

Lower Mount Bethel Township Open Space Plan



Scenic View in Lower Mount Bethel Township

December 2010 Revised March 2011

This Lehigh Valley Greenways Project is supported jointly by a grant from the Pennsylvania Department of Conservation and Natural Resources, Bureau of Recreation and Conservation, Growing Greener Environmental Stewardship Fund, administered by the Delaware & Lehigh National Heritage Corridor, Inc., and Lower Mount Bethel Township.



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Lower Mount Bethel Township Open Space Plan

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2010

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LOWER MOUNT BETHEL TOWNSHIP OPEN SPACE PLAN

ACKNOWLEDGMENTS

Heritage Conservancy wants to acknowledge the Lower Mount Bethel Township Board of Supervisors for their support.

Heritage Conservancy has a longstanding philosophy that views the completion of an open space plan not as the end of a project, but as a beginning. The plan is designed to help the township and its residents begin the process of preserving the township's outstanding natural features by focusing its efforts on the properties that contain the features that the community feels provide Lower Mount Bethel Township with its special sense of place.

Jeffrey L. Marshall
Chief Preservation Officer
Heritage Conservancy



Farm scene in Lower Mount Bethel Township

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EXECUTIVE SUMMARY

Open Space is defined as land that is permanently set aside for public or private use that will not be developed beyond a de minimus amount beyond what is necessary to enhance the conservation values of the land. The key purpose of preserving the land is to protect biodiversity and habitat. In addition, open space may be preserved to protect, buffer or connect natural areas. Another key purpose is to provide a critical mass of protected farmland. In addition, the land may be used for passive or active recreation

The Lower Mt. Bethel stakeholders differentiated active recreation, such as boating, fishing and hunting and organized field sports from open space acquisition for more passive activities and resource protection. While many of these activities can occur on open space, the open space funds should not be used for field sports that alter the land or need more than minor structures and lights.

As a result of voter support in the 2006 primary election, Lower Mt. Bethel Township has instituted an Earned Income Tax (“EIT”) of 0.25% to provide funds for the preservation of open space. The EIT generates an estimated \$150,000 per year and is critical to the on-going land conservation efforts before all the important, good lands are gone and the costs of conservation increase substantially.

In order to spend these funds, the township has undertaken the creation of this Open Space Plan. As part of this open space planning process, existing goals were re-examined and public participation was sought in coming up with current goals.

The planning process reaffirmed that protection of the rural quality of life and protection of farmland were the predominant values. However, while farms defined the character of the township for those who answered the public participation survey, protection of the quality of streams was ranked slightly higher as having the highest importance. Although more people felt farmland was at a much greater risk than water resources. Protecting the scenic views in the township was ranked as being the third highest priority. A large number of stakeholders felt that Route 611 was the most scenic road in the township.

The implementation of the open space plan should focus on the preservation of properties that can accomplish these multiple goals. Preserving farmland that would directly protect water sources would accomplish these goals. By focusing on farms with these features as well as having scenic value, a prioritization matrix of properties for preservation will be the first step in the implementation of the plan.

Goal 1. Farmland Preservation

Objective: Work with property owners to promote participation in the county agricultural preservation program. The Township should promote its own conservation easement program with farmers who have properties that do not rate highly on the county list or cannot wait until the County program gets to their farm. Farms that may not have the highest quality soils but which protect water resources and provide the public with scenic views that help maintain the rural feeling of the township should be given a higher priority. The township open space committee has also put a priority on preserving farmland that surrounds environmentally sensitive lands.

Goal 2. Watershed Protection

Objective: Lower Mt. Bethel seeks to preserve not only wetlands but land that buffers them to enhance the sustainability of wetlands. While the Township should promote watershed protection regulations, these regulations may be changed by future resolution. Therefore, protection should be made permanent through conservation easements, and to the extent possible through voluntary participation in the Township's open space program.

Goal 3. Greenway Corridors – Open Space Linkages

Objective: The establishment of greenways was seen as a high priority. Since many of the riparian corridors can function as greenway corridors and since Lower Mount Bethel Township's streams rate highly on the County's open space and natural features mapping, coordination with the County open space preservation program is a sound objective. The Township should coordinate activities along the Delaware River with County, State agencies and local land trusts.

It is not enough to preserve isolated parcels of unconnected open spaces. Integrating Lower Mount Bethel Township's system of open spaces would aid in preserving the natural links, or greenways, upon which both plant and animal species rely. Lower Mount Bethel Township is fortunate to have the Welcome Center, as a beginning point for an extensive Greenway corridor system.

Goal 4. Viewsheds

Objective: Preservation of scenic views is an important issue for the public who may not be able to have access to preserved land. The conservation of highly visible lands, such as along well traveled public roads, will result in a greater appreciation of the beauty of the community. Implementation of the Delaware River Valley Scenic Byway Corridor Management Plan is a major objective.

Goal 5. Recreational Open Space/ Public Access

Objective: Focus acquisition on conservation easements rather than fee simple acquisition of parkland. Use land development or other means to acquire parkland. While expansion of existing trail networks is important, the questionnaire results for acquisition of "Future Land for Public Use (Parks, Trails)" was a lower priority than the protection of other natural and historic resources.

Chapter 1. COMMUNITY BACKGROUND

Regional Location

Lower Mount Bethel Township is located in northeastern Northampton County, Pennsylvania along the Delaware River in the Lehigh Valley. It is bounded on the south by Forks Township; on the west by a portion of Plainfield Township; to the northwest by Washington Township and to the north by Upper Mount Bethel Township.

The township contains 15,760 acres that has remained relatively rural in character. Population growth only increased by 41 persons between the 1990 and 2000 Census reports. In 2006, it was noted the primary use of township land was “agriculture, with animal husbandry, dairy and corn field crops being the most important. Residential is the second most important use of township lands”. The Pennsylvania Power and Light (PPL Corporation) Martins Creek Plant and the Lower Mount Bethel Energy Plant are major features of the township’s landscape.

Geographically, the township consists of the Delaware River and its floodplain lands, prime farmlands located on a “terrace” of the river floodplain; a sharply ascending landscape leading from the terrace to a moderately sloping, higher elevation near the township’s western boundary with Washington Township. A number of creeks, of which Martin’s Creek is the most prominent, lead down to the Delaware River. The township has a number of small collections of houses including the village of Martins Creek and the hamlets of Riverton and Mt. Pleasant.

Source: Lower Mount Bethel Township Comprehensive Plan, 2007.

History and the Unique Aspects of the Lower Mount Bethel Community

The first settlement of the area known today as Lower Mount Bethel Township took place in the early 1730’s when Alexander Hunter and several Scotch-Irish families began farming homesteads in a general area known as both Hunter’s Settlement and Martin’s Settlement. The source of the latter name was James Martin, another early settler, who later was a colonel during the Revolutionary War.

In 1746, the inhabitants of the settlement petitioned for Township status with the result that Mount Bethel Township was established in 1748. It included the present-day Townships of Upper Mount Bethel, Lower Mount Bethel and Washington. Development at that time was concentrated in the areas near Martins Creek and Richmond.

During the mid-eighteenth century, a large number of Germans settled in the Mount Bethel region. In a short time, a conflict arose between the Scotch-Irish and Germans, resulting in the persecution of the Scotch-Irish minority. Shortly after the end of the Revolutionary War, a number of the Scotch-Irish families living in Mount Bethel Township moved to central and western Pennsylvania and to Tennessee. This event, coupled with more German immigration, created a dominant Germanic influence in the Township.

In 1787, Mount Bethel was divided into two parts – Lower Mount Bethel Township and Upper Mount Bethel Township. At that time, the area of Lower Mount Bethel included present-day Washington Township.

For a brief time, around 1800, the Village of Richmond (now in Washington Township) was a regional center with a sawmill and gristmill as the primary industries. By the middle of the century, it had been surpassed by the emergence of Bangor and the slate industry. The area along Martins Creek began to develop as quarry workers built homes along its banks, using the creek for transportation. In 1871, Washington Township was separated from Lower Mount Bethel.

Between 1850 and 1890, the population of the Township grew very slowly and farming activities were dominant. However, near the end of the century the cement industry began to develop and had an effect on Township life.

The first cement production began in 1830, but it was much later that cement became an important industry. The great cement era began in the 1890s as a result of the use of the rotary kiln processing techniques and a greater national demand for this building material. In 1890, 201,000 barrels were produced in the valley. By 1900, the figure reached 2,900,000 barrels and in 1910, it had increased to 22,000,000 barrels. Cement production was confined to a “Cement Belt” several miles wide extending from Belvidere, New Jersey to Ormrod in Lehigh County. Lower Mount Bethel was part of this “Cement Belt”.

Two companies emerged as leading cement producers in Lower Mount Bethel – Alpha Cement and Lehigh Portland Cement. Lehigh Portland Cement was formed in 1897 by General Harry Clay Trexler. In 1925, the company purchased the newly built Bath Cement Plant. Until it was closed in the early 1960s, the plant averaged 200 employees.

Alpha Cement established two plants near Martins Creek, which were constructed between 1901 and 1908. Cement production ceased in late 1964. The plant is presently used for research purposes and as a distributing point for sand and gravel products.

The decline in the importance of the cement industry has not been confined to Lower Mount Bethel Township, but has been apparent throughout the region. Regional employment dropped from 7,100 in 1950 to 4,900 in 1965. Neither the Alpha nor Lehigh plants in the Township have plans to resume production. Lehigh, in fact, has sold most of its property during the last few years.

Except for a very few industries, the disappearance of cement has meant a return to a rural economy for the Township. A large number of the residents are employed in non-agricultural jobs, but most of these work outside of the Township. Population, which increased from 1,335 in 1900 to 1,890 in 1910, leveled off and increased by only 100 during the next 40 years. No major concentrations of population emerged. Martins Creek, the largest town, has less than 1,100 inhabitants, contains three industries and about two dozen commercial establishments. Settlements such as Riverton, Gruvertown, Del Haven and Mount Pleasant are cross road developments.

Source: LowerMtBethel.org

Governmental Background

Lower Mt. Bethel Township is classified as a Township of the Second Class by the Commonwealth of Pennsylvania. The local governing body consists of five elected members comprising the Board of Supervisors. The Township has an appointed Secretary-Treasurer to oversee administrative activities. The Township provides road service, building and zoning inspections, park and recreation services, and administrative services to the community. The Township adopted a Comprehensive Plan in 2006. This Open Space Plan borrows heavily from that plan.

Chapter 2. PENNSYLVANIA LEGISLATION ON OPEN SPACE

There are several key acts of enabling legislation that govern the acquisition of open space by municipalities in Pennsylvania.

Act 153 of 1996

Pennsylvania's Act 153 of 1996 (which amended the Open Space Lands Act, Act 442 of 1967) gives local governments the power to acquire open space interests for the following purposes:

- Protection of water resources and watersheds
- Protection of forest for timber production
- Conservation of farmland
- Parks and recreation
- Conservation of natural and scenic resources
- Preservation of sites of historic, geologic, or botanic interest
- Promotion of sound planning through the creation of buffers between communities

Under the Act, local governments may levy a tax on real estate or earned income above existing limits in order to purchase development rights or open space lands, but only if they first receive referendum approval from the voters.

The Act also lays out the rules for acquisition of open space by local governments. Properties may be acquired in fee and must be resold within two years after restrictive easements or covenants have been placed on the land. Property interests may be purchased on an installment or deferred basis.

Land or development rights to be purchased must have been identified in a natural areas, open space, recreation, or land use plan recommended by the planning commission of the municipality in which the property is located, and that plan must first be adopted by the governing body. If the community does not have a planning commission, the process relies on a similar plan prepared by the county planning commission and adopted by the municipal governing body.

In the event that the governing body decides to dispose of acquired land or development rights, it must first obtain voter approval. These interests must then be offered to the original property owner at the original price paid by the local government. If the offer to the original property owner is not accepted within 90 days, the property interests may be sold in the manner provided by law.

Act 153 specifically prohibits municipal governments from using their power of eminent domain, which is the power to condemn land for acquisition, in carrying out the provisions of the act.

Act 4 of 2006

Act 4 of 2006 amended Act 153 and authorizes the three local taxing authorities (municipality, school district and county) to freeze the millage on lands whose development potential has been removed. All three must agree to participate. This is a significant incentive for property owners to preserve land and has been done in school districts in Bucks and Northampton counties. This was adopted by resolution on August 18, 2008.

Act 138 of 1998

Pennsylvania Act 138 of 1998 (an amendment to the Agricultural Area Security Law, Act 43 of 1981) authorizes local governments to purchase agricultural conservation easements to preserve farmland in established agricultural security areas. Local governments may undertake this activity on their own or in cooperation with a county or the Commonwealth as joint owners. The Act permits local governments to incur debt to purchase these easements.

