

### Executive Summary

Bucks County possesses a vast array of open space resources including natural areas, parks, farmland and historic and cultural resources that contribute to a high quality of life valued by residents and visitors. The network of open space resources provides opportunities for recreation, contact with nature, and education.

#### **Purpose of the Plan**

The *Bucks County Open Space and Greenways Plan* is meant to provide 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 identifies 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.

Municipalities, conservation groups, landowners, and developers will utilize the plan to aid in decisions that will maintain and enhance the quality of life for residents. Finally, residents will find the Plan useful for identifying and exploring the many and varied historic, cultural, and recreational resources of the county.

#### **Defining Open Space and Greenways**

Open space is a term that includes not only park and recreational areas, but more broadly includes all parcels of land and water that are dedicated or reserved for public or private use or enjoyment. It includes active and passive recreational parks, active recreational facilities, greenways, trails, natural areas, farmland, forests and timberland, as well as historic and cultural resource areas. Greenways differ from other forms of open space based on their focus on being linear and providing connections. As such, greenways often follow rivers or streams, ridgelines, and valleys, but may also include streetscapes and recreational trail corridors.

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## Benefits of Open Space and Greenways

The presence of open space, greenways and recreational areas provides numerous and diverse benefits to the communities in which they are located. These benefits can be classified into six areas:

- Environmental – Protect water resources, decrease flooding, and provide habitat areas
- Social – Help encourage volunteerism and aid in preserving the aesthetic landscape
- Recreational – Provide opportunities for a variety of recreational opportunities
- Transportation – Offer alternatives to motorized transportation and reduce congestion
- Economic – Stimulate tourism; increase property values; and reduce infrastructure costs
- Educational – Create environmental, and cultural and historical educational opportunities

## Types of Greenways

The plan identifies five different types of greenways including:

1. **Cultural** – Link cultural & historical sites. Examples include the Route 113 Heritage Corridor and the Liberty Bell Trail.
2. **Recreational** – Serve predominantly as a recreational corridor designed to connect population centers and points of interest. Examples include the Doylestown Bike & Hike System and the Route 202 Parkway Trail.
3. **Conservation** – Preserve open space and protect natural resource features. Typically found along stream corridors and ridge lines.
4. **Multi-Use** – These overlay recreational uses with areas where conservation of natural resources is also an objective, while minimizing impacts.
5. **Combination** - Different segments within the greenway may be conservation focused while other segments may be multi-use.



## Plan Organization

The greenway planning process, and the organization of the plan, centered on the following questions:

Chapter One – Where are we now? An assessment of existing conditions and resources

Chapter Two – Where do we want to be? Identifies the strategic vision for the greenways system

Chapter Three – How do we get there? Outlines a plan of action for implementation of the plan

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## Chapter One - Existing Conditions

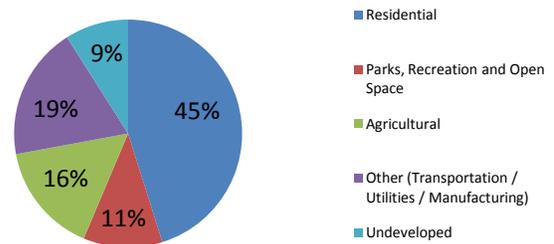
Bucks County is valued for its open spaces, wealth of natural resources and farmland, historic, scenic, and recreational amenities. However, as the county continues to face development pressures and anticipated population growth, these valued resources will also come under pressure. Therefore to understand the full array of resources requiring protection in the future, and the extent to which they are currently protected and connected, the plan begins with an assessment of existing conditions was conducted.

## Population Trends and Land Use

According to the 2010 census, the total population in the county was 625,249 persons, with a population projection of 654,140 in 2020, and between 678,270 and 692,440 in 2030. The central portion of the county is anticipated to gain the most new residents over the next 20 years, although the upper portion is anticipated to have the highest rate of growth.

While the predominant land use in Bucks County is residential accounting for 45% (175,000 acres) of the land area, over 35% (139,900 acres), is comprised of agricultural, park and recreational lands, open space, and undeveloped land. Agricultural use accounts for 16% of land use (61,000 acres); park, recreational, and protected open space account for 11% of land use (43,500) acres; and undeveloped land, a potential source for both future development and protected open space and parkland, accounts for the remaining 9% (34,900 acres) of land area.

