of only three readings of the Declaration of Independence occurred on July 8, 1776. This historic event is celebrated each year on Easton’s Heritage Day, when the event is reenacted. The park also has several plaques commemorating other historic events. Currently, there is a Civil War monument, a 75-foot obelisk topped by what is locally called “The Bugler.” Formally named the Soldiers’ & Sailors’ Monument, the obelisk was designed to honor all of the armed forces who fought in the Civil War and was dedicated to local veterans in 1900. Each year, the monument is shrouded by a 100-foot Peace Candle, which is ceremoniously lit the Friday evening after Thanksgiving and remains on display through January. The park hosts the oldest, continuously operating outdoor farmers’ market (1791) in America. The park is surrounded by three greenways—Bushkill Creek Corridor, Lehigh River and Delaware River, lies within a National Register Historic District and a Local Historic District, and is along the Karl Stirner Arts Trail.

Assessment:

The park is located in Centre Square, a site that is integral to the City of Easton’s various cultural events throughout the year. Transferring the park to the City of Easton would put all of Centre Square into the City’s ownership, not just the outside perimeter.

Recommendation:

- Transfer ownership to the City of Easton should be considered.



Diefenderfer Tract (Proposed)

Location:

Airport and Hanoverville roads, Hanover Township

Size/Classification:

33 acres/community park

Description:

The land was donated to the County when the owner passed away for use as a park or farmer education site and was formally accepted by County Council in September 2008. The property is comprised of two parcels separated by a UGI right-of-way on the north side, where a local trail (conceptual) is aligned. Currently the land is leased for farming, except for a 1-acre community garden with 26 plots in the southeast corner of the property. The site is within an agricultural security area (ASA).

Assessment:

The property is too small and is too close to Wayne A. Grube Memorial Park to be a viable future regional park and is more the size of a community park. There are residential areas to the east and southeast. Incorporating a unique recreation facility (e.g., nature playground, disc golf course) that is currently not offered at regional parks is one option. Another option would be to expand on the community garden theme and start a farmer education facility (as was the original intent of the donation) modeled on The Seed Farm in Lehigh County, if the demand warrants a second facility in the Lehigh Valley.

Recommendation:

- Conduct a development alternatives study to determine the best use for the property.



Photo courtesy of Teresa Mackey, LVPC

Frost Hollow Overlook

Location:

Rt. 611, Forks Township

Size/Classification:

3 acres/passive recreation

Description:

Site consists of two non-adjacent wooded parcels along the Delaware River. The northern parcel has a scenic overlook of Delaware River, although the woods prevent an unobstructed view. The southern parcel has no access. An unnamed tributary of the Delaware River is along the northern boundary of the northern parcel. The site is in close proximity to Forks Township's Gollub Park. Facilities include one picnic table and one bench, eight parking spaces, and steps (railroad ties) down to the river. The site is located within the Delaware River Greenway and along the Delaware River Scenic Drive.

Assessment:

One of the drainage blocks in the parking area collapsed from the multiple storms from 2004 to 2006. This damage does not prevent use of the site but should be fixed to help with stormwater control.

Recommendations:

- Repair the damaged infrastructure.
- Transfer ownership to Forks Township should be considered.



Photo courtesy of Teresa Mackey, LVPC

Fry's Run Park

Location:

South Delaware Drive (Rt. 611) and Royal Manor Road, Williams Township

Size/Classification:

6 acres/passive recreation

Description:

A passive recreation park, partially wooded with a large open grassy area, along Fry's Run—a High Quality-Cold Water Fish-

ery/Migratory Fishery stream and designated as Class A Wild Trout Waters by the PFBC. The historic M. Opp Bridge, which is a stone bridge that was built in 1824 and a National Register of Historic Places Eligible site, is one of the oldest structures along the Delaware River. Facilities include four picnic tables, an observation deck, which is built around one of the two historical trolley piers, and two parking lots. Access to the western parking lot is only available during specific events, due to misuse by individuals causing a disturbance to neighbors. The park is within the Fry's Run Greenway, Delaware River Greenway, and Pennsylvania Highlands Scenic Greenway as identified in the LVGP.

Assessment:

Stream bank and riparian restoration was completed in early 2015, but a majority of the work was washed away during a summer storm in 2015. Picnic tables are old, weathered or warped. The park has historical features but with no educational material presented.

Recommendations:

- Add interpretive signage about the historical significance of the bridge and the trolley piers.
- Restore the historic M. Opp Bridge for preservation purposes and the safety of park visitors.
- Transfer ownership to Williams Township should be considered.



Photo courtesy of Teresa Mackey, LVPC

Gall Farm Park (Proposed)

Location:
Gall and Berhel roads, Plainfield Township

Size/Classification:
150 acres/regional park

Description:
The land was acquired by the County in 2003 to be developed into a regional park. The property—made up of four parcels, two north and two south of Gall Road—has farmland (leased), woodlands and the Little Bushkill Creek, with steep slopes on the

eastern side of the stream. Scenic views are available in almost all directions from the highest elevation on the largest parcel. Two old quarries exist on the site, one of which is surrounded by a chain link fence. The Plainfield Township Recreation Trail runs through the western part of the property. An agricultural easement is on the northeast side and an agricultural security area is located on the eastern side of the property. The site is partially within and adjacent to the Bushkill Creek Corridor Greenway. A transmission line runs through the property in a north/south direction. Two farm buildings are located on the largest parcel on the north side of Gall Road.

Assessment:
The southwestern portion of the property has gently sloping areas that could be used to develop more active recreation facilities. Also the highest elevation is gently sloping, possibly allowing for a scenic view area. To maintain the views, reforestation areas would have to be carefully located. The transmission line is not large scale and does not detract greatly from the setting. The riparian buffer along the Little Bushkill Creek is minimal in some areas. The site could potentially provide an active/passive County site readily accessible to residents in the northeast part of Northampton County.

Recommendations:

- Develop a master site plan for this property to guide the development of the Gall Farm as a regional park.
- Increase the riparian buffer width along the Little Bushkill Creek to 150 feet as needed.



Photo courtesy of Teresa Mackey, LVPC

Louise W. Moore Park

Location:
Country Club Road, Lower Nazareth and Bethlehem townships

Size/Classification:
100 acres/regional park

Description:
A regional park that is centrally located within the County, consisting of three parcels, two on the west side and one of the east side of Country Club Road that were donated by Hugh Moore, founder of Dixie Cup Company, on his death in 1972. A constructed 2-acre wetland exists on the western side, which was designed to treat stormwater runoff and to provide wildlife habitat and aesthetic enhancement for park users. A meadow area is maintained at the back of the western part. An agricultural se-

curity area is adjacent on the western side of the park. Facilities include one softball field, three tennis courts, two playgrounds, two sand volleyball courts, one grass volleyball court, fitness trail stations, four pavilions, loop trails, three water fountains, wildflower areas, and a windmill. The more active recreation facilities are located on the east side of Country Club Road.

Assessment:
Louise W. Moore Park is heavily used because of its central location within the County and its proximity to large population centers. On the west side of Country Club Road, although a wooded part of the park is separated from the main part by a narrow strip (35 feet) of non-County-owned land and no formal trail connection exists, park users use this wooded area. A lot of open lawn area exists on the western side, which has high maintenance costs for mowing. The County owns a parcel adjacent to the park along Country Club Road where the estate house is located. Renovations were started to convert the building to another use, possibly housing the County's Park and Recreation Division, but a moratorium was put on the construction in January 2015 by County Council until a definite plan for the reuse of the building was determined. The current maintenance facility at the park is inadequate and obsolete.

Recommendations:

- Naturalize more of the west side of the park by restoring woodlands.
- Complete restoration of the estate farmhouse to transition the County parks administrative staff to this location.
- Complete the site plan for a centralized park maintenance facility.
- Re-establish a planting buffer along Route 33 and Country Club Road.



Photo courtesy of Teresa Mackey, LVPC

Minsi Lake (owned by Commonwealth of Pennsylvania)

Location: Upper Mount Bethel Township, near intersections of Blue Mountain, Lake Minsi and East Shore drives.

Size/Classification: 302 acres/regional park

Description: A natural area of woodlands, wetlands and a 120-acre lake, which is owned by the Commonwealth of Pennsylvania. The

Pennsylvania Fish & Boat Commission (PFBC) manages the lake and the water structures. The County, under a lease agreement with the PFBC through December 1, 2020, maintains the land surrounding the lake. The site is located within the Greater Minsi Lake Corridor Greenway as identified in the LVGP. The Minsi Lake Vernal Pools Natural Heritage Area is partially located within the site on the north side of the lake. The southern boundary of the site abuts a regional trail, primarily at the conceptual stage but with a short existing segment on East Shore Drive approximately 0.2 mile east of Lake Minsi Drive. Facilities include two paved boat launches, parking facilities and two trails. One trail runs through the woods, around the north side of the lake, connecting the west and east parking lots. Another trail runs from the west parking lot through the picnic area and then along the dam wall. Portable toilets are typically available in season.

Assessment: The Minsi Lake dam is one of 23 Pennsylvania-owned dams that were, or currently are, considered as high-hazard and unsafe. Minsi Lake’s dam revitalization has an estimated repair cost of \$3.25 million and the funding source has not yet been identified. The project status on the PFBC website is listed as “Design and permitting initiated.” The pit toilets are not working, and the porta-potties are only available during fishing season.

- Recommendations:**
- Work with the PFBC to identify funding for the dam revitalization project to eliminate their safety issue.
 - Replace the pit toilets with modern facilities.



Photo courtesy of Teresa Mackey, LVPC

Monocacy Meadow

Location: Rt. 191 and Brodhead Road, Bethlehem Township

Size/Classification: 8 acres/passive recreation

Description: Meadow and woodlands along the Monocacy Creek, a High Quality-Cold Water Fishery, that provides fishing access for catch and release only as designated by the Pennsylvania Fish and Boat Commission. The site is adjacent to the Dutch Springs Natural Heritage Area to the west, within the Monocacy Creek Greenway as identified in the LVGP, and adjacent to the Bethlehem Township Trail Network (conceptual status at this location) along the southern boundary. No facilities are available, except a gravel parking lot for approximately 8 to 10 cars.

Assessment: Expansion potential is minimal, with roads located on the east and south sides and an active rail line on the west side of the site. The stream bisects the tract, restricting access to the northern portion. The parking lot is currently in poor condition.

Recommendations:

- Improve the condition of the parking area.
- Transfer ownership to Bethlehem Township should be considered.



Photo courtesy of Teresa Mackey, LVPC

Mount Jack

Location:

Riverton and River roads, Upper Mount Bethel Township

Size/Classification:

61 acres/natural resource area

Description:

A wooded bluff and banks along the Delaware River comprised of four non-contiguous parcels. The site is located within the Delaware River Greenway and partially within the Allegheny Creek

Greenway. Mill Creek and two unnamed tributaries of the Delaware River run through three of the parcels. The Martins-Jacoby Watershed Trail Network (conceptual stage at this location) is adjacent to two parcels and runs through a third parcel. The three westernmost parcels are partially within the Mount Jack Natural Heritage Area, State Significance. The easternmost parcel (27 acres), which is woods and farmland, is landlocked and is not accessible. The southernmost parcel, Doe Hollow, has river access but sustained damage during the storms from 2004 to 2006. Prior to storm damage, there was parking for 5 to 6 cars or 2 cars with trailers. Parking for one car is available on the west side of Riverton Road just north of the access road to the river.

Assessment:

Although there is a small area to park on the west side of Riverton Road near the southern parcel, the full potential of this site for river access is not being met until the repairs are made at this location. Access to the landlocked parcel could be attained through acquisition of land along River Road. This is potentially a good location for a riverfront park but similar township and private facilities are located 3 to 4 miles to the south (Lower Mount Bethel Township Recreation Complex and the PPL Martins Creek Environmental Preserve).

Recommendations:

- Complete the needed repairs to the southernmost parcel, Doe Hollow, to return the site to its full pre-storms use.
- Conduct a feasibility study to determine if a County-owned riverfront park is appropriate at this location.



Photo courtesy of Teresa Mackey, LVPC

Nor-Bath Trail

Location:

Clear Springs Road, Northampton Borough, through Allen Township, ending in East Allen Township, north of Jacksonville Park

Size/Classification:

5 mile length/greenway/trail

Description:

The Nor-Bath Trail is a rail-trail converted from the Northampton & Bath Railroad corridor that was incorporated by the Atlas Portland Cement Company in 1902. The railroad transported raw material to the cement plant and cement to metropolitan

markets. The trail is used for walking, biking, cross-country skiing and interpretive education. The entire trail is within the Nor-Bath Trail Greenway, the western end is in the Hokendauqua Creek Greenway, and the eastern end is in the Monocacy Creek Greenway, all identified in the LVGP. Three municipal recreational facilities and one County park (Wayne A. Grube Memorial Park) are adjacent to the trail. The Allen Township Trail (conceptual stage) and the East Allen Township Trail (proposed stage immediately adjacent and conceptual stage approximately 0.5 mile away) connect to this County trail. The trail crosses Dry Run and Catasauqua Creek. Parking is available at a trailhead on Savage Road and within the adjacent parks. The trail crosses through the Allentown Farm State Hospital National Historic District Eligible site and is adjacent to four agricultural security areas.

Assessment:

The County has renewed their efforts to connect the Nor-Bath Trail westward to the D&L Trail in Northampton Borough at the south end of Canal Street Park. The eastern end of the trail needs to be extended into Bath Borough to complete the trail as originally proposed. Signage, width and surfacing do not meet current design standards.

Recommendations:

- Complete the current efforts to connect the trail to the D&L Trail in Canal Street Park (Trail Gap #4, *Lehigh Valley Trails Inventory—2013*).
- Extend the trail eastward into Bath Borough.
- Improve the trail's signage, width and surfacing to meet current design standards.



Photo courtesy of Teresa Mackey, LVPC

Portland Waterfront Park

Location: Rt. 611, Portland Borough and Upper Mount Bethel Township

Size/Classification: 10 acres/passive recreation

Description: A wooded area along the Delaware River that provides walk-in access from Delaware Avenue in Portland Borough. The site is in two parts, separated by a privately-owned property that includes the original toll taker’s house—the part south of the Delaware River footbridge is publicly accessible, and the part north of the footbridge is not publicly accessible. Jacoby Creek’s mouth is located on the southern part of the site. The site is within the Delaware River Greenway and the Jacoby Creek Greenway as identified in the LVGP. The Martins-Jacoby Watershed Trail Network (conceptual stage), the Liberty Water Gap Trail (conceptual stage), the September 11th National Memorial Trail (conceptual), and the Delaware River Water Trail (open for use) are adjacent to the park. An active rail line is adjacent to the western

side of the site. Facilities include two picnic tables south of the footbridge. No parking is available onsite, but is available along North Delaware Drive, and there is no ability to create parking because there is an active Norfolk Southern rail line between Delaware Drive and the park, and only pedestrian crossing is allowed.

Assessment: To enter the park, users must cross an active Norfolk Southern rail line at the Delaware River footbridge, which is the only crossing that Norfolk Southern has approved. This entrance area is on private property, which also separates the two County-owned parcels and restricts public access to the southern part. A location that could provide better canoe and kayak access is at the southern end of the park, but there are a few issues with this location: 1) The old driveway on the south side of the vacant building at the south end of Portland Borough (previously Cramer’s Home Center) provides access to the park, but it is on private land. 2) At the end of the driveway, the active rail line must be crossed, which Norfolk Southern would have to grant approval for a vehicle crossing. 3) The area that is not wooded is not part of the park and is the road right-of-way for the Rt. 611 bridge.

Recommendations:

- Pursue access easements to cross the privately-owned property to access the northern part of the park.
- Cooperate with the development efforts for the Liberty Water Gap Trail and the September 11th National Memorial Trail, which crosses from New Jersey on the footbridge and is proposed to head north toward the Delaware Water Gap.
- Explore the feasibility of creating a vehicle entrance and parking lot south of the park on the Delaware River Joint Toll Bridge Commission property.
- Install a County park sign to let the public know the park exists.
- Transfer ownership to Portland Borough and/or Upper Mount Bethel Township should be considered.



Photo courtesy of Teresa Mackey, LVPC

Wayne A. Grube Memorial Park

Location: Willow Brook and East Bullshead roads, Allen and East Allen townships

Size/Classification: 202 acres/regional park

Description: The 1997 master site plan for this park recommended developing the park in nine phases to be similar to Louise W. Moore Park. The total cost was expected to exceed \$8 million. Approximately 55 acres of this 202-acre park site have been developed (Phases I and II) and are open for public use. The park is being

reforested in certain areas (fenced to prevent deer damage). The Catasauqua Creek flows through the southern part of the park (south of Bullshead Road). Catasauqua High School is adjacent to the park. The park is partially within the Nor-Bath Trail Greenway as identified in the LVGP. The park is within the old Allentown Farm State Hospital property and adjacent to the 1813 Farmstead, both of which are National Register of Historic Places – Eligible sites. Two small (9.5 and 13 acres) agricultural security areas are adjacent to the park. Facilities include a connection to the Nor-Bath Trail, a trail connecting the southern part with the northern part via a bridge over the creek, three picnic pavilions, playgrounds and a softball field. Modern restrooms are open April through October.

Assessment: Only two of the nine phases of the park development have been completed to date. The amount developed is considered the size for a larger community park, so the park currently is not fulfilling the role of a regional park. Once the remaining phases are completed, the park will be functioning as a regional park and fill the service area gap in the western part of the County. When visiting the park, the reason for the fenced reforestation area was not obvious. Signage could help explain to the public the reason for this.

Recommendations:

- Complete Phases 3 through 9 at Wayne A. Grube Memorial Park.
- Add an interpretive sign describing the fenced reforestation area.



Photo courtesy of Teresa Mackey, LVPC

Wy-Hit-Tuk Park

Location:
Rt. 611, Williams Township

Size/Classification:
22 acres/community park

Description:
A community park located along the Delaware Canal. The site is within the Delaware River Greenway as identified in the LVGP. The park provides access to the 60-mile long Delaware Canal State Park and the D&L Trail on the north and south ends of the park. Access to a Department of Conservation and Natural Resources maintenance area adjacent to the north side of the park is through the park’s entrance. Facilities include a pavilion, picnic tables, grills, playground, sand volleyball court, five campsites (individuals by reservation, groups by permit only), canal canoe ramp, a stage, restrooms (open April through October). The pavilion and stage are an adaptive reuse of aggregate bins that remained from the previous owner.

Assessment:
The kiosk at the park indicates that there is a self-guided nature trail, but this no longer exists. The chain link fence that is along the side of the park adjacent to Rt. 611 for safety reasons is not very aesthetically pleasing.

- Recommendations:**
- Replace the chain link fence along the road with more aesthetically pleasing fencing or shrubs.
 - Remove the “Nature Trail” reference from the park kiosk.

Regional Parks Outside of Northampton County

Several regional parks exist in neighboring counties, including federal, state (Pennsylvania and New Jersey), county and municipal facilities, that provide outdoor recreation opportunities for Northampton County residents.

Federally-owned nearby outdoor recreation sites include the majority of the National Park Service’s 70,000 acre **Delaware Water Gap National Recreation Area**, located in Monroe and Pike counties, Pennsylvania, and in Warren and Sussex counties, New Jersey, and described in more detail under the Federal heading at the beginning of the Outdoor Recreation Resources section. The U.S. Fish and Wildlife Service has the **Cherry Valley National Wildlife Refuge**, located in Monroe County, which was established in December 2008 for the conservation of migratory birds and federal trust species (i.e. migratory birds, threatened species, endangered species, inter-jurisdictional fish, marine mammals, and other species of concern) and their habitats. The lands and waters of Cherry Valley have been widely recognized for their valuable natural resources. These include a diverse mosaic of wetland and upland habitats that support an unusually large number of federal trust species, including five federally listed threatened or endangered species. The Kittatinny Ridge (which flanks the south side of Cherry Valley) has been designated an Important Bird Area by the Pennsylvania Audubon Society and is a well-known migration flyway for up to 20,000 migrating raptors and more than 140 bird species every fall. Large blocks of unfragmented forest along the ridge also serve as valuable breeding areas for interior forest birds.

The Pennsylvania state park system has several parks within 25 miles of the County boundary, with the two closest being Beltsville State Park and Nockamixon State Park. **Beltsville State Park** is 3,000 acres and is located in Carbon County in the southern foothills of the Poconos. Pohopoco Creek, an excellent trout stream, feeds

the 949-acre Beltsville Lake, which is a rest stop for migrating waterfowl and is a destination for boaters and anglers. The sand beach and picnic pavilions are very popular. Recreational facilities are a result of a cooperative effort of the U.S. Army Corps of Engineers, the Department of Conservation and Natural Resources – Bureau of State Parks and the Pennsylvania Game Commission. **Nockamixon State Park** is almost 5,300 acres and is located in the rolling hills of Bucks County. Tohickon Creek, Three Mile Run and Haycock Run feed the 1,450-acre Lake Nockamixon, which is a rest stop for migrating waterfowl and a destination for boaters and anglers. Visitors can stay the night in a cabin or enjoy the many activities of the park for the day. Popular activities are picnicking, visiting the pool, hiking, biking, fishing and boating. Across the Delaware River, New Jersey offers several state parks, state forests and recreation areas that are within driving distance for Northampton County residents, with the closer ones being Worthington State Forest, Jenny Jump State Forest, Allamuchy Mountain State Park, Stephens State Park, Voorhees State Park, Spruce Run Recreation Area, and Round Valley Recreation Area.

To the west in Lehigh County, county- and municipally-owned parks offer regional outdoor recreational opportunities, such as Trexler Nature Preserve, Walking Purchase Park, South Mountain/Robert Rodale Reserve, and the Little Lehigh Parkway.

Municipal + School District Resources

Local parks are where most residents participate in outdoor recreation activities, as reported in the results of the survey conducted for this Plan, and providing these close-to-home facilities is the responsibility of the municipalities. These facilities, often located at municipal office properties, are the primary source for active recreation opportunities compared to the passive recreation that is often provided by county and state parks. School district facilities also provide close-to-home recreation opportunities, such as playgrounds

and athletic fields, and may be available to the public when not in use by the school.

Municipal parkland totaling 4,655 acres can be found in all 38 Northampton County municipalities, ranging in size from less than one-half acre to more than 200 acres. The primary park uses in many municipalities are active recreation, such as athletic fields, court sports and playgrounds, but there are many that provide passive recreational activities, serve to protect natural resource features or are being held for a future municipal park or facility. Some of the larger city-owned parks and recreational facilities are often used on a regional basis. Public school recreational facilities within the eight school districts, totaling 515 acres, are located throughout the County.

Private Resources

Another component of the park system is outdoor recreation facilities and natural areas provided by private nonprofit and for-profit organizations and businesses. Public access to these facilities may or may not exist. Some of the specialized recreation opportunities play an important role in meeting the outdoor recreation needs of County residents that cannot be met by other providers.

Private parkland and natural area lands totaling 6,509 acres with an outdoor recreation component can be found in all 38 Northampton County municipalities, ranging in size from 0.3 acre to more than 387 acres. These facilities include golf courses, mini-golf, rod and gun clubs, camps and campgrounds, picnic groves, preserves, reservoir lands, clubs (e.g., boat, racquet, fishing), athletic associations and facilities located on church, private school, homeowner association lands, corporation/industrial parklands, and individual landowners that have conservation easements on their properties.