Source: *Public Finance for Open Space: A Guide for Pennsylvania's Municipalities*
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Chapter 3. OPEN SPACE PLANS AND PROGRAMS

A number of existing planning documents were reviewed as part of this plan preparation. They include the following:

- Lower Mount Bethel Township Comprehensive Plan, 2007, that includes chapters entitled “Chapter 5: “Community Development Objectives and Strategies” and “Chapter 12: Natural and Historic Resources Protection Plan.”
- Lower Mount Bethel Township Recreation, Park, and Open Space Plan, Lower Mount Bethel Township, Northampton County, Pennsylvania. Prepared by Wildlands Conservancy, Houck Parks & Recreation Planning, and Pandl & Associates December 5, 2006.
- The Martins-Jacoby Watershed Conservation Plan, prepared for the Martins-Jacoby Watershed Association, December 2009, by Kate Brandes, Watershed Specialist, Northampton County Conservation District & Jason Smith, Senior Scientist, Hanover Engineering Associates, Inc.
- Lehigh Valley Greenways Plan. A Regional Greenways Plan for Lehigh and Northampton Counties, Lehigh Valley Planning Commission, Adopted: May 24, 2007

The Lower Mount Bethel Township Comprehensive Plan, 2007

The Lower Mount Bethel Township Comprehensive Plan includes a chapter on “Community Development Objectives and Strategies.” The objectives in the Comprehensive Plan are broader in scope than the goals of the open space committee. Objectives 1 through 4 are priorities of the committee and Objective 8 goal to “manage residential growth” is an objective, not just to “alleviate escalating educational costs” but for its positive impact on the environment and quality of life within the township. The Comprehensive Plan objectives include:

Objective 1: Retain the Township’s rural and historic character, with particular emphasis on agriculture as a viable way of life.

Objective 2: Protect the Township’s prime farmland soils and significant public investment in farming.

Objective 3: Protect the Township’s other natural, scenic and historic resources.

Objective 4: Protect landowner values.

Objective 5: Provide areas for housing, shopping, services, recreation and economic development.

Objective 6: Identify and implement solutions to public health and safety concerns

Objective 7: Manage traffic circulation consistent with the principles of a rural agricultural community, with special emphasis on safety and pedestrian travel.

Objective 8: Manage residential growth within the Township to help alleviate escalating education costs within the two public school districts serving township residents.

Lower Mount Bethel Township Recreation, Park and Open Space Plan (RPOS Plan)

The RPOS includes Goal F - Open Space, Greenways, and Trails. The goal is to “protect significant cultural and historical resources as well as sensitive natural resources, and establish a system of greenways and trails.”

The RPOS Plan divided the goal into immediate, short term and long term goals as follows:

Immediate

- Participate in Martins-Jacoby Watershed Association – watershed plan and audit
- Coordinate information activities and grant applications with the EAC
- Work with Northampton County to continue purchase of conservation and agricultural easements

Short Term

- Acquire key parcels to provide greenway linkage throughout the Township*
- Participate in Lower Delaware Wild and Scenic River program
- Work with Northampton County to continue purchase of conservation and agricultural easements
- Incorporate recommendations of the Corridor Management plan being developed through the Delaware River Valley Scenic Byways program**

Long Term

- Work with Northampton County to continue purchase of conservation and agricultural easements***

A review of the goals shows the following:

* There are still key parcels that need to be acquired

** Lower Mount Bethel Township has been awarded a grant to develop a Corridor Management Plan (CMP) for the Delaware River Valley Scenic Byway, a Pennsylvania State Byway along Little Creek Road, Martins Creek-Belvidere Highway and Route 611. A consultant was hired and several meetings were held in 2010 with additional meetings scheduled through Winter/Spring 2011.

*** Four farms have been permanently protected since the RPOS was adopted.

The Martins-Jacoby Watershed Conservation Plan

The Martins-Jacoby Watershed Conservation Plan, prepared for the Martins-Jacoby Watershed Association, December 2009, by Kate Brandes, Watershed Specialist, Northampton County Conservation District & Jason Smith, Senior Scientist, Hanover Engineering Associates, Inc. contains much of the information that is critical in the development of an Open Space Plan for Lower Mt. Bethel Township.

The Martins-Jacoby Watershed contains approximately 102 square miles. It includes all of Lower Mt. Bethel as well as all of Upper Mt. Bethel, Washington Township and portions of Plainfield Township and Forks Township as well as the boroughs of Bangor, East Bangor, Pen Argyl, Portland and Roseto. While the plan does not differentiate resources by municipalities, it contains an extensive amount of information that is pertinent to Lower Mt. Bethel. The plan identifies a number of significant features within the township. They are:

Critical Conservation Areas:

- the “Oughoughton Creek near Delaware River”

Passive recreational areas:

- The PPL Martins Creek Environmental Preserve
The preserve boasts five miles of wooded hiking trails with views of the middle Delaware River, which has been designated by Congress as a Wild and Scenic River. Hikers can view the woodlands, geological formations and wildflowers found on the west bank of the river. The 215-acre environmental preserve borders PPL's Martins Creek and Lower Mount Bethel power plants. It's a prime example of how industry and nature can coexist.
- The PPL Martins Creek Public Boat Access Area in Lower Mt. Bethel.
The boat launch will be located on Pennsylvania Fish and Boat Commission (PAF&BC) property adjacent to a 27+ acre recreation/environmental education site maintained by Lower Mount Bethel Township.

Active recreational features:

- Keifer Field (#22 on Active Recreational Feature Map)
- Lower Mt. Bethel Township Municipal Center (#24 on Active Recreational Feature Map)
- Lower Mt. Bethel Township Recreational Complex (#25 on Active Recreational Feature Map)
- Martins Creek Ballfield (#26 on Active Recreational Feature Map)
- Mud Run (#29 on Active Recreational Feature Map)
- Sandt's Eddy Boat Access (#45 on Active Recreational Feature Map)

Martins-Jacoby Watershed Conservation Plan: Non Acquisition Strategies

Open space implementation strategies include preservation tools currently utilized by the Township as well as new and innovative techniques that can be added to municipal ordinances. There were a number of recommendations regarding the zoning ordinance. These recommendations include "non-acquisition methods" of land preservation that are often included in open space plans. The most direct impact on open space preservation would be the following:

- Adopt woodland, wetland and riparian corridor protection standards (the plan includes a model ordinance)
- All required Plot Plans should include the locations of all lakes, ponds, rivers, streams, and wetlands, as well as the locations of on-lot septic systems and wells. Buffers on wetlands, streams, ponds, and lakes should be consistent with the Riparian and Wetland Buffer model ordinance by the Lehigh Valley Planning Commission. Two zone buffers are preferable to protect [promote] resource protection and maintain reasonable landowner rights.

The plan also lists specific recommendations:

- Riparian and Wetland Buffer Guide/Model Regulations (LVPC 2008)
- Floodplain Guide/Model Regulations (LVPC 2008)
- Steep Slopes Guide/Model Regulations (LVPC 2008)
- Woodlands Guide/Model Regulations (LVPC 2008)
- Natural Features Conservation Ordinance (encompassing many otherwise unprotected features)
- Natural Landscape Ordinance

- Forest Conservation Ordinance
- Official Map Ordinance (specifically including a 150 ft buffer from the main stem of streams mapped by the USGS).

Other Non Acquisition Tools that might be considered include:

- Ordinance Requirements for Open Space
- Transfer of Development Rights Ordinance

Lower Mt. Bethel Township approved an Agricultural Protection Zoning Ordinance (CAPZO) on August 2, 2010.

Lehigh Valley Greenways Plan

Adopted by both counties in 2005, the Comprehensive Plan for the Lehigh Valley ... 2030 (Comprehensive Plan) contains a thorough inventory of the natural, recreational, cultural, historical and scenic attributes of the Lehigh Valley and establishes priorities and provides recommendations on how to protect them. This plan, funded, in part, by a grant from the Pennsylvania Department of Conservation and Natural Resources (DCNR), Bureau of Parks and Recreation, stems from the inventory and analysis of the Comprehensive Plan identifying the resources that serve as the framework for a regional greenways network and provides 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 are 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.

Northampton County Farmland Preservation Program

Background

In Northampton County, Farmland Preservation has traditionally been accomplished through a state and county partnership. The county has allocated funds on an annual basis to preserve farmland and then receives a match from the state to supplement these funds. Northampton County reached the 10,000 acres preserved mark in August 2008. For many years, this system did not work with municipal open space programs in a formal way. In recent years, after the proliferation of many municipal open space programs the law was changed to allow the direct participation of municipalities. Recognizing the increasing importance of non-profit entities, such as land trusts, in the acquisition of preserved farmland, Act 46 of 2006 amended Act 43 to allow eligible non-profit entities to participate with the state, counties and local government units in easement purchases. This has opened up opportunities for Bushkill, Lower Mt. Bethel, Moore, Plainfield, Upper Mt. Bethel, and Williams Township and townships that will establish their own open space funding programs.

This system has formulaic guidelines that are adopted at the county level. Properties are evaluated on standard criteria and given points in a number of categories. Until recently, the county has had a strict policy of preserving the highest rank properties. Townships could not be assured that even if they contributed funding to preserve farmland, properties in their individual municipalities would be chosen by the county for its funding program.

In October 2010, the policy was revised to encourage municipal participation. A document, entitled, “*NORTHAMPTON COUNTY PARTNERSHIP PROGRAM FOR FARMLAND PRESERVATION: An informational guide for Municipalities participating with the Northampton County Farmland Preservation Board*” has been produced and the new policy will be in effect in 2011.

A summary of the most recent information about the program is attached as an appendix to this plan. Additional information about the Farmland Preservation Program in Northampton County, as well as the Informational Guidelines, can be obtained through:

Northampton County Farmland Preservation Office
Gracedale Complex, Greystone Building
Nazareth, PA 18064-9211
Phone: (610) 746-1993 or Fax: (610) 746-5262

Northampton County Natural Areas Program

Northampton County 21st Century Open Space Initiative GUIDELINES
February 2005 August 2010 (contact info only) Prepared by: Northampton County Council
Open Space Committee. Staff assistance by Lehigh Valley Planning Commission

Program Summary

Under the County’s open space initiative, \$14 million has been allotted to an Open Space and Natural Areas Program. The purpose of the program is to protect the county’s important natural features by assisting municipalities and nonprofit organizations acquire and permanently preserve land where these resources are found.

The Open Space and Natural Areas Program is a competitive grant program open to municipalities, school districts or nonprofit organizations. The Lehigh Valley Planning Commission staff, using Geographic Information System (GIS) technology, has created a map that shows the areas in Northampton County that are considered to have conservation value. Weighting factors were assigned to a variety of natural features such as floodplains, wetlands, steep slopes, woodlands, and more. Three categories of conservation value were identified — very high, high and medium. The areas of the County that were not rated in one of the three categories are considered to have limited or no conservation value.

To be eligible for funding for an open space and important natural areas grant, a property must be located at least in part in an area shown on the Lehigh Valley Planning Commission’s Natural Features Plan Map as having *very high*, *high*, or *medium* conservation value. Properties that do not fall into one of the three conservation values may be considered

eligible for an open space and important natural areas grant if it can be documented by a special study or other means that the property(s) has value as an important open space or natural area.

The most important criterion in evaluating an application is the importance of a property's natural features. Other important criteria range from the applicant's strategy for managing the property's natural resources after acquisition to the site's potential for development. Based on the availability of funds and the grant application meeting the program's basic eligibility requirements, the applicant may be eligible for a grant equal to 50 percent of the property's appraised value or \$300,000, whichever is less. Joint applications can be grants of up to \$300,000 per applicant.

Grant funds may only be used to purchase land in fee simple or to acquire a conservation easement that would permanently protect a property's open space or important natural features. Grant funds may not be used to acquire structures of any significant monetary value. Grant funds also may be used for appraisals, surveys, legal fees, or other administrative costs related to the property acquisition up to a limit of \$5,000 per application.

Applications are evaluated using the project selection criteria that assign points for the 13 criteria listed below:

BASE CRITERIA POINT	VALUE
---------------------	-------

1. The site is shown on the Natural Features Plan map for Northampton County and the rating is ____ (maximum 12 points)
 - a. Very high conservation priority 12
 - b. High conservation priority 6
 - c. Medium conservation priority 3
 - d. The site is not in a conservation priority area 0

2. The site has statewide significance as an important natural area and the county rank is ____ (maximum 10 points)
 - a. #1 10
 - b. #2 8
 - c. #3 6
 - d. #4 4
 - e. #5 2
 - f. The site is not listed as having statewide significance 0

3. The site has local significance as an important natural area and the county rank is ____ (maximum 4 points)
 - a. High 4
 - b. Medium 2
 - c. The site is not listed as having local significance 0

4. Acreage of the land to be acquired (maximum 6 points)
 - a. Over 100 acres 6
 - b. 50–100 acres 4
 - c. 25–49.99 acres 2
 - d. Under 25 acres 1

5. Type of acquisition (maximum 5 points)	
a. Fee simple	5
b. Easement (with public access)	3
c. Easement (without public access)	1
6. Public access (maximum 5 points)	
a. Yes	5
b. No	0
7. Parcel links recreation or open space areas (maximum 5 points)	
a. Parcel links two or more existing publicly accessible areas	5
b. Parcel is adjacent to an existing publicly accessible area	3
c. No linkage or expansion of an existing park or open space	0
8. Possible partnerships (maximum 3 points)	
a. Project is in cooperation with another agency or municipality	3
b. There are no partnerships involved.....	0
9. Non-county funding available for the project (maximum 9 points)	
a. Over 75%	9
b. 60%–75%.....	6
c. More than the required 50% match but less than 60%	3
d. The local match is no more than the required 50%.....	0
10. The land to be acquired is adjacent to the Delaware River or the Lehigh River (maximum 5 points)	
a. Yes	5
b. No	0
11. The land to be acquired is adjacent to a stream that has been rated to have good water quality that should be protected (maximum 5 points)	
a. Stream is rated as having Exceptional Value Waters.....	5
b. Stream is rated as having High Quality Waters	4
c. Stream is rated as Cold Water Fishes.....	3
d. Stream is rated as Trout Stocking Fishes.	2
e. Stream is rated as Warm Water Fishes.....	1
f. The land to be acquired is not adjacent to a stream.....	0
12. A natural resources study or a similar type of study has been done for the municipality in which the project is located (maximum 3 points)	
a. Yes	3
b. No	0
13. Quality and completeness of the application (maximum 6 points)	
a. High.....	6
b. Medium.....	3
c. Low	0

TOTAL POINTS

In addition to natural resource values, the guidelines include other social and economic aspects of preservation. One of the important components of the program is public access.