**Bucks County Land Use - 2009**



## Natural Resources

Bucks County is fortunate to possess an abundance and diversity of natural resources including rivers, streams, wetlands, lakes, forests and woodlands, farmland and agricultural soils, plant and animal habitats, and areas of steep slopes. One of the primary functions of an open space and greenways system is to aid in the preservation and conservation of these natural resource features. The protection of these resources is important as they provide habitat and maintain biodiversity for a range of plants and animals, protect and enhance water quality, provide for groundwater recharge of aquifers, provide recreational opportunities, provide protection against flooding, and help prevent erosion. The need to protect these resources is an ongoing challenge as these resources face significant threats due to the combined forces of population growth and increased land consumption which result in increased demands for certain resources such as water, land, and raw materials. Examples of the natural resource features identified in the plan include:

- 6 Outstanding Scenic Geological Features of Pennsylvania;
- Over 2,000 species of native and naturalized plants, representing the most diverse flora of any county in Pennsylvania;
- 438 species of reptiles, amphibians, birds, and mammals;
- 3 Audubon Society designated Important Bird Areas;
- 1 Important Mammal Area
- Woodlands and Forests;
- Hydrological Resources including rivers, streams, and lakes.



## Natural Areas Inventory (NAI)

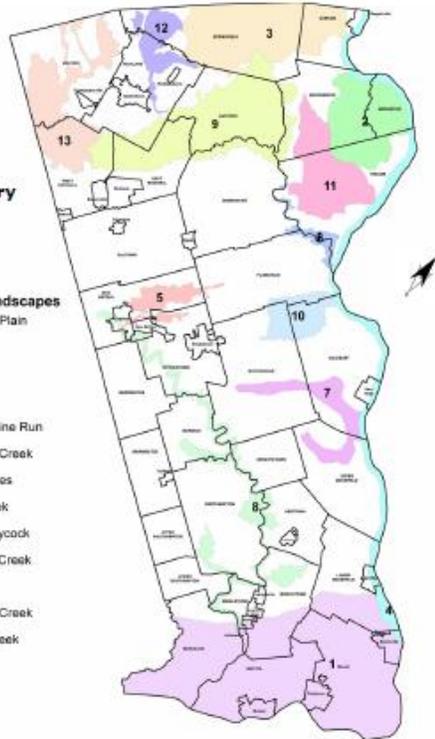
The first edition of the *Natural Areas Inventory of Bucks County* (NAI) was completed by the Morris Arboretum in 1999 and documents the outstanding ecological and natural resource features including flora, fauna and geology, of the county. This initial inventory identified 115 significant natural areas and sites in Bucks County. The inventory was updated in 2011 in conjunction with the preparation of this plan, and reflects new findings since the original inventory was completed.

In recognition of the benefits provided by the conservation of large areas of protected space, including biological diversity, wildlife migration, and other ecological functions, the 2011 update of the NAI identified landscapes of several thousand acres, called Conservation Landscape areas, rather than specific sites. These 13 Conservation Landscape areas were identified by analyzing data layers of areas of forest cover, preserved lands, 1999 NAI sites, publicly owned lands, floodplains, wetlands, and Important Bird Areas.

Map 4  
Conservation Landscapes

**Bucks County  
Natural Areas Inventory  
Conservation  
Landscapes**

- Conservation Landscapes**
- 1 Atlantic Coastal Plain
  - 2 Coffman Hill
  - 3 Cocks Creek
  - 4 Delaware River
  - 5 Lake Galena - Pine Run
  - 6 Lower Tohickon Creek
  - 7 Mid-county Ridges
  - 8 Neshaminy Creek
  - 9 Nockmixon - Haycock
  - 10 Paunnaussing Creek
  - 11 Tinticum Creek
  - 12 Upper Tohickon Creek
  - 13 Upper Unami Creek



**Open Space Resources**

Bucks County has a diverse range of open space resources encompassing parks and recreational lands, agricultural land, historic and cultural sites, and other greenway resources including trails and bike routes, water trails, and bird watching areas. These resources provide the opportunity to recreate close to home, learn about the culture and history heritage of the county, and participate in a variety of activities including boating, hiking, bicycling, and bird watching.