Conservation easement lands and land trust lands account for 28% of private parklands in the County. Land trust organizations operating in the County include Wildlands Conservancy, Heritage Conservancy, Natural Lands Trust and The Nature Conservancy. Conservation easements protect land for the future while allowing owners to retain many private property rights and to live on and use their land. In a conservation easement, a landowner agrees to sell or donate certain rights associated with his or her property—often the right to subdivide or develop—and a private organization or public agency agrees to hold the right to enforce the landowner’s promise not to exercise those rights. If the conservation easement is funded with grants from public agencies, some extent of public access is part of the grant agreement.

Outdoor Recreation Acreage Guidelines

The National Recreation and Park Association (NRPA), formed in 1965, is dedicated to the advancement of public parks, recreation and conservation. The NRPA’s mission is to advance parks, recreation and environmental conservation efforts that enhance the quality of life for all people. Part of their effort over the past few decades has been to provide guidance on the amount of park and recreation acreage and the number of facilities that are needed for a community.

In 1971, the organization published the *National Park, Recreation and Open Space Standards*, edited by Robert D. Buechner, which helped guide park and recreation professionals in providing these facilities to their communities. In 1983, the document was updated and published as *Recreation, Park and Open Space Standards and Guidelines*, written and edited by Roger A. Lancaster. These guidelines suggested that a park system have 6.25 to 10.5 acres of developed open space per 1,000 persons. Standards were also provided for specific facilities and service areas. These guidelines were subsequently updated in the 1996 *Park, Recreation, Open Space and Greenway Guidelines* by James D. Mertes, Ph.D., CLP and

James R. Hall, CLP. This resource advocates a systems approach to park and open space planning, using a level of service guideline that is needs-based, facilities driven and land measured. Although this analysis would still be based on providing a specific recreation acreage per 1,000 persons, an essential component of this analysis included community involvement, which allows communities and municipalities to quantify the minimum acceptable amount of parkland to accommodate the recreation facilities desired by their residents. In the past few years, NRPA has developed a new tool for parks and recreation planning known as PRORAGIS (Parks and Recreation Operating Ratio and Geographic Information System), which allows users to compare themselves to departments that they identify as similar to themselves from across the country. Users complete an on-line survey that captures data about their agency and its responsibilities and then are able to analyze their data and compare themselves to individual agencies or aggregated groups of agencies.

The older NRPA acreage guidelines are often still used because of their simplicity. Communities may not have the resources or capacity to complete a level of service analysis or use the PRORAGIS system. In the current *Northampton County Parks* plan adopted in 2002, the 6.25 to 10.5 acres per 1,000 persons for local, close-to-home facilities and 15 to 20 acres for regional space was used for analysis purposes, and recommendations were made based on these results. Several county park, recreation and open space plans, local and from across Pennsylvania, were reviewed to compare how acreage needs were addressed. There was little consistency among the plans with the numbers used or how they were used (e.g., local versus regional, county parks as local or regional).

The basic process used in this Plan for the municipal park acreage analysis is the same that was used in the current park plan—the park acreages for each municipality were totaled and divided by the municipality’s population. Two components that did change are what park acreages and classifications are included. In addition to

the park acreage within the municipality being counted toward that municipality’s acreage amount, park acreage for any sites that are partially within or immediately adjacent to that municipality’s boundary are included. This was to account for cases where the closest park to a resident may be a park adjacent to their own municipality. The current park acreage per 1,000 population was also calculated for 2020, 2030 and 2040 using LVPC’s population forecasts. Using the acreage guidelines in the current plan as a point of reference, seven boroughs, the two cities and three townships do not meet the lower threshold of 6.25 acres/1,000 population for 2010, which is the most recent year for the U.S. Census.

A second municipal park acreage analysis included more park classifications, adding regional parks, trails and most special use facilities. This analysis expands the idea that the close-to-home park that residents use (e.g., state park or a fishing site) may not fall within the standard close-to-home park classifications (e.g., neighborhood park). With these results, no municipality In Northampton County is below the lower threshold of 6.25 acres/1,000 population, with only two municipalities less than 10.5 acres/1,000 population for 2010 and six municipalities less than the upper threshold of 10.5 acres/1,000 population in 2040.

Since the analysis for this Plan was not conducted with the same parameters as the 2002 park plan, a direct comparison cannot be made, although the first analysis results above may have some similar trends for municipalities that do not have parks available from neighboring municipalities. As stated earlier, the objective of each municipality should be to gather information from their residents about what park and outdoor recreation facilities the community desires and acquire and/or develop the parkland needed to provide these opportunities.

At a County-wide perspective, the close-to-home park acreage result is slightly above the minimum 6.25 acres/1,000 population at 6.7. If

Close-to-Home Park Acreages by Municipality

Municipality	Park Acreage ¹	2010		2020		2030		2040	
		Population ²	Acres/ 1,000 Pop.	Population ³	Acres/ 1,000 Pop.	Population ³	Acres/ 1,000 Pop.	Population ³	Acres/ 1,000 Pop.
Allen Township	22	4,269	5	5,433	4	6,821	3	8,195	3
Bangor Borough	44	5,273	8	5,765	8	6,310	7	6,985	6
Bath Borough	28	2,693	10	2,776	10	2,855	10	2,967	9
Bethlehem City	311	55,639	6	57,970	5	62,092	5	67,007	5
Bethlehem Township	79	23,730	3	26,116	3	29,323	3	32,917	2
Bushkill Township	76	8,178	9	10,065	8	11,119	7	11,955	6
Chapman Borough	1	199	7	154	9	165	8	177	8
East Allen Township	70	4,903	14	5,937	12	6,381	11	6,861	10
East Bangor Borough	28	1,172	24	1,359	21	1,570	18	1,820	15
Easton City	103	26,800	4	28,295	4	30,801	3	33,858	3
Forks Township	129	14,721	9	16,709	8	19,308	7	22,186	6
Freemansburg Borough	10	2,636	4	2,649	4	2,666	4	2,714	4
Glendon Borough	22	440	51	396	56	431	52	474	47
Hanover Township	162	10,866	15	12,125	13	13,657	12	15,446	10
Hellertown Borough	216	5,898	37	6,006	36	6,170	35	6,429	34
Lehigh Township	114	10,526	11	11,544	10	12,417	9	13,350	9
Lower Mount Bethel Township	41	3,101	13	3,845	11	4,691	9	5,654	7
Lower Nazareth Township	38	5,674	7	7,343	5	9,353	4	10,995	3
Lower Saucon Township	76	10,772	7	12,336	6	13,840	6	15,488	5
Moore Township	146	9,198	16	11,471	13	13,545	11	15,120	10
Nazareth Borough	57	5,746	10	5,984	10	6,293	9	6,689	9
North Catasauqua Borough	4	2,849	2	3,088	1	3,347	1	3,664	1
Northampton Borough	55	9,926	6	10,135	5	10,415	5	10,829	5
Palmer Township	233	20,691	11	22,450	10	24,567	9	27,092	9
Pen Argyl Borough	30	3,595	8	3,938	8	4,327	7	4,815	6
Plainfield Township	37	6,138	6	7,563	5	9,120	4	10,212	4
Portland Borough	5	519	10	643	8	793	7	976	6
Roseto Borough	7	1,567	4	1,798	4	2,064	3	2,391	3
Stockertown Borough	5	927	5	1,141	4	1,396	3	1,708	3
Tatamy Borough	11	1,203	9	1,406	8	1,646	6	1,941	5
Upper Mount Bethel Township	123	6,706	18	8,083	15	9,612	13	11,332	11
Upper Nazareth Township	89	6,231	14	6,843	13	7,598	12	8,485	10
Walnutport Borough	9	2,070	4	2,177	4	2,284	4	2,419	4
Washington Township	82	5,122	16	6,769	12	8,159	10	8,772	9
West Easton Borough	3	1,257	2	1,364	2	1,481	2	1,623	2
Williams Township	56	5,884	10	6,744	8	7,519	8	8,084	7
Wilson Borough	158	7,896	20	8,015	20	8,139	19	8,361	19
Wind Gap Borough	36	2,720	13	3,082	12	3,492	10	3,988	9

¹Acreage is any park within or intersecting the boundary of a municipality. Includes Large Urban, Community, Neighborhood and Mini-Parks and open to the public. No proposed Community Parks or Neighborhood Parks are included.

²U.S. Census Bureau, 2010 Decennial Census

³Lehigh Valley Planning Commission, *Population Projections for Lehigh and Northampton Counties: 2010-2040*, July 2012

Close-to-Home “Plus” Park Acreages by Municipality

Municipality	Park Acreage ¹	2010		2020		2030		2040	
		Population ²	Acres/ 1,000 Pop.	Population ³	Acres/ 1,000 Pop.	Population ³	Acres/ 1,000 Pop.	Population ³	Acres/ 1,000 Pop.
Allen Township	323	4,269	76	5,433	59	6,821	47	8,195	39
Bangor Borough	66	5,273	13	5,765	11	6,310	10	6,985	9
Bath Borough	34	2,693	13	2,776	12	2,855	12	2,967	11
Bethlehem City	676	55,639	12	57,970	12	62,092	11	67,007	10
Bethlehem Township	944	23,730	40	26,116	36	29,323	32	32,917	29
Bushkill Township	1,444	8,178	177	10,065	143	11,119	130	11,955	121
Chapman Borough	176	199	886	154	1,145	165	1,069	177	996
East Allen Township	198	4,903	40	5,937	33	6,381	31	6,861	29
East Bangor Borough	28	1,172	24	1,359	21	1,570	18	1,820	15
Easton City	624	26,800	23	28,295	22	30,801	20	33,858	18
Forks Township	479	14,721	33	16,709	29	19,308	25	22,186	22
Freemansburg Borough	76	2,636	29	2,649	29	2,666	28	2,714	28
Glendon Borough	275	440	626	396	696	431	639	474	581
Hanover Township	370	10,866	34	12,125	30	13,657	27	15,446	24
Hellertown Borough	255	5,898	43	6,006	42	6,170	41	6,429	40
Lehigh Township	473	10,526	45	11,544	41	12,417	38	13,350	35
Lower Mount Bethel Township	53	3,101	17	3,845	14	4,691	11	5,654	9
Lower Nazareth Township	276	5,674	49	7,343	38	9,353	29	10,995	25
Lower Saucon Township	337	10,772	31	12,336	27	13,840	24	15,488	22
Moore Township	913	9,198	99	11,471	80	13,545	67	15,120	60
Nazareth Borough	63	5,746	11	5,984	11	6,293	10	6,689	9
North Catasauqua Borough	179	2,849	63	3,088	58	3,347	53	3,664	49
Northampton Borough	286	9,926	29	10,135	28	10,415	27	10,829	26
Palmer Township	706	20,691	34	22,450	31	24,567	29	27,092	26
Pen Argyl Borough	30	3,595	8	3,938	8	4,327	7	4,815	6
Plainfield Township	270	6,138	44	7,563	36	9,120	30	10,212	26
Portland Borough	16	519	30	643	25	793	20	976	16
Roseto Borough	29	1,567	19	1,798	16	2,064	14	2,391	12
Stockertown Borough	104	927	112	1,141	91	1,396	75	1,708	61
Tatamy Borough	24	1,203	20	1,406	17	1,646	15	1,941	12
Upper Mount Bethel Township	2,308	6,706	344	8,083	286	9,612	240	11,332	204
Upper Nazareth Township	94	6,231	15	6,843	14	7,598	12	8,485	11
Walnutport Borough	156	2,070	76	2,177	72	2,284	68	2,419	65
Washington Township	166	5,122	32	6,769	25	8,159	20	8,772	19
West Easton Borough	8	1,257	7	1,364	6	1,481	6	1,623	5
Williams Township	440	5,884	75	6,744	65	7,519	58	8,084	54
Wilson Borough	270	7,896	34	8,015	34	8,139	33	8,361	32
Wind Gap Borough	37	2,720	14	3,082	12	3,492	11	3,988	9

¹Close-to-Home “Plus” — Mini-Parks, Neighborhood Parks, Community Parks, Large Urban Parks, Regional Parks, Trails and most Special Use facilities.

²U.S. Census Bureau, 2010 Decennial Census

³Lehigh Valley Planning Commission, *Population Projections for Lehigh and Northampton Counties: 2010-2040*, July 2012

all the close-to-home proposed parklands are developed, the acreage increases to 7.4 per 1,000 population. But even at this level, the park acreage/1,000 population in 2040 would only be 5.5 per 1,000 population. Parks that are partially developed are classified to their current use. For example, a community park that is being built in phases may initially be classified as Special Use because the only facilities at the park are athletic fields. As additional facilities are added in future phases, the classification is changed to Community Park, which is a close-to-home category, and increases the close-to-home park acreage to meet the demand of future population increases.

For regional sites, the analysis was first conducted on currently existing park acreage (3,394 equals 11.3 acres/1000 population) and then with all the currently proposed parkland (Greater Minsi Lake Corridor, 545 acres; Wayne A. Grube Memorial Park, 202 acres and Gall Farm, 149 acres) developed (4,291). The 2002 plan used a park acreage guideline of 15 to 20 acres/1,000 population for the regional classification. A review of several Pennsylvania county park, recreation and open space plans revealed a variety of regional acreage guidelines and definitions of what is considered regional. For this Plan, the County parklands greater than 100 acres were considered regional, along with the federal National Recreation Area, the two state parks, and a city-owned park that functions as a regional park. The results of the analysis indicate that the County does not have enough regional park acreage for all years reported even if all proposed sites are developed using the current plan's standard of 15 to 20 acres/1,000 population of regional park space. Note that acquisition projects currently proposed would add over 1,000 acres to regional outdoor recreation space and lessen the need for additional acquisitions to meet minimum standards.

Various service area analyses were also conducted for close-to-home, County-owned and regional park and outdoor recreation sites to see the geographic coverage of outdoor recreation facilities. Service areas were based on: 1) NRPA Location Criteria distances

from the 1996 guidelines for the Mini-Park, Neighborhood Park and Community Park classifications, and 2) LVPC staff input for the Large Urban Park, Regional Park and Regional-Park-Lake classifications.

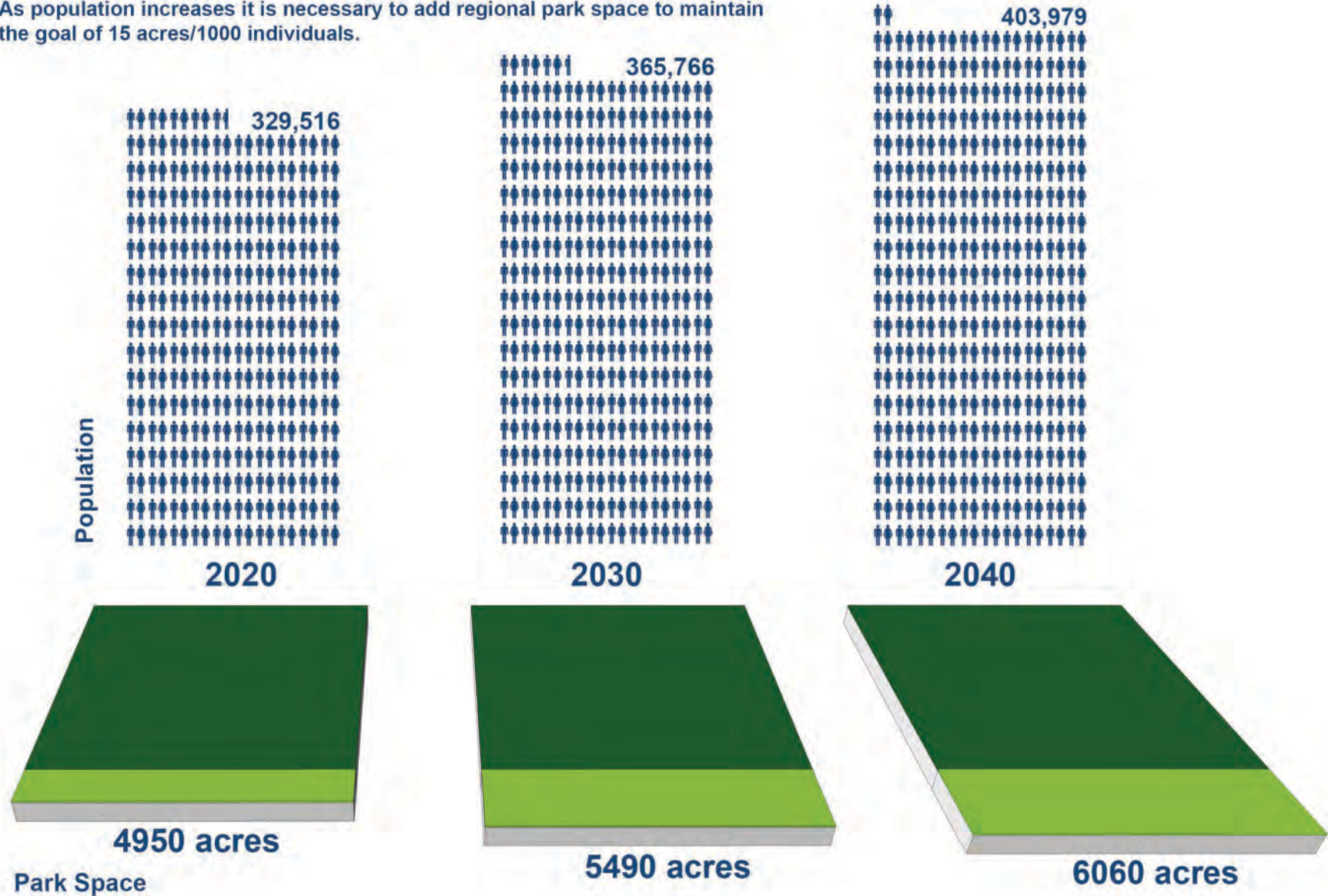
The close-to-home parks analysis revealed four areas—eastern Lehigh/western Moore townships, northern Upper Mount Bethel, southern Plainfield/western Lower Mt. Bethel townships and southern Williams Township—that were not covered by the service areas. The northern parts of the eastern Lehigh/western Moore townships and the Upper Mt. Bethel Township area is dominated by the Kittatinny Ridge and would not be a suitable location for close-to-home park space. Also, Plainfield Township is in the process of developing a community park that would fill part of the Plainfield/Lower Mt. Bethel townships gap once completely built out.

County-owned park sites were mapped using the same service area size criteria, adding Regional (10 miles) and Regional-Lake (20 miles) classifications. Mini-Parks were omitted because no County parks sites are classified as Mini-Parks. Service area size was assigned based on existing function classification, not future function classification (e.g., Wayne A. Grube Memorial Park currently functions as a community park until park buildout is complete). The three existing County regional parks were also sub-classified as family active/passive, Louise W. Moore Park, or passive, Bear Swamp Archery Complex and Minsi Lake. The County-owned park site service area analysis revealed that the northwest, northeast and very southern parts of the County are not served by Louise W. Moore Park. Also, the Minsi Lake service area covers most of the County except the far western and southern parts. The northwest part of the County will be covered by a County regional family active/passive park site once Wayne A. Grube Memorial Park, located primarily in Allen Township, is built out to a stage to be classified as a regional park. Most of the northeastern part will be served once Gall Farm, located in Plainfield Township, is developed as a family active/passive regional park. The southern tip of the County is served by surrounding

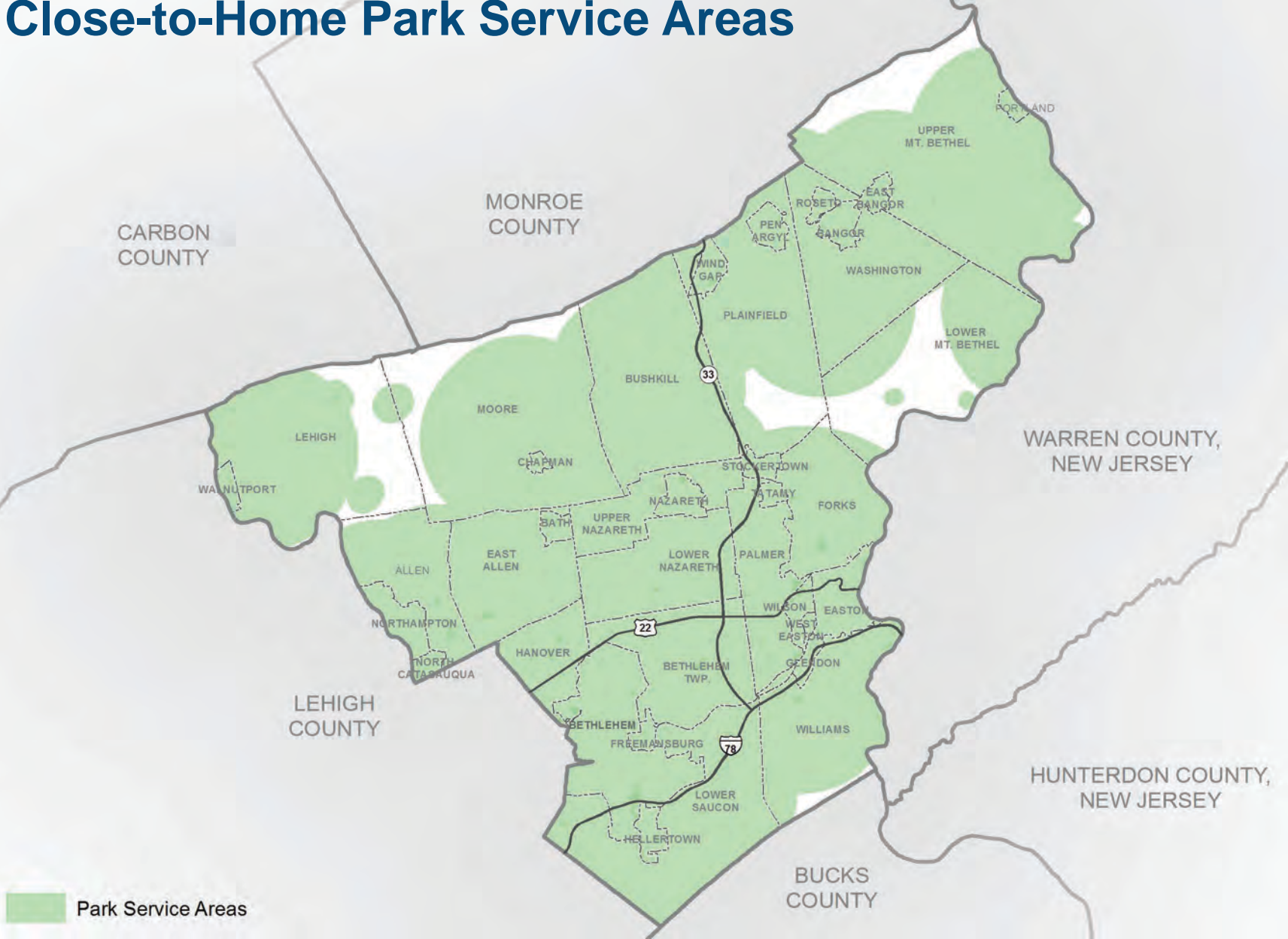
Maintaining Open Space Goals with Population Growth

Northampton County currently has 4291 acres of existing + proposed regional park space, which is equivalent to 11.3 acres/1000 individuals.

