

# 2008 Southwestern Lehigh County Area

Borough of Emmaus  
Lower Milford Township  
Borough of Macungie  
Upper Milford Township

## PARKS, RECREATION, & OPEN SPACE PLAN



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

Prepared by:  CMX

In conjunction with:  LL. Burtner, Inc.

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*This project was funded by the County of Lehigh, Pennsylvania*

*Planning Consultants*

*CMX Engineering*

*Kulpsville, PA*

*In Association with*

*LL. Burtner, Inc. Consultants*

*Bethlehem, PA*

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## Acknowledgements

The Southwest Lehigh County Park, Recreation, and Open Space Plan has been prepared under the direction of the SWLCPROSP Task Force, 2007 – 2008

### *Municipal Representatives*

Borough of Emmaus, Bruce Fosselman, Borough Manager

Lower Milford Township, Donna Wright, Township Supervisor; Ellen Koplín, Township Manager; Gary Campbell, Recreation & Open Space board member

Borough of Macungie, Chris Boehm, Borough Manager

Upper Milford Township, Dan DeLong, Township Manager; Brian Miller, Planning Coordinator & SEO

### *County Representatives*

Lehigh Valley Planning Commission, Michael Kaiser, AICP, Executive Director

Lehigh County, Jan Creedon, Dir., General Services

A key aim of this report and plan has been to coalesce several themes for recreation, land conservation, natural landscapes, and public use of these resources. Extensive insight and input was gained through key interviews with organizations and individuals who represent constituent groups and stake holders.

### *Key Interviews*

Borough of Emmaus: Park and Recreation Commission: Vicky Gruver, Chair; Bill Smith, Wesley Barrett, Shawn Murray, EPSD; Daniel Helfrich, Brian Holtzhafer.

Lower Milford Township: Parks and Recreation Commission: Steve Rivers, Terry Haggerty, Donna Wright, Gary Campbell, Elaine Snovitch, Planning Commission: Jean Schoch, Ann Frey

Borough of Macungie, Borough of Macungie: John Horner, Mayor; Macungie Institute: Karen Holt, Building Coordinator; Kalmbach Memorial Park: Michael McCready, Manager; Macungie Memorial Park: Donald Young on behalf of Bob Young, Esq., Board Member; Macungie Flower Park: John Leeser, Committee Member

Upper Milford Township: Planning Commission: Henry Kradjel, Joyce Brown, Susan J. Smith, Ronald M. Guth, Phil Hartranft, Angelicka Forndran, Judith Parker, Matthew Hunter, Robert Sentner; Recreation Commission: Philip A. Vanim, Charlene Sherman, Wendy Ashby (also Upper Milford Township Youth Association), Robert Parry, Roslyn Parry, Terry Schmeltzle, Ralph Nasatka.

Other Interested Organizations and Individuals: Rodale, Inc.: Bud Coates, Fitness Center Director; South Mountain Cycles, Mark Bowman, Owner; Coalition for Alternative Transportation, Selene Yeager, Board Member and alternative sports advocate; Joint Environmental Advisory Council for the Borough of Emmaus and Upper Milford Township: Bill Ahlert, Upper Milford Township; Liesel Adam, Borough of Emmaus; Wildlands Conservancy: Chris Kocher, President; Tom Gettings, Director of Special Projects

Further input was gained during two public meetings. Members of the public who attended a session held at the Macungie Institute include: Lori Matika, Seth Flanders, Robert Kahle, Jim Kellar, Kris Kellar. Members of the public who attended a session held at the Lower Milford Township Municipal Office Building provided additional input.

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## Section 1

# Introduction

The Southwestern Lehigh County Area Park, Recreation, and Open Space Plan is an in-depth investigation into parks, recreation, and open space, with a basis in the 2005 Southwestern Lehigh County Comprehensive Plan. Not included in this report and plan are the Borough of Alburty and Lower Macungie Township, as these communities have opted-out of this plan. Outreach to these municipalities will be renewed and if they opt-in, the additional information and analysis will be included as an addendum to this plan.

The 2005 Comprehensive Plan for the SWLC area promotes growth in existing centers of population and adjacent to these centers appropriately where infrastructure exists. Further, the Plan supports the continuation of rural landscapes and compatible land uses in outlying areas, where infrastructure currently does not exist. Planning for Parks and Open Space is integral to achieving the balance that is recommended in the 2005 Comprehensive Plan. Therefore this Parks, Recreation, and Open Space plan provides:

- an inventory of parks and recreation facilities and open space areas in this sub-area of Lehigh County;
- an assessment of parks, recreation facilities, and open space areas that currently exist;
- an assessment of usage, and ownership, and the ability of existing parks and recreation facilities to meet and absorb current and future population demands;
- recommendations for adding recreational facilities, selecting appropriate sites, while establishing appropriate levels of service as best as can be anticipated;
- promotion of strategies for conservation of

natural, environmental, historic, scenic, and aesthetic resources;

- reinforcement of support for rural resources of the area.

This first section of the plan includes:

- I.1. The Overall Vision for Parks, Recreation, & Open Space
- I.2. What is a Parks, Recreation, & Open Space Plan
- I.3. Purpose for the Southwestern Lehigh County Area Parks, Recreation, & Open Space Plan
- I.4. Process Followed to Develop the Southwestern Lehigh County Area Parks, Recreation & Open Space Plan
- I.5. Goals and Objectives for the Southwestern Lehigh County Area Parks, Recreation & Open Space Plan

### **I.1 The Overall Vision of this Plan**

(excerpted from the 2005 SWLC Area Comprehensive Plan)

For the purpose of establishing commonalities among the municipalities participating in the 2005 SWLC Area Comprehensive Plan, a multifaceted vision statement was put forth. Presented here are the vision statements that are relevant for Parks, Recreation, and Open Space planning.

- A wide variety of recreation opportunities will be available.
- The creek valleys will be preserved, some in public greenways and trails.
- Conservation easements will have ensured the permanent preservation of large areas of open land.

- Substantial areas of inter-connected open space will have been preserved within most new development, particularly through clustering.
- Substantial areas of woodlands will be preserved, providing attractive visual relief between development.
- Wider shoulders will be provided on roads to increase safety and promote bicycling and walking.
- Large areas will continue to be farmed, particularly in the southern part of Upper Milford and most of Lower Milford.

Compatibility with the SWLC Area Comprehensive Plan is reported in Section 2 of this plan.

### **1.2 What Is a Parks, Recreation, and Open Space Plan**

A Park, Recreation, and Open Space Plan sets the tone for policy and regulations that enable community leaders to provide for their constituents the public facilities needed for recreational pursuits, and to enhance a community's landscape aesthetic by promoting the protection of those historical, cultural, environmental and natural resources that make a community unique. Provision of public recreation facilities and protection of landscapes for these purposes are indicators of healthy, balanced communities, ones that are responsive to constituent needs while operating from a basis of understanding of how natural systems interrelate with the needs of a community.

### **1.3 Purpose for the Southwestern Lehigh County Park, Recreation, and Open Space Plan**

Article XI of the Pennsylvania Municipalities Planning Code (MPC) provides for Intergovernmental Cooperative Planning and Implementation Agreements. Under these provisions, six municipalities of southwest Lehigh County created an inter-municipal comprehensive plan. The Southwestern Lehigh County Comprehensive Plan, completed in 2005, includes: the Borough of Alburtis, the Borough of Emmaus, Lower Macungie

Township, Lower Milford Township, the Borough of Macungie, and Upper Milford Township. Overarching recommendations of this plan designate rural resource areas and set forth a plan for conservation and enhancement of natural scenic, historic, and aesthetic resources, as allowed per Sec. 1103 of the MPC. It broadly addresses Parks and Recreation, in the Community Facilities and Services Plan. It also sets forth broad recommendations for Natural Features and Agricultural Conservation, and Historic Preservation.

Many communities across Pennsylvania prepare park, recreation, and open space plans to allow a more in-depth investigation into these important issues and provide policy recommendations for public expenditures and for regulations that will provide for public recreation facilities and protection of important natural, historic, and cultural resources, as allowed by the MPC. Under provisions of Article XI of the MPC, communities may undertake park, recreation, and open space planning on a regional basis as well. The Southwest Lehigh County Park, Recreation, and Open Space Plan allows municipalities that participated in the 2005 Southwestern Lehigh County Comprehensive Plan to explore in greater detail the policy recommendations set forth in that document.

### **1.4 Process Followed to Develop the Southwestern Lehigh County Regional Park, Recreation, and Open Space Plan**

In furtherance of its initiatives to assist municipalities, Lehigh County coordinated the initiation of the Southwestern Lehigh County Park, Recreation, and Open Space Plan with the Borough of Emmaus, Lower Milford Township, the Borough of Macungie, and Upper Milford Township. The other municipalities that participated in the 2005 Comprehensive Plan declined participation in this planning effort; however, as of February 2008, outreach will be renewed to include the Borough of Alburtis and Lower Macungie Township. Due to a change in leadership in Lower Macungie Township (which has the largest and fastest growing population of the municipalities in the region) it is possible that this community will want to be a part of the plan. From a planning perspective it

makes good sense to include these communities on at least two counts; 1.) the planning area will then represent the same area as the 2005 Comprehensive Plan; and, 2.) it has been found through the research for this report that the population demands from Lower Macungie Township are inextricable from facilities demands placed on communities participating in this plan. Further, with Lower Macungie Township's recent acquisition of parkland located near the borders and population centers of three of the participating municipalities, the benefits and affects of this future facility need to be incorporated into park planning for the area. This outreach effort will not preclude the completion of a full report and plan for the four communities initially involved, rather the additional findings will be treated as an addendum, if pursued.

Additionally taken into account, Upper Milford Township adopted a Park, Recreation, and Open Space Plan in 2004, which is therefore considered to be their plan, and validly so. This community's willingness to be a part of the regional plan from the beginning means that the results and recommendations are included and coalesced with the regional plan.

The process followed to arrive at the recommendations contained in this plan included the following steps:

- Establishment of a study task force to meet throughout the study period, provide input and guide the process;
- Investigation into existing conditions in each municipality;
- Review of current planning documents that promote parks, recreation, and open space in the constituent communities;
- Key interviews with organizations and individuals who represent constituent groups and stake holders;
- Survey of all residents of all municipalities involved with the plan which resulted in a 26% return rate, giving statistically significant results;

- Establishment of goals and objectives;
- Public meetings held to gather general public input;
- Public hearings in each community for the plan adoption process;
- Plan adoption by each community.
- Incorporation of the recommendations of this plan into municipal activities.

### **I.5 Goals and Objectives for the Southwestern Lehigh County Parks, Recreation and Open Space Plan**

The task force members for the SWLC Parks, Recreation, & Open Space Plan have confirmed the appropriateness of the following Goals and Objectives for this plan.

- Promote cooperation with adjacent and nearby municipalities in creating regional recreation opportunities.
- Promote the establishment of multi-purpose "greenways" across jurisdictions that connect to a regional greenway network.
- To systematically and effectively provide for the park and recreational needs of all residents by use of both public and private resources.
- To sponsor and support a comprehensive program of recreation and park activities with the opportunity for a variety of experiences adjusted to meet the physical and psychological needs of all residents.
- To provide facilities for both passive and active recreation to meet the needs of all residents.
- To create open space as a balance to man-made development. To preserve and protect areas of important environmental consideration, and to incorporate such areas into the park and recreation system.
- To maintain safe and reliable facilities in an

efficient and cost effective manner.

- To work with municipal officials in the creation and maintenance of parks, recreation, and open space as a vital cog in the quality of life for residents.
- The municipalities will budget for and finance the system at appropriate funding levels.

Each municipality of the SWLC area has a set of objectives for provision of parks and recreation facilities in some format. The Borough of Emmaus sets out goals and objectives in the Code of Ordinances, Section 801, Part B establishing a Parks and Recreation Commission. Lower Milford Township, having recently established a Recreation and Open Space Board has drafted a list of Goals and Objectives as they set forth to plan for parks and recreation in the municipality. The Borough of Maungie's Trails Master Plan includes a Background and Need section which establishes a purpose for this specific plan. And, Upper Milford Township, having completed a Parks, Recreation, and Open Space plan in 2004, established goals and objectives for its community. The goals and objectives for each community are listed in Appendix A of this report.

## Section 2

# Compatibility with Other Current Plans

There are several planning documents that include relevant information and recommendations for open space and land use for the Southwestern Lehigh County area. It is a responsibility of this plan to bring together the recommendations and pertinent information and use these as a basis for formulating recommendations for park facilities and responsible open space protection. The following plans have been reviewed and gleaned from in the preparation of this plan.

- 2.1. Southwestern Lehigh County Comprehensive Plan, Borough of Alburdis, Borough of Emmaus, Lower Macungie Township, Lower Milford Township, Borough of Macungie, and Upper Milford Township, 2005
- 2.2. Comprehensive Plan: The Lehigh Valley, 2030; The Lehigh Valley Planning Commission, 2005
- 2.3. Lehigh Valley Greenways Plan: A Regional Greenways Plan for Lehigh and Northampton Counties; The Lehigh Valley Planning Commission, 2007
- 2.4. South Mountain Preserve, Conservation, Greenways, and Trails Plan, Wildlands Conservancy, 2006
- 2.5. Trail Master Plan, Macungie Area Regional Trail Network, Borough of Alburdis, Lower Macungie Township, and Borough of Macungie, 2003
- 2.6. Upper Milford Township Park, Recreation, and Open Space Plan; 2004
- 2.7. Lehigh River Watershed Conservation Management Plan, Wildlands Conservancy, 2003
- 2.8. Upper Perkiomen Creek Watershed Con-

servation Plan, Upper Perkiomen Watershed Coalition, 2003

- 2.9. Lehigh and Northampton Counties Natural Areas Inventory Summary, The Lehigh Valley Planning Commission, 1999
- 2.10. Lower Milford Township Park, Recreation and Open Space Plan (draft as of 6/08)

### **2.1 Southwestern Lehigh County Comprehensive Plan, Borough of Alburdis, Borough of Emmaus, Lower Macungie Township, Lower Milford Township, Borough of Macungie, and Upper Milford Township, 2005 (SWLC 2005 Comprehensive Plan)**

*SWLC 2005 Comprehensive Plan: The Major Goals*

Overall Goal: Continually strive to make the region an even greater place in which to live, work, learn, visit, shop, and play, with a strong sense of community, scenic preserved open spaces, preserved agricultural areas, an attractive historic character, a vibrant economy, and an excellent quality of life.

#### Natural Features and Agricultural Conservation

- Protect important natural features, with a special emphasis upon the creek valleys, wetlands, and steeply sloped woodlands.
- Make sure that new development properly respects the natural features of a site.
- Seek to maintain agricultural activities in large portions of the region.
- Protect the amounts and quality of groundwater and creek waters.

#### Land Uses and Housing

- Maintain an attractive rural character in much of the region. Promote use of the “Open Space Development” concept to cluster development on the most suitable portions of a tract, in order to permanently preserve important natural features and open spaces.
- Strengthen business activity, historic community character and a pedestrian-friendly environment in the centers of Emmaus, and Macungie.
- Emphasize tourism that is built upon the area’s heritage, arts and culture, and recreational assets.

#### Community Facilities and Services

- Provide high-quality community facilities and services in the most cost-efficient manner, including addressing needs for future growth.
- Emphasize full cooperation and coordination of municipal and emergency services across municipal borders.

#### Transportation

- Improve opportunities throughout the region for safe bicycle and pedestrian travel, carpooling and public transit.

#### *SWLC 2005 Comprehensive Plan: Community Facilities and Services Plan*

The 2005 Southwestern Lehigh County Comprehensive Plans makes several recommendations for parks and open space. They are contained in the Community Facilities and Services Plan, and the Natural Features and Agricultural Conservation Plan. Within the Community Facilities and Services Plan there are extensive recommendations for completing a system of bicycle and pedestrian trails, representing a high-level of community interest in these activities.

The goal stated for parks and playgrounds in the Community Facilities and Services Plan of the 2005 Comprehensive Plan is as follows:

- Provide high-quality community facilities and services in the most cost- efficient manner,

including addressing needs for future growth. Improve parks and playgrounds to meet a wide variety of recreational needs.