**Parkland and Open Space**

Meeting the open space and recreational needs of county residents and visitors involves collaboration among a variety of different groups including state, county, and municipal governments, private conservation organizations and land trusts, as well as school districts, colleges and universities, homeowners associations, and private recreation providers. There are two types of open space, protected and unprotected:

Bucks County Parkland and Open Space Acreage

	Acreage
State Parks	8,083
State Gamelands	4,366
State Historic Sites	543
County Parkland	8,615
Municipal Parkland & Open Space	13,450
Other Protected Open Space	36,873
Unprotected Open Space	8,539

- Protected open space includes land that is permanently preserved through deed restriction and includes parkland and open space owned by governments, as well as properties with conservation easements where the land remains in private ownership, but is restricted from future development via a conservation easement, and homeowner associations open space.
- Unprotected open space includes land that contributes to the open space and greenways system but is not restricted or protected from future development. Examples include colleges and universities, sportsman’s clubs, golf courses, and scouting organizations.

## **Agricultural Land**

Agricultural land plays an important role economically, environmentally, and aesthetically in Bucks County. Approximately 62,000 acres or 16% of land in Bucks County is in agricultural use. Farmland complements greenways by providing open space, contributing to groundwater recharge, and in providing habitat for certain species.



Several organizations are involved in agricultural land preservation in the county. The most important of these is the Bucks County Agricultural Land Preservation Program. This program, established in 1989, uses state, county, and some municipal money to preserve farms, through the use of agricultural conservation easements. To date, 144 farms and over 12,270 acres have been preserved. An additional 2,300 acres of agricultural land has been preserved by municipal agricultural land preservation programs and private land conservation organizations such as Bedminster Land Conservancy and Heritage Conservancy.

In addition to the preservation of agricultural farmland via agricultural conservation easements, the plan provides an overview of other techniques being used to help protect farmland in the county including the Pennsylvania Clean and Green Act (Act 319), Agricultural Security Areas, and Agricultural Zoning.

## **Historic and Cultural Resources**

Bucks County, as one of the three original counties in Pennsylvania, is fortunate to possess a diverse range of historic sites, villages, and cultural resources. The preservation of historic resources helps foster a sense of pride, provide a unique identity, and provide opportunities for learning about the past. The presence of cultural centers and destinations help provide opportunities for the arts, and provide distinctive settings for entertainment and festivals.



One of the functions of a greenways system is to highlight these important cultural and historic sites as these resources provide a variety of attractions that celebrate the heritage, history, as well as the diversity of the county. These attractions include art museums and performance art centers in boroughs, historical markers, covered bridges, historic sites, and villages and boroughs.

The variety of historic and cultural resources in the county including:

- National Register of Historic Places 158 sites
- National Historic Landmarks 9 sites
- Pennsylvania Historic Markers Program 74 sites
- Covered bridges 12 bridges
- Various museums, performing arts centers, and colleges and universities

### Other Greenways Resources

In addition to open space, farmland, natural, and historic and cultural resources, there are other resource features throughout the county that contribute to the open space and greenways system including trails, on-road bicycle routes and lanes, water access points for canoeists and kayakers, bird watching areas and utility corridors.

- **Trails** - A wide variety of trails are available in Bucks County including multi-use paths suitable for a variety of uses such as walking, jogging, bicycling and roller-skating, challenging hiking trails, nature paths for observing wildlife, and equestrian trails for use by riders of all ages and abilities. There are over existing 370 miles of existing trails throughout the county.
- **On-Road Bike Lanes / Routes** - On-road bicycle lanes are lanes dedicated to bicyclists and marked accordingly. Bicycle routes do not contain any separate bike lanes or other facilities designed specifically for cyclists. BicyclePA routes, two of which traverse the county, are designed by experienced bicyclists and generally are located on roads that have been identified as being safer for on-road biking.
- **Water Trails and Access Points** - Water trails are recreational corridors between specific locations that can be used for recreational single or multiple day trips. Each water trail is unique and is designed to be a reflection of the region's diverse history, ecology, geology and wildlife. In Bucks County, there are two existing water trails, both along the Delaware River. The Delaware River Water Trail extends along the non-tidal portion of the River from the headwaters near Hancock, NY, south to Morrisville. The Tidal Delaware River Water Trail extends from Morrisville down to Marcus Hook in the City of Philadelphia. In addition to these water trails, there are 29 water access points in the county ranging from public boat ramps to small launches suitable only for canoes/kayaks.
- **Bird Watching Areas** - In addition to the three officially designated Important Bird Areas (IBAs), there are an additional 13 areas throughout the county known for a variety of aviary activity.

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## Chapter Two – The Greenways System

### Development of the Greenways Vision and identification of Goals and Objectives

Chapter Two of the Plan develops a vision of a greenways system based on the analysis of existing conditions and the input and feedback received from a public participation process that included a series of stakeholder interviews, steering committee meetings, a resident survey, and public input meetings. Through this process, the following strengths and challenges specific to the development of a greenways system in the county were identified.