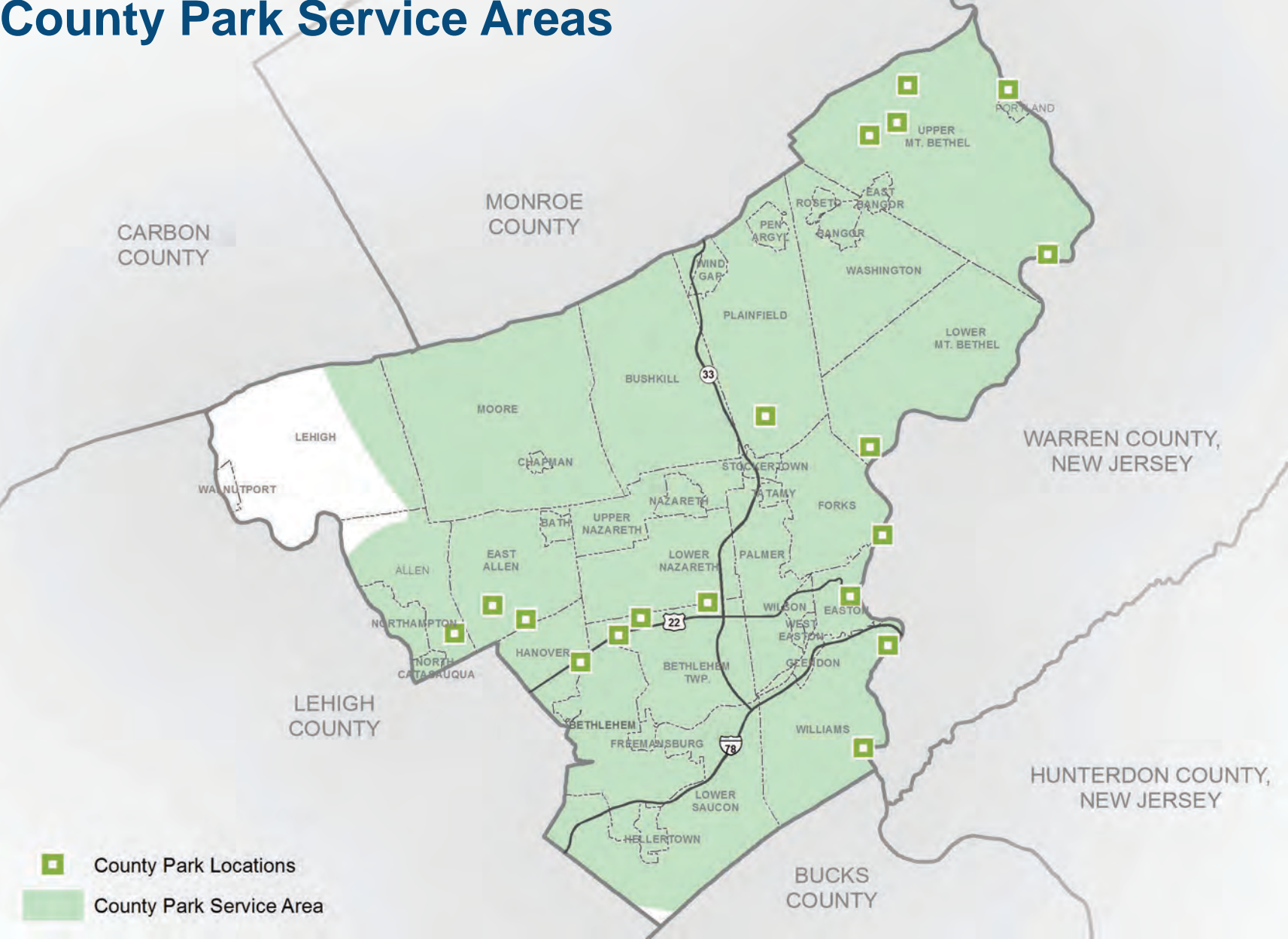
As population increases it is necessary to add regional park space to maintain the goal of 15 acres/1000 individuals.



Close-to-Home Park Service Areas



County Park Service Areas



municipal active park sites and regional passive parks (Nockamixon State Park) in Bucks County.

Recommendations:

To fill service area gaps and meet overall County park acreage standards, the following general recommendations are provided. Recommendations related to specific County facilities are provided in the County Resources section of this chapter:

- Municipalities with close-to-home park service area gaps (southern Plainfield and western Lower Mt. Bethel townships area, eastern Lehigh/western Moore townships, northern Upper Mount Bethel Township and southern Williams Township) should finish developing existing parks or acquire and develop new parks to fill the areas currently not served by community parks if supported by a residents' needs analysis.
- Municipalities should gather information from their residents about what park and recreation the community desires and acquire and/or develop the parkland needed to provide these opportunities.
- Work with federal and state partners to create additional regional parkland of at least 660 acres by 2020, 1,200 acres by 2030 and 1,770 acres by 2040, in addition to the currently proposed parks sites, to increase the regional park acreage to reach or exceed 15 acres/1,000 population. Note that acquisition projects currently proposed would add over 1,000 acres to regional outdoor recreation space. Regional space above the minimum standard is desirable to enhance resident's quality of life and economic benefits.

Transportation Linkage

Our regional park space, in effect, is also linked to how we connect our parks, open space and trails to our transportation infrastructure.

While environmental screening for many road projects is accomplished consistent with the National Environmental Policy Act (NEPA) through a process called Linking Planning and NEPA (LPN), much more can and should be done at the local level to enhance livable transportation connections. Evolving toward a more holistic approach of cleaner environments, healthier communities and mobility is critical to the improvement of our quality of life.

One of the goals of the *MOVE LV Long Range Transportation Plan* is to make transportation decisions that support and enhance livable communities. Qualities of livable communities include a mix of affordable transportation options such as public transit, walking and bicycling opportunities. By their very nature, livable communities promote active transportation through the design of a built environment. More walking and bicycling reduces dependence on auto travel, which can have air quality and health benefits.

There is an opportunity within the context of this Plan to consider transportation enhancements appropriate to the open space and trail connection network. Consideration of multi-use or single use trails could serve as a first and last mile of a work or recreational journey. In other cases, a community may be developing a network of urban trails that opens up further possibilities to enhance community-wide accessibility by connecting the trail network to the transportation network at multiple points.

These opportunities suggest that a strategy should be developed that integrates trails into both the existing and planned transportation system. Consideration of innovative and evolving strategies should be a part of this conversation and may include such concepts as:

- Greenroads (rating system that measures transportation sustainability).
- Carbon-Neutral Developments (developments with design features that eliminate carbon emissions).

- Bicycle Boulevards (slow-speed streets optimized for bicycle traffic).
- Complete Streets and Road Diets (amenities and/or lane reductions to achieve systematic improvements).
- Safe Routes to Schools (creation of safe, convenient and fun opportunities for children to bicycle and walk to and from school).
- Walkable Neighborhoods (streets designed for bicycles, pedestrians and transit).
- Corridor Studies (study of improvement needs for a particular roadway).

While funding is always an issue, the region and County must continue to advocate at the federal level for multimodal advancements, including the expansion of relevant transportation enhancement programs, the development of transportation and community system preservation programs, and the consideration of open space and habitat protection in the transportation planning process.

Recommendations:

- Develop a regional multimodal strategic plan that helps decision makers integrate transportation network improvements with land use decision making.
- Investigate and implement innovative strategies that integrate transportation with open space.
- Complete a regional sidewalk inventory.
- Develop a regional bicycle-pedestrian plan, including a bicycle-pedestrian transportation working group.

Trails

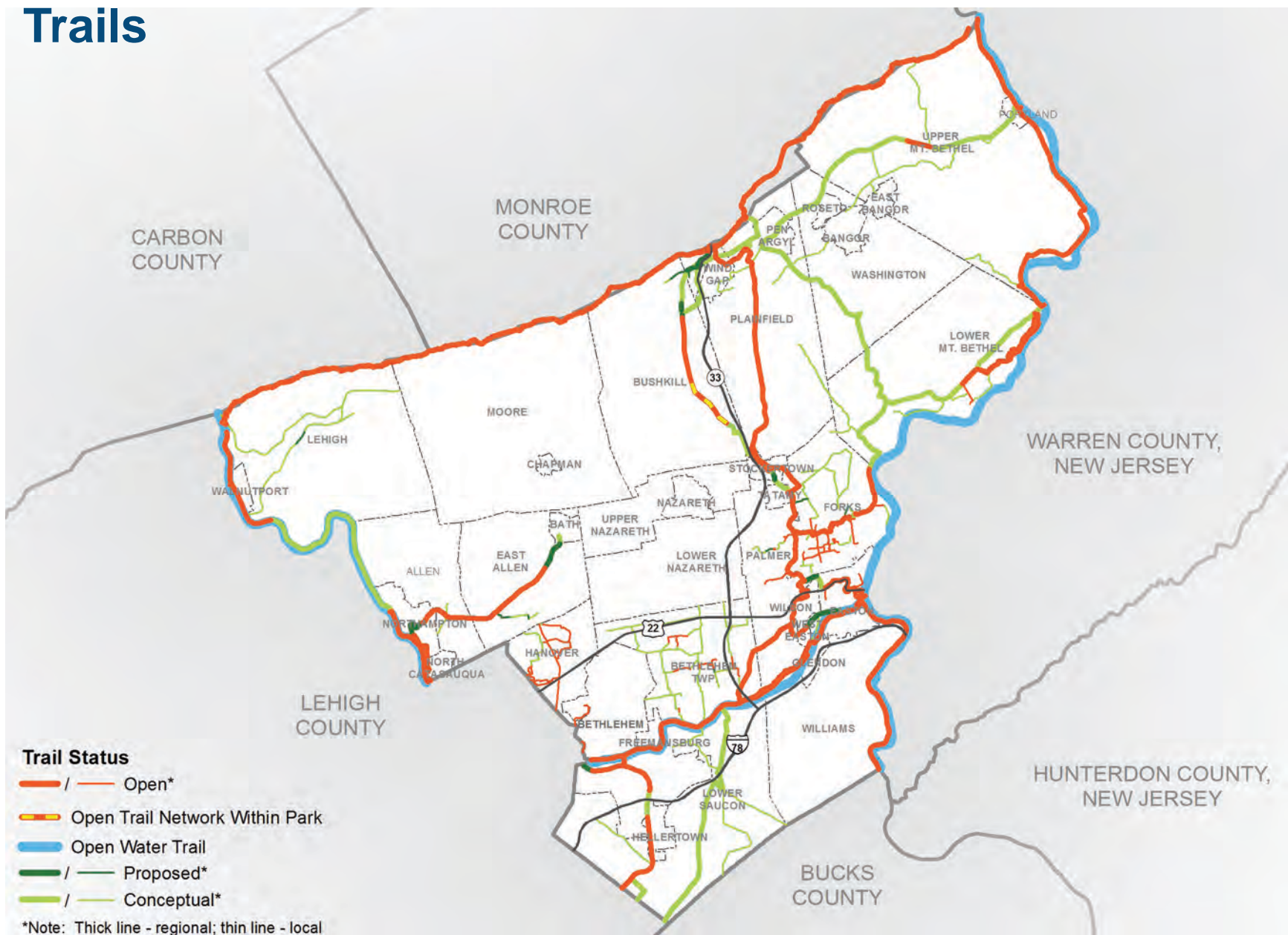
Trails are an integral part of outdoor recreation facilities offered in the County. They can be found in a variety of environments, ranging from wilderness to subdivisions to urban centers to farmland, connecting

residents to parks, shopping districts and employment centers. They run beside streams and canals, through former rail corridors, within industrial parks, on municipal sidewalks and even next to stormwater management facilities. They are on land and water. The uses include walking, hiking, biking, jogging, mountain biking, horseback riding, cross-country skiing, boating, historical site appreciation, nature study, education and wildlife-watching. All these different trail types offer Northampton County residents and visitors a wide variety of trail experiences.

In 2009, the LVPC completed a comprehensive update to the trails inventory for Lehigh and Northampton counties. The update compiled data from municipal plans and studies across the two counties and produced the *Lehigh Valley Trails Inventory—2009*. The goal of the 2009 inventory was to assist local officials in planning for future trails in the Lehigh Valley. A 2013 update, in addition to incorporating updated trail information, included two new components: identifying priority trail gaps and providing guidelines to designing safe road crossings for trails. These two new components are part of a statewide effort by the Department of Conservation and Natural Resources (DCNR) to help organizations and municipalities implement trail initiatives.

A total of 39 trails or trail networks that are opened or proposed, totaling approximately 466 miles (including 80 miles that use the same alignment as another trail) are located in the County. The trails do not represent 39 individual, stand-alone trails—many trails connect to create, or are part of, a longer trail or trail network. Of the 39 trails, 28 are open for use, totaling approximately 275 miles. The longest open trails are the Appalachian Trail (A.T.), Delaware River Water Trail, Lehigh River Water Trail and D&L Trail. In addition to being the longest trails in the County, all four of these trails have substantial trail mileage beyond the County. The shortest open trail is the Tatumy Rail Trail (approximately 0.5 mile), with future plans for extending the trail to the north.

Trails



Ten priority trail gaps were identified in the *Lehigh Valley Trails Inventory—2013*. These gaps occur either within a single open trail (e.g., Trail Gap #5 – D&L Trail) or between two individual open trails (e.g., Trail Gap #7 – South Bethlehem Greenway to Saucon Rail Trail). Reasons for the trail gaps vary and include stream crossings,

permitting and land ownership issues. Significant effort to close these trail gaps is underway by the County, municipalities and nonprofit organizations to provide more outdoor recreation opportunities.

Trails Open for Use

Name	Length (miles)	Name	Length (miles)
Appalachian Trail	35.0 ¹	Nor-Bath Trail	5.0
Bethlehem Township Trail Network	4.0	PPL Martins Creek Environmental Preserve Trails	4.5
Bushkill Township PPL Trail	2.0	Palmer Township Bike Path	3.0
Delaware & Lehigh Trail ²	26.5	Palmer Township Trail Network	1.5
Delaware River Water Trail	35.0	Palmer-Bethlehem Township Bikeway	10.0
Easton Pedestrian Connections	2.0	Pennsylvania Highlands Trail Network	23.0
Forks Township Trail Network	11.5	Plainfield Township Recreation Trail	7.0
Hackett's Park Trail	1.0	Saucon Rail Trail	3.0
Hanover Township Trail Network	9.5	September 11th National Memorial Trail	54.0
Jacobsburg Environmental Education Center Trails	17.0	South Bethlehem Greenway Trail	2.5
Karl Stirner Arts Trail	2.5	Stockertown Recreation Trail	1.0
Lehigh River Water Trail	27.0	Tatamy Rail Trail	0.5
Lower Mount Bethel Trail	3.0	Upper Mount Bethel Trail	1.0
Monocacy Way	1.5	Wilson Borough Bike Path	1.0
Total		294.5 ³	

¹Trail is located along the County boundary, with approximately 15 miles in Northampton County and 20 miles located in Monroe County.

²Owned by municipalities or state (Delaware Canal State Park); maintained by the owner and D&L Trail Tenders.

³Includes approximately 64 miles that co-align with other open trails.

Bicycle Routes



BicyclePA is the name for a network of cross-state bicycle routes that guide the bicycle tourist across the Commonwealth. The routes generally use existing highways that have been identified as desirable roads for bicycling. In some cases, the route uses improved rail trails to bypass difficult sections. Northampton County has a short section of one BicyclePA route described as follows:

BicyclePA Route V – 355 miles, starts in Lawrence County at the Ohio state line and travels across the Commonwealth roughly following the I-80 corridor. The route enters Northampton County on Rt. 611 from Delaware Water Gap in Monroe County and ends in Portland Borough at the pedestrian bridge that crosses the Delaware River.

Recommendations:

- 1. Close the six trail gaps in the County as identified in the *Lehigh Valley Trails Inventory—2013*.
- 2. Engage the Two Rivers Area Trail Group to assist in implementing the recommendations in the Two Rivers Area Greenway Trail Feasibility Study and Martins-Jacoby Trail Conceptual Plan and promote the trail network.
- 3. Complete a feasibility study of a Northern Tier Rail Trail from Walnutport to Portland.
- 4. Cooperate with the development efforts for the September 11th National Memorial Trail and the Liberty Water Gap Trail.

Greenways and Blueways

Greenways and blueways are critical landscape components because they protect the environment, provide alternate routes of transportation, supply recreational opportunities, and connect natural and cultural areas to one another, providing a linear resource for a variety of users. A greenway is defined as a corridor of open space that may vary greatly in scale from narrow strips of green that run through urban, suburban and rural areas to wider corridors that incorporate diverse natural, cultural and scenic features. A blueway is a greenway corridor that includes a watercourse, which provides additional recreational opportunities and/or wildlife habitat. Water trails, which are recreational blueways, are boat routes suitable for canoes, kayaks and small motorized watercraft comprised of access points, boat launches, day use sites, and, in some cases, overnight camping areas. Connectivity is the defining characteristic that distinguishes greenways from isolated paths and pockets of open space. While individual parks, preserved lands, undisturbed natural areas and waterways are valuable resources, their conservation and recreational value is enhanced if they are linked together.

Types of Greenways and Blueways

Greenways and blueways come in a variety of forms and serve many functions. The Pennsylvania Greenways Program identifies three major types of greenways: 1) cultural/recreational, which support human activity, 2) conservation, which support ecological and conservation purposes, and 3) multi-use, which support a combination of human and conservation activities. The LVPC identified a fourth type in the *Lehigh Valley Greenways Plan* (LVGP) that is present in the Lehigh Valley: 4) scenic, which provide a visual landscape connection. A description of these four types is as follows:

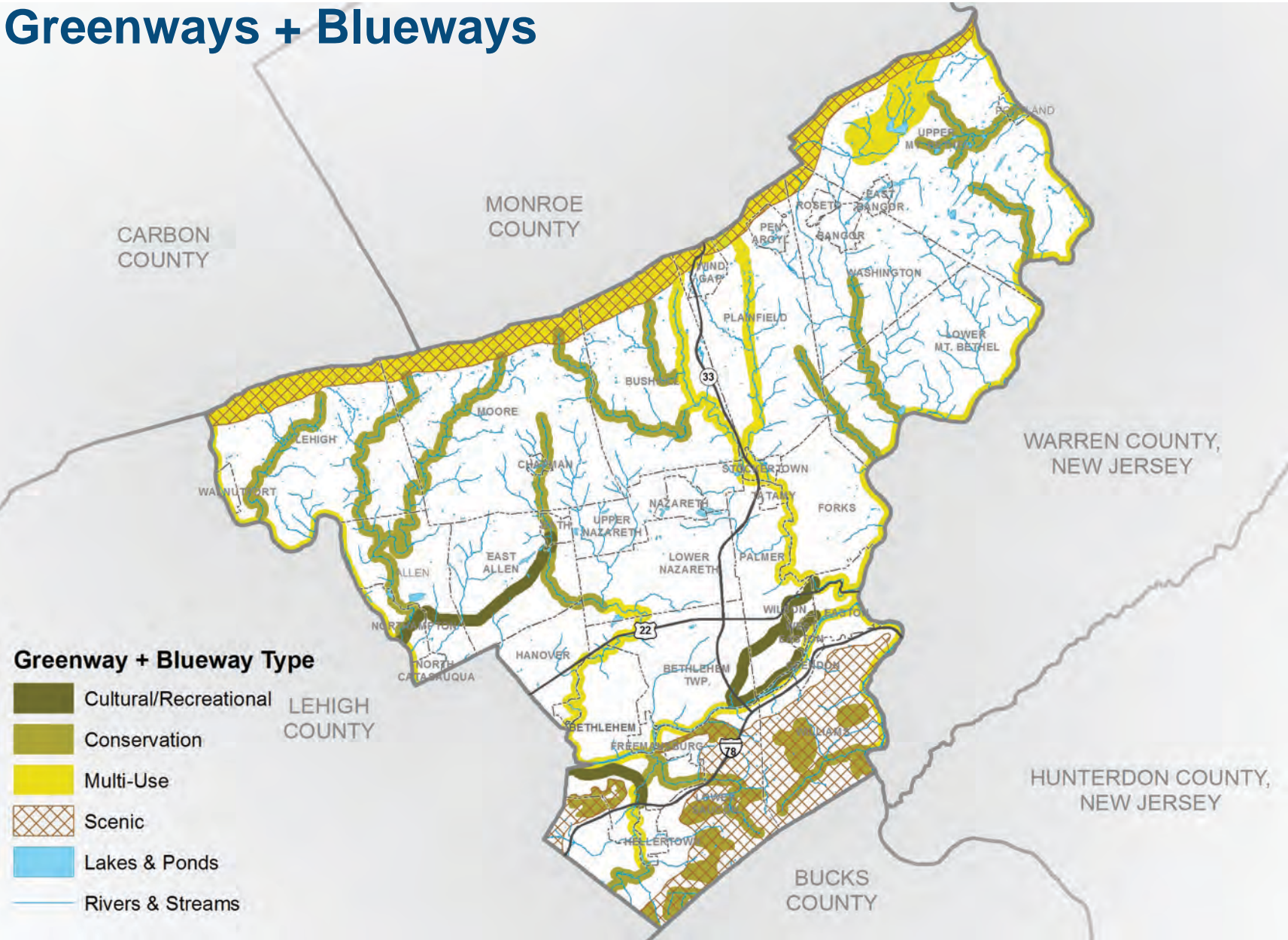
Cultural/Recreational: Cultural/recreational greenways and blueways supply the human population with an array of low-impact recreational opportunities and quality of life benefits. They provide solace from the hustle and bustle of daily life and undisturbed interfaces with nature. In suburbanized areas subject to sprawl, they offer alternative transportation routes and provide linkage to close-to-home exercise opportunities. Natural, cultural and historical areas of interest can be preserved, interpreted and enjoyed through these corridors.

Conservation: Conservation greenways and blueways exist primarily to protect natural resources. They are undisturbed corridors that fulfill their ecological potential by serving as habitat, buffers, filters, sources and/or destinations. Enabling greenways to fulfill their conservation role depends on a thorough understanding of landscape ecology.

Multi-Use: Multi-use greenways and blueways accommodate cultural/recreational activities and provide conservation opportunities, serving both human and wildlife interests. These greenways connect people to the many features that make a community unique, providing a much needed and desired sense of place in a rapidly developing region.

Scenic: Scenic greenways and blueways enhance the quality of life by providing scenery for residents and visitors to enjoy. Scenic greenways are visual connections across the landscape so people can enjoy the natural environment around them. Northampton County is framed by the Kittatinny Ridge, locally known as the Blue Mountain, to the north and the Pennsylvania Highlands mountains and hilltops to the south, providing a beautiful backdrop to almost any view in the County.

Greenways + Blueways



Greenway Components

Pennsylvania's greenways network will ultimately take the form of "hubs and spokes." The "hubs" of this network are large centers of activity and include national, state, or local parks; forests and game lands; lakes and headwaters; and historical, cultural and other significant destinations, including our communities. The "spokes" will be corridors connecting these destinations to our communities, including greenways of statewide significance, as well as local and regional networks. Northampton County's greenways and blueways network is based on this model but with an additional component—nodes, which are natural, recreational, cultural and/or historical places of interest located throughout the network.

The LVPC identified 21 greenways in Northampton County in the 2007 *Lehigh Valley Greenways Plan*. Several of these have more than one type assigned to different segments depending on the function of that segment. A majority of these greenways (16) follow stream and river corridors and are, therefore, blueways. Six greenways and blueways extend outside of the County—Blue Mountain/Kittatinny Ridge, Cooks Creek, Delaware River, Lehigh River, Pennsylvania Highlands, Saucon Creek; six greenways and blueways are located within one municipality—Allegheny, Bertsch Creek, East Branch Saucon Creek, Fry's Run, Greater Minsi Lake Corridor, Jacoby Creek; and the remaining nine are located in two or more municipalities. The Delaware River and Lehigh River greenways are each identified by DCNR as a Pennsylvania Major Greenway Corridor. The greenways and blueways are summarized by type as follows:

- conservation (10) – Allegheny, Bertsch, Cooks, East Branch Saucon, Fry's, Hokendauqua, Indian, Jacoby, Martins creeks and Mud Run
- conservation and multi-use (3) – Bushkill Creek Corridor, Monocacy Creek, Saucon Creek
- conservation and scenic (1) – Pennsylvania Highlands

- cultural/recreational (3) – Nor-Bath Trail, Palmer-Bethlehem Township Bikeway, South Bethlehem Greenway
- multi-use (3) – Delaware River, Greater Minsi Lake Corridor, Lehigh River
- multi-use and scenic (1) – Blue Mountain/Kittatinny Ridge

Hubs identified were:

- City of Bethlehem
- City of Easton
- Coplay/Northampton boroughs
- Slatington/Walnutport boroughs
- Jacobsburg Environmental Education Center
- Delaware Water Gap National Recreation Area

A total of 33 nodes were identified within the greenways, with eight located in more than one greenway.