Public access to land acquired under the program provides an opportunity for citizens to experience and learn about the county's important natural resources. Public access can range from unrestricted access to periodic and/or controlled educational tours of the property. In instances where public access is not anticipated, the application should note why the site's natural resources indicate that public access to the site is not appropriate.

Other components include "Threat of Development" i.e. Will an impending sale or development of the property threaten the integrity of the property's significant resources? How effectively can local ordinances protect the property's resources? This analysis can be completed by determining the percentage of the property that must be protected under existing local natural resource protection measures related to wetlands, waterways, slopes, forested areas, etc. Financial Support is also a key component to the evaluation process. The county wants to know that a municipality or organization has secured all the required matching funds to complete this acquisition. Having local open space funds, including EIT money, is critical to using county funds.

Chapter 4. INVENTORY OF PROTECTED LANDS

Future Land Use Map created March 27, 2006 outlined the future land use as:

Rural/Agricultural	12,070 acres
Recreation/Conservation	1,811 acres
Conservation Residential	371 acres
Village Residential	415 acres
Village Center	308 acres
Industrial	1,415 acres

Municipal and Non-municipal Open Space

Township Parks

- Lower Mount Bethel Recreation Complex 25 acres near Riverton
- Kiefer Ballfield 2.8 acre little league and softball field near Del Haven

Non-Municipal Park and Recreation facilities

- Pacchioli Field – Eastern Industries’ athletic field located in the Village of Martin’s Creek
- Sandt’s Eddy boat access Pennsylvania Fish Commission with parking for 24 vehicles.
- PPL Martins Creek Environmental Preserve 215 acres bordering PPL's Martins Creek and Lower Mount Bethel power plants.
- PPL Martins Creek Public Boat Access 4.2 acres DePues Rd.
- Mud Run – 10 acres owned by Northampton County [this site is generally not available for public recreation]

Other Designations

- Pennsylvania Scenic Byway - Delaware River Valley Scenic Byway with 17 miles of roads passing through preserved farmland, historic landmarks and countryside views.

Agricultural Conservation Easements

Pennsylvania’s agricultural preservation program began in 1989. Northampton County preserved its first farm in 1993 in Lower Mount Bethel Township. The county has established minimum criteria for the purchase of conservation easements. The property must have contiguous acreage of 25 acres or more (50 acre or more to be part of the state funded program) or 10 acres or more to a previously preserved farm. Property must be located within an Agricultural Security Area and composed of soils that are 50% classes I through IV, and zoned in agricultural and open space use.

Lower Mt. Bethel leads the county in acreage preserved through the county farmland preservation program. There are within Lower Mount Bethel 23 preserved farms totaling 3,217.39 acres (data through February 19, 2010).

Table 1 Lower Mount Bethel Preserved Farms					
#	Name (original owner)	Township	Easement Date	Tax Parcel	# of Acres
1	Gulick, James & Pat	Lo. Mt. Bethel	9/13/1993	F11-11-3, F11-8-10	94.6600
2	*Koehler, Norman & Audrey (Koehler, P)	Lo. Mt. Bethel	9/13/1993	F11-11-2, F11-8-11	147.6360
3A	*Fox, Dennis (Fox, Elwood)	Lo. Mt. Bethel	9/13/1993	F10-11-6A, G11-5-6A, F10-13-2	143.7920
3B	*Bruce Fox (Fox, E.)	Lo. Mt. Bethel		G11-5-6, G11-1-3, G11-5-7	162.0516
4	Kiefer, Arling & Frances	Lo. Mt. Bethel	9/13/1993	F11-10-7, F11-11-1, F11-7-10,	256.7500
7	*Yetter, Mark & Melissa (Yetter, Merlin)	Lo. Mt. Bethel	5/30/1995	G11-5-16	287.7290
9A	** Shook, Scott D. & Andrea C.(Ott, Barry &Lois)	Lo. Mt. Bethel	11/1/1996	E11-11-11, F11-8-4	88.3582
9B	**Angle, Ronald L. (Ott, B&L)	Lo. Mt. Bethel		F11-2-3	4.9230
9C	**McEwen, Larry, Clarissa & Kevin (Ott, B&L)	Lo. Mt. Bethel		F11-7-3	37.6900
10	Ott, Floyd A, Jr.	Lo. Mt. Bethel	11/1/1996	F11-3-2, F11-8-3	88.3319
12	Miller, Frank B & Arlene	Lo. Mt. Bethel	12/31/1997	F11-7-5A, F11-7-7A, F11-7-12,	223.1410
17	Kluska, Frank	Lo. Mt. Bethel	8/24/1999	H9-6-1, H9-4-7	118.4976
24	Miller, Wilmer	Lo. Mt. Bethel	12/4/2000	F11-7-15	151.3360
30	Bush, William	Lo. Mt. Bethel	1/22/2002	F10-11-3, F11-7-14, F11-10-4,	132.5196
39	Mehas, Steven & Marilyn	Lo. Mt. Bethel	8/11/2003	G11-5-8, G11-2-2, G11-1-6	54.3090
40	DalMaso, Donald & DeCamp, June	Lo. Mt. Bethel	9/12/2003	F11-7-5B-1	23.1543
43	*Brewer, Jeffrey and Kevin (Brewer, F)	Lo. Mt. Bethel/ Plainfield	12/9/2003	G9-14-5, G9-14-9, G9-15-8A	122.5151
45	Kachline, Karl & Rosella	Lo. Mt. Bethel	1/12/2004	G9-15-10, G9-15-11, G9-14-4	177.7598
49	Miller, Lonny E. & Gail A.	Lo. Mt. Bethel	6/8/2004	G10-5-22	129.1361
55	Keifer, Joseph H. & Cheryl A.	Lo. Mt. Bethel	6/14/2005	F11-8-13	29.2176
62	Horne, Linda, Chew B. & Miller R.	Lo. Mt. Bethel	1/17/2006	F12-1-10	90.9583
71	Pond Hollow Agriculture, LLC	Lo. Mt. Bethel	4/17/2007	G11-5-11	95.0000
79	Rhein Living Trust, John A. & Rita E.	Lo. Mt. Bethel	9/12/2007	G10-5-25A	114.1336
84	Marshalleck, W. Karl & Helen M.	Lo.Mt. Bethel	1/22/2008	G10-5-26, G10-5-39	40.5772
85	McCollian, Patricia	Lo. Mt. Bethel/ Washington	2/19/2008	G9-15-4	114.8364
87	Ott, George C. & Ott, Hazel E.	Lo. Mt. Bethel	4/14/2008	G10-8-7, G10-8-13B, G10-7-8A, G10-7-8B	126.9202
98	Kiefer, Arling J.	Lo. Mt. Bethel	1/13/2010	G11-6-3	210.3491
					3266.2826
	*Transferred farms/**Sold farms			Total in Lo. Mt. Bethel	3217.396

Source: Northampton County Agricultural Preservation website

Lands with Preferential Assessment

Numerous residents within the Township have registered their properties with the County under preferential assessment programs. These are voluntary covenants with owners who have valuable open space resources (e.g., farmland, forested areas, water resources) and wish to preserve open space. Consequently, enrolled properties are assessed by the County at the fair market value (or at less than highest yield use, based on zoning and development potential). As a result, the property owners are afforded significant savings through preferential property tax assessment as an incentive to maintain the land as open space.

There are two acts available to land owners for preferential assessments: Act 515 (Pennsylvania Open Space Covenant Act of 1966) and Act 319 (Pennsylvania Farmland & Forest Land Assessment Act of 1974). Of the two, Act 319 has more stringent requirements. Act 319, also known as the “Clean and Green Act,” is available to landowners for the following uses: agricultural use, agricultural preserve, and forest preserve. Under this program, soil classification and yield per acre determine a property’s individual assessment. Enrollment in this program is continuous unless dissolved by the landowner or eligibility requirements are not maintained.

Lands covenanted under Acts 319 and 515 are **considered only temporarily protected since the enrolled property owners have the right to terminate the agreements at any time**. Although imperfect, enrollment shows desire by landowners to maintain their properties as open space.

In total, there are 7,879 acres covenanted under Acts 319 and 2,921 acres under Act 515 within the Township for a total of 10,800 acres.

Agricultural Security Areas

Similar to lands covenanted under the preferential assessment programs, enrollment into an Agricultural Security Area (ASA) suggests a significant commitment by property owners for ongoing farmland preservation. The ASA program was created by the Agricultural Security Area Law (Act 43 of 1981) to protect the agricultural industry from increasing development pressure. ASAs are intended to promote more permanent and viable farming operations by strengthening the farmers’ sense of security in their right to farm by protecting against potential conflicts with impinging land development (e.g., noise, odor, dust, etc. associated with farming activities). The ASA program is a pre-requisite for Agricultural Preservation funding from the state but does not, in and of itself, permanently protect a property.

Chapter 5. INVENTORY AND ANALYSIS OF VULNERABLE RESOURCES

Natural Resource Inventory [taken from section 2-1 of Comp Plan]

Geology

Key Findings

- There are five basic geologic formations within the Township. Limestone and shale are the predominant bedrock types.
- Carbonate geology underlies approximately 40% of the Township.
- Limestone is conducive to groundwater recharge, yet groundwater in carbonate areas is highly susceptible to contamination due to the presence of solution channels.
- Limestone formations are subject to sinkholes which are hazardous to development.
- The presence of limestone improves the ability of agricultural crops to acquire needed nutrients and counteracts the acid-intensifying effects of soils, producing higher crop yields with the use of less fertilizer.
- Most of the geological formations in the Township provide adequate water supplies for domestic use.

Topography

Key Findings

- Roughly 28% of the Township contains slopes greater than 15%.
- Slopes greater than 15% are highly susceptible to erosion.
- Slopes greater than 15% provide unique habitats for plants and wildlife.
- Though susceptible to erosion, moderate slopes provide opportunities for agriculture, development, and groundwater recharge.

Soils

Key Findings

- The six major soil associations in the Township can be characterized as moderately deep to deep, well-drained soils.
- The majority of the Township (62%) consists of “prime agricultural land,” as defined by the Municipalities Planning Code.
- The soils most conducive to agriculture are also the most suitable for groundwater recharge and on-lot sewage disposal.
- Hydric soils are indicative of wetland conditions and former wetland locations. These environmentally-sensitive resources should be protected from disturbance.
- Alluvial soils are unsuitable for development because they are unstable and flood-prone.
- Soil suitability for on-lot sewage disposal is a function of soil depth, drainage, and permeability. On-lot sewage disposal systems should not be installed in areas with high water tables, steep slopes, hydric soils, or alluvial soils.

Prime Agricultural Soils

<u>Class</u>	<u>Acreage</u>	<u>% of Township</u>
Class I	689	4
Class II	4,352	28
Class III	4,768	30

Streams, Rivers, and Watersheds

Riparian areas are located along rivers and streams and are comprised of many habitats, such as wetlands, grasslands and forests. Riparian areas are also known as stream corridors or floodplains. Flooding naturally occurs along streams and is important to the wildlife that use riparian areas. The trees and other vegetation that grow along streams are adapted to frequent flooding. Green frogs, wood turtles, pileated woodpeckers, and redstarts are well known riparian residents.

Many other species of wildlife use riparian areas during a portion of their lives. Riparian areas are used for nesting, foraging, hibernating, migrating and access to water. In addition to wildlife benefits, healthy riparian habitats, particularly natural forested communities, provide a number of water quality and stream stability functions. The roots of riparian vegetation help to strengthen stream banks and provide resistance to erosion. Streamside vegetation creates habitat such as undercut banks where fish find refuge and overhanging tree limbs that cool the water and shelter macro invertebrates. Forested vegetation provides the primary source of energy (carbon from trees that drop their leaves in the fall) for life in small to medium sized streams.