Strengths	Challenges
Abundance of natural resources	Development pressures
Large amounts of parkland and open space	Unconnected open space
Wealth of historic and cultural resources	Lack of public understanding
Agricultural heritage and resources	Limited long-distance interconnected trails
Well-developed county parks system	Funding and staffing resources
Existing trails network	Physical constraints
Strong support for open space preservation	

Based on this analysis, the following greenways vision statement was developed:

*The Bucks County Greenways System consists of a network of natural areas, open spaces, greenways and trails that connects population centers to parks and recreation facilities, provides recreational opportunities, sustains environmental conservation and protection, promotes the history and culture of the county, and serves to improve the quality of life for current and future generations of Bucks County residents.*

The development of the goals and objectives of the Greenways System were guided by the vision statement and focused on the key aspects of the vision. The four primary goals include:

- Preserve open space and farmland
- Enhance the quality of life of residents through the provision of a diversity of recreation opportunities and park facilities
- Conserve the county's diverse natural resources
- Protect historic and cultural assets

### **Greenways System Components**

The Bucks County Greenways System is comprised of 27 greenways with an interconnected network of "hubs", "nodes", and "corridors", designed to:

- Establish linkages between the built environment - residential, commercial, and business areas, and the natural environment - open space and parkland.
- Provide connections between points of interest.
- Provide for increased recreational opportunities.
- Link population centers to recreation and community facilities.
- Preserve open space and protect high priority natural resources.

**Hubs** - Areas which feature a high degree of human and/or wildlife activity. They anchor the greenways system and serve as significant destination points within the greenways system. Hubs include areas with a large concentration of human activity such as housing, cultural sites, schools and libraries, as well as large areas of publicly-owned open space such as state parks and larger regional parks. The eleven hubs include six boroughs and five open space areas.

**Nodes** - Area that include natural, recreational, cultural and historical places of interest, origin or destination. They differ from hubs in that they are smaller destinations and typically contain only one facility. The 30 nodes in the Bucks County Greenways System are primarily larger (40 acres+) municipal parks and outdoor recreations sites, boroughs that fall in or near the greenway corridors, and college campuses.

**Corridors** - The corridors are the linear portions of greenways connecting natural areas, recreation facilities, cultural and historic sites, and other significant destinations with the places where we live and to one another. They run between and through green infrastructure hubs and connect the hubs and nodes within the county, as well as to greenways in adjacent counties. These corridors help define and separate natural resource and open space areas from non-compatible land uses. They also serve as buffers helping to define and separate communities and natural areas from adjacent non-compatible land uses.



The 27 greenways identified in the Plan, listed by type of greenway, include:

Bucks County Greenways

Conservation Greenways	
1	Unami–Beaver–Tohickon–Kimples–Cooks
2	Haycock Creek
3	Gallows Run–Rapp–Tinicum
Cultural Greenways	
4	Delaware & Lehigh National Heritage Corridor–Tidal (Bristol to Morrisville)
5	Delaware & Lehigh National Heritage Corridor–Middle (Morrisville to New Hope)
6	Delaware & Lehigh National Heritage Corridor–Upper (New Hope to Riegelsville)
7	Liberty Bell Trail
8	Route 113 Heritage Corridor
9	New Hope–Ivyland Railroad
Recreational Greenways	
10	Route 202 Parkway
11	East Coast Greenway
12	Delaware River Water Trail
Multi-Use Greenways	
13	Poquessing Creek
14	East Branch Perkiomen–Three Mile Run–Tohickon–Deer Run
15	Tohickon Creek
16	North Branch Neshaminy–Geddes Run
17	Morris Run
18	Neshaminy Main Stem–Doylestown/Warwick/Buckingham
19	Neshaminy Main Stem–Wrightstown/Northampton/Newtown
20	Neshaminy Main Stem–Lower Bucks
21	Little Neshaminy Creek
22	Hough’s–Newtown Creek
23	Mill–Neshaminy–Core–Dyers Creeks (Cross County)
24	Mill (Otter)–Queen Anne Creek
25	Brock Creek
Combination Greenways	
26	West Branch–Pine Run–Paunacussing (Multi-Use & Conservation)
27	Paunacussing–Lahaska–Mill–Jericho–Pidcock Creeks (Multi-Use & Conservation)

The Plan provides a detailed description of each greenway identifying key features of the greenway including hubs and nodes; municipal, county and state parkland; historic and cultural sites; water access points; schools, colleges and libraries; significant natural features; and linkages to other greenways, bike routes, and trails.