For a more detailed discussion about Northampton County greenways, refer to the *Lehigh Valley Greenways Plan* (2007).

Historical, Cultural and Scenic Resources

The historical, cultural and scenic resources of Northampton County offer a wide variety of activities and attractions for the enjoyment of both residents and visitors. These resources are found at the centers of our cities and in the rural countryside. Ranging from a visit to an art museum to a drive through a covered bridge to attending a music festival to a fun day at a science center, there is something for everyone. The cultural resources offer a glimpse of who we are today, while the historical resources offer a glimpse of who we were in the past, and the scenic resources make Northampton County unique.

Greenway Nodes by Municipality

Municipality	Greenway	Node(s)	Hub
Allen Township	Hokendauqua Creek	Confluence of Indian and Hokendauqua Creeks	
	Indian Creek	Confluence of Indian and Hokendauqua Creeks	
	Nor-Bath Trail	Wayne A. Grube Memorial Park	
Bethlehem City	Monocacy Creek	Central Bethlehem Historic District/Monocacy Complex	Bethlehem
	Saucon Creek	Saucon Park	
	South Bethlehem Greenway	South Bethlehem Downtown Historic District	Bethlehem
Bethlehem Township	Lehigh River	Pennsylvania Fish & Boat Commission/Lehigh River Boat Launch	
	Monocacy Creek	Archibald Johnston Conservation Area	
	Palmer-Bethlehem Bikeway	Pennsylvania Fish & Boat Commission/Lehigh River Boat Launch	
Bushkill Township	Bushkill Creek Corridor	Graver Arboretum/Jacobsburg Historic District	Jacobsburg Environmental Education Center
East Allen Township	Nor-Bath Trail	Bicentennial Park	
Easton	Delaware River	College Hill Residential Historic District/Delaware Canal State Park/Easton Historic District	
	Lehigh River	Hugh Moore Park	Easton
Freemansburg Borough	Lehigh River	Lehigh Canal Park/D&L Trail	
Glendon Borough	Lehigh River	Hugh Moore Park	
Hanover Township	Monocacy Creek	Monocacy Complex	
Hellertown Borough	Saucon Creek	Water Street Park/Grist Mill Park	
Lehigh Township	Blue Mountain	Lehigh Gap Wildlife Refuge	
Lower Mount Bethel Township	Delaware River	PPL Martins Creek Environmental Preserve	
Lower Nazareth Township	Monocacy Creek	Dutch Springs	
Lower Saucon Township	Pennsylvania Highlands	Hellertown Reservoirs/South Mountain Park	
Northampton Borough	Lehigh River	Canal Street Park	Coplay/Northampton
	Nor-Bath Trail	Nor-Bath Trail Access	
Palmer Township	Bushkill Creek Corridor	Hackett Park	
	Lehigh River	Riverview Park	
	Palmer-Bethlehem Bikeway	Riverview Park	
Plainfield Township	Bushkill Creek Corridor	Gall Farm	
Upper Mount Bethel Township	Allegheny Creek	Mount Jack	
	Delaware River	Mount Jack	
	Greater Minsi Lake Corridor	Minsi Lake	
	Jacoby Creek	Mount Bethel Fens	
Walnutport Borough	Lehigh River	Lehigh Canal Park	Slatington/Walnutport
Williams Township	Delaware River	Mariton Wildlife Sanctuary	
	Pennsylvania Highlands	Hexenkopf Rock/Mariton Wildlife Sanctuary	
Wilson Borough	Palmer-Bethlehem Bikeway	Hackett Park	

Source: Lehigh Valley Planning Commission, *Lehigh Valley Greenways Plan* (2007).

Historical Resources

Northampton County has a wealth of historical resources (e.g., buildings, structures and canals), which add to the beauty and attractiveness of the region, increase understanding and appreciation of our heritage, and improve the quality of life. Many significant historical features are of value to the local economy because they are tourist attractions. In 1970, the LVPC completed a report titled *Historic Structures and Sites*. The report contains an inventory of the most important historic structures, buildings and sites that had been identified as of 1970. The report also includes general policy recommendations and recommendations for specific historic buildings and structures. Most of the recommendations of the report have been accomplished through public and private efforts.

There have been several major efforts since 1970 to identify and survey the remaining historical resources in Northampton County. Some communities prepared thorough history studies for the 1976 bicentennial celebration. Another important effort in the 1970s involved a major study of the Lehigh Canal by the U.S. Department of the Interior, Heritage Conservation and Recreation Service titled *Lehigh Canal — an HCRS Project Report*. The Pennsylvania Historical and Museum Commission has money available for funding comprehensive historical resources surveys. Forks Township conducted a comprehensive survey using state funding.

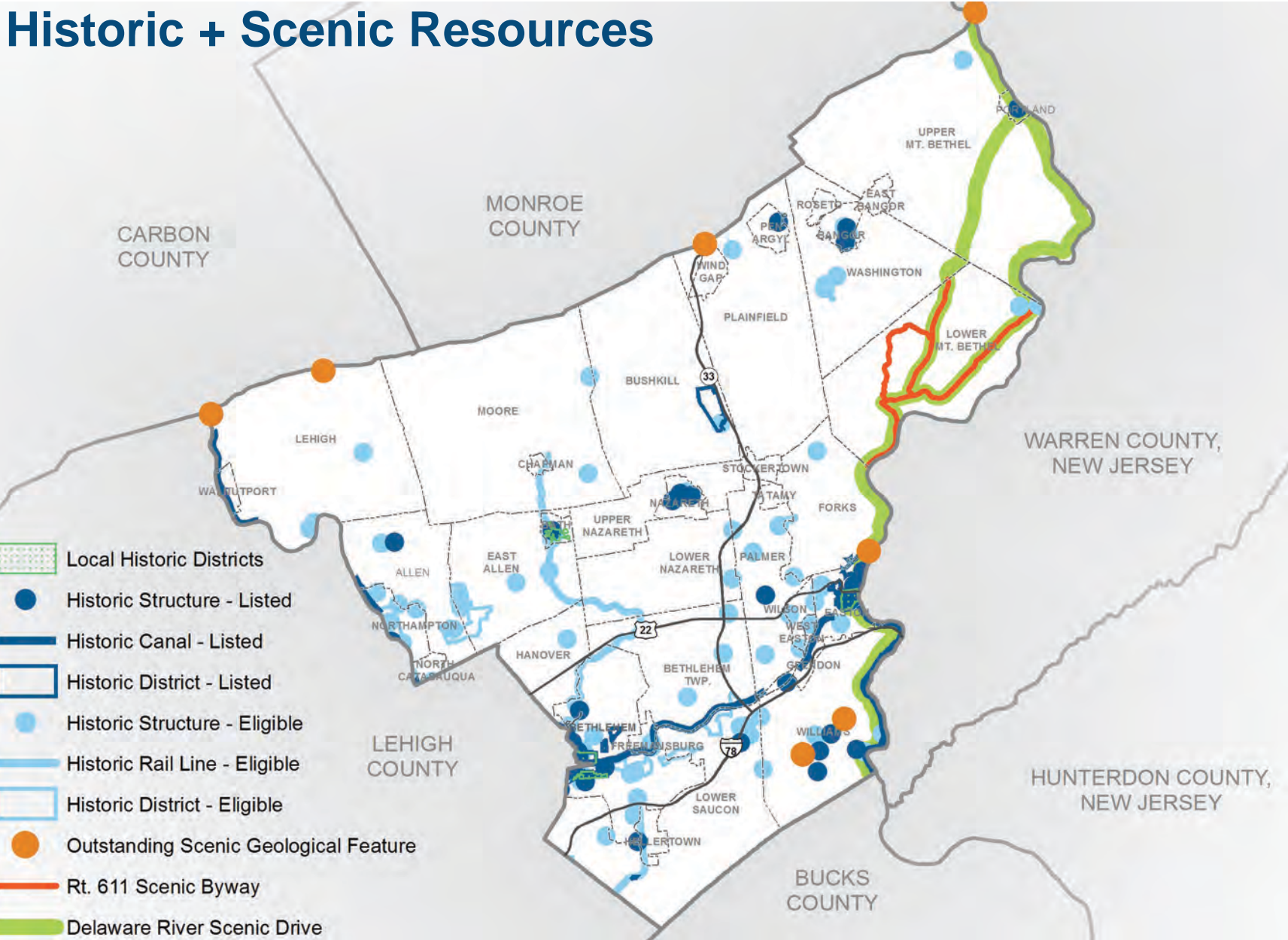
National Register of Historic Places: The National Register of Historic Places (NRHP) is the official list of historic and cultural resources worthy of preservation in the United States and is administered by the National Park Service. The NRHP is part of a national program to coordinate and support public and private efforts to identify, evaluate and protect our historical and archeological resources. Places listed in the NRHP include districts, sites, buildings, structures and objects that are significant in American history, architecture, archeology,

engineering and culture. Northampton County has 104 historical resources listed on the NRHP. Detailed information about these sites is available on the Pennsylvania Historical and Museum Commission’s Cultural Resources Geographic Information System (CRGIS) website at <https://www.dot7.state.pa.us/CRGIS/main.htm>.

Many more historical resources have been recognized by the Pennsylvania Historical and Museum Commission as eligible for NRHP listing, including 120 in Northampton County. Before any of these properties can be listed on the NRHP, application forms are required to be completed and submitted for review.

Many development projects now require an analysis of historical resources before they can proceed. Under state and federal law, state and federal agencies must consider the effects of their actions on all historic and prehistoric features eligible for inclusion on the NRHP. The federal legal mandates include Section 106 of the National Historic Preservation Act of 1966, Executive Order 11593 and the regulations of the Advisory Council on Historic Preservation. State legal mandates include the Environmental Rights Amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania Historic Preservation Act of 1978. Agencies must meet their responsibilities to identify all eligible historical resources that may be affected by their actions. The presence of historic sites sets a greater restriction on government actions than on private ones. If a site is listed or eligible to be listed on the NRHP, federal and state agencies must show there is no feasible and prudent alternative to avoid the feature before it can be eliminated. Private property owners do not have to comply with federal and state mandates regarding NRHP sites.

Historic + Scenic Resources



Historical Marker Program: The Pennsylvania Historical Marker program was established in 1946. This popular Pennsylvania Historical and Museum Commission (PHMC) program is responsible for the blue and gold roadside markers that highlight people, places and events significant in state and national history. There are over 2,000 markers across the entire state, with 72 markers in Northampton County. Any person or organization may submit nominations for historical markers. A panel of independent experts from across the state evaluate the nominations followed by a review by the PHMC commissioners.

Cultural Resources

Northampton County has a wide range of cultural venues for residents and visitors to enjoy, including museums, universities, the arts (music, theater and dance), a wine trail and an ale trail. In addition to these year-round attractions, annual festivals (e.g., Musikfest) draw thousands of residents and tourists to Northampton County.

Several museums are located in Northampton County—art, history and company-sponsored. The art museums and galleries attract thousands of people each year to view a variety of fine and decorative art objects (e.g., Kemerer Museum of Decorative Arts, City of Bethlehem; Williams Center for the Arts, Lafayette College, City of Easton; Zoellner Arts Center, Lehigh University, City of Bethlehem). History museums provide visitors with exhibits and collections that tell the story of the County's diverse heritage (e.g., Moravian Museum of Bethlehem, City of Bethlehem; National Canal Museum and Sigal Museum, City of Easton). Additionally, local companies whose products are used worldwide sponsor museums in the County (e.g., The Crayola Factory, City of Easton; Martin Guitar Company, Upper Nazareth Township; and the Atlas Cement Memorial Museum, Northampton Borough). Visitors may see how the products are made and learn the background and history of the company.

Theater, music and dance venues and organizations exist throughout Northampton County. In addition to the arts centers listed in the above paragraph, the State Theater Center for the Arts is located in the City of Easton and The Banana Factory in the City of Bethlehem. The latter offers art instruction in addition to art galleries that are open to the public. SteelStacks, an ArtsQuest venue, the Bach Choir and the Pennsylvania Youth Theater, all in Bethlehem, along with other organizations, offer many opportunities for experiencing the arts in Northampton County.

Other types of activities that residents and visitors can enjoy that are found in Northampton County include the Lehigh Valley Wine Trail (LVWT) and the Lehigh Valley Ale Trail (LVAT). The LVWT allows visitors to experience nine family-owned wineries and taste award winning wines. Three of the nine wineries on the LVWT are located in the County—Amore Vineyards & Winery in East Allen Township, Franklin Hill Vineyards in Lower Mt. Bethel Township, and Tolino Vineyards in Washington Township. The LVAT is a list of the best local microbrew bars where patrons can experience great craft beers. Bars and pubs were carefully selected that have upwards of 60% of their taps consistently dedicated to craft brews. Many of them also pour locally brewed beers and even host events showcasing them.

Scenic Resources

Northampton County's outstanding scenic quality and sense of place is created from the interrelationship between the natural features, rural areas, undeveloped open space, and the cities and boroughs. The result is a rural character, punctuated by significant community, natural and historical resources. This character has made Northampton County a destination as a visitor attraction and also as an attractive place to live and work. Thus, the protection of scenic resources is critical to maintaining the sense of place.

Northampton County has an abundance of scenic resources, including mountains, waterways, farmland, natural areas, geologic features and historic sites. Scenic resources differ from scenic greenways in that they are scenic from specific vantage points and do not provide the long range connectivity that defines a greenway. Examples of scenic resources in the County include:

- Delaware River
- Lehigh River
- Bushkill Creek
- South Mountain lookout (Lehigh University)
- Stouts Valley
- Bethlehem Historic District
- The Bethlehem Star
- Nazareth town square
- Minsi Lake
- Outstanding Scenic Geologic Features (e.g., Wind Gap, Delaware River Water Gap, Hexenkopf Rock)

Scenic roadways are another type of scenic resource, specifically byways and drives. Another corridor concept in the scenic greenway category is a scenic byway. Scenic byways, also known as scenic drives, are either roadways that have cultural or historical significance where the view provides a glimpse of this heritage or roadways where the surrounding landscape is natural and pastoral, and the area is relatively protected from visual clutter. The Pennsylvania Scenic Byways Program, administered by the Pennsylvania Department of Transportation's (PennDOT) Bureau of Planning & Research, designates qualified roadways as scenic byways in support

of local planning efforts. To qualify for this designation, a roadway must meet certain requirements regarding quality, outdoor advertising restriction and local support. Local, state or federally-owned roadways may be nominated by any governmental entity provided the owner of the roadway agrees with the nomination. Currently, 22 scenic byways are designated in Pennsylvania, one of which is located along Rt. 611 in Lower Mount Bethel Township. Tourist stops along these roads include the Delaware River, the Hunter Martin Settlement Museum, Martins Creek Ferry, Hunters Ferry and outdoor recreational opportunities, such as boating, biking, hunting, fishing, walking and many acres of preserved farmland.

A scenic drive is another type of scenic roadway designation found in Pennsylvania. In November 1987, Pennsylvania House Bill No. 1982 designated the Delaware River Scenic Drive, portions of which are located within Northampton County. The aforementioned designated drive and byway, along with other scenic roadways within the County, are listed below:

- Pennsylvania Scenic Byway (Rt. 611, Little Creek Road and Belvidere Highway, Lower Mount Bethel Township)
- Delaware River Scenic Drive (Route 611, Belvidere Highway, Riverton Road and River Road in the eastern part of the County)
- Wassergass/Raubsville roads (Williams Township)
- Mountain View Drive (Rt. 946) west of Rt. 987 (Moore Township)

Agricultural Resources

Northampton County has a variety of farming resources, ranging from thousands of acres of farmland to urban farming to community gardens. The farmland is some of the best in Pennsylvania. Over 69,000 acres are classified as prime farmland as defined by the U.S. Department of Agriculture. Although farms are not natural landscapes, they can complement parks and natural areas by providing open space and adding to the pastoral scenery that residents treasure. Although at a much smaller scale than the vast farmland acreage, urban farming and community gardens contribute to the agricultural output in the County. These two forms of agriculture are very similar in some aspects, with the major difference being that an urban farm's produce is for consumers, whereas a community garden's produce is for personal consumption. Northampton County has 23 community gardens as reported by the *Assessment Report: Lehigh Valley Local Food Economy* (2014), which provides a more detailed review of urban farming and community gardens.

Northampton County has lost a tremendous number of farms and amount of farmland. Between 1954 and 2012, there was a 56% decrease in farmland acreage, with the sharpest decrease occurring between 1954 and 1974. The number of farms followed the same pattern from 1954 to 1974, with a slower decline until 1992 and a subsequent upswing and leveling off through 2012, resulting in a 73% decrease between 1954 and 2012. These decreases compare to the decreases across Pennsylvania during the same time period of 41% and 54% for farmland acreage and number of farms, respectively. One reason for the decline in farmland acreage is land

development. In 2014 alone, Northampton County's municipalities approved residential and non-residential subdivision or land development projects for 1,488 acres of land, including agricultural/undeveloped as classified by the LVPC.

Pennsylvania has different measures that can be used to protect farming interests and preserve farmland. Municipalities, under the authority of the Agricultural Security Area Law (Act of June 30, 1981, P.L. 128, No. 43)(3 P.S. §§ 901-915), are able to create and administer an agricultural security area to register farm properties as a measure to protect farming interests. Individual farm owners voluntarily apply to create the agricultural security area, which protects farmers from complaints about normal farming practices and operations from adjacent non-farming landowners. Northampton County municipalities have designated agricultural security areas on 28,042 acres.

An agricultural conservation easement is a legal restriction on development that limits the use of land to agricultural purposes. Under the agricultural conservation easement program (see program description below), the property owner sells the rights to develop land for nonagricultural purposes to the County. The property owner retains ownership and continues to farm the land. Municipalities, as provided by the Municipalities Planning Code, can also preserve farmland through regulatory approaches. For example, local agricultural zoning can preserve farmland by designating areas where agriculture is the principal use and constrains non-agricultural development and uses.

In the *Comprehensive Plan The Lehigh Valley ... 2030*, the LVPC recommends the preservation of approximately 25% of the County as agricultural land (over 60,000 acres). Support for farmland preservation is evident from the 2014 *Livable Landscapes* public opinion survey—95% of surveyed active registered voters feel it is important to protect farmland. These voters have consistently and strongly supported open space and farmland preservation. Northampton County maintains a very robust farmland preservation program (see program description below) that leverages County and municipal funding with matching funds from the Pennsylvania Agricultural Conservation Easement Purchase Program. The County acquired its first agricultural conservation easements in 1993. As of July 2015, the County provided \$17,734,346 to preserve 152 farms totaling 13,920 acres, equating to 6% of Northampton County land.

Agricultural Conservation Easement Purchase Programs

Federal and state funding programs are available for farmland preservation. The federal funding is available through the Agricultural Conservation Easement (ACE) (formerly known as the Farm and Ranch Land Protection Program) portion of the Farm Bill re-instituted in 2014 (Agricultural Act of 2014). State funding is provided through the Pennsylvania Agricultural Conservation Easement Purchase Program.

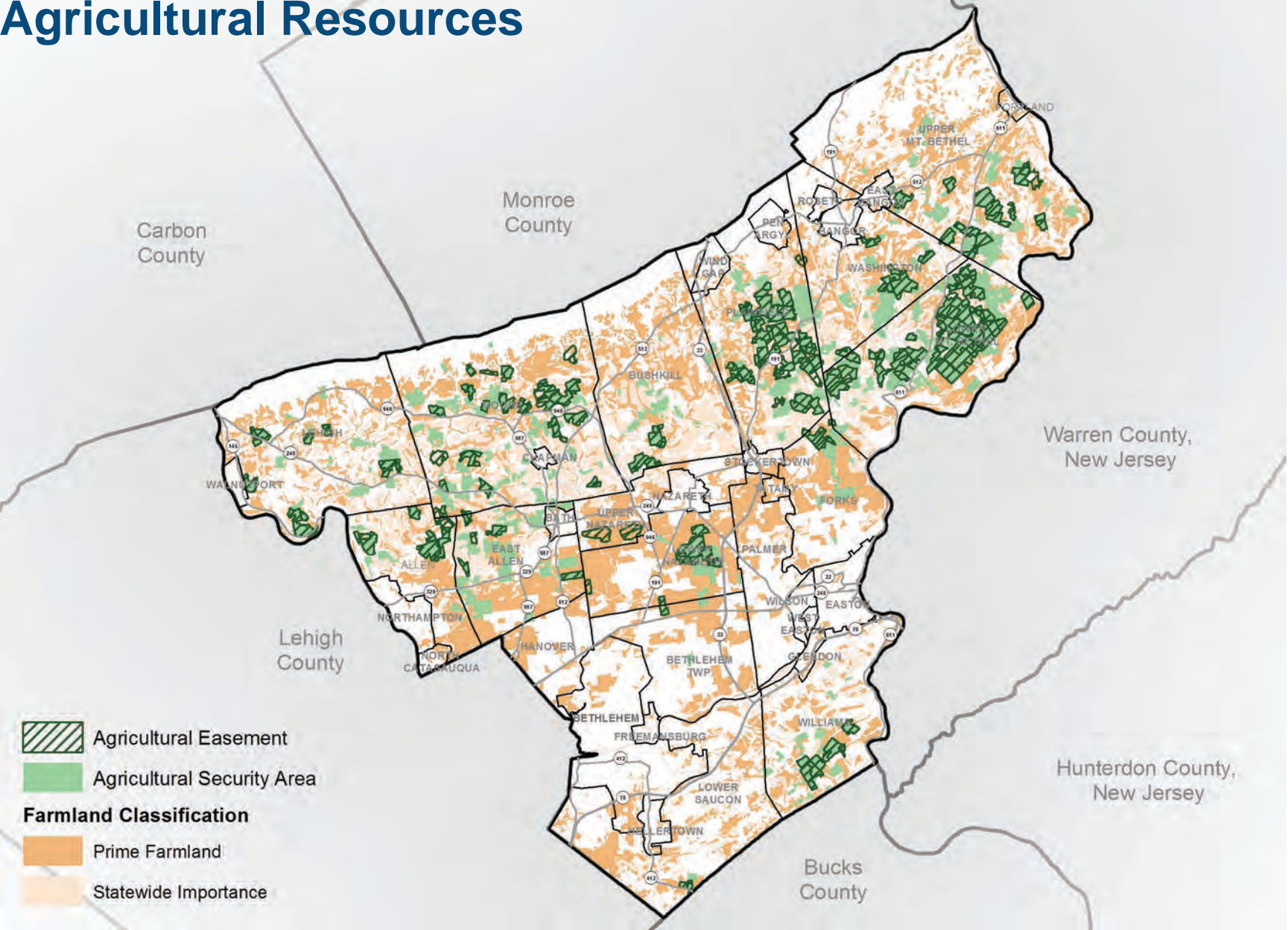
The federal ACE program has significantly more requirements than state funding in terms of appraisal requirements, farming operations, land use restrictions, requirements for best management practices (BMPs) on the property and long-term monitoring. Nine farms in Northampton County have been preserved under the federal program. Property owners are reluctant to meet the more stringent federal standards, especially for implementation of required and possibly expensive BMPs. Northampton County is one of 57 out of 67 Pennsylvania counties that have a farmland preservation program; counties that do not have any county funding for the program compete for the federal funding.