The broad-brushed analysis of parks and recreation conducted for the Comprehensive Plan concluded the following:

- Most of the region is well-served by existing parks that are properly distributed to serve concentrations of residents;
- The parks contained in the region provide appropriate variety of facilities, including playgrounds in denser areas, athletic fields, passive natural areas along creeks and other facilities;
- Continued efforts are needed to rehabilitate older recreation areas, particularly to make sure they meet modern safety standards.
- It generally is most efficient and most convenient to concentrate most new athletic facilities for organized sports in a few centralized parks, preferably adjacent to a public school.
- There currently are indoor recreation facilities at the public schools, at the Alburty Community Center, at the Macungie Park Building, and at the Lower Macungie Township Community Center. Consideration should be given to seeking an additional indoor recreation center, particularly in Emmaus. In addition, opportunities should be sought to maximize use of indoor facilities of the school district during hours when the facilities are not needed for school use.
- Greater cooperation and cooperation among the municipalities would be valuable in providing recreation facilities and services. A Recreation Coordinating Council should be formed within the borders of each school district. The goals should be to:
  1. Collect basic data on the sizes of each recreation program and trends in their growth;
  2. Identify the greatest needs for recreation facilities, based upon actual use and cur-

rent trends;

3. Identify opportunities to share or jointly provide recreation facilities and programs, particularly to meet times of peak demand and avoid over-use of facilities, and;
4. Identify recreation programs that are needed but are currently not being provided. For example, it may be found that inadequate attention is being paid to recreation programs for adults.

Regarding bicycle and pedestrian trails, the SWLC 2005 Comprehensive Plan sets as a goal to complete a system of bicycle and pedestrian trails.

- A trail and greenway system should be developed over time, especially along the Little Lehigh Creek. This greenway and trail should interconnect the existing parks along the creek, and where practical should ideally include a trail on both sides of the creek to allow “loops”. In addition to serving local residents, trails can be valuable in attracting tourists to the region, particularly considering the dramatic increase in the popularity of mountain biking.

Further, the SWLC 2005 Comprehensive Plan set a goal of providing safer bicycling opportunities throughout the area. The following excerpts from the plan elaborate improvement opportunities

Local interest in bicycling is spurred by the presence of the Lehigh Valley Velodrome, a County- owned bicycle racetrack west of Trexlertown. The Velodrome sees nearly 60,000 visitors annually in the form of race participants, spectators, and bike riders. Many riders, including organized groups like the Lehigh Wheelmen, meet at the Velodrome as a starting point for bike rides in the western Lehigh Valley. The Velodrome draws a significant amount of program participants from this Region, and has created a local enthusiasm for biking. This combined with the abundance of gently sloped rural roads here and westward has resulted in an unusual concentration of bicycling activity on

local roads. In addition, there are a significant number of mountain bikers in the area, who are attracted by the Robert Rodale Reserve on South Mountain, Bear Creek Ski Area in neighboring Longswamp, and other nearby off-road biking venues. The increasing traffic is posing a challenge to safe bike riding. The following is a summary of some key concerns and desired improvements voiced by the Velodrome Director and other area riders.

- Rural local roads in the area were once a safe haven for cyclists. Now, all roads are heavily traveled by vehicles, with many former bike-friendly routes now seeing large volumes of traffic and/or high-speed traffic at all hours of the day. This is true on Lower Macungie Road, Spring Creek Road and Willow Lane in Lower Macungie Township, Kings Highway, Vera Cruz Road and Limeport Pike in Upper and Lower Milford, and many others.
- With some exceptions, most roads in the Region have limited or no shoulders for safe cycling. Fortunately, all new roadways associated with the 222/100 bypass will have 8-10' shoulders, as well as realigned portions of Sauerkraut Lane. Some roads lack white edge lines, which serve as visual barriers that help motorists and cyclists maintain their own domain. The area also lacks designated on-road bike routes with painted lanes and symbols. While the cyclist does not need paint symbols for safe riding, these improvements create known routes, increase motorist awareness of bicycle activity on the roadway, and can attract additional funding if design guidelines are followed.

The few straight, gentle-grade roads in the area see excessive vehicular speeding, which creates a very dangerous situation for cyclists. Such roads include Buckeye Road, Brookside Road, Cedar Crest Boulevard in Lower Macungie Township, where vehicle speeds often exceed 60 MPH. The hazards from speeding are greatest when there is not a defined shoulder, and when there are curves and hills that limit motorist's visibility of bicyclists.

Certain dangerous structures or places serve as choke points in bicycle safety. These include the Route 29 overpass over the Reading Railroad, the Brookside Road underpass of the same railroad, the Church Lane railroad bridge in Trexlertown, village areas such as East Texas, Wescosville, East Macungie, Vera Cruz and Shimerville, and numerous bridges over streams.

Road and trail improvements for cyclists should consider different groups:

- Higher speed cyclists who always use existing paved roads,
- Lower speed and less experienced leisure riders, who may use roads or bike paths,
- Children, who would be best directed onto separate bike paths with few road crossings,
- Mountain bikers that seek “single-track” and other unpaved trails,

The Robert Rodale Reserve on South Mountain in Emmaus features mountain bike trails with a very high level of technical difficulty. While the trails here have gained regional fame and appear in many mountain biking books, these trails are not fit for the novice biker. The area should supplement this resource with trails that are both easier to ride, and can serve as alternate transportation links. These could be an assortment of dirt, gravel, and paved trails, and could exist in floodplains, utility right-of-ways, and other where it is easier to obtain permission for the trails because the areas cannot be developed.

Lower Macungie Township typically requires developers to include paved paths along collector and arterial streets in their subdivision plans. While these paths are not used by serious road bikers, these paths are very attractive to other bicyclists, joggers and walkers. This municipal requirement is a forward-thinking effort. Different segments are now becoming inter-connected over long distances. It may be necessary for the Township to expend municipal funds to complete key links, particularly along segments that were developed before the requirement

was in place.

Many area roads are owned and maintained by PennDOT. If a municipality wants to widen and/or add bike lanes to a PennDOT road, the process is often more lengthy and difficult than it would be for a local road. There is the option of municipalities acquiring ownership of selected roads from PennDOT through the “turn-back” process. This would make it easier and cheaper for a municipality to make all types of changes along the road, including adding shoulders and improving pedestrian safety. Macungie Borough is in the process of acquiring Lehigh Street from PennDOT, in order to accommodate their plan for a borough-wide trail with portions on roadways.

Some trail planning is already in progress, such as Macungie’s trail linking three parks and proposed connections to Alburdis and Eyer Middle School, and several developer-built trails in Lower Macungie Township. Desired trail destinations in the area include the Emmaus Community Park, Lower Macungie Community Park at Creamery Road, and the Lehigh Valley Velodrome/Rodale Fitness Park in Upper Macungie.

There is interest in a Little Lehigh Creek greenway trail. Much of the land along the creek is already protected as Township parkland or open space, and homeowner’s association land. The configuration of the creek makes an ideal route from Lower Macungie Community Park, eastward to Ancient Oaks West Recreation Area, then through various open space parcels from Willow Lane to Cedar Crest Boulevard, along an edge of the Poole Wildlife Sanctuary, and finally connecting to the City of Allentown’s Lehigh Parkway. The most difficult stretch to gain permission for public access may be through the Lehigh Country Club. A northward spur could connect to the Velodrome.

The former closed Tank Farm Road bridge crossed the railroad to connect with Indian Creek Road in Lower Macungie Township. Right-of-way and abutments still exist here, and a simple bicycle/pedestrian bridge could

be placed to serve as a trail link. While this link is not a high priority, it could serve as a safe alternative to several road overpasses and underpasses where the roadway is narrow and cyclists must share a travel lane with heavy traffic. A bicycle committee is regularly meeting with PennDOT to satisfy the safety and accessibility needs of cyclists during and after the Route 222/100 Bypass construction. As a result, shoulders are intended to remain open in the area, and flashing signs advise motorists to be wary of bicycle traffic on Route 222. Such cooperation should occur on any major road improvement project to insure the safety of cyclists, pedestrians and motorists alike. The goal is to improve paths and trails building upon key destinations (such as parks, villages and shopping areas). Then, the appropriate road and parcel links between these destinations need to be identified, taking in consideration both physical limitations. Some improvements, such as trails within municipal parkland, could be initiated immediately, while others would be a collaboration with PennDOT, private owners, and other entities. PennDOT may be more willing to “fill in the gaps” if they are presented with a formal plan for a workable and useful path network, and proof of local initiative is shown. Some projects can be awarded federal funding if certain design guidelines are followed. The end result would be an interconnected network of trails, paths and bike lanes that would serve both recreational and alternate transportation needs.

Also contained in the Community Facilities and Services Plan of the 2005 Comprehensive Plan is a relevant goal and recommendation within the Water and Sewage Services section for Parks, Recreation, and Open Space. This goal and recommendation states:

Goal: Provide central water and sewerage services in the most cost effective manner with regular investments to provide reliable services.

Recommendation: Opportunities should be considered to combine acquisition of land for public recreation with purchase and/or preser-

vation of public well sites. Where it does not make sense to acquire land, a “conservation easement” could be donated or purchased that would prevent most types of development of the land while it remains privately owned.

*SWLC 2005 Comprehensive Plan: Natural Features and Agricultural Conservation Plan*

In support of the overall vision for the Southwestern Lehigh County region, the Natural Features and Agricultural Conservation Plan of the 2005 Comprehensive Plan makes the following recommendations.

Land in the Region varies greatly in its suitability for different intensities of development. Some areas, such as flood-prone creek valleys, very steep sloped lands and wetlands, are not suitable for any development. Other areas are only suitable for very low-intensity development, such as moderately steep areas. Still other areas are appropriate for intensive development. Open space can be preserved in public, semi-public or private ownership. It is important to preserve open space to:

- Recharge groundwater supplies,
- Protect the quality of creeks and the groundwater,
- Provide an important visual relief between developments,
- Preserve areas of scenic beauty, including scenic views,
- Avoid development on lands that are prone to erosion or are otherwise not physically suitable for development,
- Provide land for recreation, and
- Preserve habitats and cover for birds, fish and wildlife.

*SWLC Comprehensive Plan: Land Use and Housing Plan*

This section of the 2005 Comprehensive Plan recommends policies, such as promoting Open

Space Development, that are intended to steer development away from the creek valleys and other important natural features.

Take full advantage of all funding sources for land preservation, including connecting interested landowners with available resources, using “Conservation Easements,” and using County and State funds.

There are several other funding sources for land preservation. For example, municipalities, certain other organizations and land conservancies can apply for State grants for acquisition of recreation land. Conservancy organizations can work with individual landowners to find ways to preserve their land. This often includes purchasing a property for a price that is lower than market value, and then helping the property-owner receive a Federal income tax deduction for the difference between the market price and the sale price. Conservancies also often work with landowners to find ways to sensitively develop part of their property, while permanently preserving other parts. “Conservation easements” can be used to permanently preserve land without outright purchase of the land. With a conservation easement, the land remains privately owned. The easement involves the property owner voluntarily agreeing to donate or sell the right to develop his or her land. The property owner agrees to place a restriction in the deed of the property, which becomes binding on all future owners of the land. The easement can be written in many different ways to restrict or not restrict certain types of activities. Most conservation easements prohibit the construction of new buildings and subdivision of the land. Conservation easements also may prohibit intensive forestry and re-grading of the land.

Often, a property-owner can receive Federal income tax benefits from donating a conservation easement. This could include a complete donation of the easement, or a sale of the easement for a price that is less than the value of the easement. For example, if an area of land is worth \$1 million, the development value

might be \$800,000. The remaining \$200,000 would be the residual value of the property after the easement. If the landowner donates a conservation easement, it may be possible to deduct \$800,000 from their taxable income. If the landowner sells the easement for \$200,000, they may be able to deduct \$600,000 from their taxable income - \$800,000 of value minus the \$200,000 purchase price. This is known as a “bargain sale.” The same type of deduction could apply if the land is sold outright to a municipality or conservancy for less than its market value.

Lehigh County voters approved the issuance of \$30 million of bonds for the Green Futures Fund. As of 2004, the intent is to use:

- One-third of the funding for the County’s agricultural preservation easements (which is matched with State funds),
- One-third for purchase of parkland and open space (80 percent of which would be used by townships and 20 percent by the County), and
- One-third for improvements to existing parks (80 percent of which would be used by Allentown and the boroughs for recreation areas open to the public and 20 percent for County parks).

The dollars available to purchase land could be used to buy land outright or to buy conservation easements. The dollars available to improve parks could be used on land owned by non-profits if there is a binding commitment to make sure the land will be available for public recreation.

Additional recommendations for natural features and resources included in the Comprehensive plan are:

- Preserve areas along major creeks in as natural a condition as possible.
- Consider seeking a higher water quality classification for creeks in the Region.

- Protect the amounts and quality of ground-water and creek waters. Stress recharge of storm water into the ground to maintain groundwater supplies and reduce storm water runoff.
- Carefully manage wooded areas and avoid clear-cutting.
- Make sure that any changes to suspected wetlands comply with state and federal regulations.
- Minimize development on steeply sloped lands.
- Seek to maintain interconnected corridors for wildlife.
- Work to conserve Outstanding Natural Areas.
- Encourage the designation of additional areas as agricultural security areas.
- Continue to promote use of agricultural easements to preserve farmland.

*SWLC 2005 Comprehensive Plan: Coordination with the Regional Plan*

The following excerpt is from the 2005 Southwestern Lehigh County Comprehensive Plan. It is the section on compatibility with the greater Lehigh Valley Regional Comprehensive Plan, which was under study during the drafting of the 2005 SWLC Comprehensive Plan.

An emphasis is needed upon coordinating the region's development policies with policies of the Lehigh Valley Planning Commission (LVPC). Under State law, a municipal or joint municipal comprehensive plan must be generally consistent with the LVPC Plan. LVPC is charged with coordinating development, preservation and transportation policies across municipal borders throughout Lehigh and Northampton Counties.

LVPC is currently working to update the Comprehensive Plan for Lehigh and Northampton Counties ("the Regional Plan") and has been

encouraging input from the municipalities on possible revisions.

(As of the time of writing the SWLC 2005 Comprehensive Plan, the Regional Plan, LVPC) recommended different areas of the region for different overall land use categories. The Regional Plan does not differentiate between residential, commercial or industrial land uses. The Urban Development areas are intended, when and if they are developed, to be served with public water and sewage services. The term Urban Development includes what is typically known as suburban development with public water and sewage services. In residential development, the term Urban Development is intended to mainly provide for housing at 4 or more homes per acre.

The LVPC Plan does not recommend Urban Development in areas designated as "Farmland Preservation", "Rural Development" and "Natural Resources."

The Natural Resource Areas mainly include creek valleys and very steeply sloped areas. These Natural Resource Areas are recommended for a maximum density of one home per 3 acres, except that one home per acre could be suitable with public water and sewage services. The Natural Resource Areas generally are not planned for central water and sewage services.

The Farmland Preservation Areas are mainly intended for agricultural uses and "housing on a very limited scale" - such as being limited to a maximum of 10 percent of the tract. These areas are intended to have on-lot wells and septic systems.

The Rural Development Areas mainly include lands that are not within the other three categories. These areas are mainly expected to be served by on-lot wells and septic systems. The overall density of approximately one home per acre is recommended in these rural areas that are not steeply sloped or along creek valleys.

The Regional Plan recommends that almost all of the areas of the region that are intensely

developed or are approved for intensive development (and immediately adjacent areas) be planned for “Urban Development.”

Almost all of Alburdis and Macungie are recommended for Urban Development, except for the creek valleys and very steeply sloped areas. In Lower Macungie, almost all of the lands east of Route 100 are recommended for Urban Development, as well as areas: a) southwest of Trexlertown/north of Spring Creek Road, b) immediately west of Alburdis, and c) between Alburdis and Macungie.

In Upper Milford, the Urban Development Areas include the northern part of the Township closest to Macungie, Lower Macungie and Emmaus. One Farmland Preservation area is shown adjacent to Lower Milford west of the Turnpike. South Mountain and other areas of steep slopes and creek valleys are shown as Natural Resources Areas. The majority of Upper Milford is shown as Rural Development.

Furthermore, the LVPC Plan recommends that certain areas of the Lehigh Valley be planned for “Future” Urban Development. Future Urban Development is conditioned upon the availability of public water and sewage services and adequate road capacity. The Vera Cruz area was shown in this category, with the intent that public water and sewage services would be provided.