Riparian areas can be identified by looking for streams and rivers on maps or locating 100-year floodplains on maps from the Federal Emergency Management Agency (FEMA). Many such riparian areas are protected by ordinance. However, the benefits of riparian protection often extend well beyond federally designated standards such as protecting stream banks from erosion, and filtering excess nutrients and pollutants in runoff before they reach the stream. For example, wildlife may use riparian buffers with natural vegetation up to 1000 feet.

The Lehigh Valley Greenways Plan (page 72) also viewed the Delaware River a key element in its overall greenway plan. It states: Between the Delaware Water Gap and the City of Easton, the Delaware River flows through a river valley that is primarily rural with a scattering of residential development, a small borough, Portland, and the villages of Riverton and Martins Creek. This section of the greenway is particularly scenic and includes portions of a designated Pennsylvania Scenic Byway. Designated routes include Pennsylvania Route 611, Martins Creek-Belvidere Road and Little Creek Road in Lower Mt. Bethel Township. From the City of Easton south to the Northampton-Bucks County line, the area through which the greenway passes includes several small villages, the Delaware Canal, scattered residential and commercial development along Route 611 and wooded hillsides. In 1988, Governor Casey designated the entire length of Pennsylvania State Route 611 as the Delaware River Scenic Drive.

Key Findings

- Lower Mt. Bethel has approximately 49 linear miles of streams, including 8.5 miles of frontage on the lower Delaware River.
- In addition to direct drainage into the Delaware River, there are six sub-watersheds in the township.
 - Martins/Jacoby Creek watershed
 - Oughoughton Creek sub-watershed
 - Martins Creek
 - Mud Run sub-watershed
 - Two intermittent streams
- Martins Creek is a designated Trout Stocking Fishery. Other streams are designated as Cold and Warm Water Fisheries.
 - Martins Creek (Main Stem) TSF, MF
 - Oughoughton Creek CWF, MF
 - Little Martins Creek CWF, MF
 - Mud Run CWF, MF

(TSF – Trout Stocked Fishery; MF – Migratory Fisheries;
CWF – Cold Water Fisheries)
- Anecdotal data suggests many of the Township’s streams could receive High Quality designation, yet runoff from agricultural operations appears to be a significant water quality concern.
- A major portion of the Township lies within the Lower Delaware River National Wild and Scenic Rivers Management Plan Area. The Wild and Scenic designation offers protection from potentially adverse projects involving federal permits or funding.

Martins Creek / Jacoby Creek

The watershed delineation for these watersheds extends onto the summit of the Kittatiny Ridge and then flows southward into Northampton County. Martins Creek drains 44 square miles and joins the Delaware River at the town of the same name, while Jacoby Creek’s confluence with the Delaware River is near Portland.

Wetlands

A wetland is a transitional area between aquatic and upland ecological communities that often has qualities of both. Wetlands also occur where the groundwater is near or at the surface, saturating the soil and the root zone of the plants that grow there. Plant species that live in or near wetlands are adapted to the wet conditions. Wetlands are nature’s sponges. They filter and recycle nutrients from the water that moves through them, which helps to ensure cleaner water reaches our water supply. Wetlands absorb and release groundwater which helps maintain constant supplies of surface water and therefore ensures a more predictable water supply. Wetlands also absorb and release surface flood waters, protecting landowners against flooding.

Although protecting the wet area of a wetland provides numerous benefits to the ecosystem, it is also important to protect the adjacent wetland buffer from alteration. Buffers protect water quality and hydrology, and in doing so help ensure that a wetland will continue to provide its ecological services. Adjacent upland habitats are also

important to many species of wildlife that use wetlands. Wetlands larger than 12.4 acres plus 100-foot buffers and smaller wetlands of unusual local importance are protected by the state Freshwater Wetlands Act. Lower Mt. Bethel seeks to preserve these buffers to enhance the sustainability of wetlands.

Wetlands are defined by their hydrology, landscape setting and resident species. Some are wet for a short time of the year and most of the time are not recognizable as wetlands, yet they are often very important wildlife habitat. The great variety of wetlands that exist support a wide range of species. Some wetlands, including forested wetlands, fens and bogs are so unique they cannot be replicated by wetland creation. The value of these wetlands is especially high because of the specialized wildlife that may be limited to these areas. Wetlands perform numerous functions, such as removing and recycling nutrients from the water that flows through them. These functions, in turn, provide benefits to the environment and the community. For example, the benefit derived from nutrient removal is improved water quality. This water purifying function is valuable for a number of reasons, such as clean drinking water, safe recreation and secure fish and wildlife habitats.

Key Findings

- Floodplains and wetlands provide critical habitat for wildlife and are important areas for controlling the effects of stream erosion and promoting groundwater infiltration.
- FEMA Special Flood Hazard Areas encompass 8% of the Township. Development should be limited in these areas due to their environmental sensitivity and inherent safety concerns.
- NWI wetlands occupy 2.9 % of the Township, though the actual extent of wetlands is probably much larger. Wetlands should be left undisturbed because of the unique ecological functions they provide.

Woodlands and Natural Areas

In addition to the many species that use forests as habitat, there are numerous economic benefits: such as recreation, tourism and the forest products industry. Trees and forests also enhance a community's quality of life. They have aesthetic value, provide shade and cooling, reduce soil erosion, aid groundwater absorption, filter pollutants, and produce oxygen. Some species specialize in large forests, barred owls and bobcat, for example, and can disappear as forest lots become smaller and smaller. Large, intact forests are becoming less common as habitats are becoming more fragmented. Unplanned development leaves small parcels of land between developments that cannot sustain their original habitats, leading to a significant loss of species from the area.

To best protect forests, one should consider their size, condition, and type. Forest size is important, but how large is an unfragmented forest? It depends on the municipality. In Lower Mount Bethel Township, which is still predominantly agricultural and rural, a tract with relatively mature trees is extremely significant. Lands connected to already protected forested areas are also extremely important as linkages and greenways.

Key Findings

- Woodlands occupy approximately 20% of the township land area

- The largest woodlands are associated with stream corridors, wetlands and steep slopes
- Over half of the Township’s riparian buffers are not forested
- The Township has 4 Natural Areas of Statewide Significance containing PA-rare, threatened, and endangered species. All four of these areas are contained within the Oughoughton Creek Natural Area designation, which also includes two quarries, the PPL power plant complex, several residential subdivisions, and extensive farming practices.

Specific Significant Natural Features

Important Natural Areas – Lehigh Valley Planning Commission

Delaware Shore near Keifer Island (Lower Mount Bethel Twp.) SP512

A small population of a PA-Rare plant species occurs in one of the larger openings of this scoured peninsula in the Delaware River.

Eastern Industries Quarry

This PA-Endangered species has been successfully reintroduced into the Delaware River Valley after being nearly extirpated in PA. It was observed nesting at this site in 1998.

Foul Rift

This site along the Delaware River supports a good quality example of a Northern Appalachian Calcareous Cliff Natural Community. The outcrops at the site support an excellent quality population of a PA-Rare plant species. The adjacent river supports a G4S2S3 animal species.

Oughoughton Creek Power House Site

This site supports a PA-Endangered species which has made a successful comeback after being nearly extirpated in PA. This species requires extensive habitat such as that associated with sea coasts, large rivers, and lakes.

Delaware River

Although not specifically noted as an Important Natural Area by the Lehigh Valley Planning Commission, the RPOS stated that Lower Mt. Bethel’s most valuable natural resource is its 8.5 miles of frontage on the Lower Delaware River. The Lower Delaware River was designated as a National Wild and Scenic River (qualifying under the “Recreational category) on November 1, 2000.

There are other important greenway areas in the township besides the Delaware River.

Important Greenway Areas – Lehigh Valley Greenways Plan

Martins Creek Greenway

Type: conservation greenway

Length: 6 miles

The Martins Creek Greenway starts at the Delaware River, southeast of the Village of Martins Creek, Lower Mt. Bethel Township and extends north through Washington Township to the Village of Flicksville. Much of the landscape adjacent to the creek is woodland flanked by farmland. Scattered rural residential development is beginning to occur throughout the greenway. The Martins Creek Greenway connects with the Delaware River Greenway and contains no parks or other outdoor recreation areas.

Mud Run Greenway

Type: conservation greenway

Length: 5 miles

This greenway begins where Mud Run meets the Delaware River at the Village of Sandt's Eddy in Lower Mt. Bethel Township. It extends northwest into Plainfield and Washington townships and ends just south of Route 191. Much of the stream valley is wooded, and the adjacent landscape is almost entirely in agricultural production. Several farms adjacent to Mud Run are in the State's Agricultural Conservation Easement Program, with a number of other farms in the Townships' Agricultural Security Area program. To date, there has been little rural residential development near the stream. The Mud Run Greenway connects with the Delaware River Greenway at the Village of Sandt's Eddy and contains one outdoor recreation area, 12 acres of open space at Mud Run. This site is an unimproved natural area owned by Northampton County, just upstream from Route 611. Recreational activities that currently take place within the Martins Creek and Mud Run greenways include: fishing, nature study, bird watching, hiking and hunting when permitted by landowner.

Chapter 6. PUBLIC PARTICIPATION

As part of this open space planning process, existing goals were re-examined and public participation was sought in coming up with current goals.

Public Participation

Public Meeting

A public meeting to discuss draft goals was held on October 25, 2010. The meeting was in junction with a regularly scheduled Planning Commission Meeting. Members of the Board of Supervisors and Open Space Committee were specifically invited, as was the general public. The draft plan was reviewed and comments were obtained from the Planning Commission, Township Engineer, and members of the Board of Supervisors.

A number of specific items were addressed. As a result of the discussion, several elements of the plan were revised. One specific area of recommendations was that the township should consider additional non-acquisition methods to preserve natural resources.

How funding was to be spent was also discussed at the meeting. The plan was revised to put a stronger emphasis on leveraging outside funds, making sure that all properties to be preserve through funded acquisition meet a minimum criteria in the point system. Upon review of the criteria point system, there was a consensus that water protection should have greater emphasis. It was also noted that the criteria point system should be re-evaluated periodically to focus on different conservation values.

After the plan was revised to respond to the comments, copies were available at the Township Building and on the Heritage Conservancy website so that interested residents could review it prior to its being voted on by the Board of Supervisors.

Public Survey

As part of its goal setting, Lower Mt. Bethel sent out a survey to township residents in April 2009. Three questions were asked, and the questions with the top five answers are as follows:

What features make Lower Mount Bethel a desirable place to live?

- Rural quality of life (38)
- Farmland (9)
- Open space (8)
- Streams and river (6)
- Scenic views (5)
- Low crime rate (5)

Where are your favorite Lower Mount Bethel Township scenic drives or roads?

- Route 611 (20)
- Little Creek Road (15)
- Belvidere-Martins Creek Highway (10)
- Upper Mud Run (7)
- Bangor/Martins Creek Highway (6)
- Franklin Hill (6)

What features would you miss most in Lower Mount Bethel if they were to disappear?

- Farmland (22)
- Open space (9)
- Woodlands (7)
- Scenic views (5)
- Friendliness, caring for each other (4)

Respondents were given the option of adding comments under the category of “Other”. The two comments that garnered the most responses under “Other” were:

- Now is the time to implement zoning to minimize growth (5)
- Too many trucks (5)

Table 2 Public Survey										
Questions	1 = High 7 = Low							Total Resp	% Resp as High	
Please rank how the following features define the character of Lower Mount Bethel Township										
Delaware River Corridor	30	20	6	5	0	0	1	62	48%	
Farms	46	13	2	1	1	1	0	64	72%	
Historic Heritage	20	15	16	6	4	1	2	64	31%	
Industrial/Heavy Commercial Uses	3	5	7	13	11	9	14	62	5%	
Residential Developments	5	6	4	12	4	10	22	63	8%	
Retail Stores and Service Shops	6	6	9	11	7	9	15	63	10%	
Scenic Landscapes and Vistas	30	16	8	3	3	0	3	63	48%	
Stream Valleys	34	18	8	0	2	1	0	63	54%	
Town Areas	6	15	10	19	8	2	2	62	10%	
Woodlands and Natural Areas	36	16	5	3	1	1	1	63	57%	
Please rank the importance of preserving the following features in Lower Mount Bethel Township										
Quality of Streams	46	13	2	2	0	0	0	63	73%	
Farmland/Prime Agricultural Land	44	13	2	0	3	1	1	64	69%	
Future Land for Public Use (Parks, Trails)	18	11	18	6	4	1	6	64	28%	
Historic Resources	22	14	11	8	4	0	4	63	35%	
Scenic Views	35	15	6	1	5	0	2	64	55%	
Wetlands/Water Recharge Areas	32	10	7	5	3	0	1	58	55%	
Wooded Areas	34	20	3	2	2	1	1	63	54%	
Please rank how at risk you feel the following features are in Lower Mount Bethel Township										
Farmland	42	8	6	3	2	3	1	65	65%	
Historic Resources	12	13	11	13	3	6	5	63	19%	
Water Quality (River and Streams)	32	13	12	1	2	3	0	63	51%	
Water Quality (Well Water)	28	18	10	5	0	1	1	63	44%	
Wildlife Habitat	27	11	14	7	0	1	3	63	43%	
Woodlands	26	12	13	8	2	1	1	63	41%	
Please rank how important you feel it is for Lower Mount Bethel Township to address the following:										
Development Standards	43	9	6	1	1	0	4	64	67%	
Flooding	27	16	10	8	2	1	0	64	42%	
Impact of Growth on Existing Residents	49	10	2	1	1	0	0	63	78%	
Natural Feature Protection	32	14	9	3	2	1	1	62	52%	
Preserving our rural quality of life	43	13	3	4	0	0	1	64	67%	
Respecting rights of all property owners	45	9	7	1	1	0	0	63	71%	
Zoning to allow less development	41	9	7	3	1	1	1	63	65%	
Zoning to allow more development	2	3	5	5	2	8	37	62	3%	
Zoning to allow for agri-business and agri-tourism	21	14	4	13	5	2	5	64	33%	

Chapter 7. GOALS AND OBJECTIVES

After reviewing prior planning efforts, public input, and its own evaluation, the Open Space Committee recommends that the Board of Supervisors adopt the open space goals listed below in priority order:

Goal 1. Farmland Preservation

The Northampton County Farmland Preservation program preserves farms by purchasing conservation easements from farmers who desire to continue farming their lands. Lower Mount Bethel Township can use its own funds to parallel or supplement the County program, or to preserve farmland on its own. Lower Mount Bethel Township may use its funds on properties which do not qualify for County funding because they are not high on the County's priority list. Without funding, the pressure from development will cause the beauty and the productivity of these farms to be lost, the groundwater to be negatively impacted with respect to lack of recharge and increased stormwater runoff, and the nature and character of the Township to be irrevocably altered. The relatively low cost of municipal services associated with farmland or agricultural land-uses versus other land-uses also makes preserving farmland a key issue in future planning.