The Pennsylvania Agricultural Conservation Easement Purchase Program was established in 1988. Northampton County provides funding for the farmland preservation program on an annual basis as part of the Northampton County 21st Century Open Space Initiative, because the original proposed funding mechanism from the 2002 non-binding referendum that authorized \$12 million was never instituted.

Recommendation:

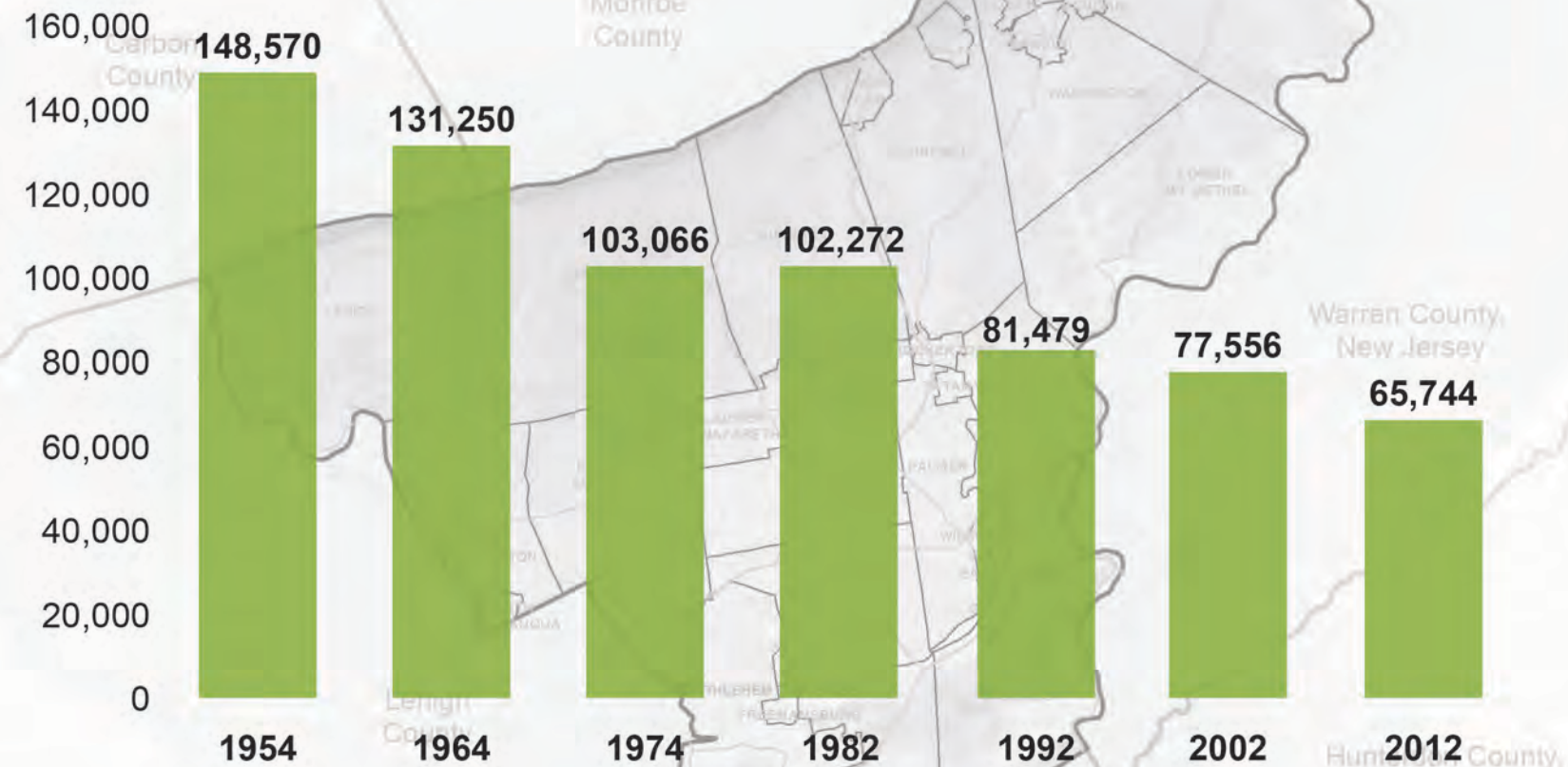
- The County should consider whether to pursue funding through the federal Agricultural Conservation Easement Program in addition to the state program.

Agricultural Resources





of Acres

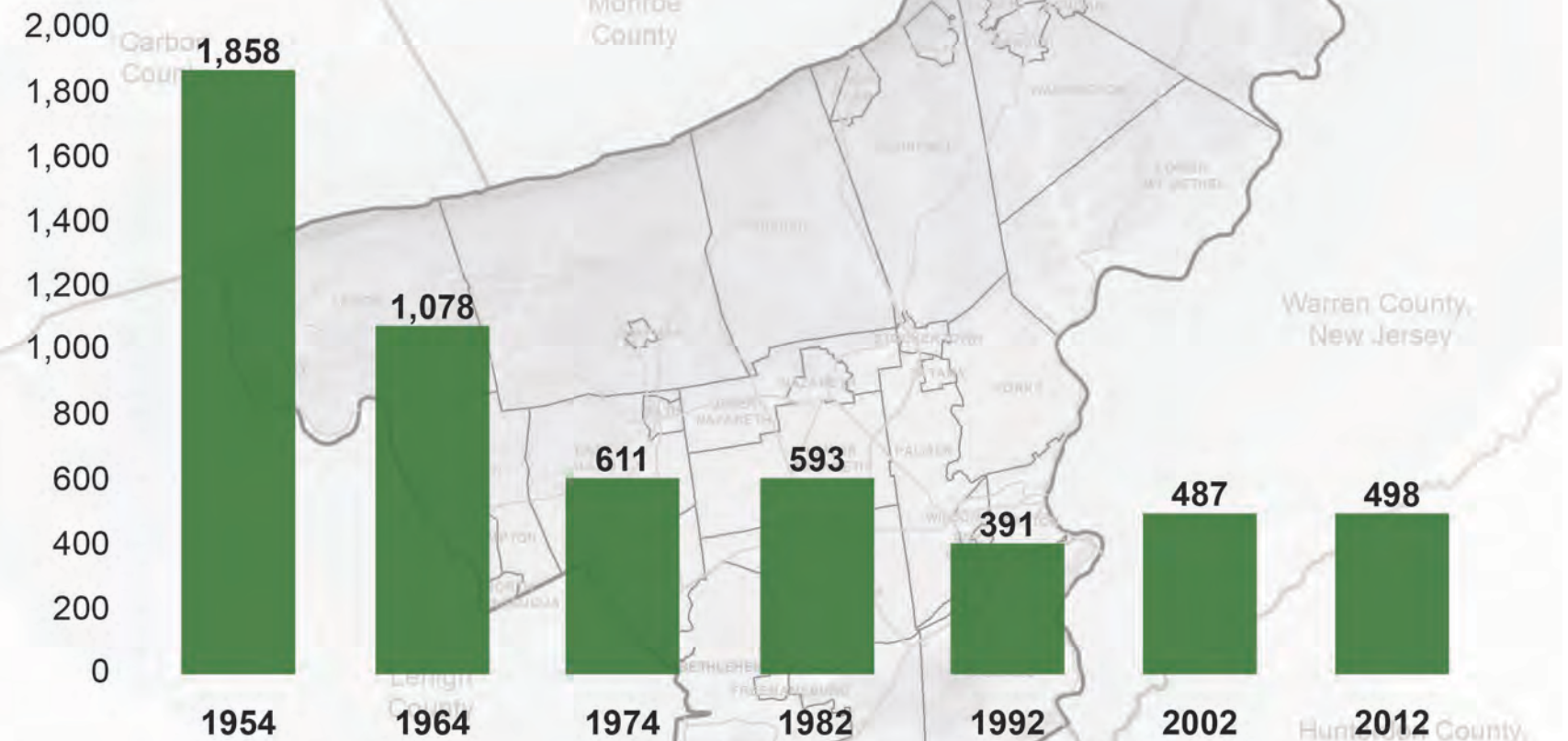


Northampton County Acres of Farmland by Year

Source: U.S. Dept. of Agriculture, Census of Agriculture, 1954-2012
Graphic Icon: Noun Project/Jane Pellicciotto



of Farms



Northampton County Farms by Year

Source: U.S. Dept. of Agriculture, Census of Agriculture, 1954-2012
Graphic Icon: Noun Project/Katie Westbrook

Northampton County 21st Century Open Space Initiative

The Northampton County 21st Century Open Space Initiative (Open Space Program) was established December 5, 2004 by Northampton County Ordinance No. 423 after extensive public input. On November 5, 2002, County voters cast ballots on a non-binding referendum to authorize borrowing \$37 million for open space preservation (\$14 million), municipal park acquisition and development (\$11 million), and farmland preservation (\$12 million). The Northampton County Open Space Committee (Committee) conducted public meetings covering each component of the program since November 2002 to allow County residents the opportunity to comment and make recommendations related to implementing this program. Guidelines were developed by the Committee with the assistance of the LVPC, which summarize the program components and provide information on the application process. Although the proposed funding mechanism from the non-binding referendum approved by voters in 2002 was never instituted, annual County budgeting provided monies for the program. In 2006, the County Executive recommended a ½ mill tax increase to fund the program, which was adopted for the 2007 budget.

The Open Space Program has four components—Open Space and Natural Areas, Municipal Park Acquisition and Development, County Parks and Farmland Preservation—that are described below.

Open Space and Natural Areas – The purpose of this component is to protect the County’s important natural resources by assisting municipalities and nonprofit organizations acquire and preserve land where these resources are found. Protecting these lands not only assures that the land is available for various sorts of public use but also helps provide natural resource benefits, such as drinking water filtration, stormwater and flood protection and maintaining air quality. The LVPC’s Natural Resources Plan, which is a component of the *Comprehensive Plan The Lehigh Valley ... 2030*, and the *Natural Heritage Inventory of Lehigh and Northampton Counties, Pennsylvania – Update 2013*, are the primary guides in determining which lands are most worthy of preservation. To date, the County has provided \$4.2 million to preserve 1,503 acres of open space and natural areas.

The funding provided in this component of the program is the mechanism that enables the preservation of the Very High and High Conservation Priority areas identified in the LVPC’s Natural Resources Plan. County and municipal parkland acquisitions are funded by other components of the program. Although some of the lands acquired for this purpose may contain Very High and High Conservation Priority areas, preserving natural areas may not be the primary focus of these acquisitions. Since this program was established, the average annual expenditure for open space and natural area preservation is approximately \$478,500. To continue to preserve the County’s environmentally sensitive lands, funding for this component of the program should be maintained or enhanced.

Municipal Park Acquisition and Development – The purpose of this component is to assist the County’s municipalities acquire land for new parks, develop existing parks or rehabilitate existing parks. In the initial phase of the Open Space Initiative, the County funded 26 municipal park projects, costing the County \$4,000,003. The municipalities who participated contributed their own funds and also received other grant contributions totaling \$10,652,727. Phase I of the municipal component of the Open Space Initiative was completed in 2010. Phase II began in 2013 with \$5,000,000 allocated—\$1,000,000/year for five years. For 2013 and 2014, 29 municipal park projects, costing the County \$2.0 million, have been funded. To continue to assist municipalities with their park programs, funding for this component should be maintained or enhanced.

County Parks – As part of the County Open Space Program, \$3,876,948 has been committed to the Wayne A. Grube Memorial Park development to date. Future County park development will be contingent upon available funding.

Farmland Preservation – The purpose of this component is to provide County funds annually that can be used to match state funds for the purchase of agricultural conservation easements. For each dollar of local funding, the state will provide a match, calculated based on a complicated formula that includes amounts requested by other counties. Northampton County also has instituted a unique program, Township Partnership Program, which allows for leveraging of state funds based on dollars committed by local municipalities. In a system that has been approved by the state’s Bureau of Farmland Preservation, Northampton County combines County funds for farmland preservation with municipal dollars pledged for farmland preservation. The municipalities typically raise these funds through a voter-approved Earned Income Tax program. The combined County/municipal funding is used by the state to determine its matching funds. Under the state requirements, counties are not required to use the dedicated municipal funds to preserve farmland in those municipalities that committed funding. However, under the Northampton County program, the County guarantees that the municipalities committing funds will receive matching dollars in return to preserve farms within that municipality. This, of course, provides the incentive for municipalities to participate.

Farmers/landowners voluntarily participate in both the agricultural security area and agricultural easement programs. The law requires that properties must first be in the agricultural security area program to be considered for the easement program. Properties for consideration of state easement funding must satisfy all state requirements. The ranking system used by Northampton County is established based on the state guidelines that provide a framework for the ranking but leave the specific numeric scoring criteria for the county to create, subject to state approval. An example is that the state guidelines include a required factor to consider consistency with the county planning map in the scoring system. Northampton County uses the LVPC farmland preservation map from the *Comprehensive Plan* and assigns 30 points in the contiguity criteria if a farm is within the farmland preservation boundary.

The allocation of state, County and municipal dollars to preserve farms is based on the ranking of farms using the County scoring criteria, plus the consideration that state dollars and County dollars must be fully allocated each year, while municipal dollars do not. The state is most interested in, for example, preserving larger farms, farms having the highest production soils (Capability Class I – IV), and those that are contiguous to other preserved farms. These farms score the highest in the County ranking system. Farmers/landowners submit applications to be considered for the easements program, and they are approached by the County in descending priority order to make arrangements for the easement process to begin. State funds are used first since the top scoring farms best fit the state criteria. County dollars, County dollars matched to municipal allocations, and municipal allocations are applied to the remaining farms based on priority and whether they are located in municipalities that provided allocations. Once the ranking is complete and funding determined, properties are chosen. The number of properties chosen to enter into the process changes from year to year. Some years, few farms from the list are chosen, but in recent years, with the help

of the partnership program, easements have been executed for all applications.

Another benefit to participating municipalities under the Township Partnership Program is that farms that fall slightly short of the state criteria for crop production percentage or soils ranking may be funded if funding is available from the municipal allocation. With this program, farms may be funded out of order if there are leveraged municipal funds involved. Northampton County is the only county in the state approved to allocate funding this way. Again, all of these factors are considered in the yearly funding plan to optimize use of available dollars and to reach the goal of preserving as many eligible farms as possible.

To continue to preserve farmland in Northampton County the funding for this component should be maintained or enhanced. One inconsistency noted in the Northampton County program guidelines under the eligibility criteria for farms is that they be located within either the Farmland Preservation or Natural Resources Protection boundaries of the LVPC *Comprehensive Plan*, but in practice this is not used as a firm criteria. Farms outside of these boundaries have been considered eligible but simply score lower in the ranking system. Therefore, some of these farms could be and have been funded.

Recommendations

Northampton County should consider the following changes to the Open Space Program and guidelines:

- 1. Maintain or enhance funding for the County Open Space Program including the Open Space and Natural Areas component, Municipal Park Aquisition and Development component, County Parks component and the Farmland Preservation component.

- 2. Modify the program and guidelines to specify that restoration projects are eligible, such as stream and floodplain restoration or land restoration to natural vegetation.
- 3. Specify in the guidelines that restoration within an existing park or restoration of acquired land adjacent to a park is part of the Municipal Park component.
- 4. Clarify whether the acquisition of land to create a passive recreation park, whether already in a natural state or being restored to a natural state, should be a part of the Natural Areas and Open Space component or the Municipal Park Acquisition and Development component.
- 5. Clarify how properties that do not qualify for either the Natural Areas and Open Space component or for the Farmland Preservation component as a whole can be submitted to the respective program components separately, splitting the property into two easements—natural areas and agricultural.
- 6. Establish a signage program for the funded sites to include the County logo or Program logo, with a portion of the cost paid by the County grant to promote the use of public funds.
- 7. Modify the application review process to run more efficiently in terms of meetings and project presentations required.
- 8. Add an option to use the Act 13 Marcellus Shale funding the County receives annually on a case-by-case basis, with approval from the County Executive and County Council, on projects that have a County-wide or regional impact.

Natural Areas and Open Space component:

- 9. Update the wording in Frequently Asked Questions #3 and #4 to remove specific date references for the Natural Resources Plan and the *Natural Heritage Inventory* to state the most recently adopted or completed, respectively.
- 10. Clarify the usage of the term “survey” in the checklist, which is used as a term for a site map versus a property survey.

- 11. Review the appraisal process and determine a way to handle the County appraisal requirements in conjunction with the Pennsylvania Department of Conservation and Natural Resources’ appraisal requirements.
- 12. Adopt the Pennsylvania Department of Conservation and Natural Resources guidelines, “BRC Acquisition Grant Policy: Requirements for Property Appraisals, Boundary Surveys and Title Work.”
- 13. Require any appraisal and/or easement be restrictive to the highest level of authority from funding sources. (i.e. federal, state, county, local)
- 14. Require the option of a Technical Review by a certified appraiser to be conducted after the 1st appraisal instead of a second or third appraisal.
- 15. Work with the Pennsylvania Department of Conservation and Natural Resources to identify and clarify minimal protection areas and highest protection areas.
- 16. Clarify that no funding will be provided to landowners for property that is considered within a minimal protection area.
- 17. Clarify that properties under Act 319 (tax freeze) that have a minimal protection/homestead area need to have the property surveyed and identify metes and bounds for taxing purposes.
- 18. Clarify that any proposed conservation easement application needs to have language that specifies that public access has to be provided by the easement holder, with a minimum of guided tours and/or supervised access.
- 19. Separate and highlight that any easement holders with funding from Northampton County need to provide monitoring reports on a bi-annual timeline.

Municipal Park Acquisition and Development component:

- 20. Specify that a contract with the municipality be created after a grant is awarded.
- 21. Add to the guidelines that municipal projects provide close-to-home park space and County park space provides passive recreation, often based on water resources.
- 22. Specify that funding only be applied toward the active recreation component itself and not accessory facilities (e.g., bleachers for observers of recreation).
- 23. Amend the guidelines to restrict funding for routine maintenance equipment purchases.
- 24. Clarify eligible safety expenditures (e.g., fencing, gates).
- 25. Specify language for Americans with Disabilities Act compliance.
- 26. Modify the maximum soft cost requirement if more flexibility is desired.
- 27. Modify the strict allocation provision into some combination with competitive funding, perhaps 50% competitive and 50% allocation, with a cap established for the grant amount.
- 28. Modify the grant application window to January, possibly phasing in over two years.
- 29. Add a requirement that projects are shovel-ready when submitted.

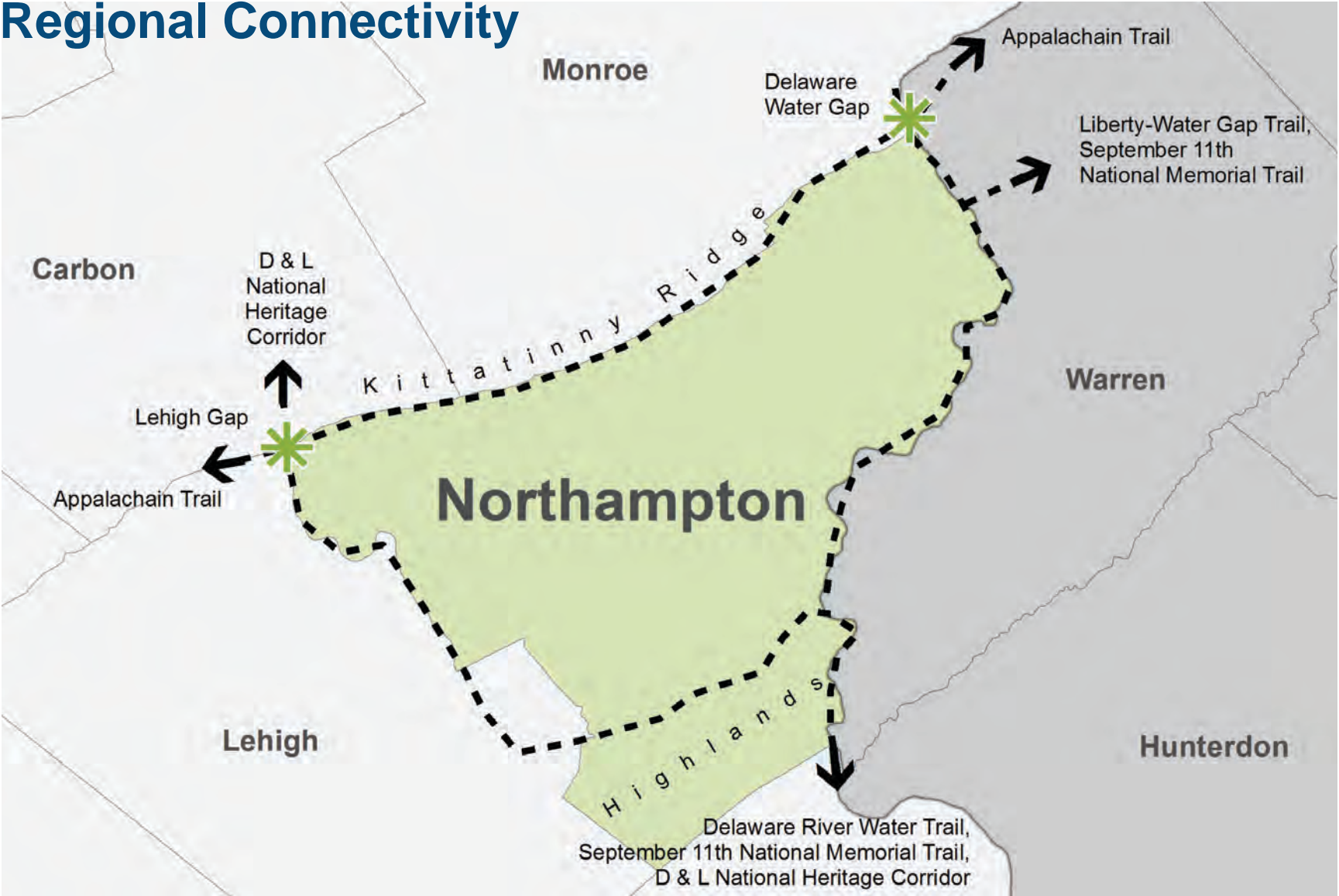
Farmland Preservation component:

- 30. Modify the Program guidelines and scoring criteria to require preserved farmland to be identified in the Farmland Preservation area of the *Comprehensive Plan The Lehigh Valley ... 2030*.

Regional Landscape and Connectivity

Northampton County has a wide variety of open space resources, ranging in size from small pocket parks in urban areas to large-scale natural features that cover thousands of acres and extend beyond the County’s borders. Four such regional resources form the boundaries of the County: the Kittatinny Ridge to the north, the Lehigh River to the west, the Delaware River to the east and the Highlands to the south. All of these resources form connections to neighboring counties and states, creating a regional network that provides recreational opportunities, wildlife habitat, heritage tourism and scenic views to residents and tourists. Looking beyond the County’s borders is critical to optimizing the preservation of these natural and heritage resources. In addition to these regional natural features, many recreational resources occur at a regional level and are often located within the natural features reported above. Regional trails are the primary example, with several regional trails running through the County: Appalachian Trail, September 11th National Memorial Trail, D&L Trail and Highlands Trail. A third type of regional open space resources is designated, such as Delaware and Lehigh National Heritage Corridor and State Heritage Area, Delaware Canal State Park, state game lands, greenways and conservation priority areas. These areas may be designated in one county and may or may not be so designated in a neighboring county although the resource itself exists. Adjacent counties’ plans were reviewed for these regional resource connections and are presented on the following pages.