The majority of Lower Milford is recommended by LVPC as Farmland Preservation. No areas of Lower Milford are recommended for Urban Development. Most of the eastern part of Lower Milford and areas along the Kings Highway are recommended for Rural Development.

## **2.2 Comprehensive Plan: The Lehigh Valley, 2030; the Lehigh Valley Planning Commission, 2005**

The greater regional comprehensive plan both reflects land use trends and predicts patterns, with an aim to provide a coordinated direction on land use by providing recommendations on the elements that affect how land is used. These plan-

ning elements include: natural resources, farmland, economic development, housing, transportation, community utilities, parks and recreation, and historic preservation. It is an advisory document for municipalities; those who elect to produce municipal or multi-municipal comprehensive plans, and parks, recreation, and open space plans are compelled to seek compatibility with the greater regional plan. As an invaluable resource to all communities with the greater region, the comprehensive plan pulls together into one document, summaries of planning elements for all communities.

The planning elements present publicly stated goals for the direction these elements should be developed. Planning elements are interrelated, as the cause/affect relationships are intertwined. For the purposes of this parks, recreation, and open space plan, reported here are the relevant portions of the regional comprehensive plan for which compatibility is encouraged.

### *Natural Resources Plan*

The Natural Resources Plan presents goals, policies and implementation strategies for each of the following: rivers and streams, riparian buffers, floodplains, wetlands and areas of hydric soils, steep slopes, carbonate geology, woodlands; and it lists other natural resource protection projects.

### *Rivers and Streams*

Protection of rivers and streams for recreational and environmental benefits to residents is supported by policies that encourage riparian buffer protection and restoration, establishment and adherence to waterway conservation plans by municipalities and land owners, and the development of greenways along stream corridors as an appropriate use of river and stream areas.

### *Floodplains*

Minimizing flood damage to property and protected floodplains is supported by policies that prohibit construction within 100-year floodplain areas

### *Wetlands and Hydric Soils*

Protection of remaining wetlands within the greater Lehigh Valley region to promote biodiversity, and to moderate storm water property damage is supported by policies that promote 100% protection of wetlands as open space, proper management of protected wetlands, and establishment of 50-foot natural buffers around wetlands.

#### *Steep Slopes*

Minimization of the adverse environmental impacts of development of slopes greater than 15% is supported by policies that promote low site coverage for steeply sloped properties (coupled with large parcel size subdivision, when developed).

#### *Woodlands*

Protection and management of the region's remaining woodlands for recreational purposes and environmental protection of native bio-diversity is supported by policies that promote limited clearing during land development, and implementation of statewide programs that support woodland protection.

The Natural Resources Plan contained in the greater regional comprehensive plan shows a concentration of medium- to very high- priority conservation areas within the Southwestern Lehigh County area, particularly within Upper Milford Township and Lower Milford Township. Taken into consideration for compatibility, these areas are further discussed in this plan.

Three Important Natural Areas of statewide significance, and one area of regional significance are located within the Southwestern Lehigh County area. They are the Macungie Watershed, in Upper Milford Township, the Indian Creek Floodplain, in Upper Milford Township, and the Hosensack Marsh in Lower Milford Township, all of statewide significance. The Natural Resources Plan considers these to be top priority areas for protection, primarily for environmental, bio-diversity purposes.

#### *Farmland Preservation*

In recognition of the Lehigh Valley having some

of the best farmland in the state of Pennsylvania, a plan for preservation of areas that contain prime agricultural soils is set forth. Significant portions of the Southwestern Lehigh County area contain prime agricultural soils, much of which has not been converted to urban land uses. The Farmland Preservation Plan recommends that large portions of Lower Milford Township be protected for agriculture, as well as a sizable portion of Upper Milford Township. Two goals set forth in the regional plan include: preservation of 25% of the region for agriculture; and support agriculture as a viable part of the regional economy. More about compatibility with these goals is included in this plan.

#### *Parks and Recreation*

The greater Lehigh Valley Comprehensive Plan states as a goal for parks and recreation: the provision and maintenance of adequate space and facilities to meet the recreational needs of Lehigh Valley residents. By and large municipal governments provide parks and recreational opportunities, though there are some outstanding county parks in each regional county, as well as state game lands and parks. An evaluation of existing park facilities measured against National Recreation and Parks Association standards indicates that there is adequate local, close-to-home park space available in Lehigh County, currently and projected to the year 2020. Regional park space within Lehigh County is projected to be in a deficit (3,531 additional acres needed, based on population) by 2020. The greater Lehigh Valley comprehensive plan does not make recommendations to add significant acreage to the park system within the Southwestern Lehigh County area in the Park and Recreation Plan.

This plan allows for a closer look at the Southwestern Lehigh County area as a region to assess the need for additional park facilities that would have the capacity to serve current and projected needs and demands.

#### *Historic Preservation*

The Lehigh Valley Comprehensive Plan includes a listing of properties listed on the National

Register of Historic Places, and sets forth the goal of protecting these and other historic resources of local significance. Policies that support this goal recognize that historic resources are important to the region's culture and economy through tourism. It inter-relates the protection of historic places and structures with park and acquisition as a means to achieve two goals through one activity. More about historic and cultural resources will be presented in this plan, as compatibility with this section of the Lehigh Valley Comprehensive Plan has support from the communities of the Southwestern Lehigh County area.

### **2.3 Lehigh Valley Greenways Plan: a Regional Greenways Plan for Lehigh and Northampton Counties; the Lehigh Valley Planning Commission, 2007**

The Lehigh Valley Greenways Plan was coordinated and completed by the Lehigh Valley Planning Commission. It is an excellent resource and organizational tool for planning and implementing greenways throughout the greater Lehigh Valley region, qualifying greenways as linkages for variety of purposes. The definition for "greenway", which sets the tone for this document and the strategy, is as follows:

*A greenway is defined as a corridor of open space, that may vary greatly in scale from narrow strips of green that run through urban, suburban, and rural areas, to wider corridors that incorporate diverse natural, cultural, and scenic features. They protect the environment, supply recreational opportunities and connect natural and cultural areas to one another providing a linear resource for a variety of users. Connectivity is the defining characteristic that distinguishes greenways from isolated paths and pockets of open space.*

The following trails/pathways and areas of the SWLC region are included in the 2007 Lehigh Valley Greenways Plan:

- Leibert Creek Greenway: a conservation greenway extending 4 miles from Upper Milford Township through the Borough of Emmaus to its confluence with the Little Lehigh Creek in Lower Macungie Township.

- Macungie-Alburtis Trail Greenway: a cultural/recreational greenway, 3 miles in length connecting the Borough of Alburtis, through Lower Macungie Township, with the Borough of Macungie, where a circuit pathway is under construction.
- Pennsylvania Highlands Greenway: a conservation and scenic greenway, an area that includes all of the southern portion of the greater Lehigh Valley region, and the entire SWLC region. This greenway is identified as a Priority Corridor, and is a DCNR Pennsylvania Major Greenway Corridor. Critical Natural Areas identified by the Nature Conservancy that exist in the SWLC region are recommended for protection. Section 5 Green Infrastructure is developed to support the recommendations for this greenway.

This Park, Recreation, and Open Space Plan promotes the recommendations of the 2007 LV Greenways Plan, and strives for consistency with it. The Lehigh Valley Greenways Plan will be included in greater detail in the Parks Inventory and Assessment, Section 4 of this plan.

### **2.4 South Mountain Preserve, Conservation, Greenways, and Trails Plan, Wildlands Conservancy, 2006**

The South Mountain Preserve is a partnership effort coordinated by Wildlands Conservancy that includes Lehigh County, Salisbury Township, the City of Allentown, and the Borough of Emmaus. The South Mountain Preserve is part of the Robert Rodale Reserve, a series of protected tracts of land along South Mountain and Lehigh Mountain, and is also part of the Pennsylvania Highlands, identified as a Highlands Treasure. The land area is primarily within Salisbury Township and the City of Allentown, however a key access point is within the Borough of Emmaus. This area is near enough to Upper Milford Township that it is conceivable that some day enough tracts of land would be preserved to establish a greenway connection. This effort has begun with the South Mountain Property in Upper Milford, adjacent to the border of the Borough of Emmaus.

This plan identifies opportunities for enhancement of the preserve, and stewardship issues. Opportunities for enhancement include the protection of adjacent tracts of land to increase the size of the Reserve, and enrich the natural habitat for native species of plants and wildlife. A stewardship issue identified, one, which affects the Borough of Emmaus, is the trailhead at Alpine Street where signage for parking is needed.

### **2.5 Trail Master Plan, Macungie Area Regional Trail Network, 2003**

The Borough of Macungie has been diligent in its completion of a pathway system that connects points of interest within the borough. A combination of existing sidewalks and newly identified access ways have been unified through the use of patterned pavement and markings. The pathway connects parks, schools, the downtown, and neighborhoods, and ultimately it is anticipated that the pathway can connect to areas beyond Macungie, reaching though Lower Macungie Township to the Borough of Alburdis, and perhaps the Borough of Emmaus.

The SWLC Park, Recreation, and Open Space Plan aims to support and to be consistent with this plan.

### **2.6 2004 Upper Milford Township Park, Recreation, and Open Space Plan**

Compatibility with the 2004 Upper Milford Park, Recreation, and Open Space Plan is an imperative goal of the Southwestern Lehigh County Regional Park, Recreation, and Open Space Plan. The vision, goals and recommendations are incorporated herewith; these will be further explored within the regional context in this plan. Municipal officials have been involved with the task force guiding the process, and various citizen groups have been interviewed for their input, including the Upper Milford Township Recreation Commission, the Upper Milford Township Youth Association, Upper Milford Township Planning Commissioners, and the Joint Environmental Advisory Council for Upper Milford Township and the Borough of Emmaus.

The survey questionnaire sent to residents of the boroughs of Macungie and Emmaus and Lower Milford Township was structured to be similar to the one used to gather input from residents during the Upper Milford Township planning process. This was done so that the results could be culled together to provide a regional snapshot of habits, attitudes, and demands for recreation and open space. The results of the survey are reported later in this report.

### **2.7 Lehigh River Watershed Conservation Management Plan, Wildlands Conservancy, 2003**

In furtherance of its mission to promote environmental education and protection of important natural resources and native biodiversity, Wildlands Conservancy undertook the study of the entire Lehigh River Watershed in preparation of its nomination of the Lehigh River to the Pennsylvania Rivers Registry program. This undertaking included a comprehensive collection of information about the watershed, its land area, water resources, and what has impacted the river's current conditions. The assessment of its current conditions led to establishing eight goals:

- Protect and preserve culture and historical resources
- Improve water quality in the Lehigh River and its tributaries
- Protect significant and valuable land components
- Protect biological resources
- Increase and enhance watershed recreational opportunities
- Promote municipal watershed stewardship
- Promote environmental awareness, knowledge, skills, support, and stewardship commitment
- Monitor and update watershed resource information on a continuing basis

A large portion (16.1 square miles) of the

Southwestern Lehigh County region is within the Lehigh River watershed, providing headwaters and riparian areas for tributaries that feed the main stem. As such, the overarching recommendations that support protecting and improving water quality for the river apply to the Southwestern area.

### **2.8 Upper Perkiomen Creek Watershed Conservation Plan, Upper Perkiomen Watershed Coalition, 2003**

The SWLC region is divided between two river basins, the Lehigh River and the Schuylkill River, with nearly 62% of the land area draining into the Perkiomen Creek, a major tributary of the Schuylkill River. The Perkiomen Creek is of special concern to organizations based in Montgomery County, PA, including the Upper Perkiomen Watershed Coalition, who in 2003 completed a Watershed Conservation Plan in preparation of nominating the Perkiomen Creek to the Pennsylvania Rivers Registry program. The goals and recommendations of this plan are in concert with those contained in plans generated by Lehigh Valley organizations, as the concerns raised for natural resource protection are shared. Fifteen goals are promoted by this plan, they are as follows:

- Guide land development
- Riparian forest buffer protection and restoration
- Conserve major woodlands
- Protection and restoration of wetlands
- Improved wastewater treatment and reduction of point-source pollution
- Plan for water supply needs
- Reduction of non-point source pollution and flooding impacts to streams
- Assess costs and benefits of ponds and impoundments
- Provide key landowners with information on conservation and management options

- Identify recreation opportunities including trails and greenways
- Establish watershed-wide programs and alliances to address watershed issues and environmental alliances
- Assist municipalities in developing GIS capabilities
- Support the creation of environmental advisory councils throughout the watershed
- Conduct detailed inventories of native flora and fauna of the watershed

Assemble a history of the natural and cultural features of the Upper Perkiomen Watershed.

With over half of the land area of the SWLC area draining to the Upper Perkiomen Creek (25.3 square miles) it is important to observe the overarching recommendations of this plan when evaluating open space resources for protection and drafting land use policies and regulations.

### **2.9 Lehigh and Northampton Counties Natural Areas Inventory Summary, the Lehigh Valley Planning Commission, 1999, updated 2005**

Completed in conjunction with the Pennsylvania Natural Diversity Inventory partnership Nature Conservancy and Wildlands Conservancy, this report summarizes the methodology used to determine an inventory of important natural areas within the greater Lehigh Valley region. Sites included in the report are ranked for their importance to the region and to the state; ranking is based on the role the land area plays in the greater ecosystem, the presence of native species of special concern, especially those that are rare or endangered, its ability to support a variety of native species. Two sites ranked #1 in Lehigh County as being of statewide significance, the Hosensack Marsh in Lower Milford Township, and the Robert Rodale Reserve, which spans several municipalities, including the Borough of Emmaus. A tract of land located in Upper Milford Township, the South Mountain tract, is within close proximity to the Robert Rodale Reserve to anticipate

that it could someday be a part of this growing greenway area. Ranked #3 is the Indian Creek Floodplain located in Upper Milford Township. Ranked #4 is the Macungie Watershed, in Upper Milford Township as well. One site located with in the Southwestern Lehigh County region is listed as being of regional significance, Mill Hill, located in Lower Milford Township.

More about these important natural resource areas will be included in the Section 3 of this plan, as it seeks consistency and compatibility with the Natural Areas Inventory and its recommendations.

### **2.10 Lower Milford Township Parks, Recreation, and Open Space Plan (draft as of 6/08)**

Following the completion of the 2005 SWLC Comprehensive Plan, community leaders in Lower Milford Township established a Recreation and Open Space Board. Two activities that this new board has undertaken are participation on the task force for the SWLC Area Parks, Recreation, and Open Space Plan, and development of the Township's first Parks, Recreation and Open Space Plan. Since Lower Milford is in the process of preparing updates to its land use and development codes, it is imperative that it establish guidelines for coordinating the provision of recreation facilities and explore means to protect natural resources and open space, in light of potential population growth.

Lower Milford Township has effectively used the Agricultural Security Area provisions available for farmers. It has also worked in conjunction with the Lehigh County Agricultural Conservation Board to protect 2700 acres through easements. This coupled with a rural tradition have retained open space in the area, although municipal planners are aware that change is possible. The Parks, Recreation, and Open Space Plan is one of many tools they are employing to rationally plan to balance growth with open space protection while providing for new needs for residents.

Understanding the nexus of open space protection through conservation development, the

plan encourages the use of effective planning tools to reserve open space in pace with development. These tools include:

- Cluster developments employing conservation techniques.
- Conservation easements to cover land areas set aside as open space.
- Transfer of development rights.
- Wetlands Wastewater Treatment.
- Dedication of land for recreation and open space.
- Provisions for fees in-lieu of dedication.
- Establishing a formal role for the Township's Recreation and Open Space Board during the land development process.
- Draft/adopt an Official Map for Open Space.
- Seek means to township acquisition of park and recreation land, and open space.

In addition to several recommended means to open space preservation and acquisition, in terms of recreation, the plan makes the following key recommendations:

- Greenway linkages with trails for passive recreation are an appropriate use of open space acquired; connections regionally are desired.
- Keep open to site selection for a regional park, if one is determined to be desirable by the partner municipalities, or Lehigh County.
- Seek further funding for a community park located at the municipal facility.
- Establish three community parks, and two multi-purpose fields over the long term.