Objective: Work with property owners to promote participation in the county agricultural preservation program. The Township should promote its own conservation easement program with farmers who have properties that do not rate highly on the county list or cannot wait until the County program gets to their farm. Farms that may not have the highest quality soils but which protect water resources and provide the public with scenic views that help maintain the rural feeling of the township should be given a higher priority.

The Lehigh Valley Planning Commission (LVPC) identifies Lower Mount Bethel Township as containing some of the best agricultural soils in the region. As noted in 2003, the Township had 10 active dairy farms, 10 active beef farms, 2 fruit/orchard farms and 1 winery.

According to the Lower Mount Bethel Township Comprehensive Plan, a more specific survey completed in 2006 revealed that four farms in the Township exceed 300 acres (farm defined as contiguous parcels in similar ownership); 11 farms range between 200 and 300 acres, and 47 other farms are within 100 to 200 acres in size. Several farms cross municipal boundaries.

The township open space committee has also put a priority on preserving farmland that surrounds environmentally sensitive lands.

Features to be considered in ranking properties will be:

1. Impact on community if property were developed
2. Providing linkages to protect agricultural viability and enhance rural quality within the township
3. Public scenic views

4. Wetlands/Water recharge areas including stream banks and water features will be protected
5. Wooded areas will be protected
6. Significant wildlife habitat (such as on the Pennsylvania Natural Diversity Index)
7. Hilltops, ridge tops, steep slopes that might effect farmability and/or developability
8. Historic resources

Financial issues, including the cost of acquiring land and subsequent stewardship expenses, also need to be factored into the evaluation. These factors can include:

1. Acquisition of conservation easement or restriction on future development below market value
2. Availability of additional state and county funds. This factor may be critical, or the township may focus on farm properties that do not appear likely to be funded under other programs.
3. If preservation of this property will leverage future preservation

If a property (farm) displays good conservation and land management practices it should be given a higher priority. Likewise, if a property (farm), has riparian buffers and the landowner agrees to maintain the buffers, the property should be given a high priority.

Agriculture-Natural Resources Compatibility

Preservation initiatives in Northampton County, like many land trusts, can be roughly divided into three categories depending on their open space focus:

1. Exclusively or primarily agricultural emphasis,
2. Equal emphasis on agricultural and other natural resources,
3. Primarily natural resource emphasis with significant agricultural interest.

Since farmland preservation is the primary focus of this plan, consideration must also be given to protecting non-agricultural conservation values. Because Agricultural Conservation Easements (“ACEs”) frequently protect farm operations that involve intense cultivation, cropland ACEs tend to seem incompatible with natural resource purposes such as riparian buffers, wetlands, and wildlife habitat. While most farmers view protecting agricultural land and its associated natural resources as a lifelong commitment, intensive crop production still generally involves chemical applications, the use of heavy machinery and other industrial-like activities. Sustainable agricultural practices offer considerable promise for minimizing the impacts of farming on the environment.

In order to further safeguard the public investment in open space conservation which includes preserving “Rural” or “Natural” landscapes as much as working farms and to protect values typically included in non-agricultural easements such as 1) watershed/water quality, 2) rare species habitat, 3) scenic views, 4) wetlands, 5) river and stream corridors, 6) trails, and 7) forests/timberlands, the township should seek a balance between cultivation and other aspects of commercial agricultural protection and the preservation of natural resources.

There is a strong connection between protecting agricultural activity and preserving natural resources. The same easements as drafted by municipalities, counties and land trusts often try to accommodate both purposes. These easements are compromises that try to address both the economic viability of agriculture and the need to conserve the natural balance of the ecosystem. The key is to focus on the compatibility of agricultural activity with specific plant and animal resources as well as landscape features, and to encourage farmers to see that there

are assets (public benefits) on their lands that are not necessarily related to the commodity that they produce, whether that is scenic beauty, wildlife habitat, watershed protection values or recreational opportunities.

Goal 2. Watershed Protection

Since Lower Mount Bethel Township does not have public water and sewer throughout the vast majority of the Township, it is very important to insure that there will be sufficient groundwater recharge to satisfy the community's needs. This was recognized in the Comprehensive Plan and is an important consideration for open space planning in Lower Mount Bethel Township. Lands where water supplies are advantageous for commercial extraction are particularly at risk with regard to impacts on surrounding, or down-gradient, groundwater supply wells, and should be protected as open space.

A critical component to protect drinking water supplies and surface water quality is to protect the lands that surround water features, streams and aquifer recharge areas. At present, there are no State or Federal laws or regulations which will permanently protect watershed or recharge lands from development. The direct and indirect pollution from buildings, parking lots, storm sewers, lawn chemicals, etc., can degrade ground and surface water quality. The destruction of wetlands and impingement on floodplains, which provide natural filtration of stormwater run-off, further degrades our natural resources and water quality. Unless the lands that provide groundwater recharge or that surround water supplies are permanently protected, the natural resources and water quality will be degraded by development.

Objective: Lower Mt. Bethel seeks to preserve not only wetlands but land that buffers them to enhance the sustainability of wetlands.

While the Township should promote watershed protection regulations, these regulations may be changed by future resolution. Therefore, protection should be made permanent through conservation easements, and to the extent possible through voluntary participation in the Township's open space program. The purchase of conservation easements, in addition to protection through regulation, is a focus of the plan.

Water supply

In addition to wetlands, other groundwater resources are critical in a community that depends on wells for drinking water. Preserving lands that help insure an adequate supply of clean water is a prime concern. This will enhance protection of these resources, especially when implemented along with regulations that address nitrates, hydrogeology and well-head protection.

Goal 3. Greenway Corridors – Open Space Linkages

A greenway is a corridor of open space. Greenways vary greatly in scale, from narrow ribbons of green that run through urban, suburban, and rural areas to wider corridors that incorporate diverse natural, cultural and scenic features. They can incorporate both public and private property, and can be land- or water-based. They may follow old railways, canals, or ridge tops, or they may follow stream corridors, shorelines, or wetlands, and include water trails for non-motorized craft. Some greenways are recreational corridors or scenic byways that may accommodate motorized and non-motorized vehicles. Others function almost

exclusively for environmental protection and are not designed for human passage. Greenways differ in their location and function, but overall, a greenway will protect natural, cultural, and scenic resources, provide recreational benefits, enhance natural beauty and quality of life in neighborhoods and communities, and stimulate economic development opportunities. (Source: DCNR's *Pennsylvania Greenways: An Action Plan for Creating Connections*)

Greenways give the opportunity for people to travel longer distances among changing landscapes and habitat types. Greenways make it possible for more people to enjoy the popular activities of hiking, biking, walking, boating, and similar recreation activities. Wildlife species also need corridors so that they can migrate between nesting and foraging areas, as well as maintain healthy genetics and local populations. Plant species also need a variety of environmental conditions to survive and regenerate. It is not enough to preserve isolated parcels of unconnected open spaces. Integrating Lower Mount Bethel Township's system of open spaces would aid in preserving the natural links, or greenways, upon which both plant and animal species rely. Lower Mount Bethel Township is fortunate to have the Welcome Center, as a beginning point for an extensive Greenway corridor system.

Objective: The establishment of greenways was seen as a high priority. Since many of the riparian corridors can function as greenway corridors and since Lower Mount Bethel Township's streams rate highly on the County's open space and natural features mapping, coordination with the County open space preservation program is a sound objective. The Township should coordinate activities along the Delaware River with County, State agencies and local land trusts.

The Lehigh Valley Greenways Plan recommends the following objectives called actions and goals, for the Delaware River as well as the smaller greenway corridors in Lower Mount Bethel (with the key partner in parentheses). The Lower Mt. Bethel Open Space Committee felt that these goals were still relevant.

Recommended Actions for the Delaware River Greenway related to Lower Mt. Bethel Township

GOAL: The preservation and promotion of the existing multi-use greenway along the Delaware River through the protection and acquisition of high priority natural, recreational, cultural, historical and scenic lands.

- Preserve, through acquisition or easement, the remaining high priority parcels not currently in public ownership or deed restricted along the Delaware River. Emphasize the following project areas:
 - Enhance recreation opportunities and public river access at Foul Rift and establish connections with the existing Tekening Hiking Trails within the PPL Martins Creek Environmental Preserve.
 - Expand current Northampton County land holdings at Mount Jack
 - Northampton County should continue to acquire properties along the Delaware River as they become available.

- Preserve and reclaim natural floodplains to improve flood hazard mitigation, water quality protection, and provide habitat, open space and recreational opportunities along the Delaware River.
- Preserve and enhance the scenic qualities of the Delaware River. Implement the goals and objectives of the LVPC *Delaware River Scenic Drive Plan* and the Heritage Conservancy publication, *Shaping the D&L Drive*. NOTE: The Corridor Management Plan (CMP) for the Delaware River Valley Scenic Byway had not been adopted when the Greenway plan was created. For more information on the CMP: www.lardnerklein.com/drvsb_index.htm.

Recommended Actions for Conservation Greenways

GOAL: The creation of a regional network of interconnected corridors that preserves high priority natural resource areas and provides critical habitat connections.

- Maintain a GIS database that provides current information about natural resources and recommended resource protection measures. Assist local governments in the identification and mapping of existing natural resources. (county, municipality, local conservation groups, LVPC)
- Establish a municipally based program to purchase or accept donations of land for natural resource protection and passive limited recreation in and along high priority natural resource areas. (municipality)
- Encourage public and private landowners to place conservation easements on portions of their property that fall within designated natural resource protection areas. Promote the use of best management practices in forestry, stewardship and lawn care activities in and along these areas. (county, municipality, local conservation groups, school districts, landowners, developers, concerned citizens)
- Limit development in areas designated for natural resources protection in the Comprehensive Plan or in habitat areas identified in *A Natural Areas Inventory of Lehigh and Northampton Counties, Pennsylvania*. (county, municipality, local conservation groups, developers, landowners)
- Protect rivers and streams and natural floodplains by preserving open spaces along riparian corridors. Install and restore riparian buffer widths of 100 feet along rivers and major streams and 50 feet along all other water bodies where feasible* to undertake such measures. Utilize a variety of native vegetation in all buffers. (state, county, municipality, local conservation groups, landowners, developers, concerned citizens)
- Protect the remaining wetland habitat areas in the Lehigh Valley by preserving 100% permanent open space in all wetlands. Manage wetlands on publicly owned land to maintain and enhance their environmental, scenic and

educational values. Improve and update existing wetland inventories. (county, municipality, local conservation groups , developers, landowners, LVPC)

*NOTE: The Lower Mt. Bethel Open Space Committee feels that this action should take place only where properties are of sufficient size that such restrictions would not prevent the typical use of the property.

Goal 4. Viewsheds

The value of open space to the community at large is often visual. There are many wonderful viewsheds in the Township, from the scenic beauty of rolling hillsides and working farms, to the beautiful waters of the township's creeks and the Delaware River. Habitat protection and agricultural preservation are very important; on a day-to-day basis, the appearance of open space has a significant effect on the community's perceived quality-of-life. Maintaining the wide open vistas and scenic viewsheds is an important part of preserving Lower Mount Bethel Township's rural character and desirability.

Objective: Preservation of scenic views is an important issue for the public who may not be able to have access to preserved land. The conservation of highly visible lands, such as along well traveled public roads, will result in a greater appreciation of the beauty of the community. Therefore, this social aspect of conservation should be considered in the acquisition program.

Objective: Implementation of the Delaware River Valley Scenic Byway Corridor Management Plan.