Regional Connectivity





Bucks County (southern border)

Existing connections include:

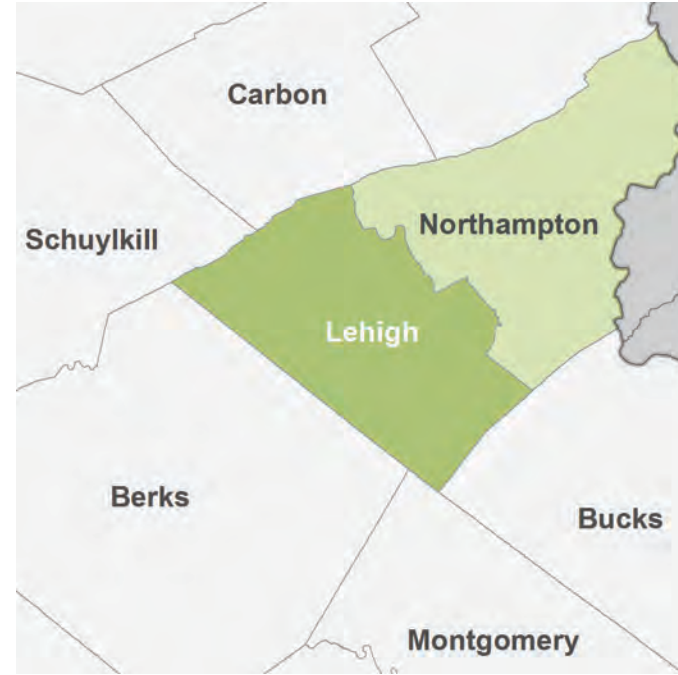
- Delaware and Lehigh National Heritage Corridor
- Delaware Canal State Park
- Delaware River/Delaware River Water Trail

Open space resources without an identified connection or differing designations:

Greenways:

- Cooks Creek Greenway, located along a Cooks Creek tributary that reaches into southern Northampton County, is identified in the *Lehigh Valley Greenways Plan* (LVGP) as a conservation greenway, but this tributary is not identified as a greenway in the *Bucks County Open Space and Greenways Plan* (2011). The Cooks Creek main stem is part of the Unami – Beaver – Tochickon – Kimples – Cooks Conservation Greenway identified in that plan.
- Pennsylvania Highlands, a common geographic region to southern Northampton County and northern Bucks County, is identified in the LVGP as a conservation and scenic greenway but is not identified in the *Bucks County Open Space & Greenways Plan* (2011) as a greenway.

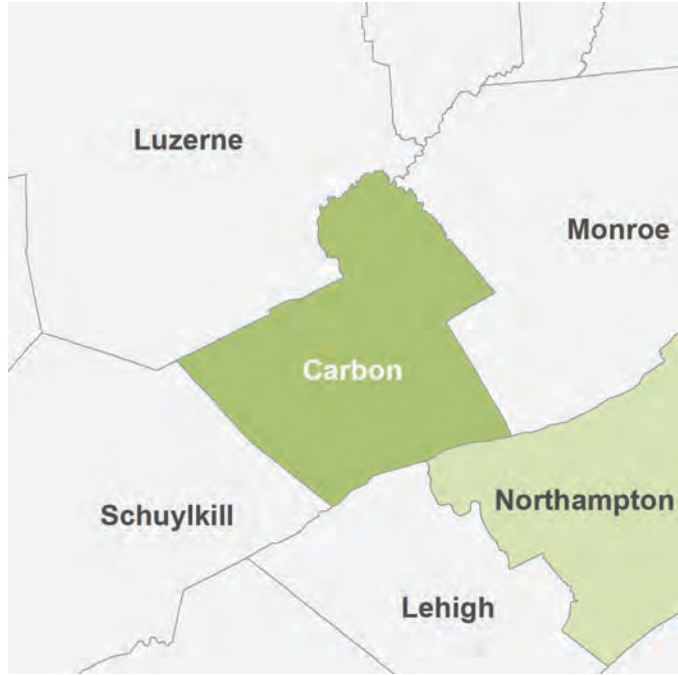
Cooks Creek Conservation Landscape, located in northern Bucks County, was identified in the *Bucks County, Pennsylvania, Natural Areas Inventory Update* (2011). The *Natural Heritage Inventory for Lehigh and Northampton Counties, Pennsylvania – Update 2013* did not identify conservation landscapes for Lehigh and Northampton counties.



Lehigh County (western border)

Existing connections include:

- Appalachian Trail
- Delaware & Lehigh National Heritage Corridor/D&L Trail
- Greenways—Blue Mountain/Kittatinny Ridge, Lehigh River, Monocacy Creek, Pennsylvania Highlands, Saucon Creek; Hubs—City of Bethlehem, Coplay/Northampton, Slatington/Walnutport
- Lehigh River/Lehigh River Water Trail
- Pennsylvania Highlands



Carbon County (northwestern border)

Existing connections include:

- Appalachian Trail
- Kittatinny Ridge
- State Game Lands #168 (small area [40 acres] on eastern side)
- Greenways – Lehigh River is designated as a multi-use greenway in the LVGP and as a recreation and conservation greenway in the *Carbon County Comprehensive and Greenway Plan* (2013).

Open space resources without an identified connection or differing designations:

- Greenways – Blue Mountain/Kittatinny Ridge is designated as a multi-use and scenic greenway in the LVGP and partly as a conservation greenway and partly as a recreation greenway in the *Carbon County Comprehensive and Greenway Plan* (2013).



Monroe County (northeastern border)

Existing connections include:

- Appalachian Trail
- Kittatinny Ridge
- September 11th National Memorial Trail
- State Game Lands #168

Open space resources without an identified connection:

- A proposed Greenway, Trail & Bike Route is designated along the Rt. 33 alignment in the *Monroe County Open Space, Greenways & Recreation Plan* (2013), but Northampton County does not have the route identified in a plan.



Warren County, New Jersey (eastern border)

Existing connections include:

- Delaware River/Delaware River Water Trail
- Delaware Water Gap National Recreation Area
- Greenways – Delaware River and Highlands are designated as greenways in both the LVGP and in the New Jersey Green Acres State Land Acquisition Program.
- Liberty Water Gap Trail
- September 11th National Memorial Trail
- Warren Highlands Trail

Proposed connection:

- Phillipsburg and the Morris Canal Greenway to the City of Easton, Delaware and Lehigh National Heritage Corridor and the D&L Trail via a pedestrian bridge using the abandoned railroad bridge.



Photo courtesy of Teresa Mackey, LVPC

Vision, Goals, Policies + Implementation Strategies

Photo courtesy of Alice Lipa, EVPC

Vision

**Our Livable Landscape
– a mosaic of parks,
farmland, natural areas,
scenic views and
historical and cultural
sites promoting healthy
lifestyles, natural diversity
and community identity.**

The Livable Landscapes vision statement was created to express the overall intention for the open space resources within Northampton County. It was created through the work of the Steering Committee and with input from the public at meetings held across the County and through a specific public opinion survey conducted for this Plan. The short form of the vision statement is “Our Livable Landscape” expressing ownership by the residents of Northampton County, using the term livable to express healthy lifestyles, natural diversity and community identity and using the term landscape to refer to the interconnected or interwoven open space features creating the backdrop to our everyday lives. The vision statement establishes the breadth of the open space plan, referring to parks, natural areas, scenic views and historical and cultural sites, that leads directly to the expression of goals, policies, implementation strategies and recommendations to accomplish the vision.

Presented below are the goals established for the *Livable Landscapes* plan. Under each goal are policies providing more specific details associated with each goal. Implementation strategies are also provided for each goal and set of policies to describe the specific actions needed. Note that the policies and implementation strategies are in many cases adapted from existing sources, primarily the LVPC *Comprehensive Plan The Lehigh Valley ... 2030* and the LVPC *Lehigh Valley Greenways Plan*.



Photo courtesy of Becky Bradley, LVPC

Goal 1 - Conserve, restore and enhance natural resources

POLICIES

- Protect rivers, streams, lakes, ponds and floodplains by preserving or restoring riparian buffers (150 feet wide along Exceptional Value and High Quality streams and 75 feet wide along all other waterways) where feasible using a variety of native vegetation.
- Protect the quality and quantity of existing groundwater by monitoring withdrawals to not adversely impact present or future uses during both drought and non-drought conditions.
- Preserve wetlands and provide a vegetated buffer (150 feet wide in Exceptional Value and High Quality watersheds and 75 feet in all other watersheds).
- Avoid development on steep slopes greater than 25% and provide development restrictions on steep slopes of 15% to 25% to prevent erosion.
- Preserve and restore woodlands to increase habitat connectivity.
- Preserve Natural Heritage Areas core habitats with a Global or Regional Significance Rank.
- Protect very high and high conservation priority natural resource areas as depicted on the LVPC Natural Resources Plan map as included in the *Comprehensive Plan the Lehigh Valley ... 2030* through acquisition or conservation easements.
- Monitor and manage publicly-owned natural areas to maintain the health and quality of the site and to regulate public access.
- Advocate a variety of approaches to enhance natural resources connectivity.



Goal 1 - Conserve, restore and enhance natural resources

IMPLEMENTATION STRATEGIES

Northampton County should:

- support conservation organizations in their efforts to acquire open space and important natural areas consistent with the *Livable Landscapes* plan.
- give higher priority to park and natural area projects that would protect land with surface waters.
- maintain or enhance funding for acquisition or easement purposes to preserve lands with very high or high priority conservation value.

Northampton County and municipalities should:

- work with state and federal agencies and conservation organizations to provide information and technical assistance to landowners to encourage conservation and sustainable management of natural resource lands.
- manage wetlands on publicly-owned land to maintain and enhance their environmental, scenic and educational values.

Northampton County, municipalities and conservation groups should:

- use the recommendations of the *Natural Heritage Inventory of Lehigh and Northampton Counties, Pennsylvania – Update 2013*.
- encourage public and private landowners to use best management practices in forestry, stewardship and lawn care activities.
- take advantage of state and federal grant programs for open space preservation.
- maintain a GIS database that provides current information about natural resources and conservation priorities.
- encourage private landowners to place conservation easements on portions of their property that are located in very high and high priority natural resource protection areas.

Municipalities should adopt zoning and subdivision and land development ordinances consistent with the LVPC model regulations to:

- prohibit or otherwise control development in the 100-year floodplain.
- protect riparian buffers and wetlands and test for wetlands if soils classified as predominantly hydric are present.
- manage development, grading and forestry on steep slopes.
- identify and mitigate risks of development in areas with carbonate bedrock.
- control tree removal and the indiscriminate cutting of trees during subdivision and land development activities.
- encourage conservation design practices in the subdivision of land that involves natural resources recommended for conservation.
- require developers to include open space or recreation land (or fee in lieu) as part of all new residential and commercial development proposals.

Municipalities should:

- identify natural resource areas in comprehensive plans.
- invest in local open space acquisitions.
- adopt an official map to preserve very high and high conservation priority natural resources.
- establish a program to purchase or accept donations of land located within very high and high priority natural resource areas.

Goal 2 - Provide and maintain an exemplary park, trail and recreation system

POLICIES

- Provide and maintain a wide variety of park, trail and recreation facilities for all ages and abilities.
- Improve community health by providing convenient access to park, trail and recreation opportunities for all residents.
- Use current recreation activity trends and local demographics when planning for new recreation facilities and programs.
- Encourage schools to have their recreation facilities available to the public, if feasible.
- Encourage the private sector to provide special use recreation facilities.
- Support efforts to close trail gaps as the opportunities arise.
- Use existing linear corridors (rail, roadways, riparian buffers) for bicycle and pedestrian facilities.
- Encourage trail linkage to create a network connecting residential areas, schools, parks, town centers, employment areas and other transportation facilities.



Goal 2 - Provide and maintain an exemplary park, trail and recreation system

Implementation Strategies

Northampton County should:

- implement the recommendations in the *Livable Landscapes* plan, which should be updated on a regular basis.
- consult with a landscape architect to review and update existing and design new County parks as needed.

Northampton County and municipalities should:

- cooperate in acquiring, developing and maintaining parks and other outdoor recreation facilities.
- improve existing and design new outdoor recreation facilities to be compliant with the Americans With Disabilities Act.
- conduct playground safety audits and address identified deficiencies.
- acquire rail rights-of-way needed for recreation or alternative transportation purposes.
- consider opportunities to use floodplains and riparian buffers for trails.
- use an official map to proactively plan for future trails and bicycle and/or pedestrian pathways.
- use DCNR’s publications, *Pennsylvania Trail Design & Development Principles* and *Creating Sustainable Community Parks and Landscapes*, for park and trail development.

Municipalities should:

- prepare and implement park and recreation plans.
- require the dedication of land or money for parks as a condition for subdivision or land development approval as provided in the Pennsylvania Municipalities Planning Code.

- amend subdivision regulations to assure street connectivity and provide for sidewalks and bikeways.
- adopt an official map to help reserve sites for future parks, trails and bicycle or pedestrian pathways.
- establish a program to purchase or accept donations of land for outdoor recreation facilities.
- coordinate with schools, public and non-profit organizations to provide adequate recreational space for residents.
- pursue opportunities for the development of trails and bicycle lanes when roadways are constructed or repaired.
- Municipalities along the Kittatinny Ridge should use regulatory approaches to protect lands near the Appalachian Trail consistent with the LVPC’s *Protect the Trail: A Guide to Protecting the Appalachian Trail for Lehigh Valley Municipalities*.

Northampton County, municipalities and local conservation organizations should:

- encourage dialogue with rail and utility companies on the use and/or acquisition of existing or abandoned rights-of way for trail development.
- work with PennDOT and local road departments to include bicycle and pedestrian-friendly facilities when new roads or road improvements are planned.

Pennsylvania Department of Transportation (PennDOT) and municipalities should:

- add bicycle lanes/shared use lanes to appropriate roads during construction improvements, if demand warrants.
- adopt bicycle/pedestrian design and performance standards.

PennDOT and the LVPC should:

- create bicycle/pedestrian design and performance standards.

Goal 3 - Conserve, restore and enhance a greenways and blueways network

POLICIES

- Preserve the natural, recreational, cultural, historical and scenic lands within greenways and blueways identified in LVPC's *Lehigh Valley Greenways Plan*, emphasizing the greenways and blueways designated as early implementation (Blue Mountain/Kittatinny Ridge, Bushkill Creek Corridor, Greater Minsi Lake Corridor, and the Pennsylvania Highlands) and other priority greenways and blueways (Delaware River, Lehigh River and Monocacy Creek).
- Use cultural/recreational and multi-use greenways and blueways to provide local, close-to-home recreation opportunities.
- Promote the development of new outdoor recreation facilities at strategic locations throughout the greenway and blueway network.
- Establish greenways and blueways to provide buffers between non-compatible land uses, where feasible.



Goal 3 - Conserve, restore and enhance a greenways and blueways network

IMPLEMENTATION STRATEGIES

Northampton County and municipalities should:

- acquire or obtain easements on properties within greenways and blueways identified in the *Lehigh Valley Greenways Plan*.
- adopt regulatory measures to preserve greenways and blueways, including updated comprehensive plans, zoning ordinances, natural resources protection ordinances and official maps.
- coordinate efforts with local land trusts, conservancies, school districts and the private sector to establish greenway and blueway connections through acquisitions and easements.
- use cultural/recreational and multi-use greenways and blueways to meet recreational acreage standards of their communities.

Northampton County, the LVPC and municipalities should:

- coordinate the planning and development of the greenways and blueways network with transportation, economic development, tourism, recreation and open space priorities in the region.

Municipalities should:

- require developers to include open space or recreation land (or fee in lieu) as part of all new development proposals.
- establish a program to purchase or accept donations of land for greenway and blueway protection.



Photo courtesy of Becky Bradley, LVPC

Goal 4 - Preserve farmland and farming to meet food production, economic and open space needs

POLICIES

- Support effective agricultural zoning, agricultural security areas and purchase of agricultural easements in areas recommended for farmland preservation in the County *Comprehensive Plan*.
- Support the retention and expansion of local family farms.
- Encourage farm-related businesses in areas recommended for farmland preservation.
- Protect agricultural uses from residential development and non-farm activities that interfere with normal farming practices.
- Support retention and expansion of farmers' markets where the farmers come from within a short distance of the market.
- Support retention and expansion of regional value-added efforts, such as local farms and businesses.
- Support the efforts of regional institutions, extension services and other agencies engaged in agricultural development efforts.
- Identify, support and implement market and needs-based solutions that provide ready access to nutritious and healthy food choices in the region's areas of limited food access.
- Support alternative agricultural strategies suitable for areas with high existing levels of development.
- Strengthen regional food systems by linking food production, processing, distribution, consumption and waste management to facilitate development and consumption of the County's food resources.
- Encourage the implementation of programs that mentor new farmers and those interested in farming.



Photo courtesy of Teresa Mackey, LVPC

Goal 4 - Preserve farmland and farming to meet food production, economic and open space needs

IMPLEMENTATION STRATEGIES

The Northampton County Farmland Preservation Board should:

- preserve farmland in the areas designated for farmland preservation in the County *Comprehensive Plan*.

Northampton County and municipalities should:

- maintain or enhance the financial support to leverage against available state and federal funding for acquisition of agricultural conservation easements.

Municipalities should:

- participate in the agricultural security program to protect farming from non-farming activities.

Northampton County, the LVPC and municipalities should:

- coordinate with Buy Fresh Buy Local Greater Lehigh Valley to create a Fresh Food Access Plan to identify detailed implementation strategies for providing fresh, local food to Northampton County residents.



Photo courtesy of Alice Lipe, LVPC

Goal 5 - Preserve historic, cultural and scenic resources and landscapes

POLICIES

- Historic buildings that have educational importance or value as tourist attractions should be given a high priority in restoration programs.
- Restoration programs should evaluate a full range of possibilities, from minimal efforts that stabilize ruins to full restoration projects.
- Historic buildings that can be used by the private sector should be given a high priority in restoration programs.
- Acquisitions for parks should include historical features whenever possible.
- Highway projects and other public infrastructure improvements should avoid features that are listed, or are eligible for listing, on the National Register of Historic Places, unless reasonable alternatives are not available.
- Encourage historic preservation planning and adopt historic district regulations pursuant to the Pennsylvania Historic District Act (Act 167).
- Develop trails for historic interpretation and education.
- Preserve cultural resources whenever possible.
- Preserve, through acquisition or easement, scenic landscapes in areas that have not been substantially urbanized.
- Preserve the scenic qualities of the Delaware and Lehigh rivers.
- Protect and enhance a network of designated scenic transportation corridors.
- Retain the rural character of the County.



Photo courtesy of Alice Lipe, LVPC

Goal 5 - Preserve historic, cultural and scenic resources and landscapes

IMPLEMENTATION STRATEGIES

Municipalities should:

- conduct comprehensive historic sites surveys.
- designate historic districts through adoption of historic district regulations pursuant to Act 167.
- reduce impacts of development in rural communities to retain the rural character of the County.
- restrict structures to be located or extend above ridgeline elevations to preserve scenic vistas.
- implement the goals and objectives of the LVPC *Delaware River Scenic Drive Plan*.
- encourage the creation of a scenic drive along the D&L Drive. Implement the goals and objectives of the Heritage Conservancy publication, *Shaping the D&L Drive*.

Private property owners of historic sites should:

- preserve the features that make such sites historic.



Photo courtesy of Alice Lipe, LVPC

Goal 6 - Advance County open space resources and usage through funding, promotion, education, partnerships and other strategies

POLICIES

- Promote the open space resources available in the County to residents and tourists.
- Educate about the value of open space and preservation using the *Livable Landscapes* plan and the *Lehigh Valley Return on Environment* report.
- Build and maintain partnerships with public and private entities, such as conservation, transportation, educational, public health, utility companies and government agencies, to maximize limited resources.
- Expand and improve staff capabilities to facilitate the expansion and maintenance of the open space network.
- Maintain or enhance funding to provide and maintain open space resources.
- Pursue a variety of funding and incentive opportunities to leverage for acquisitions and enhancements to the open space network.
- Advocate using a variety of tools and techniques to preserve open space resources.



Goal 6 - Advance County open space resources and usage through funding, promotion, education, partnerships and other strategies

IMPLEMENTATION STRATEGIES

Northampton County should:

- use the County’s website and social media to provide open space resources material to the public.
- develop a promotional brochure to educate residents and tourists about the County park resources.
- design and install a standardized wayfinding system to and within County-owned parks.
- provide an annual tour of County parks for County Council members to keep them informed of current projects and issues.
- maintain or enhance funding to the Northampton County 21st Century Open Space Initiative.
- develop a capital improvements program to ensure the continued funding for maintaining the County park sites.

Northampton County, the LVPC, municipalities and local conservation organizations should:

- educate elected officials and the general public on the benefits of open space to the environmental, economic and cultural and physical health of a community.

Northampton County and municipalities should:

- partner with PennDOT District 5 for trail and bicycle/pedestrian projects.

Municipalities should:

- explore alternative funding sources to leverage with funding provided by the County.
- use state and federal transportation funds to build trails.
- commit the financial resources and efforts needed to acquire, develop or maintain open space facilities.
- take advantage of grant programs to acquire, develop or maintain open space lands and facilities.
- ensure that land acquired for open space is not converted to other uses.
- establish Environmental Advisory Councils (EACs) for the review of zoning and rezoning proposals, subdivision and site plans and similar projects for their impact on the open space resources.

Discover Lehigh Valley should:

- develop a mobile optimized web application of active and passive cultural/recreational attractions in the County to foster interest in, and provide information about, the many opportunities available.

Implementation Tools



Photo courtesy of William Deegan, LVPC

Increasing development pressures in many parts of Northampton County have resulted in increased awareness and interest in preserving open space. A range of techniques can be used to conserve open space from absolute to minimal protection. Since it is neither practical nor desirable for local government to regulate everything, a combination of landowner stewardship and public sector regulation is fundamental to the preservation of natural resources, as conservation is most effective when various techniques are applied together. The options available to local governments include regulatory, nonregulatory and administrative measures. Any of the available measures described below should be carefully evaluated and implemented to meet the environmental and political needs of each municipality.

Land Conservation Techniques

Permanently protecting environmentally sensitive, historically important and/or culturally significant lands from undesirable development can be a challenging and time-consuming task. Choosing the appropriate method of preservation involves evaluating the landscape to identify the features needing protection, assigning priority to the land to assure the most sensitive and at-risk features are protected, and selecting suitable methods and entities to accomplish the conservation objectives. Many valuable resources would have been developed from their natural undisturbed state had it not been for the hard work and collaboration of local governments and nonprofit organizations that aim to acquire and protect land identified by the LVPC as high priority resource lands. Land trusts that are actively protecting lands in Northampton County include:

Wildlands Conservancy, Emmaus, PA – Since 1973, Wildlands Conservancy has been working to protect and enhance the quality of place enjoyed in the Lehigh River watershed, as well as elsewhere in eastern Pennsylvania. As a nonprofit, member-supported organization, they work on ways to protect water quality throughout the watershed, and they assist efforts to create, enhance, maintain, and promote parks and trails. Wildlands Conservancy has protected more than 40,000 acres of critical farmland and wild lands in eastern Pennsylvania. They also foster responsible stewardship of resources through education of youth and by raising the environmental awareness of the general public.