In essence, Lower Milford's plan is the in depth, local application of recommendations to fulfill the SWLC Area envisioned in the 2005 Comprehensive Plan, and both this plan and the 2008 SWLC Area Parks, Recreation, and Open Space Plan ensure compatibility.

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## Section 3

# Overview of the Southwestern Lehigh County Area

This overview of the SWLC area establishes the planning context for evaluating and planning for parks and recreation, and open space. Information relevant to understanding and assessing current conditions and forecasting for the future include:

- 3.1. Regional Context and Overview
- 3.2. Population Trends
- 3.3. Land Use and Development Trends
- 3.4. Natural Resources
  - 3.4e. Outstanding Natural Features
  - 3.4f. Surface Water Resources
  - 3.4g. Land Resources
  - 3.4h. Biotic Resources
- 3.5. Agricultural Resources

### **3.1 Regional Context and Overview**

The municipalities that make up the Southwestern region comprise an area of approximately 41.4 square miles located at the southwestern corner of Lehigh County, bordering Berks, Montgomery, and Bucks Counties. It is considered an “outlying area” of a greater two county region (Lehigh and Northampton counties) that is centered on three cities, Allentown, Bethlehem, and Easton.

There are significant employment centers within the SWLC area, primarily within the Borough of Emmaus, and to some extent, the Borough of Macungie, however the SWLC area primarily serves as a bedroom community to other employment centers within the greater Lehigh Valley region and beyond, including the

greater Philadelphia region.

Although there are several significant cultural resources including two traditional downtowns, historic sites, and scenic areas, the SWLC area does not play a significant role in the tourism economy for the region. Nevertheless, the rural landscapes of the SWLC area do support a pleasant tourist experience for travelers to popular destinations that are within the Lehigh Valley, such as the Lehigh Valley Velodrome, Dorney Park, Historic Bethlehem, BethWorks (coming soon), and the Crayola Factory. With these destinations accounted for, it can be said of the greater Lehigh Valley region that visitors do not make it a destination for nature-based outdoor activities, as they do in the Pocono region located to the north. It can be asserted then that parks and natural areas of the SWLC area serve to enhance the lives of residents primarily, but also enhance the landscape and environment of the greater Lehigh Valley region while providing some recreational opportunities for residents of the greater region at-large.

Transportation networks further reinforce the SWLC area’s role as a bedroom community to employment areas outside the region, and therefore parks and natural areas serve the resident population. Much of the roadway network that serves the SWLC area is older, having evolved over time to serve an intra-connected population. The boroughs have street systems laid out in grid patterns, which for the most part feed into each borough’s main street; in Emmaus, State Street, Chestnut Street, then Rt. 29; Rt. 100 in Macungie. These are the main arterials that serve the region with connections to Interstate Rt. 78, State Rt. 22, State Rt. 663, and beyond. Routes 29 and 100 serve Upper Milford Township with main routes to locations beyond the region, and carry a large

volume of truck traffic. King's Highway and Vera Cruz Road are carrying higher volumes of traffic through Upper Milford as populations increase. Lower Milford Township is not as well connected into the Lehigh Valley regional highway network, as are the other municipalities. Motorists rely on King's Highway, and Limeport Pike primarily to gain access to Rt. 100/29, Rt. 78, and Rt. 663 (Bucks County) to travel to Interstate Rt. 476, and points beyond the region. These routes are carrying higher volumes of traffic as employment areas and residential areas located outside the township and the SWLC region grow, (i.e. the Rt. 78 corridor and the greater Philadelphia region). Interstate Rt. 476 (the NE Extension of the PA Turnpike) traverses the SWLC region, but there are no access points in the region; the Lehigh Valley interchange is located in Lower Macungie Township, Lehigh County, and the Quakertown interchange is located in Milford Township, Bucks County.

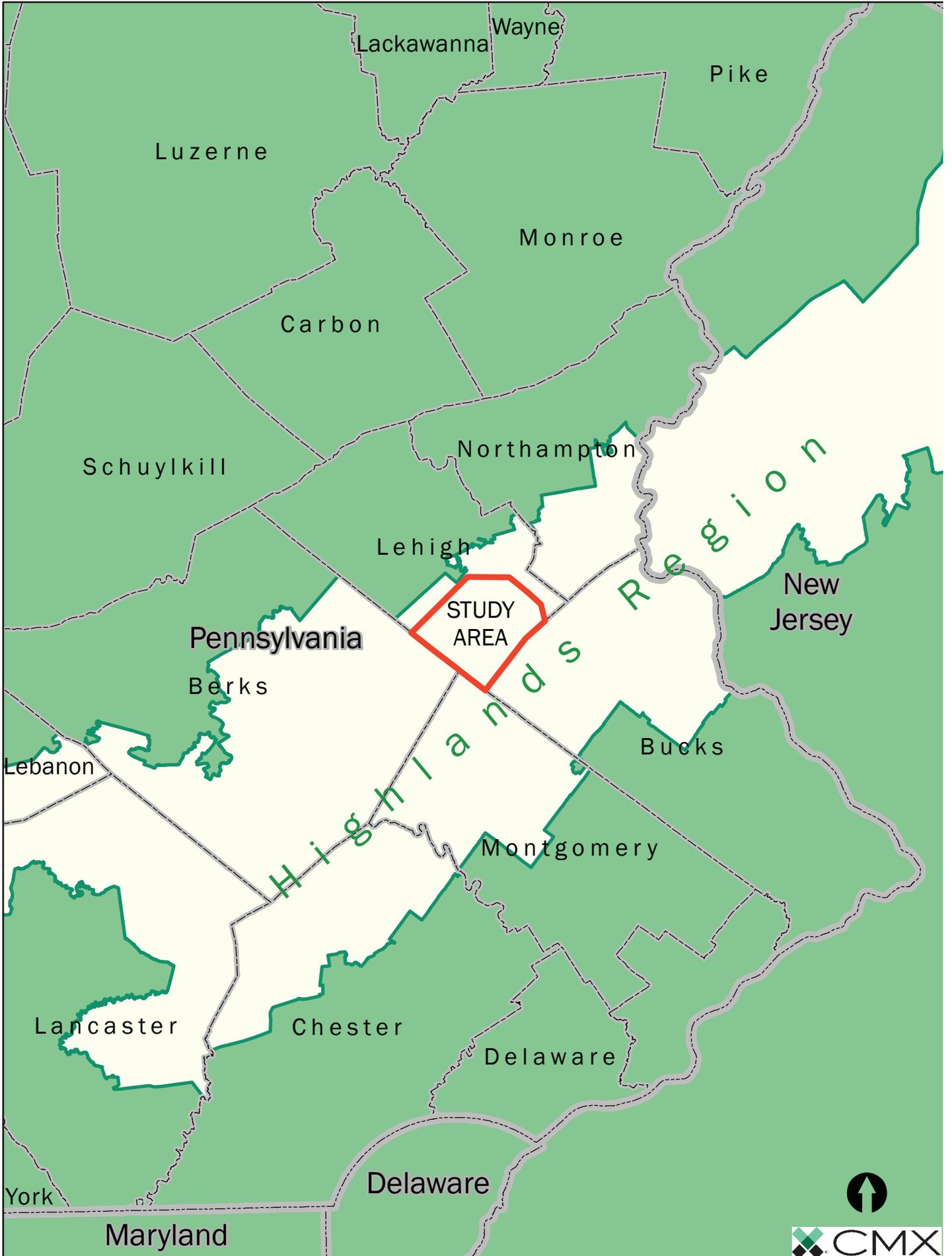
The landscape character of the SWLC area can be summarized as follows. The Boroughs of Macungie and Emmaus can be characterized as "small town" urban centers, having tighter densities than surrounding municipalities, and a full complement of land use types, from industrial to commercial, to multi-family housing, to neighborhoods of single family homes. Emmaus was founded in the mid-1700's as a closed Moravian enclave; however the boroughs were legally established and their history of growth stem from approximately the same time period, the mid- 1800's, with industries related to iron ore and lime extraction, agricultural trade, transportation, and manufacturing. Land development has continued in each borough through to current day. Each has a traditional downtown along a major route, historic architecture, and high occupancy rates in commercial and residential districts. Little land development (except as noted above for the Borough of Macungie) is anticipated in either borough, as each is considered to be "built-out".

Upper Milford Township can be generally characterized as rural, farmland, and natural resource areas, with pockets of denser population. Sections of the township that are adjacent to Emmaus

along Rt. 29, and the northeastern most corner can be characterized as suburban, however. Likewise, Lower Milford Township can be characterized as rural, farmland and natural resource areas. It too has pockets of denser population, cross-road villages and a couple of tract subdivisions. It is currently facing the subdivision of a large tract of land and is feeling pressure for high-end housing development. In the townships is where the bulk of the SWLC area's 9.6% growth between now and the year 2030 can be anticipated to occur. (See Sec. 3.2 Population Trends)

The outlying areas of the Lehigh Valley's core cities, such as the SWLC area play an important role in distinguishing between urban areas and rural areas, especially as outgrowths of Allentown and the greater Philadelphia region encroach further into rural areas. Several vitally important Outstanding Natural Areas exist in the SWLC area; the Nature Conservancy and the Lehigh Valley Planning Commission have identified these. These significant Natural Areas primarily serve to support critical native wildlife, but also protect the viability of natural resources that these communities rely on for sustenance, most significantly, drinking water resources. The existence of native species of flora and fauna life serves as indicators of the relative health of the region's natural ecosystem. The protection through conservation of these habitats enables preservation of these health indicator species and the natural resources they, and the community depend upon. Many recreational pursuits that are increasing in popularity depend on conservation of natural landscapes, such as hiking, bird watching, fishing, and to some extent, bicycling. Protection of natural landscapes also helps with balancing population growth with the relative carrying capacity of the region.

The SWLC area is part of two river watersheds, serving as headwaters for creeks that feed the Lehigh River, and the Perkiomen Creek, which flows into the Schuylkill River. Each watershed has a conservation and management plan, each is summarized in Sec. 2 Compatibility. To gain further understanding of the functions of the land areas that make up a watershed, see Appendix B Elements of a Watershed.



The SWLC area is also part of the Pennsylvania Highlands, an area of Pennsylvania that stretches from the Delaware River at Easton, PA, to the Maryland border southeast of Harrisburg, PA, which has been identified by the PA Department of Conservation and Natural Resources (DCNR) as one of Pennsylvania's major greenway corridors. It is also a major greenway area recommended in the Lehigh Valley Greenways Plan, which is discussed in Sec. 4 Parks Inventory and Assessment.

### 3.2 Population Trends

Table 3.a. below summarizes the relevant population statistics and demographics for the purposes of planning parks and recreation facilities.

Growth in residential population can be expected to continue in the SWLC area. These forecasts are based on data from the Census Bureau and land development trends evaluated by the Lehigh Valley Planning Commission.

This table of census statistics doesn't reflect that subdivision review activity in the Borough of Macungie could likely result in an additional 93 homes, which at an average household size of 2.22 persons, may result in a population gain of 207, raising the population to 3,329, an increase of 6.63% in the Borough, conceivably by 2030. This subdivision will provide lots for single-family homes, and following trends of neighboring

municipalities that also feed into the East Penn School District, families with school-aged children can be expected to be attracted to this new neighborhood.

Official forecasts for Lower Milford Township indicate a substantial increase of population despite the vision for retaining the rural character of this community, as expressed in both the Lehigh Valley Comprehensive Plan and the 2005 Southwestern Lehigh County Area Comprehensive Plan. Municipal leaders intend to temper population growth with a balance of open space while continuing efforts to support and promote agriculture in order to achieve these local and regional goals. Municipal planners are in the process of updating land use and development codes to support these objectives. Further, at the time of this report, there are no public parks and community leaders are keenly aware of the growing demand for recreation space, therefore they are also in the process of drafting the Township's first recreation and open space plan. With this area-wide parks, recreation and open space plan, in conjunction with municipal plans and ordinances in force, the tools needed to protect resources, preserve open space, and add recreational opportunities will be in place. Ultimately these measure are anticipated to curtail forecasted growth.

Although this community is anticipated to grow at a tremendous rate, overall growth for the SWLC area will be slower than the rate of growth for Lehigh County and for the Lehigh

Area	2006 est.	2000 Census	2030 Forecast	% Change 2000-2006	% Change 2006-2030	Pop. <18 yrs. (2000)	% < 18 yrs. (2000)	Pop. > 65 yrs. (2000)	% > 65 yrs. (2000)	# Households (2000)
Emmaus	11401	11313	11351	.78%	-0.44%	2396	21.2%	2166	19.1%	4985
L. Milford	3881	3617	5907	7.3%	+52.2%	907	25.1%	415	11.5%	1277
Macungie	3122	3039	3111	2.7%	-0.35%	622	20.5%	407	13.4%	1366
U. Milford	7459	6889	7974	8.3%	6.9%	1672	24.3%	845	12.3%	2514
SWLC Total	25863	24858	28343	4.0%	9.6%	5597	22.5%	3833	15.4%	10142
Lehigh Co.	335544	312090	399721	7.5%	19.1%	74684	23.9%	49434	15.8%	121906
Lehigh Valley	626850	579156	767856	8.2%	22.5%	136951	23.6%	91464	15.8%	223447

Source: Municipal Profile & Trends, Lehigh & Northampton Co's., LVPC, May 2008

Table 3.a Population Trends

Valley region. The opportunity exists to accommodate population growth while promoting natural resource conservation and improving the region's park system, thus setting the stage for meeting new demand in a rational, responsive manner.

Over 20% of the population is younger than 18 years of age, based on the 2000 Census, and it can be anticipated that this trend will continue given the strength of the East Penn School District, the housing stock and household composition trends. The type of demand this population places on a park systems is for active, and organized active recreation. This age cohort also places new demand on the school district and its athletics, which depend on the Borough of Emmaus for many of its fields for practice space. With suburban growth occurring in the communities served by the Southern Lehigh School District, similar pressures on the schools and available ball field space can be anticipated in those communities, including Lower Milford Township.

Growth in Lower Macungie Township must be noted here regardless of whether or not this municipality joins the SWLC Area Park, Recreation, and Open Space Plan. As one of the Lehigh Valley's fastest growing communities, it can be expected to reach a population of 42,193 by 2030, a 50% increase over the 2006 population estimate for the township. This tremendous growth can be expected to increase demands on existing park facilities, especially in Emmaus and Macungie, primarily resulting from increased numbers of school-aged children.

### **3.3 Land Use, Development Trends**

Table 3.b. indicates the land use patterns of the SWLC area according to generalized land use categories. Overall the SWLC area is 53% Agriculture/Vacant. This is primarily because Lower Milford Township is 67% Agriculture & Vacant, and Upper Milford Township is 47% Agriculture & Vacant. Total land area for the SWLC region is 26,490.7 acres, of which 970.8 acres is categorized as Parks & Recreation (3.7% of the total area). The Borough of Emmaus consists of 11.4% Parks & Recreation, while the Borough

of Macungie is 30% Parks & Recreation, Upper Milford Township is 2.9% Parks & Recreation, while Lower Milford can be considered to have 1.8% of its land area in Parks & Recreation. This generalized accounting of land used for Parks & Recreation will be further explored in Section 4 Parks Inventory and Analysis, of this report. The Residential land use category in this snapshot is generalized for all densities; in the boroughs, generally residential areas have higher densities than those in the township. Upper Milford Township's higher residential densities are located near the boroughs of Emmaus and Macungie.

With the population increases forecasted (as previously reported) a change in character of the landscape appears to be on the horizon. With careful planning for growth, reserving space for parks and for natural resource conservation can be accomplished. It is also possible that a robust agricultural economy will continue to thrive and the rural character can continue. The Lehigh Valley Planning Commission classifies the municipalities of the SWLC area as follows: the boroughs of Emmaus and Macungie are Urban; Upper Milford Township is Suburban; and, Lower Milford Township is Rural. The classifications are based on observed land use patterns and population densities; in distinguishing between suburban and rural townships, LVPC uses as a threshold a population density of 350 persons per square mile. In terms of the Lehigh Valley General Land Use Plan, all of Emmaus and Macungie boroughs are forecasted for Urban Development, as is nearly 1/5 of Upper Milford Township. The portion of Upper Milford that is considered Urban Development, and supports the density that classifies it as a Suburban municipality is adjacent to Emmaus and Macungie boroughs and has followed the trends that have changed Lower Macungie Township over the past two decades. The remaining 4/5 of Upper Milford Township and all of Lower Milford Township are forecasted for Rural Development, Farmland, and Natural Resources. These general land use categories are fully described in the Comprehensive Plan, The Lehigh Valley: 2030 adopted in 2005.