Goal 5. Recreational Open Space/ Public Access

The 2007 Lehigh Valley Greenways Plan reviewed park needs based on population and a standard of 6.25 acres per 1000 people for "local/close to home" parks. The plan used 2005 and 2010 estimated population figures.

The plan suggests that the township has land that exceeded the standard in 2005, and if the 2010 population meets the projected population, the township will still exceed the average. Lower Mt. Bethel is fortunate to have significant private recreational areas such as the PPL Martins Creek Environmental Preserve with five miles of wooded hiking trails.

Objective: Focus acquisition on conservation easements rather than fee simple acquisition of parkland. Use land development or other means to acquire parkland. While expansion of existing trail networks is important, the questionnaire results for acquisition of "Future Land for Public Use (Parks, Trails)" was a lower priority than the protection of other natural and historic resources. Accordingly, linear acquisition should not be the focus of the open space plan. Other conservation values have a higher priority than public access. It is the opinion of the open space committee that trails should be funded through other programs.

Action Steps to Achieve Objectives

- This plan has sought to establish the features on different properties that would make them candidates for conservation rather than identifying specific properties to be conserved since in-depth evaluation of properties is one of the first action steps. This evaluation will identify farmland and key parcels of land that are at risk for development or which buffer expansion of development into critical areas.
- Identify those parcels of land that can be protected with non-acquisition-based methods or interests acquired at below market value. Past experience in Lower Mount Bethel has revealed the difficulty in striking the delicate balance between regulation and protection of private property rights. Non acquisition methods limit development but at a cost that may impact a property's economic value.
- Protect critical habitats along creeks and their headwater areas, including the wooded slopes.
- Protect wetlands and floodplains and promote effective, environmentally appropriate management strategies.
- Develop strategies to link open space and other key resources and provide access to those resources.
- Establish a system to evaluate properties.
- Focus purchases on properties greater than 10 acres in size. For properties less than 10 acres, the township will encourage property owners to donate conservation easements.
- Once properties are identified, the township will obtain an appraisal for the value of any interest in land to be obtained in order to establish a purchase price for a conservation easement or fee purchase.

Open Space Strategies and Tools

Acquisition Strategies

Promotion for Use of Conservation Easements

Private property owners place conservation easements on their properties restricting all or a portion of the property from development through State, County, Municipal or private agencies. In addition to its own open space initiative, Lower Mount Bethel Township can benefit by participating with several Northampton County open space initiatives. On November 5, 2002, 65% of 57,000 Northampton County voters cast ballots to authorize the borrowing of \$37,000,000 for this program. The program is organized by the following categories:

Open Space and Natural Areas —	\$14,000,000
Municipal Park Acquisition and Development —	\$11,000,000
Farmland Preservation —	<u>\$12,000,000</u>
	\$37,000,000

One of the basic advantages of partnering with another governmental agency is the leveraging of Township funds with county, state or federal money. Leveraging other funds allows the Township to preserve more land with the funds it has on hand. Many municipalities put a premium on projects where their funds can generate other support.

In addition to public partners, there are several private land trusts that assist with land preservation and hold conservation easements in the Lehigh Valley. A land trust is a private, legally incorporated, nonprofit organization that works with property owners to protect open

land through direct, voluntary land transactions. While many of the transactions are donations of conservation easements by property owners, land trusts work cooperatively with public entities in the purchase of development rights. Land trusts are often able to be more flexible than public entities in meeting property owners' needs. There are also national trusts such as the Conservation Fund, The Nature Conservancy, the American Farmland Trust, and the Trust for Public Land, which may provide similar functions.

While this plan has focused on the process of identifying and prioritizing key conservation values, it is recognized that maximizing available funding is also a key element in a successful open space plan. As noted above, partnering with public and private agencies can help extend available funding. Other tools used by communities include instituting a cap on the funds that will be used on any particular property. This takes the shape of either a total amount not to exceed on any property or a maximum price per acre that will be paid regardless of what the true fair market value of the land or conservation easement value is. The county is in the process of evaluating a per acre cap on its agricultural conservation easements.

Acquisition by Lower Mount Bethel Township

Lower Mount Bethel Township may purchase properties where ownership is more desirable and/or practical than placement of a conservation easement in order to preserve the significant conservation values of those properties. The Township will acquire full interest in such properties only when ownership by other qualified entities is not possible. Land already subject to a conservation easement ("eased land") will not be targeted for purchase under the Township program. Any land protected through any laws, regulations or ordinances ("protected lands") will be considered for acquisition as a method to ensure their protection in case the pertinent law, regulation or ordinance should be repealed or amended. Eased land may be considered for donation to the township as a method to improve the property's protection.

As part of the acquisition process, the township has developed criteria to attempt to make the decision on what parcels to preserve as fair, open and transparent as is possible. This process is done recognizing the difficulty measuring the community benefits in preserving one property as compared to dissimilar properties and in quantifying what are often qualitative criteria when dealing with properties with diverse conservation values. There are no universally recognized criteria for determining specific points for various attributes. The best that can be done is to try to evaluate all of the properties using the same criteria that emphasize the specific attributes that the township wants to protect.

The establishment of a criteria point system is also important so that a policy can be instituted where a property must meet minimum standards to use township funds. This way money won't be spent on properties that do not protect sufficient significant resources just because there is a willing seller. By using patience, the township will be in a better position in the future to fund more appropriate projects.

It is also important not to have the criteria carved in stone. After several acquisitions, the township should re-evaluate its priorities to perhaps focus on another particular type of property. For example, quite often farmland is a first priority because of the pressure for transition to other uses. After key farms are protected, a township may focus its attention on preserving land that directly impacts water resources. In the case of Lower Mt.

Bethel, properties along the Delaware River Valley Scenic Byway may be the focus for a period of time. After the plan is adopted, it is recommended that the township consider establishing priorities for the first 1 to 3 years.

Since the criteria are designed to protect the type of property that the township is most desirous to preserve the open space committee field tested it by applying the criteria to several properties to confirm that the metrics corresponded with their qualitative analysis.

Acquisition by State and County Governments

Where seemingly advantageous, the Township should encourage agencies that currently own areas within the Township to consider other parcels that are suitable or desirable for their ownership.

Non-Acquisition Strategies

There are a great number of non-acquisition strategies that Lower Mount Bethel can use in order to protect natural resources without purchase of easements or land in fee simple. There are several factors that must be considered when relying on regulatory strategies to protect natural resources.

- Zoning restrictions make a big impact on the value of property. The amount of resources protected on a property often directly relate to the uses that can occur on that property.
- Zoning designations are not permanent. They can be reversed at a later date, and in many instances, property owners can change the zoning restrictions or seek waivers.

Many strategies are addressed in the subdivision and land development (“SALDO”) process when properties need approval from township. Other strategies include a variety of ordinances such as well-head protection ordinances designed to protect natural resources.

A number of non-acquisition or regulatory and zoning strategies were noted in the Martins-Jacoby Creek Watershed Protection Plan section. The Lehigh Valley Greenways Plan includes the following summary of the most common methods used in the Lehigh Valley.

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 police power 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 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 feature 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 that 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 floodplain, 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 the Lehigh Valley, Lehigh County and the following municipalities have adopted official maps:

- Allen Township (May 2000)
- Bushkill Township (April 2005)
- Hanover Township (Northampton County) (November 1996)
- Moore Township (March 2003)
- Whitehall Township (November 1998)

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 groundwater 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. The LVPC recently developed a BMP manual as part of the *Global Act 167 Stormwater Management Plan Water Quality Update*. The Global Update was adopted by both counties and approved by the Pennsylvania Department of Environmental Protection in 2006.

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 would 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. They 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 numbers 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. 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. The majority of 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 Lehigh and Northampton counties are found within the floodplain of the Delaware River, Lehigh River, and larger streams such as the Little Lehigh Creek, Jordan Creek and 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 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.

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 the 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 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, maintain 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 the Lehigh Valley is underlain by soluble carbonate rock. 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

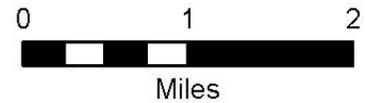
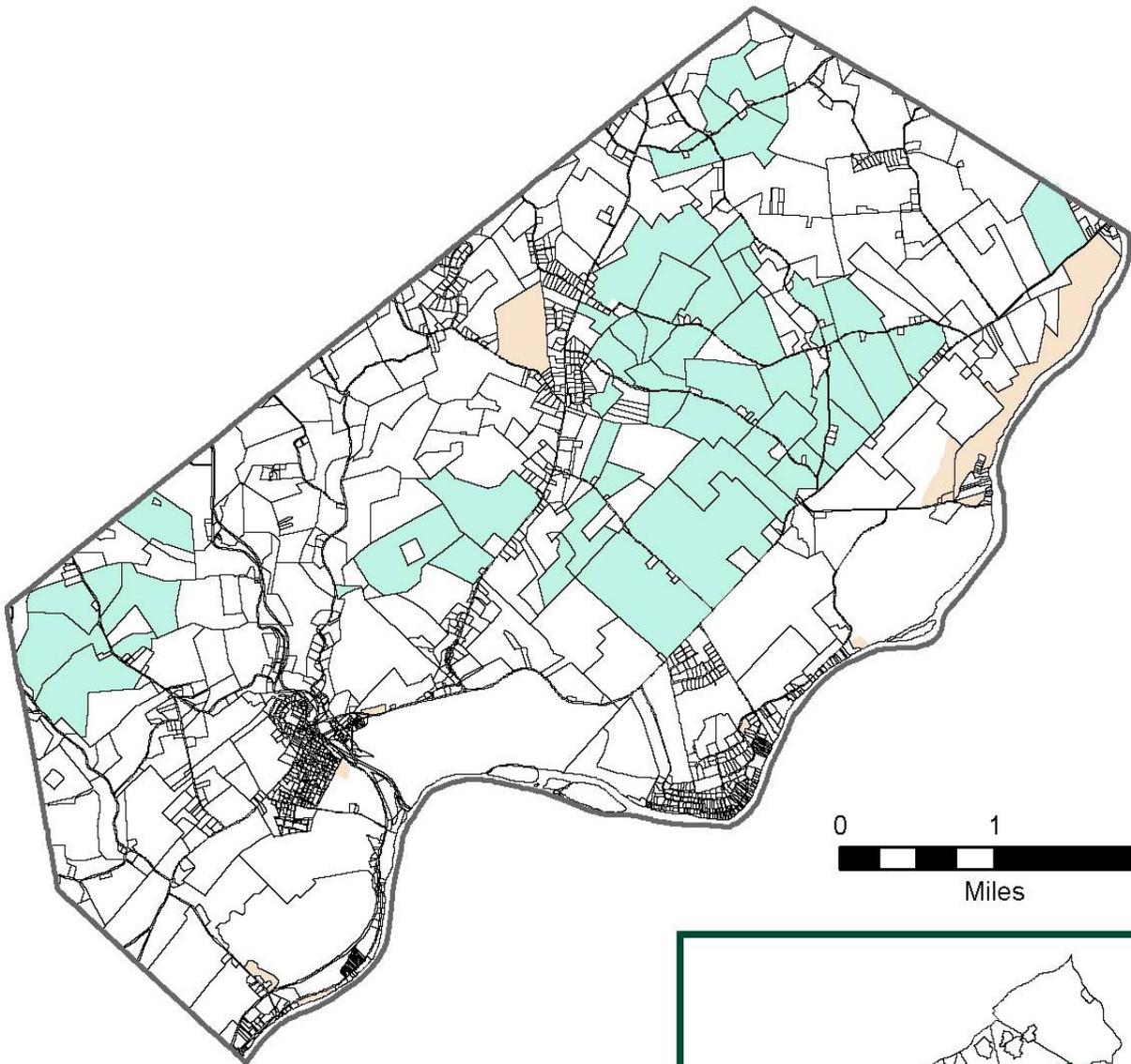
The net out of resources refers to the technique of deducting environmentally constrained lands from development density calculations. Netting out is intended to protect and preserve environmentally constrained areas by reducing or eliminating the credit given for these lands toward the amount of development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

[Source Lehigh Valley Greenways Plan, pages 112-122
<http://www.dcnr.state.pa.us/brc/greenways/plans/lehigh.pdf>]



Lower Mount Bethel Open Space

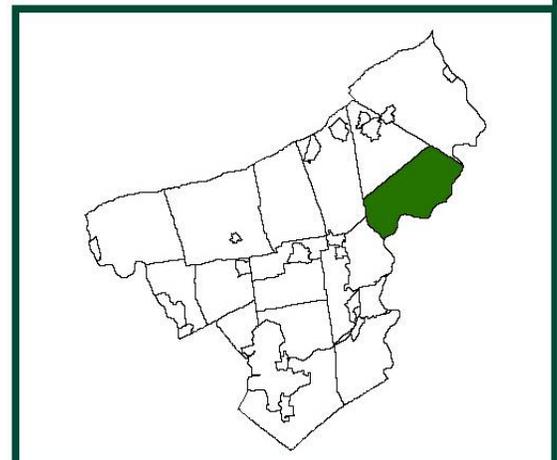
"The data displayed on this map are regional in nature and are not suited for use in site-specific studies. Parcel lines, property boundaries, floodplains, roads, and other data were obtained from third party sources. These data are only approximate and are shown for illustrative purposes only. Heritage Conservancy makes no representation about the accuracy or currency of these data. The user shall hold Heritage Conservancy harmless from any suits, claims or actions arising out of the use of this map or accompanying documentation."