Natural Lands Trust, Media, PA – Natural Lands Trust is a nonprofit land conservation organization protecting land in communities throughout the greater Philadelphia region. They envision and work to build an interrelated system of permanently protected open space comprised of the region’s most important natural areas, cultural landscapes, and sustainable agricultural lands. Within this open space network, Natural Lands Trust: 1) creates, owns and manages signature preserves, 2) protects and monitors lands under conservation easement, 3) helps conservation-minded partners and clients conserve land, and 4) actively manages thousands of preserved acres and teaches others best practices in land stewardship.

Heritage Conservancy, Doylestown, PA – Heritage Conservancy preserves the open spaces and historic places that are so essential to Northampton County’s quality of life by working with citizens, community groups, private landowners, municipalities, and state and federal agencies to promote and implement open space and natural resource protection, green urban planning, agricultural land protection, innovative sustainable land use practices, preservation and/or adaptive re-use of historic structures, wildlife habitat restoration and best land management practices.

The Nature Conservancy, Arlington, VA – Founded in 1951, The Nature Conservancy is the leading conservation organization working around the world to protect ecologically important lands and waters for nature and people. The mission of the organization is to conserve the lands and waters on which all life depends. They believe they have been so successful because they: 1) use good science, 2) pursue non-confrontational, pragmatic solutions to conservation challenge, 3) partner with indigenous communities, businesses, governments, multilateral institutions, and other nonprofits, and 4) have the support of more than 1 million members who continue working on a scale that matters and implement solutions that endure.

Appalachian Trail Conservancy, Boiling Springs, PA – The Appalachian Trail Conservancy is a volunteer-based, private nonprofit organization dedicated to the conservation of the 2,175-mile Appalachian National Scenic Trail, a 250,000-acre greenway extending from Maine to Georgia. Their mission is to ensure that future generations will enjoy the clean air and water, scenic vistas, wildlife and opportunities for simple recreation and renewal along the entire Trail corridor. The most commonly used land conservation techniques are: fee simple acquisition, conservation easements and land management/stewardship.

Fee Simple Acquisition: Fee simple acquisition is the most straightforward method of preservation. A fee simple acquisition provides the greatest level of protection as a landowner sells their rights, title and interest in the property to the buyer, who then owns and maintains the land. Either by purchase or donation (tax benefits may apply to the donor), the receiving entity will hold the deed and be responsible for the insurance, taxes, liabilities and long-term management of the property. Through the Community Conservation Partnership Program (C2P2), DCNR provides technical assistance and grant funding to counties, municipalities, land trusts and preservation organizations for acquisition projects that preserve natural, cultural and recreational areas. The state and federal funds are available to encourage the preservation of publicly available open space and natural areas either through fee simple acquisition or acquisition of conservation easements.

Conservation Easement: A conservation easement is a method of protecting the significant resources of a property with deed restrictions that target only those rights necessary to protect the land's conservation value. Through a conservation easement a landowner voluntarily assigns restrictions on the future use of the land; therefore, protecting sensitive environmental features, riparian buffers, greenways, historic resources, scenic vistas, and agricultural lands in perpetuity. Once again, through purchase or donation a landowner conveys their development rights to the receiving entity yet retains ownership of the property, including the ability to sell or pass it on to heirs. Future owners of the land will also be bound by the conservation easement terms. Conservation easements are a popular option among landowners as the responsibilities and rewards of ownership continue, thus the landowner retains full control over public access just as before granting the easement. However, in most instances when public dollars are used, this method of land preservation may require monitored public access when it is compatible to the conservation objectives. Also attractive to local governments, easement acquisition provides valuable open space to communities at a lesser

cost to taxpayers than fee simple acquisition. This results in the generation of a significant public benefit through the permanent protection of more land using limited funds.

Land Management/Stewardship: The least expensive land preservation technique is land stewardship through the careful management of land alteration to ensure that the natural (and cultural resources) are maintained and/or enhanced. This method of protection involves the thorough understanding of the value and roles of the resources present and incorporating this understanding into the development and maintenance of both privately- and publicly-owned land. Conservation-based development is one method of stewardship guided by the preservation of the conservation value of the property, as well as the achievement of the economic goals of the landowner. Careful planning and design that incorporates open areas into a development site ensures that the highest priority natural areas are preserved. These areas can be used for recreation or preserved as open space. This method may use a combination of many land preservation techniques and is an alternative to traditional development.

Regulatory Measures

The Pennsylvania Municipalities Planning Code (MPC), in effect since 1969, and updated several times since, provides the enabling legislation to municipalities for the creation of comprehensive plans and the establishment and use of regulatory land use ordinances. The general intent of the MPC is to give municipalities the authority to guide coordinated development; guide uses of land, structures, streets and public facilities; and to promote preservation of natural and historic resources. Comprehensive plans and regulatory ordinances are often the primary means a municipality uses to both guide potential open space acquisitions and enforce the protection of natural features from the development or use of a property.

Comprehensive Plan: The municipal comprehensive plan, although not regulatory in and of itself, is a legal document that serves as a decision-making guide for both officials and citizens. It is intended to assist the municipality in making decisions about future growth and development. The process of developing the plan is perhaps as important as the final document. The process examines existing conditions and issues unique to the municipality and establishes goals and policies that support the municipality's desired future character and form. Relative to open space and environmental features protection, the comprehensive plan can include objectives, strategies and recommended actions designed to ensure the provision of open space in the municipality. Further, it can include observations on general open space deficiencies and potential acquisition sites that would serve as the foundation for a municipal open space plan. Essentially a roadmap for the future, the goals and policies of the comprehensive plan serve as the document which the official map and/or municipal ordinances are based upon.

Official Map: Article IV of the Pennsylvania Municipalities Planning Code (MPC) enables municipalities to prepare an official map and take proactive measures in shaping important components of their future development, in contrast to simply reacting to developers' proposals. Adopted by ordinance, it serves as a visionary document that specifies properties the municipality wants to acquire for public improvements. The official map is a seldom used land use management tool that can help municipalities plan the location and layout of future roads and public areas and preserve rights-of-way. By doing so, it reserves this land for future public use. When consistent with a municipal subdivision and land development ordinance (SALDO), zoning ordinance and comprehensive plan, it can give strength and validity to a municipality's wants and needs for future growth. Further, it is an excellent supporting document for grant applications involving land or easements intended for open space or park facilities. For example, mapping future parks and recreation areas demonstrates that

the municipality has proactively planned for these improvements, instead of reacting to unanticipated needs. A wide variety of elements can be shown on the map as long as they are consistent with the MPC. The official map can include features such as:

- Existing and proposed public streets, watercourses and public grounds, including widening, extensions, openings or closings.
- Bikeway routes (both separate trails and those proposed along existing roads).
- Existing and proposed public parks, playgrounds and open space reservations.
- Pedestrian ways and easements.
- Railroad and transit rights-of-way and easements (including those that may be vacated or abandoned and have potential use as trails).
- Stream valley corridors and other environmentally critical areas such as unique and scenic areas, or habitats of endangered species.
- Flood control basins, floodways and floodplains, stormwater management areas and drainage easements.
- Potential public well sites or groundwater resources areas.
- Historical and archaeologically significant areas.

The official map is not a taking of private land. If by virtue of the official map a landowner is denied reasonable use of his property, he or she can apply for a special encroachment permit that would allow them to build on the site. If a landowner notifies the municipality of their intention to develop a site identified on the map, the municipality has one year to acquire the site or the reservation of that land becomes invalid. The landowner is free to use any unmapped portions of the land in accordance with the municipality's zoning and subdivision regulations. The official map need not be surveyed. A metes and bounds survey is not required until an actual purchase of land or easement is proposed by the municipality. It does not obligate the municipality to open, maintain or improve mapped roads or build the

improvements cited on the map. It does not serve as the municipality’s zoning map or comprehensive plan as it is a document of limited purpose and its legal impact is quite specific. The creation of the official map is not necessarily an expensive undertaking. It can be simple or complex, with varying levels of detail. The level of complexity largely depends on the vision and the role of the map in helping elected officials make land use decisions. In Northampton County, the following municipalities have adopted official maps:

- Allen Township (April 2006)
- Bushkill Township (April 2005)
- East Allen Township (August 2009)
- Hanover Township (August 2008)
- Moore Township (March 2003)
- Tatamy Borough (January 2015)

More information on official maps is available in the publication *The Official Map: A Handbook for Preserving and Providing Public Lands + Facilities* (2011) written by the Pennsylvania Land Trust Association in partnership with DCNR, PennDOT and Pennsylvania Department of Community and Economic Development.

Municipal Ordinances: In addition to comprehensive planning, a municipality can enact regulatory measures to protect vulnerable natural resources through the following methods:

Subdivision and Land Development Ordinances (SALDO) – When a piece of land is divided into two or more lots, the land is considered to have been subdivided. Subdivision ordinances specify certain minimum requirements and standards that all land divisions must include. The municipality’s SALDO can include a number of regulations that can preserve open space and protect environmental features.

Mandatory Dedication/Fee in lieu – The MPC provides for the mandatory public dedication of lands suitable for recreation purposes or the payment of fees in lieu of such lands. Municipal SALDOs can require fees paid by the developer to be deposited into a fund specifically for the construction of recreational facilities, reservation of land for parks or open space or a combination thereof. The MPC requires the formal adoption of a recreation plan as a prerequisite to implementation of these provisions. The fee in lieu of option ensures that all subdivisions provide for a proportionate share of the open space needs of the municipality. Both lands and fees obtained must be used to provide park or recreation facilities accessible to future residents of the development from which they were obtained.

Stormwater Management Best Management Practices (BMPs) – Preserving open space in a natural and undeveloped condition is an excellent best management practice (BMP) for water quality protection, both for surface and groundwater supplies, by filtering runoff and pollutants from impervious areas. It also provides additional area for other BMPs. They capture, treat and infiltrate stormwater on-site, helping to maintain the natural hydrology as development occurs. Municipalities in Northampton County have adopted BMP provisions as part of ordinances created by the County and the LVPC under the Pennsylvania Stormwater Management Act (Act 167 of 1978).

Zoning Techniques – The Pennsylvania Municipalities Planning Code (MPC) designates zoning as a tool for regulating land uses, including open space and recreational facilities. The primary function of zoning should be to implement the municipality’s comprehensive plan. It regulates the use of private property in the public interest and may be used to protect natural resources.

Overlay districts – An overlay district directs development away from sensitive or environmentally important lands. It is a set of regulations that are in addition to the base zoning district and is usually applied to specific locations within the municipality. Techniques such as conservation subdivisions, buffer strips and numerous performance standards are usually included in overlay regulations.

Performance Standards – “Performance zoning” is a flexible alternative to traditional land use zoning. Where traditional zoning specifies land uses within districts, performance zoning specifies the intensity of land use that is acceptable in consideration of the surrounding environment. With performance standards, municipalities can steer development away from natural features, limit the intensity of development, and limit negative effects of development on public infrastructure. This option allows developers more flexibility in design since the use of a property is not restricted as long as the impacts to the surrounding land are not negative.

Sliding Scales - Sliding scale zoning limits the number of times a parcel can be subdivided to a maximum number established by the zoning ordinance. This method prevents the complete residential subdivision of large parcels, because of the diminishing returns as tract size increases. Conventional zoning would permit a fixed number of lots per acre regardless of tract size. Sliding scale zoning allows some residential development without using the entirety of the land. For example, a sliding scale could permit one building lot for every 10–20 acres, two lots for every 20–40 acres, three lots for every 40–80 acres and only four lots for parcels over 80 acres.

Conservation Subdivision Design – A conservation subdivision is a land development of common open space

and clustered compact lots. The purpose of a conservation subdivision is to protect natural resources while allowing for the maximum number of residences under current municipal zoning and subdivision regulations. Conservation subdivision ordinances generally require permanent dedication of 40% or more of the total development parcel as open space. Open space design requirements often include contiguity and connection to other open space or conservation areas.

Planned Residential Development (PRD) – Planned residential development is a form of mixed use development that includes open space. It may consist of single-family dwellings, duplexes, multifamily dwellings or a mixture of housing types. PRD encourages well-planned developments. The planned residential development option is intended to give landowners greater flexibility in developing tracts of land on a project basis by relaxing the various lot area, lot width, setback, yard and other regulations. PRD regulations can also mandate open space, similar to conservation design.

Lot Averaging – Lot averaging is a method that allows flexibility in lot size. This technique permits one or more lots in a subdivision to be undersized, as long as the same number of lots in the subdivision are oversized by an equal or greater area than what the zoning district permits. This allows a developer to work around existing natural features, such as wetlands, by making adjacent lots smaller and locating them in protected open space.

Transfer of Development Rights (TDR) – The transfer of development rights “transfers” development to another part of the municipality where development and infrastructure may already exist. The goal of a TDR is to direct growth to an already developed, or developing, area. Landowners of these properties, usually in farmland or rural areas (senders)

sell development rights to developers in areas designated for higher density development (receivers). The municipality or a nonprofit agency can act proactively, by purchasing the development rights and “retire” them, making them unavailable for future use, or “bank” them, making them available to interested developers for their use in receiving areas. An excellent resource on the TDR option is *Transfer of Development Rights* by the Environmental Management Center of Brandywine Conservancy.

Protecting Environmental Features through Zoning – Outside of creative methods to shape or otherwise limit development, significant natural features can be protected by specific stand-alone ordinances or sections of the zoning ordinance. In practice, across the Lehigh Valley, it is the most proactive and successful approach a municipality can undertake in protecting natural features.

Floodplains – Floodplain areas absorb and store large amounts of water, which is a source of aquifer recharge. The floodplain is defined by the 100-year or base flood which has a 1 percent chance of being equaled or exceeded in a given year. The floodplain includes floodways and flood fringes. Communities have floodplain regulations of varying regulatory restrictiveness. Natural vegetation supported by floodplains helps trap sediment from upland surface runoff, stabilizes stream banks and reduces soil erosion. Floodplains also provide shelter for wildlife and proper stream conditions for aquatic life. Many of the most scenic areas in Northampton County are found within the floodplain of the Delaware River, Lehigh River and larger streams such as the Bushkill Creek. Water quality is also affected by the action of water in a floodplain. When soil particles are scoured from the surface of the earth by water erosion, they can travel

into fish habitats and human drinking water sources. Reduced sedimentation in streams and rivers can aid in protecting an area from serious flooding by not clogging stream channels and drainage ditches. The intent of regulating development in floodplain areas is to eliminate loss of life, health hazards and property damages which may be caused by floods; to preserve the capacity of stream channels and adjacent floodplain areas to carry flood waters; and to encourage the use of flood prone land for open space uses.

Riparian buffers – A riparian buffer is an area of trees and other vegetation adjacent to a watercourse that forms a transition area between land and the watercourse. A riparian buffer ordinance establishes riparian buffers and regulates the size and permitted disturbances of the buffer. The riparian buffer is designed to intercept runoff from upland sources for the purpose of neutralizing the effects of nutrients, sediment, organic matter, pesticides or other pollutants before they enter the watercourse. To be most effective, buffers should be considered along all streams, including intermittent and ephemeral channels. The effectiveness of a riparian buffer can be improved by limiting impervious surfaces and strictly enforced on-site sediment controls. Both grassed and forested buffers are effective at trapping sediment, although forested buffers provide other benefits as well, such as providing wildlife habitat and shading for the waterbody.

Steep slopes – Steep slope regulations limit or prohibit development on areas of steep slope. The definition of steep varies from municipality to municipality, with 15% typically the minimum gradient classified as steep. Steep slopes are vulnerable to damage resulting from site

disruption, primarily related to soil erosion. Such damage is likely to spread to areas that were not originally disturbed. Such erosion reduces the productivity of the soil, and results in increased sedimentation in drainage ways, wetlands and streams. Development of steep slopes, especially adjacent to stream corridors, can increase erosion of stream banks, resulting in pollution and decreased water quality. Increased sedimentation also increases flood hazards by reducing the floodwater storage capacity and elevating the flood level of the drainage system in low-lying areas. Beyond these threats to public safety, disruption of steep slopes also increases the likelihood of slippage and slumping—unstable soil movements, which may threaten adjacent properties, buildings and public facilities such as roads and utilities.

Woodlands and Trees – Woodland and tree preservation regulations control and regulate the excessive removal, cutting and destruction of trees. Woodlands stabilize the soil, control water pollution, provide air quality benefits and provide a natural habitat for wildlife. Development can lead to tree loss, and remaining trees lose vigor because of damage sustained during construction. Municipalities can limit both tree loss and tree damage with well-conceived tree preservation ordinances or policies. The goals of tree preservation are twofold. First, it seeks to protect designated trees. Secondly, it attempts to minimize impact to those trees during construction. The protection of native, non-invasive species of vegetation and older specimens of trees is accomplished by designing standards that regulate the type of vegetation to be removed and the circumstances under which it can be removed.

Wetlands – Wetlands are all lands regulated as wetlands by the Pennsylvania Department of Environmental Protection and/or the United States Army Corps of Engineers. Such areas are inundated or saturated by surface water 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, including swamps, marshes, bogs and similar areas. Many of these wetlands are seasonal (they are dry one or more seasons every year). The quantity of water present and the timing of its presence in part determine the functions of a wetland and its role in the environment. Even wetlands that appear dry at times for significant parts of the year (vernal pools) can provide habitats for wildlife. A wetland must have “hydrophytic vegetation,” defined as plants adapted to tolerate oxygen-poor, wet conditions. A wetland also must have “hydric soil,” which is soil that formed when oxygen was lacking because of prolonged inundation or saturation.

Wetlands have important filtering capabilities for collecting runoff from higher dry land before the runoff reaches streams and rivers, maintaining stream flow during periods of drought and can assist in replenishing groundwater. They also serve an important role in flood management since the holding capacity of a wetland can lessen the effects of a flooding event.

Wellhead protection – A wellhead protection ordinance regulates land use activities within defined critical recharge areas surrounding public water supply wells. The ordinance is structured to prohibit certain land use types, which could contaminate the water supply, from locating within the defined critical recharge areas. It can be a stand-alone ordinance or be part of a zoning or subdivision and land development ordinance.

Sinkholes – The majority of Northampton County is underlain by carbonate bedrock. When areas within a municipality are underlain with carbonate bedrock, these areas are often unstable and susceptible to collapse and the formation of closed depressions and sinkholes. This process can threaten the local groundwater supply by leaving the water vulnerable to contamination that moves through the rock’s fractures and openings. The goal of this type of regulation is to protect groundwater resources and reduce the frequency of property damage due to sinkhole collapse.

The “Net Out” of features – The net out of resources refers to the technique of deducting environmentally constrained lands from development density calculations. Netting out is intended to protect and preserve environmentally constrained areas by reducing or eliminating the credit given for these lands toward the amount of development permitted on a given site.

The LVPC has created a variety of natural resource protection guides/model ordinances for use by municipalities:

- Floodplains (2014)
- Steep Slopes (2008)
- Riparian and Wetland Buffers (2011)
- Woodlands (2009)
- Conservation Subdivisions (2010)
- Protect the Trail: A Guide to Protecting the Appalachian Trail for Lehigh Valley Municipalities (2010)
- Sinkhole Prevention (1988)
- Wellhead Protection (1992)

Funding Measures

The conservation of land for open space and/or greenways can create costs (lost tax revenue) and benefits (e.g., increased values for nearby properties, recreational and other amenities) for the County and municipalities. There are several options for acquiring open space, ranging from or a combination of pay-as-you-go using tax revenue; borrowing funds via traditional loans or general obligation bonds; or federal, state, local and private grant programs.

With pay-as-you-go approaches, the government spends revenues from general appropriations or from a dedicated funding source such as property taxes, earned income taxes, real estate transfer taxes, dedicated open space tax or budget surpluses with no borrowing costs. This approach is an incremental approach, with a focus on acquisition of small parcels or completion of projects in stages. The cost of the open space is essentially borne by the present residents of the municipality.

Utilizing a borrowing approach, municipalities issue bonds or borrow from commercial lenders. This allows the municipality to expeditiously fund significant acquisitions or complete major projects. Borrowing spreads the cost of the open space over present and future residents of the municipality. Municipalities can combine the two approaches, borrowing funds for acquisition debt and implement a dedicated tax for open space acquisition. Revenues from the dedicated tax pay off the debt.

Another less commonly known method is the Installment Purchase Agreement (IPA). An IPA puts the purchase price into a tax-free annuity instead of giving the money directly to the landowner. The landowner receives tax-free interest from the annuity for a fixed number of years and then at the end of the period the full amount of

the principal is transferred to the owner. In this way the landowner postpones the taxation of the principal amount, and in the interim, receives tax-free payments semiannually. The municipality typically purchases bonds to cover the payments. Deferral of payment of the purchase price for up to thirty years allows the municipality to make additional purchases or complete projects than could otherwise be made over the short term. Since the municipality will own the easements forever, spreading the payments over time means that the cost is distributed between present and future residents. The implementation of a municipal open space program is based on many variables and all options should be carefully considered to fit local natural resources protection goals and political needs.

Grant programs are available from County, state, federal and private sources. Building an open space network involves a wide variety of funding that addresses different network components. The County grant program, Northampton County 21st Century Open Space Initiative, is described in the Inventory + Assessment chapter of this Plan. The program’s guidelines for the Natural Areas and Municipal Park Acquisition and Development elements are available on the Northampton County website (www.northamptoncounty.org County Government>Open Space>21st Century Open Space Initiative). A guide to state funding is available from the Pennsylvania Growing Greener Coalition (*Finding the green! A Guide to State Funding Opportunities for Conservation, Recreation and Preservation Projects* available online at <http://pagrowinggreener.org/wp-content/uploads/2014/04/Finding-the-Green-LR.pdf>). Federal funding opportunities are available at <http://www.grants.gov>. The Pennsylvania Land Trust Association’s ConservationTools website provides information on different financing strategies (<http://conservationtools.org/guides/category/5-financing-conservation>).

Action Plan - County Parks and Natural Resource Areas

The Action Plan Matrix is a compilation of the recommendations from the different component sections in this Plan. Each recommendation is assigned a priority and responsible parties. The prioritization balances the needs, capacity of County agencies and budgetary realities. The priority levels are Immediate (1 to 3 years), Short-Term (4 to 7 years), or Long-Term (8 or more years).

ARCHIBALD JOHNSTON CONSERVATION AREA

1 - Transfer the site to either Bethlehem Township or a land conservancy when the opportunity arises.

Priority = Immediate | 1-3 years

Responsibility = Northampton County, Bethlehem Township, land conservancies

2 - Cooperate with Bethlehem Township and land conservancies in planning the conservation area component of this County site.

Priority = Short-Term | 4-7 years

Responsibility = Northampton County, Bethlehem Township, land conservancies

3 - Pursue discussions with the new property owner of the adjacent parcels to the west of the site to connect downstream to the Gertrude B. Fox County Park.

Priority = Immediate | 1-3 years

Responsibility = City of Bethlehem, Hanover Township

BEAR SWAMP ARCHERY COMPLEX

4 - Cooperate with partners to acquire land adjacent to the southern boundary of the Bear Swamp Archery Complex and the part of the East Fork Martins Creek corridor that flows west from the swamp.

Priority = Long-Term | 8 or more years

Responsibility = Northampton County, land conservancies

CIRCLE PARK

5 - Transfer ownership to the City of Easton should be considered..

Priority = Immediate | 1-3 years

Responsibility = Northampton County, City of Easton

DIEFENDERFER TRACT

6 - Conduct a development alternatives study to determine the best use for the property.

Priority = Short-Term | 4-7 years

Responsibility = Northampton County

FROST HOLLOW OVERLOOK

7 - Repair the damaged infrastructure.

Priority = Immediate | 1-3 years

Responsibility = Northampton County

8 - Transfer ownership to Forks Township should be considered.