Policies and Implementation measures recommended by LVPC in support of Parks

Table 3.b. General Land Use Trends

(in Acres)	Lehigh Valley	Lehigh County	SWLC Area	Emmaus	L. Milford	Macungie	U. Milford
Residential	119886.9	57004.6	8773.8	780.2	3049.2	234.3	4710.1
Commercial	9771.7	5554.4	268.5	118.6	52.2	24.2	73.5
Industrial	14932.8	6816.2	224.9	85.3	5.3	68.5	65.8
Warehousing	2070.3	1493.1	10.1	4.7	0.0	0.0	5.4
Utilities/Infrastructure	38076.5	19425.9	1849.5	416.8	667.6	89.0	676.1
Public/Quasi-Public	12304.1	6392.4	431.0	101.8	181.4	28.7	119.1
Parks & Recreation	37205.9	18645.2	970.8	205.9	229	208.8	327.1
Agriculture/Vacant	230039.1	107548.1	13995.9	101.4	8435.1	33.4	5392.3
Totals	464287.3	222879.9	26490.7	1814.7	12619.8	686.9	11369.4

Source: Municipal Profile & Trends, Lehigh & Northampton Co's., LVPC, May 2008

and Recreation include: reuse of under-used sites, and priority in site selection for athletic facilities in boroughs; and, official map adoption to help reserve sites for future parks, and public investment in open space acquisition for Suburban and Rural townships. Policies of the LVPC Comprehensive Plan support the adoption of multi-municipal plans for land use and parks, recreation and open space planning. Where such plans can support urban initiatives (like Main Street and Elm Street programs, and redevelopment projects) and concurrently promote farmland preservation and natural resource conservation, the land use goals of urban and rural communities can be met.

In 2005 the SWLC area competed a multi-municipal comprehensive plan, as noted before. The land use patterns and forecasts of this plan are generally consistent with the LVPC Regional Comprehensive Plan. This plan provides greater detail, and allows the participating municipalities to adopt land use codes that take advantage of provisions of the MPC that encourage “sending” density to locations that can support development due to existing infrastructure and reinforce redevelopment goals, while maintaining lower densities in rural areas of adjoining municipalities. In addition to the four municipalities participating in this Parks, Recreation, and Open Space Plan, the SWLC multi-municipal comprehensive plan includes the Borough of Alburtis and Lower

Macungie Township.

As noted above, Lower Macungie Township is one of the fastest growing municipalities in the Lehigh Valley region. As Lower Macungie Township grows in population, its major transportation corridors are where the area is seeing new commercial retail, service and office land use development, along Rt. 100 and Rt. 222. This marketplace occurrence along with the ability of SWLC municipalities to “zone-out” commercial land uses, afforded under the provisions of the MPC because they are part of a multi-municipal comprehensive plan, affectively reduces the demand for commercial land uses in Upper Milford and Lower Milford Townships.

Presently Lower Milford Township is in the process of updating its zoning ordinance to take advantage of this provision; it is also developing provisions for rural-compatible land uses, and natural resource conservation measures. Upper Milford is without extensive public utility infrastructure and is naturally difficult to develop due to wetlands, steep slopes, shallow water table and other limiting factors.

Both townships have for a long time placed a high value on agriculture - as it is a rural-compatible land use, and they have supported agricultural conservation through designation of Agricultural Security Areas, and through the Lehigh County Agricultural Conservation Easement program, as

well as adopting reinforcing zoning ordinances. Each of these municipalities has pockets of dense development, older crossroad villages and tract subdivisions, which are recognized as growth receiving areas within their boundaries.

An overarching goal of the 2005 Multi-Municipal Comprehensive Plan is to reinforce the existing centers of population of the region, particularly the boroughs where utilities and other density-supporting infrastructure exist. Under provisions of the MPC, these areas can be considered “receiving areas” under a regional zoning ordinance for commercial, industrial and denser forms of residential development, as customarily found in urban settings.

Another overarching goal of the 2005 Multi-Municipal Comprehensive Plan is to protect the rural character of the surrounding areas, conserving natural areas and supporting agriculture as viable to the regional economy. Success has been met in Lower Milford Township and Upper Milford Township in supporting farming through use of the Agricultural Security area, which has resulted in the easement of development rights on many farming tracts through the Lehigh County Agricultural Conservation Easement Program. Rural and agricultural land uses that have continued and prosper include niche farming activities such as horse farms, organic farming and smaller scale produce production that supports farmers markets and specialty restaurant and food production trade, Christmas tree farms, to name a few types.

At this time there are no plans for a multi-municipal zoning ordinance, or subdivision and land development ordinance that would take into account and enable the goals and objectives of the 2005 Comprehensive Plan. Rather, each municipality may undertake ordinance revisions and/or updates, in its own timing; Lower Milford Township is currently in process of drafting new land development ordinances.

### **3.4 Natural Resources**

The SWLC Area is fortunate to have significant natural resources remaining. Concerns are raised by forecasts of population growth. Through proac-

tive measures, a balance can be met in reserving open space while allowing appropriate land development. This section provides an inventory of the natural resources to be found in the SWLC Area, which aids in making the case for protection and appropriate recreation planning. Within this section, the following resources are described and summarized:

#### 3.4a. Outstanding Natural Features

#### 3.4b. Surface Water Resources

#### 3.4c. Land Resources

#### 3.4d. Biotic Resources

The Lehigh Valley Planning Commission’s Natural Resources Plan, as found in the Comprehensive Plan: the Lehigh Valley 2030, and the Lehigh Valley Greenways Plan: A Regional Greenways Plan for Lehigh and Northampton Counties recommends protection of land areas that are important because they support ecological functions that are important to preserving a high quality natural environment. Nine of the eleven Natural Resource Weighting Factors (natural resource elements) used to qualify areas are present in the SWLC area. (The other two natural resource elements are Blue Mountain Natural Area, and River Resource Areas, 300 ft. buffer areas of the Lehigh and Delaware Rivers) The rated natural elements that are present in SWLC include:

#### *Natural Areas*

- Statewide Significance County Ranking 1 & 2
- Statewide Significance County Ranking 3 – 5
- Local Significance

#### *Water Quality*

- HQCW Fisheries
- CW Fisheries
- Trout Stocking

#### *100-year Floodplains*

#### *Wetlands*

#### *Hydric Soils*

- Major Components
- Inclusions

*Steep Slopes*

- Over 25%
- 15% - 25%

*Woodlands*

- 25+ acres
- 2 – 25 acres

*Interior Woodlands*

- 500 acres
- 100 – 500 acres
- 25 – 99 acres

*Riparian Woodlands of 100 ft. buffer or greater*

The weighting factors range in value from 2 to 7. The presence of each element in a land area is assigned a weighting factor accordingly and the values are added up to create prioritization guidelines. Areas receiving overall ranking of 10+ are considered “Very High Conservation” areas; areas with a score of 7 – 9 are considered “High Conservation” areas; those areas receiving a score of 4 – 6 are “Medium Conservation” areas. The priority rankings help focus preservation efforts toward those areas where the greatest concentration, combinations and quality of natural resources are present. Very High Conservation Priority areas are to be given first consideration for public and private conservation acquisition programs. High Conservation Priority Conservation areas should be considered for acquisition if they are part of a larger identified natural feature associated with a Very High priority area, though many of these features can be protected from dramatic changes using municipal land development ordinances. Medium Conservation Priority Conservation areas can and should be protected through the use of effective land use and development ordinances (SALDO and Zoning).

Lower Milford Township has a large concentration of Conservation Priority areas, a large portion of which are considered Very High Conservation Priority areas. These areas are associated

with the Outstanding Natural Feature Sites found there (see table 3.c) associated with the Hosensack Marsh and other Upper Perkiomen Creek headwater features. Upper Milford Township has Conservation Priority areas as well, though a balance of Medium and Very High Priority areas are found there, primarily within the area known as the Indian Creek Floodplain, and Macungie Watershed. The Borough of Emmaus is touched by the Robert Rodale Reserve, where the South Mountain Preserve meets the Borough at Alpine Street near Borough Line Park.

### 3.4.a Natural Areas Inventory, Outstanding Natural Features

In 1997 the Lehigh Valley Planning Commission, in conjunction with the Pennsylvania Science Office of The Nature Conservancy (TNC) completed the first Natural Areas Inventory report for Lehigh and Northampton Counties; an update was issued in 2005. This report is a survey and inventory of the known outstanding native and natural features – plant communities, wildlife, and geological - within the Lehigh Valley region. It includes maps of the best natural habitats and all the known locations of animal and plant species of special concern (endangered, threatened, or rare) within the two county area. The report also includes recommendations for promoting protection of these unique and critical landscapes. The information included adds to the Pennsylvania Natural Diversity Index.

It is fortunate that the greater Lehigh Valley region has many remaining unique natural features and land areas that support a diversity of native flora and fauna, as they are indicators of not only environmental health for the community at-large, they also have the potential to provide close-to-home opportunities for enjoyment of natural open space if managed properly. These natural features are cited in several regional planning and conservation management documents, raising their profile and highlighting the importance to promote their conservation. In particular the Lehigh Valley Greenways Plan make an effective case for protection, for both human activities and for ecological functions.

Table 3.c. Outstanding Natural Features Sites in the SWLC Area

Natural Site	Municipality	TNC Priority Level	Qualifying Features
Robert Rodale Reserve	Emmaus (also Salisbury Twp., and Allentown)	Statewide Significance (Level 1)	The site includes a fair to good quality Northern Appalachian Circumneutral Seeps Natural Community and two plant species of special concern. It also includes several vernal pools which are important breeding habitat for amphibians.
Hosensack Marsh	Lower Milford	Statewide Significance (Level 1)	This site includes areas of marsh and shrub swamp. The site has been disturbed. Some of the habitat-created disturbances may be benefiting the rare species that occur here. The site supports a fair to good example of an animal species of concern.
Indian Creek Floodplain	Upper Milford (also Lower Macungie Twp.)	Statewide Significance (Level 1)	This site includes areas of floodplain forest and open marsh along the floodplain of Indian Creek. Evidence of PA-endangered animal species observed.
Macungie Watershed (aka Swabia Creek Watershed)	Upper Milford Macungie (also Lower Macungie Twp.)	Statewide Significance (Level 1)	The site includes a fair to good quality Northern Appalachian Circumneutral Seeps Natural Community. The seeps have the potential to support several state plant species of special concern.
Lower Milford Marsh	Lower Milford	Statewide Significance (Level 4)	This site is a fair to poor quality Basin Graminoid-Forb Fen Natural Community. It has potential for several species of concern including both plants and animals.
Big Beech Woods	Lower Milford	Regional Significance (Medium)	This site is a southeast-facing slope along Hosensack Creek with a maturing second-growth forest. Some of the trees are over two feet in diameter - most similar, mesic sites in the county are agriculture or younger woodland. Protecting the site would allow natural community to mature, as well as benefit water quality of Hosensack Marsh.
Mill Hill	Lower Milford	Regional Significance (Medium)	This site is a several mile long diabase ridge which is partly in both Lehigh and Montgomery counties. It has extensive diverse second growth forest with good potential for several plant species of special concern.
Source: Natural Area Inventory, Lehigh and Northampton Counties; LVPC & TNC, 1999			

Table 3.c is a list of the sites that are located in the SWLC area that are included in the Natural Areas Inventory. Their approximate locations are indicated on Map 4, Watersheds and Natural Resource Inventory Sites of the Natural Resources section. They are ranked for their statewide and local importance, based on the quality/richness of the habitat, the variety of species the habitat supports, and the endangered status of the species supported. Details, justifications, and recommendations are contained in the report.

Protection of these habitats benefits wildlife and humans, as conservation of these resources promotes healthy ecological functions. Careful planning for conservation is important if parcels located within these natural areas are proposed

for any type of development. Public acquisition or land conservancy easements can be alternatives for protection (these measures are recommended in the Natural Areas Inventory based on significance ranking); if protected as public parkland, it is imperative that care be taken to balance land management for appropriate, low environmental impact types of recreation with protection of critical habitats.

### 3.4.b Surface Water Resources

Surface waters of the SWLC region can be characterized as headwaters and first order streams for the river systems they feed. As such, maintaining water quality is critical because these source waters affect the quality of water along every reach downstream. The streams listed in the

Table 3.d. Waterways of the SWLC Area

Basin	Sub-Basin	Watershed	Stream	Water Quality Designation	Municipalities
SCHUYLKILL	Perkiomen Upper Main Branch	Perkiomen	Perkiomen	HQ Cold Water Fishery	Upper Milford
		Hosensack	Indian	Cold Water Fishery	Upper Milford, Lower Milford
			Hosensack	Cold Water Fishery	Lower Milford
		Macoby	Macoby	Trout Stocking Fishery	Lower Milford
		Unami	Schmoutz	HQ Cold Water Fishery	Lower Milford
			Licking	HQ Cold Water Fishery	Lower Milford
Un-named trib.	HQ Cold Water Fishery		Lower Milford		
LEHIGH	Little Lehigh	Saucon	Saucon	Cold Water Fishery	Lower Milford
		Swabia	Swabia	HQ Cold Water Fishery	Macungie
			Leibert	HQ Cold Water Fishery	Upper Milford
Source: Southwestern Lehigh County Comprehensive Plan, 2005					
Source: Comprehensive Plan Lehigh Valley 2030; LVPC, 2005					
Source: Upper Perkiomen Watershed Conservation Plan; Upper Perkiomen Watershed Coalition, 2003					

table below provide habitat for diverse species of wildlife; the waters of some these streams ultimately feed main stem creeks that supply drinking water for communities. Many downstream reaches of these creeks support recreational fishing, providing a fairly unique experience in an urbanized region.

Water quality designations are determined by the Pennsylvania Department of Environmental Protection and the PA Fish Commission, as provided by Chapter 93, Protected Water Uses Water Quality Standards. The designations assigned to streams in SWLC indicate support of aquatic life, and are as follows:

- **HQ Cold Water Fisheries:** High Quality Cold Water Fisheries exhibit excellent quality waters and environmental or other features that require special water quality protection.
- **Cold Water Fisheries:** Maintenance and/or propagation of fish species including the family Salmonidae and additional flora and fauna that are indigenous to a coldwater habitat.
- **Trout Stocking Fishery:** Maintenance of stocked trout from February 15 to July 31 and maintenance and propagation of fish species and additional flora and fauna that are indigenous to a warm water habitat.

Although the municipalities of the SWLC are

politically aligned with the two county Lehigh Valley region, a major component of the Lehigh River Basin, over half of the SWLC area is within the Schuylkill River Basin. Draining to the Lehigh River is an area encompassing approximately 16.1 square miles, whereas an area of 25.3 square miles flows into the Perkiomen Creek feeding the Schuylkill River. Both river basins are listed on the Pennsylvania Department of Conservation and Natural Resources Rivers Registry, each having watershed conservation management plans approved by the agency. Both river watershed basins are major components of the Delaware River Basin, regulated by the Delaware River Basin Commission. All feed the Delaware River and eventually empty into the Atlantic Ocean between New Jersey and Delaware.

### 3.4.c. Land Resources

Land is a finite, non-renewable resource that can never fully recover once degraded. Land and water resources are intertwined so that whatever happens to the land will also impact water and biotic resources. Therefore, land resources should be protected not only for their production value (agriculture, forests, and meadows) but because inappropriate uses and poor maintenance practices can lead to the degradation of water resources, wildlife habitat, and plant resources.

### *Geology and Geologic Features*

The geology of the Region influences a number of physical attributes, including slope, erosion and stability properties, and groundwater yield. The Region's geologic composition can be divided into three categories: New England Province and Piedmont Province/Gettysburg-Newark Lowland Section.

The New England Province has one section known as the Reading Prong and consists of isolated hills and ridges divided by stream valleys. This area is characterized by such local features as Lehigh Mountain and South Mountain, and runs generally along the southern part of Lehigh and Northampton Counties just south of the Lehigh River. This province is part of a larger mountain range called the Highlands, which extend from eastern Pennsylvania north through New Jersey and New York into northwestern Connecticut. Most of the Southern Lehigh Region is found in this province.