Legend

-  Lower Mount Bethel Township
-  Parcel
-  Park
-  Agricultural Easement

Data Source: LVPC - 2009



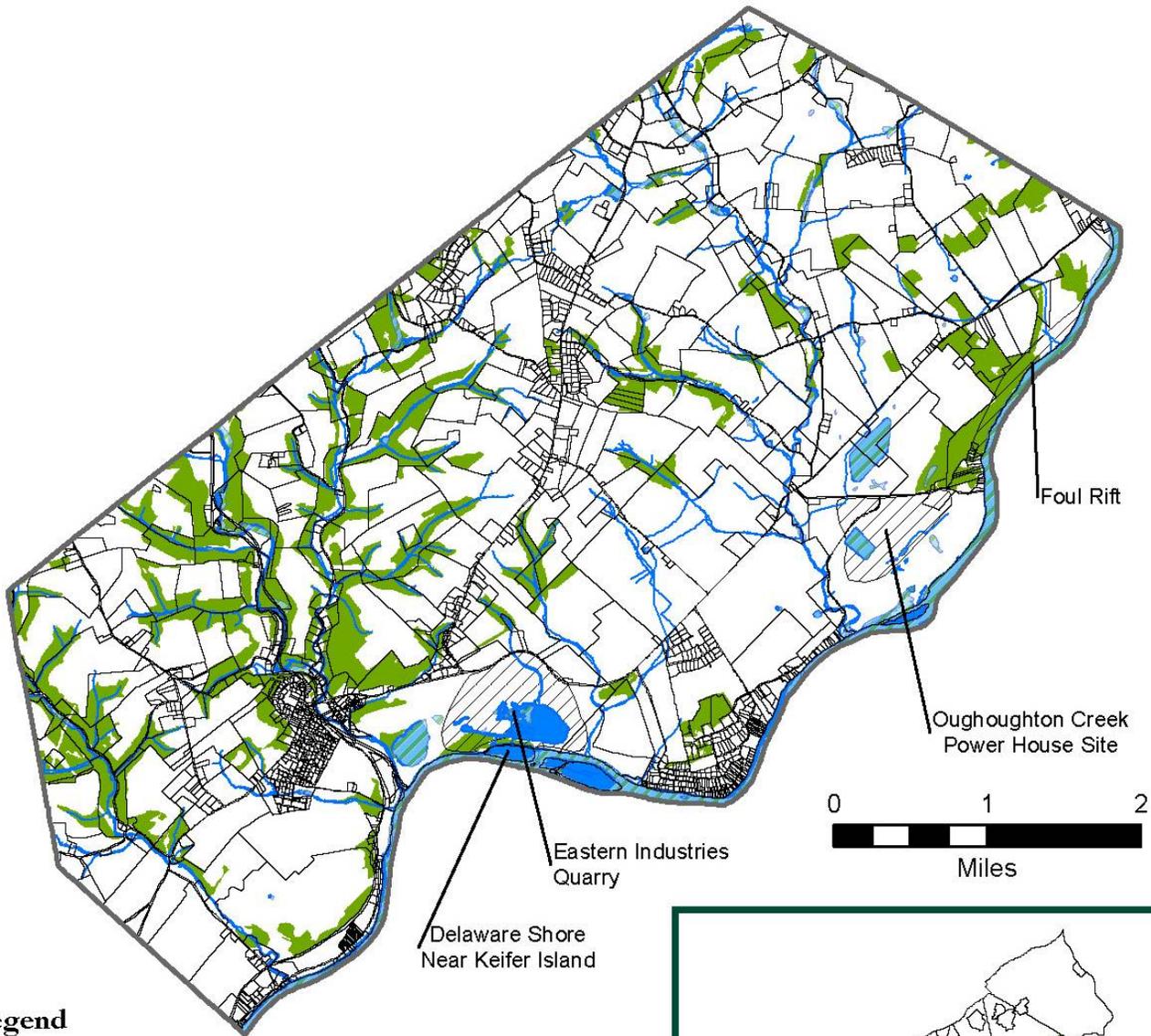
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Date: March 5, 2010



Lower Mount Bethel Natural Features

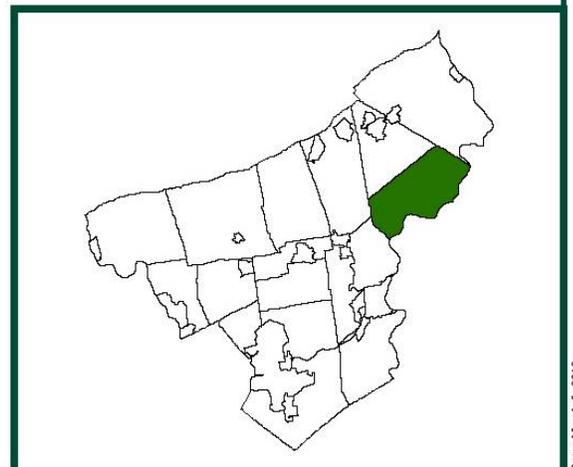
"The data displayed on this map are regional in nature and are not suited for use in site-specific studies. Parcel lines, property boundaries, floodplains, roads, and other data were obtained from third party sources. These data are only approximate and are shown for illustrative purposes only. Heritage Conservancy makes no representation about the accuracy or currency of these data. The user shall hold Heritage Conservancy harmless from any suits, claims or actions arising out of the use of this map or accompanying documentation."



Legend

- Lower Mount Bethel Township
- Parcel
- Wetlands
- Hydrology
- Natural Area
- Woodlands

Data Source: LVPC - 2009



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Date: March 5, 2010



Lower Mount Bethel Soils

"The data displayed on this map are regional in nature and are not suited for use in site-specific studies. Parcel lines, property boundaries, floodplains, roads, and other data were obtained from third party sources. These data are only approximate and are shown for illustrative purposes only. Heritage Conservancy makes no representation about the accuracy or currency of these data. The user shall hold Heritage Conservancy harmless from any suits, claims or actions arising out of the use of this map or accompanying documentation."



Legend

Soil Class

- Water, No Data, or Other
- 1
- 2
- 3
- 4
- 6
- 7
- 8

- Lower Mount Bethel Township
- Parcel

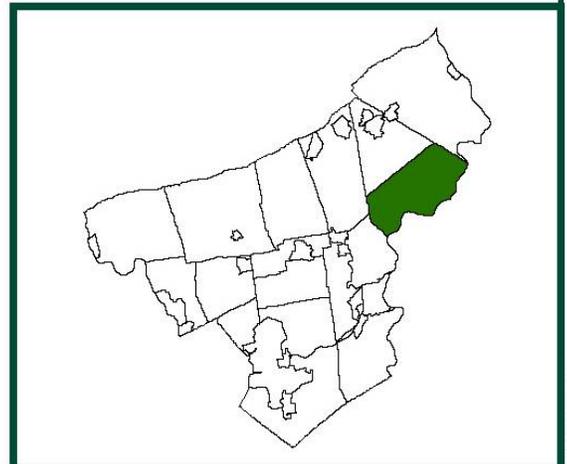


Notes:

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Capability classes, the broadest groups, are designated by numerals 1 through 8. The numerals indicated progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

- Class 1 soils have few limitations that restrict their use. All soils in Alaska are restricted from Class 1 due to soil temperature.
- Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.
- Class 3 soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.
- Class 4 soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.
- Class 5 soils are not likely to erode but to have other limitations, impractical to remove, that limit their use.
- Class 6 soils have severe limitations that make them generally unsuitable for cultivation.
- Class 7 soils have very severe limitations that make them unsuitable for cultivation.
- Class 8 soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production.

Data Source: LVPC - 2009

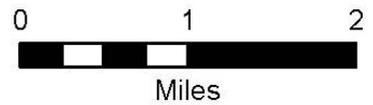
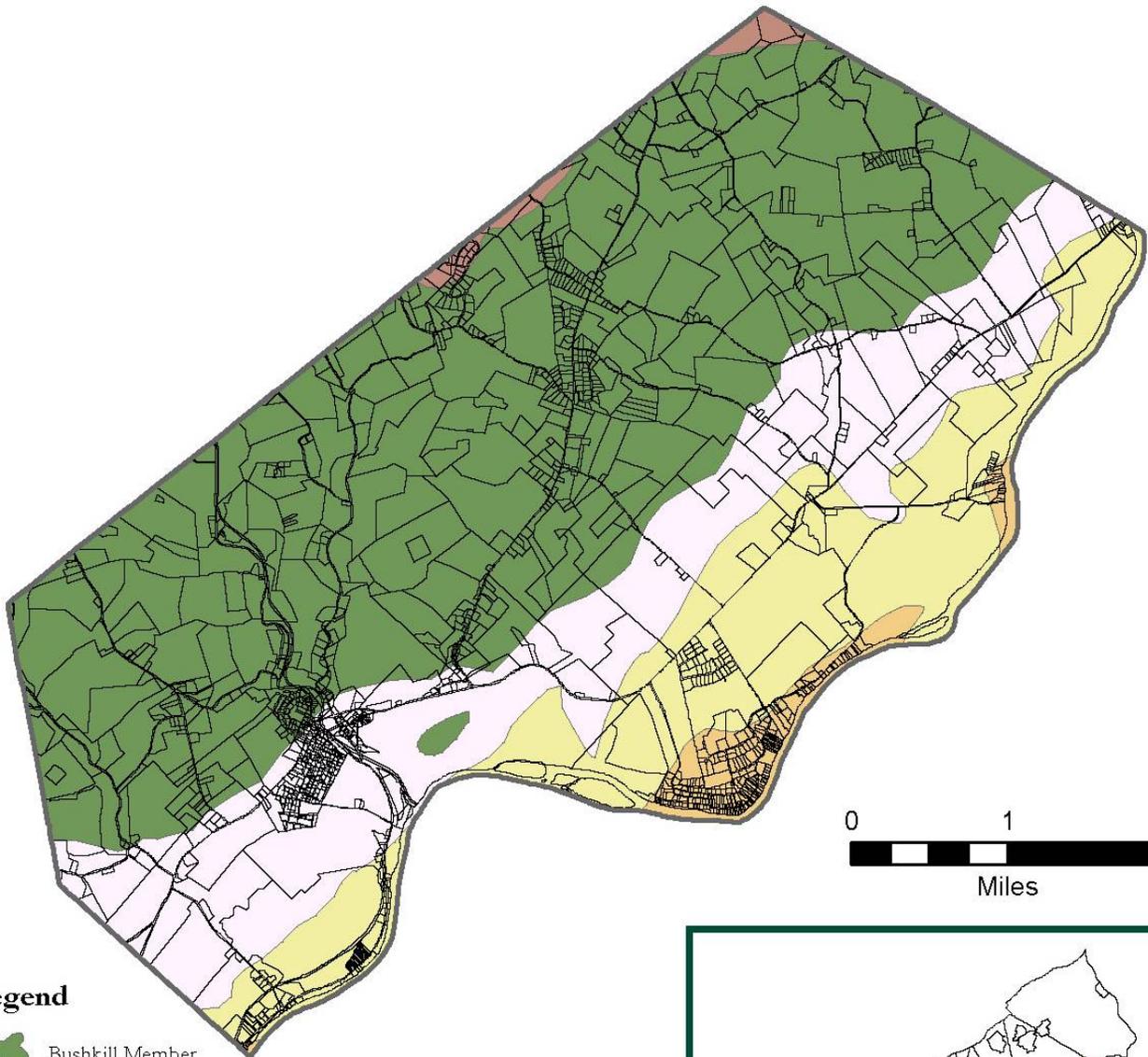


Date: March 5, 2010



Lower Mount Bethel Geology

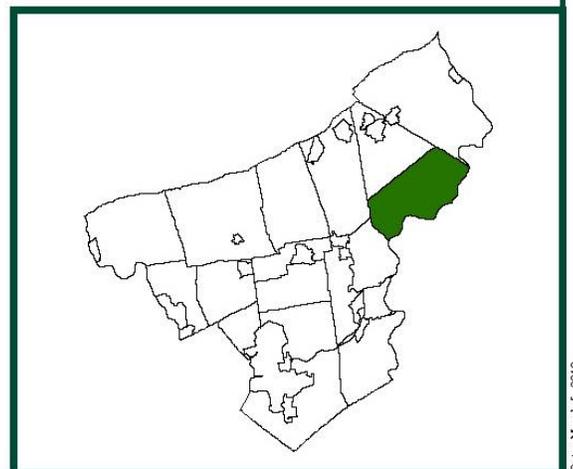
"The data displayed on this map are regional in nature and are not suited for use in site-specific studies. Parcel lines, property boundaries, floodplains, roads, and other data were obtained from third party sources. These data are only approximate and are shown for illustrative purposes only. Heritage Conservancy makes no representation about the accuracy or currency of these data. The user shall hold Heritage Conservancy harmless from any suits, claims or actions arising out of the use of this map or accompanying documentation."