### Chapter Three – Implementation

Achieving the vision, and accomplishing the goals and objectives presented in Chapter Two, will require the involvement of many agencies, organizations, and individuals, the utilization of various tools and techniques, various sources of funding, and time. This chapter of the Plan provides a framework for implementation of the plan and is organized into four subsections.

#### Roles & Responsibilities

The development of the greenway system is a large undertaking requiring the involvement of entities in both the private and public sectors. These entities include individual landowners, government agencies, school districts, utility and infrastructure companies, non-profit agencies, and citizen groups. Developing and managing the relationships between these entities will require careful coordination and well-defined roles for each entity. The Plan outlines the roles and responsibilities of the many of the organizations that will be involved in achieving the greenway system vision.

### Implementation Tools

Several tools and techniques are available for implementing the *Bucks County Open Space and Greenways Plan*. These tools and techniques can be classified into two primary groups: open space conservation tools and planning and regulatory tools. Detailed specifics on these tools are contained in the Plan.

Open Space Conservation Tools	Planning and Regulatory Tools
Fee-simple acquisition	Comprehensive plan
Donation/tax incentives	Official Map
Bargain sales	Zoning ordinance
Option to buy / First right of refusal	Resource protection provisions
Purchase of development rights	Conservation design
Eminent domain	Agricultural zoning / Agricultural Security Areas
Easements	Transfer of development rights
Land Stewardship	Buffer zones

### Sources of Funding

Funding for implementation of the greenways system is available from federal, state, and county governments, as well as from private organizations and foundations. The Plan provides detailed information on various sources of funding including grants and Bucks County Open Space Funding.

### Recommendations

The plan concludes with an implementation matrix outlining specific recommendations, as well as associated timing, for each of the goals of the greenways system.

<b>Goal: Conserve Open Space and Farmland</b>	<b>Goal: Protect historic resources (continued)</b>
<ul style="list-style-type: none"> <li>▪ Continue the Bucks County Open Space Program</li> <li>▪ Coordinate the implementation of open space plans at the multi-municipal level</li> <li>▪ Continue to partner with land conservancies to expand the current open space network</li> <li>▪ Develop land management plans for undeveloped forested county lands</li> <li>▪ Encourage municipalities to adopt an Official Map</li> </ul>	<ul style="list-style-type: none"> <li>▪ Promote zoning that encourages reuse</li> <li>▪ Advocate for tax incentives for historic preservation</li> </ul>
<b>Goal: Conserve the county's natural resources</b>	<b>Goal: Enhance the quality of through the provision of diverse recreational opportunities</b>
<ul style="list-style-type: none"> <li>▪ Promote flexible zoning techniques such as performance and cluster zoning</li> <li>▪ Ensure that natural resource protection standards in municipal ordinances are up-to-date</li> <li>▪ Encourage the preparation of land management stewardship plans for privately owned lands</li> <li>▪ Assist municipalities with the development of riparian buffer protection standards</li> <li>▪ Implement the recommendations of the <i>Bucks County Natural Areas Inventory Update</i> (2011)</li> <li>▪ Encourage partnerships designed to protect watersheds</li> </ul>	<ul style="list-style-type: none"> <li>▪ Update municipal ordinances to include trails &amp; greenways as part of the development process</li> <li>▪ Develop new trails and walking paths</li> <li>▪ Expand the Bucks County Parks system</li> <li>▪ Identify representatives within existing boards to oversee implementation of the plan</li> <li>▪ Develop a work program/plan within the Parks Department to identify implementation tasks</li> <li>▪ Encourage multi-municipal planning of trails and greenways to encourage linkages</li> <li>▪ Support park and recreational facilities planning that meets year round recreational needs</li> <li>▪ Consider dedicated funding for greenways and trails development, operation, and maintenance</li> <li>▪ Encourage the planning of water-based recreational opportunities</li> </ul>
<b>Goal: Protect historic and cultural resources</b>	
<ul style="list-style-type: none"> <li>▪ Support and promote the development of cultural resource inventories</li> <li>▪ Continue with dedicated Bucks County Open Space funding for the preservation of historic resources</li> </ul>	<ul style="list-style-type: none"> <li>▪ Pursue grant funding for developing county trails</li> <li>▪ Review the recommendations of the <i>Bucks County Bicycle Plan</i> to identify overlapping projects</li> <li>▪ Develop an education program / marketing plan to establish an identity for the greenway system</li> </ul>