The Piedmont Province/Gettysburg-Newark Lowland Section is a fertile area of rolling topography and gradually sloping stream valleys located along the southern tier of the Highlands. This area makes up the southern tip of the Southern Lehigh Region.

Carbonate Geology also underlies parts of the Region, primarily along the northern and western edge including the northern end of Upper Milford and Lower Milford and parts of Emmaus and Macungie. Given the fact that carbonate rocks are highly susceptible to dissolution and cracking, these areas require special regulation to address potential stormwater problems and changes in underground bedrock from poorly designed surface development.

#### *Topography and Steep Slopes*

The Region is located at the northern tier of the Piedmont Plateau. The Plateau, located to the east of the Appalachian Mountains, is characterized by gently rolling foothills and gradually sloping stream valleys. The topography of the Region was shaped by geologic uplifting and folding as well as the erosion of sedimentary deposits. Most of the Region's hills and ridgelines run from west-

southwest to east-northeast.

For the purposes of this Plan, steep slopes are considered to include any land with a slope of 15-25 percent. Concurrently, very steep slopes are those of 25 percent or greater. Steep slopes in the Region are concentrated primarily along upper order stream corridors.

Steep slopes of 15 to 25 percent or more commonly border stream valleys. Steep slopes have shallow soils and are very vulnerable to erosion, particularly when vegetation has been disturbed. Once erosion has begun, it is difficult and expensive to control. Erosion of steep slopes tends to spread along the side slopes, eventually threatening larger areas and multiple properties. Maintaining wooded or otherwise vegetated steep slopes provides a natural system of erosion protection, as well as a location for valuable wildlife habitat.

Limiting development on steep slopes is important for preventing soil erosion, minimizing pollution of surface water resources, reducing flooding, preserving stream banks, and maintaining water flow in headwaters. Improper development of steep slopes can also lead to higher construction costs (including significant engineering), increased rates of septic system failures (as cited in DEP regulations governing slope limitations for septic systems), and increased stormwater runoff. The ideal condition would be to maintain steep slopes under a dense forest or meadow cover to prevent erosion, stream sedimentation, and other problems associated with their disturbance.

#### *Soils*

There are 32 soil associations underlying the vast natural resources of the Southern Lehigh Region. Three of these associations are considered Urban Land and one additional "soil" which is shown as Water.

The types of soils in a given location will influence the types of vegetation, the infiltration capacity, and can be an indicator for specific resources such as areas of wetland or floodplain. In addition, they can signify what soils are classified

as prime agricultural soils, as discussed further in the Agricultural Resources section below.

### 3.4.d Biotic Resources

Biotic refers to the plant and animal life of the Region and their habitats. This section discusses the importance of maintaining natural diversity and describes major habitat areas in the Region.

#### *Riparian Forest Buffers*

The preservation of an undisturbed forest along a stream corridor, known as a riparian forest buffer, has many benefits to a stream's overall condition. While riparian forest buffers may be considered a biotic resource, these areas host a complex ecosystem that influences and benefits water resources as well. The benefits of ripar-

ian order, and condition of a given stream corridor and regulated (in terms of required size and limits of disturbance) through a municipality's zoning ordinance. Areas that can be designated as riparian forest buffers are located through the Region adjacent to every natural body of water within the Region's boundaries: first, second, and third order streams, wetlands, and ponds. Riparian forest buffers along first order streams should be given special consideration based on the attributes of these headwater areas.

#### *Woodland*

There are several significant wooded areas scattered throughout the Region. Concentrations of undisturbed woodland are located primarily in Upper Milford and Lower Milford Township, with

	<b>Canopy Trees</b>	<b>Understory Trees &amp; Shrubs</b>
<b>Deciduous Trees in Upland Areas</b>	Red, White, Black, Scarlet, Chestnut Oaks; Mockernut, Bitternut, Pignut, and Shagbark Hickories; American Beech; White Ash; Tulip Poplar; Black Locust; Black Birch, Nyssa	Flowering dogwood; Sassafras; Ironwood; Spicebush; Blackhaw, Mapleleaf, and Arrowwood Viburnum;
<b>Deciduous Trees in Riparian Zones</b>	Red and Silver Maples; Sweet and Black Gum; Red Ash; Eastern Sycamore; American Basswood; Black Willow; River Birch	Silky Dogwood; Box Elder; Common Witch Hazel; Spicebush; Northern Arrowwood Viburnum
<b>Evergreens</b>	Eastern Red Cedar; White Pine, Douglas Fir; Hemlock; Virginia (Scrub) Pine	

Table 3.e Typical Trees and Shrubs of the Region  
 riparian buffers include: prevention of erosion and sedimentation, filtration of nutrients and other chemicals, habitat preservation, protection of water quality, provision of open space and areas for recreation, enhancement of property values, and temperature moderation. The structure of a riparian buffer can be divided into three parts: the undisturbed forest, managed forest, and filter (grasses) zone. The preservation of riparian forest buffers is vital along areas of agricultural, residential, or industrial uses where activity and disturbance along the stream corridor is generally quite significant.

Unlike wetlands or floodplains, riparian forest buffers are not a mapped resource within an accepted coverage or designated boundary. Riparian forest buffers are calculated based on the size,

larger concentrations in Lower Milford Township.

Lehigh County is located in the eastern deciduous forest biome, a large ecological community. Within this biome, the forests of the SWLC Region, and the wider Lehigh County area, are part of the mixed deciduous association forest. This forest association produces large amounts of mast (nuts) and is exemplified by the species shown in Table 3.e. Not all species included in the table are recommended species.

Woodlands of the Region are highly varied in composition, maturity and species. The more mature woodlands occur in greater size and offer the best opportunity for wildlife habitat and ecosystem protection. In general, the older, more mature woodlands are found on the steep slopes while younger forests are more common in low-

land areas. This is due to the history of land use in the SWLC region, where clearing for farming, logging, and other industries has taken place.

*Hedgerows (Fence Rows)* - Hedgerows are one of the most important features in the agricultural landscape and, judging by the general decrease in quality and quantity, are one of the least understood. Hedgerows, or thickets, are typically found along and define property lines, and lining roads, protecting small streams and drainageways, defining pastures and fields in the interior of a single property. Hedgerows function as windbreaks and absorb drainage; this helps to impede soil erosion maintaining viability of adjacent agricultural lands, and protecting stream from degradation from streambed changes, and they stabilize stream banks. Hedgerows are important wildlife corridors, providing habitat, and protection for nesting.

*Native Vegetation* – Native or indigenous vegetation refers to vegetation that currently or previously inhabited or grew in a specified location, and which was not introduced to that location as a result of human activity. Native species are adapted to environmental conditions of an area such as climate, soils, topography, winds, precipitation, wildlife, and other living organisms. Plant species that are native have attributes suited for survival in the local conditions, such as hardiness, soil requirements, and resistance to biological disorders, drought, and flooding. Although there are native invasive plant species, their spread-rate is mostly limited in comparison with non-native invasive plant species.

As is the case throughout much of the Lehigh Valley, and SE Pennsylvania, woodlands, hedgerows, and meadows are being overrun by aggressive, introduced non-native species, generally speaking, initially introduced into urban environments as landscaping. Characteristics of these non-native species include a rapid growth rate, adaptability, high reproduction rate, and a lack of control mechanisms in the local environment, and they've been easily spread by bird species, and wind to outlying, rural areas, and were/are grown as landscape stock in rural areas. Species including the Norway Maple, Multiflora Rose, Autumn Olive,

Oriental Bittersweet, Japanese Honeysuckle, Mile-a-Minute Weed, Japanese knotweed, various European honeysuckle, Barberry, Winged euonymus, Garlic mustard, and Japanese stilt grass, are invading areas where the existing native species have flourished, and are becoming dominant through the County and the SWLC region. While they provide limited cover and food for some wildlife, introduced invasive species have displaced much of the native vegetation, resulting in a reduction of plant and wildlife diversity.

Native plants have several benefits over exotic species and they include: Adaptation to local temperature, humidity and precipitation; less susceptibility to local insect and disease problems; encouragement of natural or biological diversity; and biological processes among living organisms.

### **3.5 Agricultural Resources**

Agriculture is both a principal land use and natural resource that helps maintain the area's rural character. There is a tension, however, between farming as a continuing viable industry, and the residential development pressure throughout the Southwestern Lehigh County area. This section identifies and defines the principal agricultural resources – prime farmland and prime agricultural soils; and how agriculture itself (as a land use) is a resource throughout the Region. In addition, this section discusses how the local farming community continues to foster a relationship with residents. Appendix C includes a section that explores some of the programs available to help landowners continue farming. Agricultural preservation should be considered and balanced with natural, historic, and scenic resources protection efforts to maintain the area's rural character. More importantly, the continuation of agriculture as a viable economic sector in SWLC should be explored in-depth, set apart from this plan for parks, recreation, and open space.

The issues surrounding agriculture are varied and complex. Through surveys the residents of the Lehigh Valley have expressed support for the continuation of agriculture in the region. The economics of farming are far more complex than simply addressing it from a land use perspec-

tive, however. There need to be viable economic markets (demand). Preservation of agricultural resources is an important consideration in the planning process because it helps ensure efficient use of valuable natural resource - soils, and is an indicator of the area's economy and culture. The preservation of this resource, like the other natural resources in this Plan, must be considered against continued development pressure so that the area can maintain a balance between its agrarian past and its future. There are many entities and the programs that support farmland preservation, these have been included in Appendix C .



Demand for local produce is increasing, and the agricultural community is playing a role in town revitalization. The SWLC area, as well as the greater Lehigh Valley region are renewing a "farm to market" ethic. The popularity of farmers markets has grown throughout the region. These are being held in the various business districts of the cities and boroughs, including the boroughs of Emmaus and Macungie. Many of these markets are part of Main Street programs that are spurring resurgence of interest in downtown shopping districts. The markets also increase awareness of the region's agriculture. For these to succeed there needs to be enough farming in the region to supply fresh produce and other farm produced goods. This is only one means of fostering the demand for local produce however, there needs to be a concerted effort to raise the demand to a sustainable level.

This plan, together with the 2005 SWLC Area Comprehensive Plan, begin to establish an area-wide agricultural preservation policy. To promote preservation, municipalities that make up the area should continue to: implement agricultural preservation initiatives established for Lehigh County; prepare a Farming and Agricultural Resources Plan for the SWLC area; and implement

the recommendations in the SWLC Area 2005 Comprehensive Plan. These give each municipality the policy basis upon which to promote regulatory changes (with the focus on zoning and land development ordinances) that support agriculture as a viable industry.

To further agricultural preservation efforts on an area-wide basis, preservation policies should be implemented at the municipal level and coordinated with the SWLC area. Coordinated municipal preservation



policies will indicate continued support for agriculture and will potentially enable the SWLC area to influence county or state agricultural policy. At the very least, coordinated area-wide policies will help members

of the SWLC area pursue preservation activities. This usually services to reduce opposition and to elicit support when the SWLC area and/or individual municipalities initiate preservation programs and strategies.

#### *Agricultural Resources Components: Prime Farmland and Prime Soils*

Prime farmland and prime agricultural soils are the resources of agriculture. The following subsections examines these components of agriculture.

#### *What is Prime Farmland?*

The United States Department of Agriculture defines prime farmland as:

(L)and that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses (the land could be cropland, pastureland, range-land, forest land, or other land, but not urban built-up land or water). It has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when

treated and managed, including water management, according to acceptable farming methods. In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing seasons, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. They are permeable to water and air. Prime farmlands are not excessively easily eroded or saturated with water for a long period of time, and they either do not flood frequently or are protected from flooding.

Prime farmland is determined on a site-by-site basis, and is a subjective determination, therefore it is not possible to map or depict this resource for the SWLC area. The conditions stated in the definition above would indicate, however, that the SWLC area does contain areas of prime farmland. A strong indicator, however is the number of farms that have been protected through State of Pennsylvania and Lehigh County Agricultural Conservation Easements, particularly in Lower Milford Township where over 2,700 acres have this protection. In Upper Milford Township, over 350 acres of farmland have been protected through conservation easements.

*What are Prime Agricultural Soils?*

Municipality	No. Farms	Total Acres
Lower Milford Twp.	36	2779.2
Upper Milford Twp.	9	355.8

Prime agricultural soils, a component of prime farmland, are plentiful in the SWLC area. Prime agricultural soils are designated as bearing productivity rating of Class I, II, and III by the USDA Soil Conservation Service (see Appendix D for a list of the prime agricultural soils found in the SWLC area):

- Class I soils have few limitations that restrict their use for farming and, therefore, are considered the best for agricultural purposes.
- Class II soils have some limitations that re-

duce the choice of plants (crops) or require moderate conservation practices.

- Class III soils have more severe limitations that reduce the choice of plants (crops), require special conservation practices, or both, and are included as prime agricultural soils by Commonwealth designation as agricultural soils of statewide importance.

Soils not classified as Class I, II, or III are generally less productive and are often located in areas of floodplains, wetlands, or steep slopes and are often used for pastureland rather than for cropland. Class IV soils, while not defined as prime agricultural soils, are recognized statewide as important. Class IV soils count toward the minimum requirements for the Commonwealth of Pennsylvania, which requires that farm tracts have at least 50% of soils available for agricultural production and are of capability classes I-IV.

*Why are Prime Agricultural Soils Beneficial?*

Prime agricultural soils are beneficial because they produce the highest crop yields with minimal inputs of energy and economic resources. Prime agricultural soils require less irrigation and have better natural drainage than other soil types. Therefore, farming lands of prime agricultural soils yields the least damage to the environment.



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## Section 4

# Parks Inventory and Assessment

This section presents inventories of resources and facilities that provide opportunities for recreation and other leisure-time pursuits located within the SWLC area. Also included in this section are inventories of historic and heritage resources, privately held open space sites that are used for recreation, and proposed greenways. All of these resources support the concept of “open space” for parks and recreation, and other leisure time activities. They are noted on the series of maps presented in Section 5 Green Infrastructure. It is important to note that the streams of the SWLC area provide recreational fishing, many of which are classified as High Quality, Cold Water Fisheries, (see Sec. 3.4.b Table 3.d.) Listed as part of the natural resource report, protection of surface watercourses in the SWLC area, allows this activity to continue, protects water quality for downstream fisheries, and provides important habitat for wildlife.

With the exception of those recreational resources that are actually built structures (like the Macungie Institute, and the various historic buildings) parks and other outdoor recreation sites provide open space that the public derives a level of enjoyment from. As will be revealed here, there is actually very little publicly- owned and land trust/conservancy- owned open space in the Southwestern Lehigh County region. There have been tremendous strides and Lehigh County investments in protecting farmland, as is revealed by the number of agricultural conservation easements, and the large amount of acreage this success represents. Conservation easements go a far way to ensure the rural character of the region, allowing confidence that there is protection from dramatic changes to the landscape (i.e. from farmland to suburban housing) while a tract of land remains in private ownership.

The distinction between publicly- and conservancy/land trust- owned open space vs. privately held open space (in absence of development easements) is important to highlight in this report. Publicly owned land, and conservancy or land trust owned tracts provide open space in perpetuity, whereas lands that are privately held that do not have conservation easements protecting them are vulnerable to change and thus no longer provide the open space that is generally enjoyed by the public. The residents of the area and the greater Lehigh Valley region benefit from the green space afforded by rural land uses that are abundant in Lower and Upper Milford townships, directly and indirectly. In light of there being a tremendous wealth of important natural features for which protection is recommended in several regional planning documents, it becomes imperative to establish a “green infrastructure” for the SWLC region that supports local desire and regional recommendations.

### 4.1 Public Parks & Recreation

Of the over 900 acres devoted to park land in the SWLC area, other outdoor recreation, and open space (not including agricultural lands whether protected by agricultural conservation easements or not), a total of 121 acres are publicly-owned by the municipalities of the SWLC area for the purpose of providing for public recreation, and of that acreage only 90 acres are developed for active recreation. All of the municipalities within the SWLC area rely on space owned by others (typically not-for-profit owners) to complete a full complement of active recreation space. Even with these non-public spaces adding to the full acreage available, through surveys and interviews it has been reported that scheduling has become difficult to balance to meet all demand for field space for all organized youth leagues.