Priority = Immediate | 1-3 years

Responsibility = Northampton County, Forks Township

FRY’S RUN PARK

9 - Add interpretive signage about the historical significance of the bridge and the trolley piers.

Priority = Immediate | 1-3 years

Responsibility = Northampton County

10 - Restore the historic M. Opp Bridge for preservation purposes and the safety of park visitors.

Priority = Long-Term | 8 or more years

Responsibility = Northampton County

11 - Transfer ownership to Williams Township should be considered.

Priority = Immediate | 1-3 years

Responsibility = Northampton County, Williams Township

Action Plan - County Parks and Natural Resource Areas

GALL FARM

12 - Develop a master site plan for this property to guide the development of the Gall Farm as a regional park.
Priority = Short-Term | 4-7 years
Responsibility = Northampton County

13 - Increase the riparian buffer width along the Little Bushkill Creek to 150 feet as needed.
Priority = Immediate | 1-3 years
Responsibility = Northampton County

GERTRUDE B. FOX COUNTY PARK

14 - Pursue discussions with the new property owner of adjacent parcels to the east of the site to connect upstream to the Archibald Johnston Conservation Area.
Priority = Short-Term | 4-7 years
Responsibility = City of Bethlehem, Hanover Township

15 - Transfer ownership to City of Bethlehem and/or Hanover Township should be considered.
Priority = Immediate | 1-3 years
Responsibility = Northampton County, Bethlehem Township, Hanover Township

GREATER MINSI LAKE CORRIDOR

16 - Acquire land or an easement in the southern part of the corridor to create better County-owned or managed connectivity for proposed trail development.
Priority = Short-Term | 4-7 years
Responsibility = Northampton County

17 - Develop a trail connecting Minsi Lake to the Delaware Water Gap National Recreation Area.
Priority = Short-Term | 4-7 years
Responsibility = Northampton County

GREATER MINSI LAKE CORRIDOR - CONTINUED

18 - Conduct a feasibility study to determine the best use of the property in addition to the proposed trail.
Priority = Short-Term | 4-7 years
Responsibility = Northampton County

LOUISE W. MOORE PARK

19 - Naturalize more of the west side of the park by restoring woodlands.
Priority = Short-Term | 4-7 years
Responsibility = Northampton County

20 - Complete restoration of the estate farmhouse to transition the parks administrative staff to this location.
Priority = Short-Term | 4-7 years
Responsibility = Northampton County

21 - Complete the site plan for a centralized park maintenance facility.
Priority = Short-Term | 4-7 years
Responsibility = Northampton County

22 - Re-establish the planting buffer along Rt. 33 and Country Club Road.
Priority = Immediate | 1-3 years
Responsibility = Northampton County

MINSI LAKE

23 - Work with the Pennsylvania Fish & Boat Commission to identify funding for the dam revitalization project to eliminate their safety issue.
Priority = Short-Term | 4-7 years
Responsibility = Pennsylvania Fish & Boat Commission, Northampton County

24 - Replace the pit toilets with modern facilities.
Priority = Immediate | 1-3 years
Responsibility = Northampton County

Action Plan - County Parks and Natural Resource Areas

MONOCACY MEADOW

25 - Improve the condition of the parking area.

Priority = Short-Term | 4-7 years
Responsibility = Northampton County

26 - Transfer ownership to Bethlehem Township should be considered.

Priority = Immediate | 1-3 years
Responsibility = Northampton County, Bethlehem Township

MOUNT JACK

27 - Complete the needed repairs to the southernmost parcel, Doe Hollow, to return the site to its full pre-storms use.

Priority = Immediate | 1-3 years
Responsibility = Northampton County

28 - Conduct a feasibility study to determine if a County-owned riverfront park is appropriate at this location.

Priority = Short-Term | 4-7 years
Responsibility = Northampton County, Bethlehem Township

MUD RUN

29 - The site should remain as is. There are no future plans to develop this site at this time, but the site could be used for trail access if the Martins Jacoby Watershed Trail Network were to be developed.

Priority =Long-Term | 8 or more years
Responsibility = Northampton County

30 - Transfer ownership to Lower Mount Bethel Township should be considered.

Priority = Immediate | 1-3 years
Responsibility = Northampton County, Lower Mount Bethel Township

NOR-BATH TRAIL

31 - Complete the current efforts to connect the trail to the D&L Trail in Canal Street Park.

Priority = Immediate | 1-3 years
Responsibility = Northampton County, Northampton Borough, Delaware and Lehigh National Heritage Corridor

32 - Extend the trail eastward into Bath Borough.

Priority = Short-Term | 4-7 years
Responsibility = Northampton County, Bath Borough, Wildlands Conservancy

33 - Improve signage, width and surfacing to meet current trail design standards.

Priority = Short-Term | 4-7 years
Responsibility = Northampton County

Action Plan - County Parks and Natural Resource Areas

PORTLAND WATERFRONT PARK

- 34 - Pursue access easements to cross the privately-owned property to access the northern part of the park.**
Priority = Immediate | 1-3 years
Responsibility = Northampton County, Bethlehem Township, land conservancies
- 35 - Cooperate with the development efforts for the Liberty Water Gap Trail and the September 11th National Memorial Trail, which crosses from New Jersey on the footbridge and is proposed to head north toward the Delaware Water Gap.**
Priority = Immediate | 1-3 years
Responsibility = Northampton County, September 11th National Memorial Trail Alliance, Liberty Water Gap Trail, Pennsylvania Department of Transportation
- 36 - Explore the feasibility of creating a vehicle entrance and parking area south of the park on the adjacent Delaware River Joint Toll Bridge Commission property.**
Priority = Short-Term | 4-7 years
Responsibility = Northampton County, Delaware River Joint Toll Bridge Commission
- 37 - Install a County park sign to build public awareness of the park.**
Priority = Immediate | 1-3 years
Responsibility = Northampton County
- 38 -Transfer ownership to Portland Borough and/or Upper Mount Bethel Township should be considered.**
Priority = Immediate | 1-3 years
Responsibility = Northampton County, Portland Borough, Upper Mount Bethel Township

WAYNE A. GRUBE MEMORIAL PARK

- 39 - Complete Phases 3 through 9 at Wayne A. Grube Memorial Park.**
Priority =Long-Term | 8 or more years
Responsibility = Northampton County
- 40 - Add an interpretive sign describing the fenced reforestation area.**
Priority = Immediate | 1-3 years
Responsibility = Northampton County

WY-HIT-TUK PARK

- 41 - Replace the chain link fence along the road with more aesthetically pleasing fencing or shrubs.**
Priority = Short-Term | 4-7 years
Responsibility = Northampton County
- 42 - Remove “Nature Trail” reference from the park kiosk.**
Priority = Immediate | 1-3 years
Responsibility = Northampton County

OTHER OUTDOOR RECREATION RECOMMENDATIONS

- 43 - Close the six trail gaps in the County as identified in the *Lehigh Valley Trails Inventory—2013*.**
Priority = Short-Term | 4-7 years
Responsibility = Northampton County, municipalities, land conservancies and private entities
- 44 - Engage the Two Rivers Area Trail Group to assist in implementing the recommendations in the Two Rivers Area Greenway Trail Feasibility Study and Martins-Jacoby Trail Conceptual Plan and promote the trail network.**
Priority = Immediate | 1-3 years
Responsibility = Northampton County, Two Rivers Area Trail Group
- 45 - Complete a feasibility study of a Northern Tier Rail Trail from Walnutport to Portland.**
Priority = Short-Term | 4-7 years
Responsibility = Northampton County

Action Plan - County Parks and Natural Resource Areas

OTHER OUTDOOR RECREATION RECOMMENDATIONS - CONTINUED

- 46 - Cooperate with the development efforts for the Liberty Water Gap Trail and the September 11th National Memorial Trail, which crosses from New Jersey on the Portland footbridge and is proposed to head north toward the Delaware Water Gap.

Priority = Immediate | 1-3 years

Responsibility = Northampton County, September 11th National Memorial Trail Alliance, Liberty Water Gap Trail, Pennsylvania Department of Transportation
- 47 - Municipalities with close-to-home park service area gaps (southern Plainfield and western Lower Mt Bethel townships area, eastern Lehigh/western Moore townships, northern Upper Mount Bethel Township, and southern Williams Township) should finish developing existing parks or acquire and develop new parks to fill the areas currently not served by community parks if supported by a residents’ needs analysis.

Priority = Long-Term | 8 or more years

Responsibility = Municipalities
- 48 - Municipalities should gather information from their residents about what park and recreation facilities the community desires and aquire and/or develop the parkland needed to provide these opportunities.

Priority = Long-Term | 8 or more years

Responsibility = Municipalities
- 49 - Work with federal and state partners to create additional regional parkland of at least 660 acres by 2020, 1,200 acres by 2030 and 1,770 acres by 2040, in addition to currently proposed parks sites, to increase the regional park acreage to reach or exceed 15 acres/1,000 population.

Priority = Long-Term | 8 or more years

Responsibility = County, Commonwealth of Pennsylvania, or National Park Service
- 50 - Investigate and implement innovative strategies that integrate transportation with open space.

Priority = Short-Term | 4-7 years

Responsibility = LVPC, municipalities

OTHER OUTDOOR RECREATION RECOMMENDATIONS - CONTINUED

- 51 - Develop a regional multimodal strategic plan that helps decision makers integrate transportation network improvements with land use decision making.

Priority = Long-Term | 8 or more years

Responsibility = LVPC
- 52 - Complete a regional sidewalk inventory.

Priority = Immediate | 1-3 years

Responsibility = LVPC
- 53 - Develop a regional bicycle-pedestrian plan, including a bicycle-pedestrian transportation working group.

Priority = Immediate | 1-3 years

Responsibility = LVPC

AGRICULTURAL RESOURCES RECOMMENDATIONS

- 54 - The County should consider whether to pursue funding through the federal Agricultural Conservation Easement Program in addition to the state farmland preservation program.

Priority = Immediate | 1-3 years

Responsibility = Northampton County

COUNTY OPEN SPACE PROGRAM RECOMMENDATIONS

- 55 - Consider recommended modifications to the Northampton County 21st Century Open Space Initiative program and guidelines.

Priority = Immediate | 1-3 years

Responsibility = Northampton County
- 56 - Maintain or enhance funding for the County Open Space Program including the Open Space and Natural Areas component, Municipal Park Aquisition and Development component, County Parks component and the Farmland Preservation component.

Priority = Long-Term | 8 or more years

Responsibility = Northampton County

Appendix



Photo courtesy of William Deegan, LVPC

Survey Summary

1. Please check the zip code where you live.

Answer Options		Response Percent	Response Count
18017		15.8%	138
18064		10.7%	94
18045		9.5%	83
18020		8.6%	75
18067		7.9%	69
18042		7.8%	68
18015		5.7%	50
18040		5.6%	49
18013		5.5%	48
18055		3.9%	34
18018		3.7%	32
18014		3.4%	30
18088		2.6%	23
18072		2.4%	21
18091		1.8%	16
18038		1.4%	12
18085		0.8%	7
18343		0.8%	7
18077		0.7%	6
18032		0.5%	4
18083		0.3%	3
18095		0.2%	2
18351		0.2%	2
18044		0.1%	1
18063		0.1%	1
18109		0.1%	1
answered question			876
skipped question			7

2. Gender:

Answer Options	Response Percent	Response Count
Male	46.0%	381
Female	54.0%	448
answered question		829
skipped question		54

3. Age?

Answer Options	Response Percent	Response Count
Under 18	0.0%	0
18-24	7.4%	65
25-34	14.2%	125
35-49	24.3%	215
50-64	29.6%	261
65 or older	24.6%	217
answered question		883
skipped question		0

4. How long have you lived in Northampton County?

Answer Options	Response Percent	Response Count
Less than 1 year	1.4%	12
1-5 years	12.0%	105
6-10 years	10.1%	89
11-20 years	15.7%	138
21-34 years	24.3%	213
35+ years	36.6%	321
Do not live in Northampton County	0.0%	0
answered question		878
skipped question		5

5. In your opinion, rank the following statements from highest priority (1) to the lowest priority (5):

Answer Options	1 (Highest)	2	3	4	5 (Lowest)	Response Count
Protect lakes, rivers, streams and preserve water quality	622	159	53	13	25	872
Assurance that open space will be there for future generations	535	174	94	33	35	871
Protect working farms	526	201	86	28	28	869
Protect wildlife habitat and rare species	501	198	107	29	33	868
Sustaining the rural character	385	234	149	68	32	868
Management and maintenance of current natural areas and facilities	383	287	144	31	22	867
Outdoor recreation opportunities (hiking, walking, biking, etc.)	383	282	141	37	28	871
Protect setting and/or landscape around historic structures and properties	357	260	174	52	22	865
Access to locally produced food	353	249	188	62	21	873
Outdoor recreation in a natural setting close to home	345	290	156	51	26	868
Regional park and natural lands (greater than 250 acres)	327	256	212	41	29	865
Health and wellness benefit due to parks, trails and open space	317	279	179	59	35	869
Place(s) and programs for children to learn about nature and history	307	271	183	71	34	866
Improvement of property values due to parks, trails and open space	306	248	208	62	44	868
Maintaining scenic viewsheds	299	262	209	68	27	865
Restoration and rehabilitation of natural areas	299	297	191	47	23	857
Create greenways or trail corridors that connect communities and parks	267	240	222	91	45	865
Renovation of historic structures that allow for public benefit	252	275	237	84	19	867
Place(s) to socialize with family and friends	208	265	254	102	38	867
Additional or upgraded trailheads, parking, restrooms, information signs	163	241	282	111	59	856
<i>answered question</i>						878
<i>skipped question</i>						5

6. Is it important to protect farmland in Northampton County?

Answer Options	Response Percent	Response Count
Strongly Agree	68.7%	599
Agree	26.5%	231
Disagree	0.8%	7
Strongly Disagree	1.0%	9
Not Sure	2.1%	18
No	0.9%	8
<i>answered question</i>		872
<i>skipped question</i>		11

7. If you agree or strongly agree with the statement in Question 6, which is the one most important reason for your answer?

Answer Options	Response Percent	Response Count
Because of the farmlands value in food production	29.0%	245
Because protecting farmland is a means of maintaining open space	21.3%	180
Because farming is important to the local economy	19.4%	164
Because protecting farmland helps maintain the rural character of portions of the County	17.8%	150
Other (please specify)	10.8%	91
No opinion/Don't know	1.2%	10
Not applicable	0.5%	4
<i>answered question</i>		844
<i>skipped question</i>		39

8. How familiar are you with the parks, trails, open space and natural areas in Northampton County?

Answer Options	Response Percent	Response Count
Not at all	2.4%	21
Somewhat	40.6%	353
Familiar	43.1%	375
Very	13.9%	121
<i>answered question</i>		870
<i>skipped question</i>		13

9. In the past 12 months, approximately how often have you visited parks, trails and natural areas in Northampton County?

Answer Options	Response Percent	Response Count
Occasionally	37.4%	323
Monthly	28.4%	245
Weekly	24.3%	210
Never	6.5%	56
Daily	3.4%	29
<i>answered question</i>		863
<i>skipped question</i>		20

10. In the past 12 months, which of the following activities have you participated in within the County? (Check all that apply)

Answer Options	Response Percent	Response Count
Farmers markets/Farm Stands	69.2%	594
Walking/hiking/running on natural surfaces	67.6%	581
Walking/hiking/running on pavement	59.1%	508
Watching wildlife	46.2%	397
Biking on paved/unpaved trails	39.9%	343
Playground facilities	38.5%	331
Recreating with dog(s)	35.4%	304
Organized sports (soccer, lacrosse, football, etc.)	32.2%	277
Picnicking	32.1%	276
Biking on roads	25.8%	222
Photography/drawing/painting	25.5%	219
Swimming	24.3%	209
Bird watching	24.0%	206
Fishing	24.0%	206
Visiting wineries	22.5%	193
Large group picnicking (10+ people)	20.1%	173
Winter activities (ice skating, skiing, snowshoeing)	15.0%	129
Shooting/archery	13.7%	118
Hunting	12.0%	103
Boating, non-motorized (canoe, kayak, etc.)	11.9%	102
Camping	10.8%	93
Environmental Education programming	8.1%	70
Horseback Riding	4.4%	38
Community Gardening	4.3%	37
Geocaching	3.0%	26
Rock Climbing/bouldering	2.8%	24
Snowmobiling	2.2%	19
Other (please specify)	5.1%	44
	answered question	859
	skipped question	24

11. In the past 12 months, what parks and open space areas have you visited within the County? (Check all that apply)

Answer Options	Response Percent	Response Count
Municipal Parks	62.4%	505
Jacobsburg State Park	54.5%	441
Louise Moore Park	43.6%	353
Delaware Water Gap	34.9%	282
State Game Lands	24.2%	196
Minsi Lake Wilderness Area	18.7%	151
Wayne A. Grube Memorial Park	9.0%	73
Wy-Hit-Tuk Park	6.4%	52
Bear Swamp Park	4.3%	35
Frost Hollow Overlook	3.7%	30
Fry's Run Park	3.6%	29
Other (please specify)	13.0%	105
	answered question	809
	skipped question	73

12. In the past 12 months, what trails have you most often used? (Check all that apply)

Answer Options	Response Percent	Response Count
Delaware & Lehigh Trail	32.7%	231
Palmer Township Bike Path	25.9%	183
Nor-Bath Trail	23.1%	163
Stockertown/Tatamy Rail Trail	21.9%	155
Appalachian Trail	21.6%	153
Bushkill Trail	20.1%	142
Palmer-Bethlehem Twp. Bikeway	19.0%	134
Saucon Rail Trail	18.5%	131
Plainfield Township Recreation Trail	14.1%	100
South Bethlehem Greenway	14.1%	100
Karl Stirner Arts Trail	3.7%	26
Other (please specify)	9.1%	64
	answered question	707
	skipped question	175

13. In the past 12 months, what waterway(s) have you used the most for recreational activities? (Check all that apply)

Answer Options	Response Percent	Response Count
Lehigh River	34.5%	262
Delaware River	33.4%	254
None	29.7%	226
Monocacy Creek	28.2%	214
Bushkill Creek	25.4%	193
Saucon Creek	10.7%	81
Martins/Jacoby Creeks	8.6%	65
Hokendauqua Creek	7.0%	53
Catasauqua Creek	3.3%	25
Nancy Run	2.8%	21
Fry's Run	2.0%	15
Other (please specify)	4.2%	32
answered question		760
skipped question		122

14. Select the amenities and facilities that you feel are needed at Northampton County parks and open space areas. (Check all that apply)

Answer Options	Response Percent	Response Count
Restrooms	77.8%	612
Drinking Water	59.8%	471
Parking Areas	44.6%	351
Trail Signage	42.6%	335
Picnic Facilities	40.7%	320
Informative Signage	33.5%	264
Canoe & Kayak Launch Sites	19.7%	155
ADA Accessibility	19.2%	151
Campsites	15.5%	122
Bicycle Racks	15.0%	118
Concession Stands	8.3%	65
Other (please specify)	4.6%	36
answered question		787
skipped question		96

15. Select the three most important trail and greenway priorities you would like to see in Northampton County.

Answer Options	Response Percent	Response Count
Maintain existing trails	68.5%	566
Establish trail connections between existing trails	44.3%	366
Acquire abandoned railroad corridors for the purpose of establishing trails	39.2%	324
Upgrade amenities to existing trails	36.1%	298
Acquire land for public trails	18.9%	156
Build new multi-use trails	16.2%	134
Ensure that all multi-use trails are ADA accessible	12.6%	104
Acquire land for greenways without public trails	11.9%	98
Build separate trails for different user groups (i.e. equestrian, kayak, bicycles, etc.)	11.1%	92
Other (please specify)	7.0%	58
answered question		826
skipped question		56

16. If you do not use parks, trails or natural areas in Northampton County, what are the reasons? (Check all that apply)

Answer Options	Response Percent	Response Count
No time	36.8%	114
Not aware of natural areas or facilities	20.3%	63
Feels unsafe	13.5%	42
No interest	10.3%	32
Too many people	6.8%	21
Prefer other parks/locations outside the County	6.8%	21
Too far from home	6.8%	21
Unsuitable conditions of facilities/amenities	6.5%	20
Regulations are too restrictive	5.8%	18
Not enough parking	4.2%	13
Don't have the programs or facilities I want	3.9%	12
No way to get there	2.3%	7
Other (please specify)	26.5%	82
answered question		310
skipped question		572

17. Please indicate the number of people in your household that fall within the following age categories.

Answer Options	Response Count
0 - 5 years old	113
6 - 12 years old	135
13 - 18 years old	125
19 - 29 years old	222
30 - 39 years old	167
40 - 49 years old	207
50 - 59 years old	247
60 + years old	340

18. How does your household usually receive information about trails, parks, environmental education programs and nature-based activities? (Check all that apply)

Answer Options	Response Percent	Response Count
Local newspaper	53.1%	452
At the site	44.2%	376
Internet/websites	40.0%	340
Local TV station	23.6%	201
Flyers/posters	19.3%	164
Mobile devices/smart phones	12.5%	106
Facebook page	11.0%	94
E-mail	10.2%	87
Naturalist & educational programs	6.6%	56
Library	6.0%	51
E-newsletter	4.8%	41
Public meetings	2.6%	22
Twitter	0.6%	5
Other (please specify)	14.2%	121
<i>answered question</i>		851
<i>skipped question</i>		32

19. What is the best way for your household to receive the information mentioned in Question 18?

Answer Options	Response Percent	Response Count
Local newspaper	40.2%	343
Internet/websites	38.6%	330
E-mail	26.7%	228
Local TV station	24.0%	205
At the site	17.9%	153
Flyers/posters	17.6%	150
E-newsletter	16.9%	144
Facebook page	15.6%	133
Mobile devices/smart phones	13.8%	118
Library	3.9%	33
Naturalist & educational programs	3.6%	31
Public meetings	2.3%	20
Twitter	1.4%	12
Other (please specify)	5.3%	45
<i>answered question</i>		854
<i>skipped question</i>		29

20. In the past 12 months, which of the following activities have members of your household participated in within the County? (Check all that apply)

Answer Options	Response Percent	Response Count
Farmers markets/Farm Stands	63.6%	562
Walking/hiking/running on pavement	58.6%	517
Walking/hiking/running on natural surfaces	57.3%	506
Biking on paved/unpaved trails	45.3%	400
Playground facilities	37.9%	335
Watching wildlife	36.9%	326
Biking on roads	36.1%	319
Recreating with dog(s)	35.2%	311
Picnicking	30.6%	270
Organized sports (soccer, lacrosse, football, etc.)	28.8%	254
Swimming	27.4%	242
Fishing	26.7%	236
Photography/drawing/painting	24.8%	219
Bird watching	23.7%	209
Visiting wineries	23.0%	203
Large group picnicking (10+ people)	18.8%	166
Shooting/archery	15.5%	137
Winter activities (ice skating, skiing, snowshoeing)	15.5%	137
Boating, non-motorized (canoe, kayak, etc.)	14.5%	128
Camping	13.8%	122
Hunting	13.8%	122
Environmental Education programming	9.4%	83
Horseback riding	6.8%	60
Community Gardening	4.3%	38
Rock climbing/bouldering	3.1%	27
Geocaching	2.7%	24
Snowmobiling	2.4%	21
Other (please specify)	4.1%	36
	answered question	837
	skipped question	46

21. If you would like to be contacted on upcoming meetings, events and other activities, please provide an e-mail for us to contact you:

Answer Options	Response Count	
	203	
answered question	203	
skipped question	680	

22. Please share any additional comments:

Answer Options	Response Count	
	71	
answered question	71	
skipped question	812	

Note: Response percent calculated using total number of respondents per question (varies by question).