Legend

-  Bushkill Member
-  Epler Formation of the Beekmantown Group
-  Jacksonburg Limestone
-  Ramseyburg Member
-  Rickenbach Dolomite of the Beekmantown Group
-  Lower Mount Bethel Township
-  Parcel

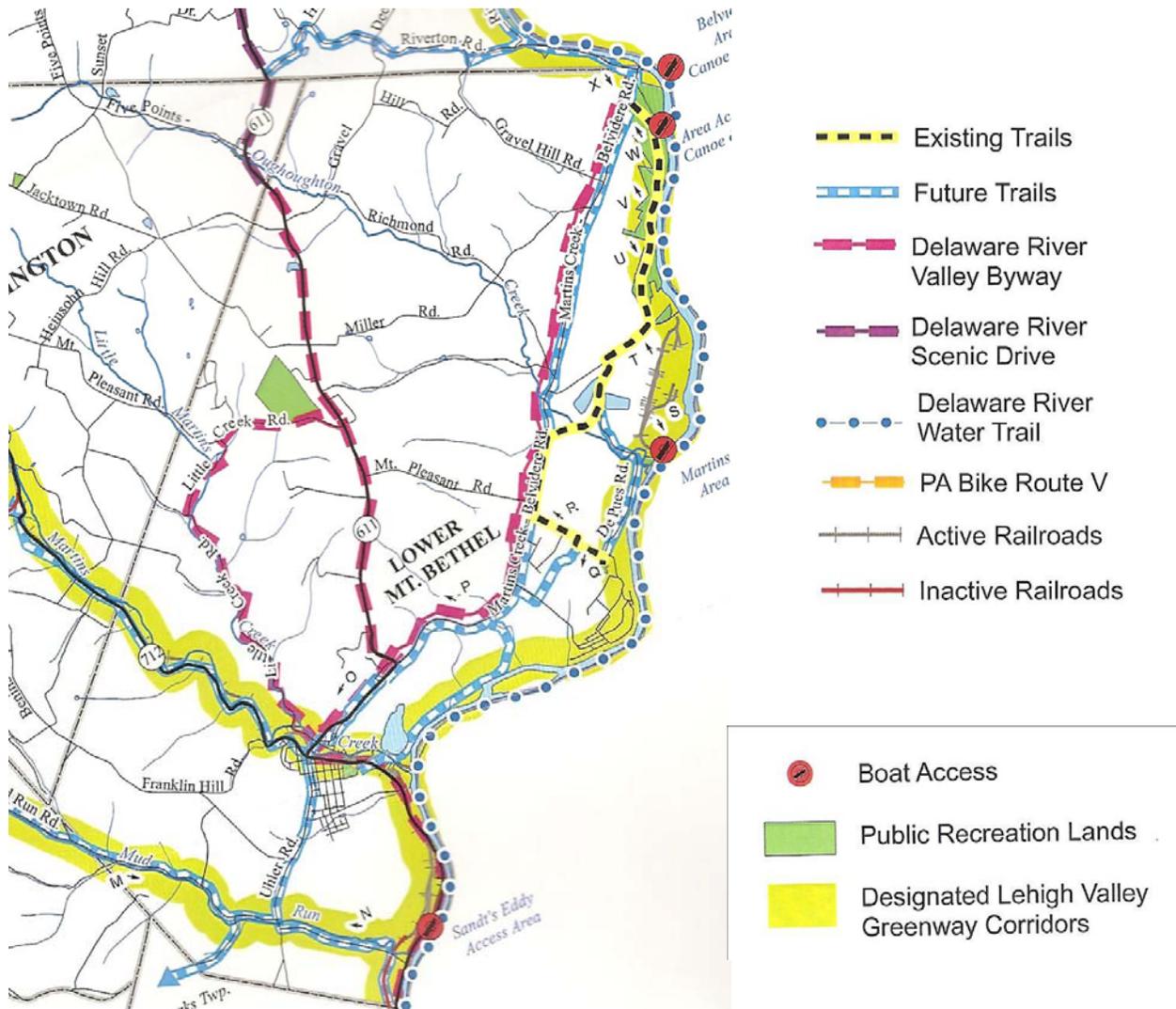
Data Source: LVPC - 2009



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Date: March 5, 2010

Map 5 - Trail Concept Plan



Map from *Two Rivers Area Greenway Trails Implementation Study*

Delaware River Valley Scenic Byway Corridor Management Plan

Lower Mount Bethel Township, Pennsylvania

Viewshed Inventory



Legend

- Delaware River Valley Scenic Byway
- Interstate Route
- US Route
- Pennsylvania Route
- active railroads
- river or stream
- county open space
- state lands
- federal lands
- agricultural easement
- agricultural security area

Visually Prominent Lands

- More Prominent
 - Less Prominent
- #### High Quality Views*
- More Prominent
 - Less Prominent

*The High Quality Views index is an inventory of prominently visible landforms that can be viewed from the points located on the map.

GIS Data Sources: Pennsylvania Spatial Data Access (PASDA); USGS; PennDOT; Lehigh Valley Planning Commission



Prepared by

L/K/LA Lardnor/Kloin Landscape Architects, P.C.

in association with John Milner Associates, Watson Heritage Strategies and Daniel Consultants, Inc.

Appendix

Municipal Participation Policy Revision

On December 10, 2009, the Commonwealth approved the county adopting new guidelines that would allow deviation from the strict “preserve the highest ranking properties” policy. This shift has allowed for local municipalities to supplement county and state funds with their own funding in order to help preserve farmland in their specific communities.

The county has produced “*NORTHAMPTON COUNTY PARTNERSHIP PROGRAM FOR FARMLAND PRESERVATION: An informational guide for Municipalities participating with the Northampton County Farmland Preservation Board*” to explain the process.

Municipal “Donation”

Beginning with the most recent round of applications, the county has instituted a program where individual municipalities contribute a portion of their municipal funds to the county. The main advantage of townships working with the county in this fashion is the opportunity of leveraging municipal funding with state funding. By pooling municipal money with the county’s annual allocation, the county is eligible for additional matching funds from the state Department of Agriculture. This new system will work well in municipalities that have a number of properties that rank well using the state guidelines, but do not have properties that rank so high that the county that would be preserved through the traditional funding.

Not only does this program provide matching funds to the townships for acquisition, but it also provides an additional benefit in that the county would cover the incidental and administrative costs associated with the conservation easements, which typically exceed \$15,000 per property preserved. It also would save the municipalities money in the future in that monitoring and enforcement responsibilities would be borne by the county.

The county has created a Municipal Application Form for communities wishing to participate in the program.

Municipal Prioritization

The municipalities are not required to strictly follow the county’s prioritization ranking system to participate in the program in this fashion. The township open space plan can, and should, identify what types of properties the township would prioritize. A township could target properties that form critical masses of open spaces, that buffer other protected resources, or that contain other significant natural features such as water resources.

Given the range of properties in the township that might be suitable for conservation even under the category of “farmland” which strongly resonates with the community, a township must decide which features are the most critical. For instance, one agricultural parcel of land may offer dramatic views from well-traveled roads, or a parcel may have vernal pools or water resources. How should these factors be evaluated against another property that might rank highly for agricultural value?

Benefits of Cooperation

Working with the county, the township can theoretically further protect woodlands, stream banks, scenic vistas and other vulnerable conservation values that are not the main focus of the county agricultural preservation program. The protection of these resources must be designed in a way that does not harm the economic viability of farming on a property.

Municipal "Companion Easements"

There may be instances where the municipality and county do not work on a joint easement, but work cooperatively on the same property. For example, properties that have a high ratio of woodland or natural areas compared to cropland may be subject to an easement by the municipality on the non-crop land. This would help the property owner's ranking in the county program in ensuring it meets the county's 50/50 guidelines for cropland. It will also raise a property's ranking because the county program gives additional points for properties that are contiguous to preserved lands. Maria Bentzoni will also provide municipalities that have open space programs copies of all applications and ranking profiles for farms that were not funded by the county. This will include the ranking "score sheets" so that municipalities can determine the best way to meet their municipal preservation goals and take advantage of the county program.

While having two easements on the same property may seem an administrative problem, properties that have a variety of conservation values may not be served by one easement. Properties with many natural resources beyond significant soils may fit into the county agricultural preservation program. A companion easement would allow the agricultural easement to focus on agricultural preservation while the second easement would ensure that a property's other natural resources that are not preserved as part of the county agricultural preservation program will be preserved. As noted above, agricultural easements do not protect woodlands, streambanks, scenic vistas or other "open space" values that a municipal program prioritizes. In certain cases, an argument can be made that unless a soil conservation plan or similar best management practices are not adopted as part of the agricultural conservation easement, many of these resources can be adversely impacted as farmers attempt to maximize the short term economic return on their property.

The companion easement option may add costs in terms of additional survey requirements and closing costs, as well as complexity in attempting to bring many partners to the table at the same time; but may be a cost effective way for municipalities to get more of their properties preserved by the county if they put municipal easements on the natural resource portion of their property and let the county preserve the farmland.

Table 3 LMBT Land Preservation Criteria/Evaluation Checklist		
The following criteria support the April 2009 Public Open Space questionnaire responses. It was modified after it was field tested by the Open Space Committee.		
Parcel Evaluation Criteria		
Parcel resource type being submitted for consideration		
Farmland/Open Space (only one applies)	Parcel Value	
Actively farmed & adjacent to protected farmland	_____	5 – 6 points
Actively farmed & adjacent to an active non protected farm	_____	4 – 5 points
Not actively farmed but adjacent to active farm	_____	1 – 2 points
Not actively farmed & not adjacent to active farm	_____	0 – 1 point
Woodlands	Parcel Value	
Large woodlands (10+ acres) along riparian Corridor		2 points
Large woodlands (10+ acres) in large cluster		2 points
Large woodlands (10+ acres) along steep slopes		2 points
Woodlands (less than 10 acres) along riparian Corridor		1 point
Woodlands (less than 10 acres)) in large cluster	_____	1 point
Woodlands (less than 10 acres) along steep slopes	_____	1 point
Streams & River	Parcel Value	Factors include length of stream, main stem or tributary
Parcel water runoff impacts any of the following watersheds:		
Martins Creek	_____	3 points
Mud Run	_____	3 points
Little Martins Creek	_____	3 points
Oughoughton Creek	_____	3 points
Delaware River	_____	2 points
Other tributary	_____	2 points
Parcel impacts 2 watersheds	_____	sum of both
Parcel is adjacent to or includes steep slopes	_____	add 1 to above
Parcel has wetlands	_____	add 1 to above
Parcel has a stream	_____	add 2 to above

Table 3 LMBT Land Preservation Criteria/Evaluation Checklist		
Parcel has riparian buffer and owner maintains as part of NRCS plan or easement	_____	add 1 to above
Parcel owner allows public access	_____	add 1 to above
Scenic Views	Parcel Value	
Parcel is part of a significant view from any public road	_____	0 - 1 point
Parcel is adjacent to any of the following scenic roads:		
Rt 611	_____	1 – 2 points
Little Creek Rd	_____	1 – 2 points
Belvidere-Martins Creek Rd	_____	1 – 2 points
Upper Mud Run Rd	_____	1 point
Bangor-Martins Creek Rd	_____	1 point
Franklin Hill Rd	_____	1 point
Additional Resource Value(s)	Parcel Value	
Parcel size: 25-49 ac., 50-74 ac., 75- 99 ac., 100-124 ac. segments	_____	1 point per 25 acres
Connectivity/Linkage		Up to 5 points
Parcel provides linkage to existing preserved land parcel by connecting preserved land parcels	_____	1 - 2 points (2 points if it links blocks; 1 point if it closes gap)
Parcel provides linkage (or is adjacent) to 2 or more existing preserved land parcels	_____	1 – 2 points depending on size of preserved block
Parcel links to only one parcel (extends preserved land in one direction)		1 point
Additional factors		
Parcel owner will accept less than fair market value appraisal	=====	add 2 to resource type value above?
State or County funding available to supplement LMBT funds	=====	2-4 points based on available funding
Parcel owner will commit to Best Resource Mgmt practices as part of NRCS plan or easement	=====	Add 3 to resource type value above?
Parcel shows a plant or animal of concern in a Pennsylvania Nature Diversity Index search	_____	3 points upon substantiation
Parcel is or has a Historic resource which will be preserved	_____	add 2-3 to resource type value above?
Parcel owner will commit to allowing public access	=====	add X to resource type value above?
Development Potential/Threat		20 points maximum
Existing development plan filed		
Property has or has no physical and/or zoning constraints to development (including utilities)		

Table 3 LMBT Land Preservation Criteria/Evaluation Checklist		
Property has or has no infrastructure for development		
Size of property will result in substantial development		
Funding Aspects That Might Negatively Impact Township Action		
Property likely to be funded by other sources and not require township funds		0 – 5 points subtracted from score
Property cost will deplete township funds		0 – 5 points subtracted from score
Parcel Value Total	_____	

Items with ~~strike through~~ are typically not able to be addressed at the time of preliminary evaluation and might be better addressed in a second round of evaluations.