Table 4.a below lists the publicly-owned parks and recreation facilities by municipality. It is important to note the following observations. Macungie Memorial Park, a space that is crucial to the Borough of Macungie for Community Park space, and can be qualified as providing for some Regional Space needs, is not listed here because it is owned by a not-for-profit organization. Macungie Borough does own, and supports the management of Macungie Institute, a facility used for indoor recreation, including scout group meetings, fitness classes, and other classes, of special note it houses the Macungie Historical Society's Local History Museum; it provides for leisure-time pursuits on a regional basis, though this facility is not serving as a traditional community center, as it does not provide space for indoor sports nor has a gym. Lower Milford Township, at the time of this report, does not have any publicly-owned parks. Upper Milford Township's two parks that are developed for active recreation have critical sight-distance limitations at the driveways for each, Jasper Park and Lenape Park. Furthermore, Jasper Park is also a PA Geological Survey site having significant jasper pits, limiting development for active recreation. The 435 acre County owned Seem Seed Farm located in both Upper and Lower Milford, is not included here, as of this reporting it is anticipated that the land will continue to serve agricultural purposes for the foreseeable future. Inclusion of a pathway for public enjoyment may be feasible.

There are public parks and outdoor recreation sites developed for active recreation, that are used by the residents of the SWLC located in neighboring municipalities. They include:

- Lock Ridge Furnace, owned by Lehigh County, located in the Borough of Alburtis;
- Lower Macungie Community Park, Lower Macungie Township;
- Upper Saucon Township Community Park, Upper Saucon Township;
- Little Lehigh Creek Parkway, City of Allentown;

- South Mountain Preserve (for hiking and mountain biking), owned in partnership by Wildlands Conservancy and the City of Allentown, located in Salisbury Township and the City of Allentown;
- Living Memorial Park, Upper Saucon Township, and Borough of Coopersburg, and;
- Pool Wildlife Sanctuary (for hiking and environmental education), Wildlands Conservancy, located in Lower Macungie Township

The SWLC is divided between two school districts, the East Penn School District and the Southern Lehigh School District, each of which include municipalities that are not party to this plan. Communications about youth sports leagues is facilitated by the school districts, creating familiarity and alliances with sports leagues and recreational resources outside the area among the residents of the SWLC area. School properties and programs provide a large portion of sports and recreation needs primarily for youth who are middle- and high-school aged. Elementary school play lots are open to the public for use, and indoor gyms provide non-school sports league space as well. These recreational resources help round out active recreational offerings in the area, though priority is given to school-based activities.

Section 4.2 below provides an inventory of other sites provided for leisure-time pursuits, open space for environmental conservation, and special use space. It also includes a listing of spaces made available to the residents of the SWLC area by not-for-profit organizations, and privately-owned commercial recreation resources.

#### **4.2 Other Facilities and Open Space Resources**

Table 4.b. below includes the areas that provide the open space that is generally enjoyed by the residents of the SWLC region directly and indirectly, whether they actually visit these sites for some purpose, or enjoy that they contribute to the rural character of the green landscape. These sites are either not publicly owned but do provide active recreation opportunities, or they are

Table 4.a Public Parks and Recreation Facilities

<b>PUBLICLY-OWNED PARKS &amp; RECREATION FACILITIES</b>									
Site Name	Municipality	Classification	Acreage		Park Type	Ownership	Open to Public	Part in Another Municipality	
			Total Acres	Active Recreation				Municipality	Acres
Emmaus Community Park	Emmaus	N	35.0	30.0	Community Park	Borough	yes	no	
Borough Line Park	Emmaus	N	5.5	5.5	Neighborhood Park	Borough	yes	no	
Furnace Dam Park	Emmaus	N	3.5	1.0	Fishing - Public	Borough	yes	no	
Laura Street Playground	Emmaus	N	0.3	0.3	Sub-Neighborhood Park	Borough	yes	no	
Lions Field	Emmaus	N	2.2	2.2	Neighborhood Park	Borough	yes	no	
Klines Ln. Field	Emmaus	N	3.0	3.0	Multi-purpose Field	Borough	yes	no	
West End Playground	Emmaus	N	2.3	2.3	Sub-Neighborhood Park	Borough	yes	no	
Williams St. Playground/ Kiwanis Fields	Emmaus	N	7.1	7.1	Neighborhood Park	Borough	yes	no	
Triangle Park	Emmaus	S	0.3	0.0	Urban Open Space	Borough	yes	no	
Hillcrest St. Playlot	Macungie	N	1.3	0.0	Open Space	Borough	yes	no	
Spruce St. Playlot	Macungie	N	3.3	0.0	Open Space	Borough	yes	no	
Village Walk Dr. Playlot	Macungie	N	1.7	1.7	Sub-Neighborhood Park	Borough	yes	no	
Macungie Institute	Macungie	S			Meeting/Program Space	Borough	yes	no	
Macungie Flower Park	Macungie	S	0.2		Urban Open Space	Borough	yes	no	
Lehigh Co. Conserv. Site	U. Milford	S	61.0		County Natural Area	County	yes	L. Milford	16.2
Churchview Park	U. Milford	N	17.0	14.0	Community Park	County	yes	no	
Lenape Park	U. Milford	N	12.1	12.1	Neighborhood Park	Township	yes	no	
Jasper Park	U. Milford	N	26.7	10.0	Community Park	Township	yes	no	
Classifications: N-Active Recreation; S-Special Use									
Source: Lehigh & Northampton Counties Inventory of Parks & Other Outdoor Recreation Sites; LVPC, 2005									

Table 4.b Open Space and Other Leisure-time Pursuit Resources

				Acreage					Part in Another Municipality	
	Site Name	Municipality	Classification	Total Acres	Active Rec.	Park Type	Ownership	Open to Public	Municipality	Ac.
CONSERVATION	B. Leroy & Elizabeth Burkhart Preserve	U. Milford	C	25.3		Land Preserve	Conser-vancy	yes	no	
	Fulmer Tract	U. Milford	C	35.3		Open Space	Township	yes	no	
	Lehigh Co. Conserv. Site	U. Milford	S	61.0		County Natural Area	County	yes	L. Milford	16.2
	U. Milford S. Mtn. Preserve	U. Milford	C	15.6		Natural Area	Township	yes	no	
	Kalmbach Memorial Park	Macungie	C/H/N	19.0		Natural Area/ Classrooms	Land Trust	yes	no	
HISTORIC	Valentine-Weaver House	Macungie	H			NRHP Site	Private	no	no	
	Shelter House	Emmaus	C/H/S	25.7	1.0	NRHP Site	Borough	yes	no	
	1803 House	Emmaus	H/S			NRHP Site	Non-Profit	yes	no	
	Kemmerer House	Emmaus	H/S	0.3	0.0	NRHP Site	Private	no	no	
	Vera Cruz Jasper Pits	U. Milford	H/N	1.3	0.0	PA Geological Survey	Township	yes	no	
	Dillingersville Union School & Church	L. Milford	H/S			NRHP Site	Non-Profit	no	no	
PRIVATE OPEN SPACE	Milford Park Bible Camp	U. Milford	S	31.0	5.0	Church Camp	Non-Profit	no	no	
	Mystic Chain Park	U. Milford	S	3.4		Special Use	Non-Profit	no	no	
	Upper Milford Field & Stream	U. Milford	S	14.9	5.0	Sportsmen Club	Non-Profit	no	no	
	Victory Valley Camp	U. Milford	S	40.3	10.0	Church Camp	Non-Profit	no	no	
	Unami Fish & Game Association	Emmaus	S	45.5	5.0	Sportsmen Club	Non-Profit	no	no	
	Twin S Gun Club (closed)	L. Milford	S	106.9		Sportsmen Club	Private	no	no	
PRIVATELY-OWNED ACTIVE RECREATION	Ballfield @ Hosensack Evangelical Church	L. Milford	N	3.2	1.0	Baseball/Softball	Non-Profit	yes	no	
	Limeport Stadium	L. Milford	N	5.7	3.0	Baseball/Softball	Non-Profit	yes	no	
	Picnic Grove & Ballfield @ Trinity GS Church	L. Milford	N	15.0	5	Picnic Grove	Non-Profit	no	no	
	Rodale Press Rec. Area	Emmaus	N	10.0	5.0	Active Rec.	Private	no	no	
	Catholic War Vets Field	Emmaus	N	1.5	1.0	Mini-Park	Non-Profit	yes	no	
	The Ridings Rec. Area	Macungie	N	2.0	2.0	Neighborhood Park	Non-Profit	no	no	
	Macungie Memorial Park	Macungie	N	34.3	34.3	Community Park	Non-Profit	yes	no	
GOLF	Indian Creek Golf Course	U. Milford	S	75.0	75.0	Golf-Related	Private	yes	Emmaus	
	Brookside Country Club	Macungie	S	100.00	100.00	Golf-Related	Private	no	L. Macungie	
PUBLIC	Macungie Flower Park	Macungie	S	.02		Urban Open Space	Borough	yes	no	
	Triangle Park	Emmaus	S	.03		Urban Open Space	Borough	yes	no	
	Macungie Institute	Macungie	S			Meeting Space	Borough	yes	no	
Classifications: C-Conservation; H-Historic; S-Special Use; N-Active Recreation;										
Source: Lehigh & Northampton Counties Inventory of Parks & Other Outdoor Recreation Sites; LVPC, 2005										

publicly or land-trust owned open space tracts of land. This demonstrates that few conservation tracts have been acquired for perpetual preservation, and it shows that there are many open space resources (conservation and active recreation) that are in private ownership, and are therefore not reserved in perpetuity for the enjoyment of the general public.

This accounting of open space does not take into account the agricultural conservation easements that have been gained in the region; Lower Milford Township has made great strides in preserving farmland resources, which do contribute to the open space, rural character enjoyed by residents, continuing “a way of life” in the area. With that said, agricultural easements are not the same as open space made available for public access for recreation, or set aside for ecological purposes.

Some of the resources listed are private for-profit enterprises, some are private, members-only places, a few are owned by the municipalities where they are located, but provide unique needs, like town beautification, or non-active recreation indoor space.

Historic resources are also listed in this table. Listed here are those that are found on the National Register of Historic Places; there are many others resources, they are addressed in Section 4.3 below.

### 4.3 Historic Features & Heritage Resources

Evidence of human settlement and population of the area are evident throughout the SWLC region. Jasper pits show evidence of early Native American communities, the Lenni Lenape Indians being the most well documented early inhabitants of the area. Early settlers came from Central Europe, regions that have become Germany for the most part, who found the landscape and climate to be familiar. They were mostly agrarian, though later, in the 19th century, industrialists established businesses either taking advantage of natural resources for mining, or transportation routes for trade, establishing the villages that would become

the Borough of Macungie and the Borough of Emmaus. Both boroughs exhibit structures that reveal a century and a half of growth, and the townships are dotted with stone farmsteads, the underpinnings of an agricultural economy. There are five resources listed with the National Register of Historic Places, and one Outstanding Scenic Geological Feature of PA site within the area. They are:

- Vera Cruz Jasper Pits: Pennsylvania Outstanding Scenic Geological Site, high-quality jasper was discovered here by the Delaware Indians. At the height of activity, more than 100 small pits or quarries were operated. The light-brown jasper from these quarries found its way up and down the eastern seaboard, from New England to Georgia. The quarries were abandoned around 1680, located in Jasper Park, Vera Cruz, Upper Milford Township;
- Valentine Weaver House: National Register of Historic Places, a 1876 Gothic Revival private home located in the Borough of Macungie;
- Shelter House: National Register of Historic Places, a 1734 colonial era settlement house, maintained by a local historical society at a public park at S. 4th St., in the Borough of Emmaus;
- 1803 House: National Register of Historic Places, a Federal style stone house maintained by a historical society, donated by Rodale, Inc., located at 55 S. Keystone Ave., in the Borough of Emmaus.;
- Kemmerer House: National Register of Historic Places, a 1845 Georgian style private home located in the Borough of Emmaus;
- Dillingersville Union School and Church: National Register of Historic Places, a 1885 one-room school house with a history that



represents the Germanic agrarian culture, and mutual support for survival of the area's early inhabitants; it is maintained by the three congregations who constructed the building, located at the intersection of Zionsville Rd., and Old School House Rd., in Lower Milford Township;

- King's Quarry: a 1.5 acre Conservation site of the American Archeological Conservancy, located in Lower Milford Township;

These resources are listed in Table 4.b, above as well. There well may be additional places and structures that warrant listing on the National Register of Historic Places throughout the area. Whereas listing on the National Register does not guarantee protection of a resource, it does raise awareness of the importance of history in our culture today. Historic structures enhance leisure-time in that they are often a pleasant part of the scenery that is enjoyed while walking, hiking, bicycling and driving on scenic byways. Often the most effective means to historic preservation derives from a local grassroots effort to save a building from ruin. The local pride in discovering the unique story about a place is then in turn often shared with the public by interpreting the story in museum site or archives. The benefit of including historic sites in this plan is in raising awareness that there might be a public interest in protecting them in the event of abandonment. It is also to perhaps spur additional interest in protecting other potentially eligible historic resources.

It is important to include the Macungie Historical Buildings Self-Guided Walking Tour. Developed by the Historical Sub-Committee of the Macungie Borough Business Revitalization Steering Committee, it includes twelve identified historic resources found along the Macungie Borough Walking Trail. Four of these resources appear in other inventories found in this section: The Macungie Institute (a Special Use publicly-owned resource), Kalmbach Memorial Park (a Conservation, and Community Park, non-profit owned resource), The (former) Continental Hotel now the Flower Park, (a publicly-owned Special Use space) and the

Valentine Weaver Home (listed on the National Register of Historic Places). These additional, locally identified historic resources include several private residences not currently listed on the National Register, and the Old Town Hall. Most of these buildings and sites represent the era when Macungie was developing as a focal point for business and industry in the SWLC region during the later half of the 19th century.

#### **4.4 Greenways: Lehigh Valley Greenways Plan**

For the first time in 2007, the Lehigh Valley Planning Commission completed a plan for greenways. Entitled Lehigh Valley Greenways Plan, it brings into one document a comprehensive inventory of open space, natural, recreational, and cultural resources found in the two county region. In this plan greenways are described as:

A corridor of open space that may vary greatly in scale from narrow strips of green that run through urban, suburban, and rural areas to wider corridors that incorporate diverse natural, cultural, and scenic features. They serve many functions, protect the environment, supply recreational opportunities, and connect natural and cultural areas to one another providing a linear resource for a variety of users. Connectivity is the defining characteristic that distinguishes greenways from isolated paths and pockets of open space. While parks, preserved lands, undisturbed natural areas and waterways are valuable resources in and of themselves, their conservation and recreation values are compounded when they are linked together.

Connectivity is the over-arching theme, promoted for human activity, wildlife movement, and ecological functions. A greenway features corridors, hubs, and nodes. The corridor provides the connectivity whether for human activity or flora and fauna protection and enrichment. A hub is a concentration of activity (human activity) and a place where corridors either connect or potentially connect. Nodes are points of interest, concentrations of human activity. The plan qualifies greenways in four terms:

Table 4.c. Designated Lehigh Valley Greenways in the SWLC Region

Greenway	Type	Size	Municipalities	Nodes	Comments
Pennsylvania Highlands	C/S	37 sq. mi. w/in SWLC area	U. Milford L. Milford	Nearby: Macungie Memorial Park, Emmaus Community Park, Pool Wildlife Sanctuary, Lock Ridge Furnace	The SWLC Portion of this greenway designates the majority of U. Milford Twp., and all of L. Milford Twp. as scenic areas. The conservation areas correspond with the NAI Outstanding Natural Areas located in the SWLC area.
Macungie-Alburtis Trail	CR	3 mi.	Macungie, Alburtis, L. Macungie.	Macungie Memorial Park, Lock Ridge Furnace	This trail connects Macungie and Alburtis through L. Macungie Twp. Macungie has completed a trail system through the borough, allowing easy connections from this future trail to Kalmbach Park. Plans include extending beyond to connect into the PA Highlands area.
Leibert Creek	C	4 mi.	Emmaus, U. Milford	Emmaus Community Park, Pool Wildlife Sanctuary, South Mountain Preserve	This greenway connects the Little Lehigh Creek greenway with the PA Highlands greenway. Also along this corridor are Jasper Park, the Fulmer tract, and Indian Creek Golf Course. Emmaus has completed a riparian zone restoration project along the banks of Leibert Creek in Community Park..
Type: C-Conservation; S-Scenic; CR-Cultural/Recreational					
Source: Lehigh Valley Greenways Plan, A Regional Greenways Plan for Lehigh & Northampton Co's; LVPC, 2007					

- Cultural/recreational - for human activity primarily;
- Conservation - to support ecological functions primarily;
- Multi-use - where human activity can be appropriately balanced with conservation purposes effectively;
- Scenic - swaths of landscape that provide, at a minimum, a visual connection from corridors.

Three greenways of the plan include land areas of the Southwestern Lehigh County region. The table 4.c below summarizes them.

The Pennsylvania Highlands is a priority greenway in the region. Essentially the entire SWLC region represents a large component (approximately 37 square miles) of the Lehigh Valley section of the Pennsylvania Highlands. All of the SWLC Outstanding Natural Features Sites are indicated as conservation areas of this greenway. The scenic designation supports preservation of rural landscapes and protection of natural resources.

The Macungie-Alburtis greenway, as promoted in the Macungie Area Regional Trail Network Plan, adopted by the Borough in 2003, is projected to be a cultural and recreational resource, connecting the two boroughs through Lower Macungie Township. Connecting the boroughs with a trail is anticipated to have a positive affect on the quality of life in this area, as it has the potential to increase awareness of what is available in each of these towns. The Borough of Macungie has recently completed its own initiative to unify important features throughout the borough along an urban pathway system that utilizes exiting walkways, marking them with a consistent marking system and patterned pavement.

The Leibert Creek greenway is anticipated for primarily conservation purposes, as it is located in the fastest growing portion of Upper Milford Township so it is facing the greatest degree of potential change. As a first order stream in the Little Lehigh Creek watershed, protecting water quality in Leibert Creek is important for recreational fishing downstream (Little Lehigh is designated a HQCWF) and for protecting the Allentown

drinking water supply.

There are two extensive greenways within close reach of the greenways within the SWLC area. Cooperative efforts could someday yield



connections that would establish access to a continuous greenway networks affording benefits to residents, visitors, wildlife, and the natural environment of the entire Lehigh Valley. The Little Lehigh Creek greenway, stretching

from the Lehigh - Berks border through Lower Macungie Township, touching Emmaus at the Pool Wildlife Sanctuary, and Salisbury Township and Lehigh Country Club before joining the Little Lehigh Creek Parkway in Allentown, is a 20-mile multi-use and conservation greenway. Ultimately this pathway can connect trail users into the Lehigh Canal Towpath, a National Heritage Corridor system connecting to the Delaware River Towpath at Easton. Connecting the Little Lehigh Creek greenway into Macungie will provide access to Alburtis, the Lock Ridge Furnace Park and ultimately the PA Highlands, via the Macungie-Alburtis greenway. The Saucon Creek greenway is a conservation corridor that reaches across the eastern border of Lower Milford Township, encompassing the first order intermittent streams that eventually become the Saucon Creek. Securing protective means to ensuring water quality protection can assure the Saucon Creek remains a good recreational fishery.

Trail connections eastward through the PA Highlands could someday connect nodes that are important for nature-based recreation. These include South Mountain Preserve, South Mountain Big Rock Park, Lehigh Uplands Preserve, and South Mountain Park.

Another major greenway, the Perkiomen Creek Trail, is located near enough to consider a greenway connection in the long-term. It is a 20-mile rail-trail located in Montgomery County,

PA, connecting three county parks, and the towns of Collegeville, Schwenksville, Spring Mount, and Green Lane. The Upper Perkiomen Watershed Conservation Plan includes a long-term goal of a greenway connection along the Macoby Creek, the source of which is located in Lower Milford Township, a tributary of the Perkiomen Creek. Further northward, the Hosensack Creek and Indian Creek, which also flow into the Perkiomen Creek, present the potential for greenway corridor connections for conservation.

Recommendations for proposed trails are listed in the SWLC 2005 Comprehensive Plan.

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## Section 5

# Green Infrastructure

The concept of “Green Infrastructure” is a newer planning tool. It is useful for communities where opportunities exist to “save” open space, such as the SWLC area. When municipalities view their open space networks within their borders only - in isolation of the bigger picture, open space connectivity is difficult to plan for. With the municipalities of the SWLC area working in concert to direct population growth to locations that contain the infrastructure needed to support density, the opportunity exists to maintain a connected network of open space for appropriate recreation development (i.e. trails, and other nature-based leisure time pursuits) and for maintenance of habitat for wildlife and continuation of natural ecological functions. In this section, the plan explores:

- 5.1. What is Green Infrastructure?
- 5.2. Mapping Green Infrastructure
- 5.3. Primary Conservation Areas
- 5.4. Secondary Conservation Areas
- 5.5. SWLC Area Green Infrastructure

### 5.1 What is Green Infrastructure?

A means to understanding the landscape of a region, the connectivity of resources, and the opportunities to act on a plan to protect important resources, is to map the region’s Green Infrastructure. The Conservation Fund defines Green Infrastructure as:

Green Infrastructure is the Nation’s natural life support system - a strategically planned and managed network of wilderness, parks, greenways, conservation easements, and working lands with conservation value that supports native species, maintains natural ecological processes, sustains

air and water resources, and contributes to the health and quality of life for America’s communities and people.

The Green Infrastructure network encompasses a wide range of landscape elements, including: natural areas - such as wetlands, woodlands, waterways, and wildlife habitat; public and private conservation lands - such as nature preserves, wildlife corridors, greenways, and parks; and public and private working lands of conservation value - such as forests, farms, and ranches. It also incorporates outdoor recreation and trail networks.

What gives the term *Green Infrastructure* its staying power is its ability to invoke images of planned networks of green spaces that benefit wildlife and people, link urban settings to rural ones and, like other infrastructure, forms an integral part of government.

- *The Conservation Fund*

According to Webster’s New World Dictionary, *Infrastructure* is defined as - “the substructure or underlying foundation, especially the basic installations and facilities on which the continuance and growth of a community or state depends”. When we think of infrastructure we think of built infrastructure such as roads, electric power lines and water systems as well as social infrastructure such as schools, hospitals and libraries. However, the concept of Green Infrastructure elevates air, land, and water to an equal footing with built infrastructure and transforms open space from “nice to have” to “must have.” At the same time, green infrastructure helps frame the most efficient location for development and growth - and related gray infrastructure - ensuring that developers, citizens, and communities capture the cost advantages of location and create and protect

household and community amenities.

Map 3.1 showing the Natural Resources Plan of LVPC for the SWLC Area, with the Outstanding Natural Area Sites superimposed as a map overlay presents a rationale for policies that comprehensively protect natural resources at the municipal level. The 2007 Lehigh Valley Greenways Plan makes the case for region-wide green infrastructure. The ecological functions of greenway corridors, as explained by the National Park Service in their bulletin entitled “How Greenways Work: a Handbook on Ecology”, are highlighted in the 2007 Lehigh Valley Greenways Plan. Generally these functions include: habitat for flora and fauna; conduit for movement and connectivity; barrier for protection; filter for storm water flow; source for water or nutrients; and, sink trapping sediments from storm water flow or for groundwater recharge. The importance to the population of SWLC in ensuring these functions continue is expressed in the resident’s desire to maintain rural character, support for nature-based recreation and leisure-time activities such as hiking, and for recreational facilities such as trails.

What emerges from mapping the area’s green infrastructure is a plan for potential conservation opportunities. With the SWLC Park, Recreation, and Open Space Plan highlighting this area’s green infrastructure, action initiatives can be directed in a coordinated, regionally beneficial manner that protects open space for recreation, leisure-time pursuits, and for ecological functions. It helps to make the case for acquisition of open space, and for appropriate development of recreation facilities, whether existing or new.

### **5.2 Primary Conservation Areas**

To understand the SWLC Area’s Green Infrastructure, it is important to map the area’s Primary Conservation areas. Primary Conservation areas are landscapes that are inherently discouraged from development and are difficult to build upon, including the streams and associated 100-year flood plains, wetlands, and slopes that are steeper than 25%. Land areas that are permanently protected from development, including public parkland, parcels under conservation ease-

ments and agricultural conservation easements, properties owned by land trusts and conservancies are also included as they are essentially difficult to build upon due to legal constrictions.

Because SWLC depends on several privately held tracts for open space and recreation, those sites are included here, but are highlighted to put community leaders on notice that these sites, which are enjoyed by the public or provide important natural resource protection could be subjected to development in the future.

### **5.3 Secondary Conservation Areas**

Land areas that bear conservation values such as woodlands, agricultural lands without conservation easements, areas of slopes between 15% and 25%, historic sites, and other tracts that have cultural value to the local population are shown on the Secondary Conservation Area Map. These areas show land areas that could be subject to development. This helps municipalities when refining land development codes to guide in resource protection through development. It also assists with site selection for parks that will be developed for active recreation. Parks that are developed for active recreation can provide protection of natural resources when developed appropriately, and enhance connectivity for trail activities where appropriate, but importantly for wildlife habitat connectivity as well. This map also highlights agriculture land areas that are not currently protected by conservation easements, and supports goals to protect additional acreage for farmland.

### **5.4 SWLC Area Green Infrastructure**

With the Primary and Secondary Conservation Areas mapped, the potential conservation network – the SWLC Area’s Green Infrastructure emerges. This mapping in conjunction with Map 3.1 are important to understanding how the land area is used for human and ecological functions and provide sound basis for policies and land development codes. Planning efforts can then organize action around protecting important features using various means. For the purpose of this Parks, Recreation, and Open Space plan, it helps

to highlight areas that are important to consider for enhancement of the current system of parks, recreation, and open space.

It is very important to reiterate that several parcels that are relied upon by the public to serve recreation and leisure-time pursuits are revealed as not necessarily protected from change. This issue is raised in Section 4 Parks Inventory and Assessment. Recommendations to ensure public availability in perpetuity of those resources that provide public benefit are an important outcome of this plan. (See Section 7. Conclusions and Recommendations).



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## Section 6

# Needs Assessment

In order to develop recommendations for parks and recreation, it is important to evaluate current provisions for adequacy in meeting current and forecasted demand for park space and recreation facilities. Employing standards in evaluation allows objective measures, while use of surveys and key stakeholder interviews provides valuable insight into usage patterns and residents' expectations. This sets the stage for establishing realistic goals in meeting local current and forecasted demands.

This section reports on the objective analyses of current space and facility sufficiency, the results of the public survey conducted in fall of 2007, and the highlights of key stakeholder interviews conducted throughout the study process. Within this section, summaries are provided for the following:

- 6.1. Analysis of Existing Parks and Other Outdoor Land Areas within the SWLC Area Using NRPA Standards
- 6.2. Analysis of Existing Recreation Facilities found within the SWLC Area Using NRPA Standards
- 6.3. Results of the 2007 Public Survey
- 6.4. Summaries of Key Stakeholder Interviews

It is important to make a few notes about usage patterns. First, many of the parks and recreation facilities that residents of the planning area enjoy are actually located outside the planning area in nearby townships, boroughs, and cities. Likewise, residents of municipalities not participating in this planning effort enjoy the parks located in the SWLC area, and in many ways the stresses borne by the resources available in SWLC are caused by increased population demands generated from outside the planning

area. Because restrictions and limitations cannot be placed on use of most types of recreation facilities based on where users reside (with exceptions for facilities like community pools, recreation centers for which fee structures take into account one's place of residence), little can be done to restrict use by place of residency. That said, increased demands on facilities for popular organized sports has some municipalities finding it necessary to take measures to ensure priority is given to teams that represent its residents. Therefore, objective analysis of the SWLC Area is difficult, in that the area is absorbing demand from outside the planning area, and the area's residents are seeking recreational pursuits outside the area. Nevertheless, benchmarking is a key task in planning for the future.

### **6.1 Analysis of Existing Parks and Other Outdoor Recreation Land Areas within the SWLC Area Using NRPA Standards**

The purpose for this section is to take an objective measurement of how well current service levels will provide for future population demands. Measurements are based on guidelines provided by the National Recreation and Parks Association (NRPA), a professional organization that promotes the importance of parks and open space as part of the land use patterns of communities and regions. To aid planners, the NRPA has developed facilities standards and guidelines for community benchmarking based on extensive research. These standards provide community leaders and other stakeholders with the guidelines they need to assess and plan for provision of parks and recreation facilities to meet their constituents' demands, providing valuable insights and tools for comparison. It is important to note that the NRPA guidelines are just that, benchmarking tools for comparisons. Ultimately it is best for

Table 6.a. SWLC Area Population Forecast

Area	2000 Census	2006 est.	2010 Forecast	2020 Forecast	2030 Forecast	% Change 2000-2006	% Change 2006-2030	Change 2060-2030
Emmaus	11313	11401	11351	11351	11351	0.8%	-0.4%	-50
L. Milford	3617	3881	4094	4852	5907	7.3%	52.2%	2026
Macungie	3039	3122	3111	3111	3111	2.7%	-0.4%	-11
U. Milford	6889	7459	7504	7804	7974	8.3%	6.9%	515
SWLC Total	24858	25863	26020	27118	28343	4.0%	9.59%	2480

Source: Municipal Profile & Trends, Lehigh & Northampton Co's., LVPC, May 2008

communities to gauge local demand for parks and recreation facilities using input from, surveys, interviews, and observations of usage patterns in order to appropriately serve the community.

In developing objective guidelines, the NRPA uses numeric population levels to forecast demand and doesn't factor-in demographic parameters. For purposes of this plan, the standards are evaluated for the forecasted 2030 population levels for the SWLC area (see Table 6.a. above). The 20-year planning horizon allows for the adoption of policies that can help to ensure that service levels will be responsive to perceivable community changes, since many policies and actions that a community can take to maintain or improve service levels require several years to enact and bring to fruition.

The NRPA classifies park types according to objective terms, prescribing a system of parks and recreation spaces in meeting the various demands for recreational pursuits of a generalized population. For public parks and other public outdoor recreation facilities, NRPA prescribes as core elements: "Local, Close to Home Space" which includes mini-parks, neighborhood parks and playgrounds, and community parks; and, "Regional Space" which includes regional/metropolitan parks, and regional park reserves. For these core park system elements, NRPA suggests a minimum of 6.25 acres per 1,000 population for Local, Close to Home Space, and a minimum of 15 acres per 1,000 population for Regional Space. These types of spaces are most typically those supplied by local and county governments and are where

the general public enjoys active and passive recreational pursuits. They are spaces that provide facilities for playground equipment, fields for youth and non-professional team sports, picnicking, and the like. Table 6.b. below is an analysis of projected need by year 2030 based on existing parks that are classi-

fied as Local, Close to Home Space, and Regional Space located within the SWLC area. This analysis omits parks and open space areas that are classified as "Special Use" and "Conservancy", to focus the results on parks that are available for active and organized forms of recreation. This measurement indicates that by 2030, 425 acres of Regional Park Space will be in demand in the SWLC Area. This analysis shows that there is sufficient provision of Local, Close to Home Space and no additional acreage is forecasted to be in demand by 2030.

These objective measures are easy to perceive when applied to an idyllic park system, as though developed from the beginning using such standards. The park "system" enjoyed by the residents of the SWLC area today doesn't neatly fit into a textbook application. Essentially the provision of a full system of parks and recreation in the SWLC Area is cobbled together in the various Community, Neighborhood, and Mini-Parks found here, many of which in fact are not publicly-owned.

First, a review of activities and facilities available in many of the parks provide Regional Space purposes and actually provide recreational opportunities that draw audiences from beyond the SWLC area. For example, Macungie Memorial Park provides a swimming pool that draws from outside the borough, and it hosts special events like Das Awkscht Fescht, which has a regional audience. Likewise, Emmaus Community Park provides a swimming pool that is enjoyed by residents of other municipalities, and hosts events

Table 6.b. Projected Demand for Park Space in SWLC

<b>Projected Park Space Acreage Needs - 2030 (Active Recreation)</b>				
		Projected Need 2030 per NRPA Guidelines <sup>(1)</sup>	Existing Acreage 2005 <sup>(2)</sup>	Additional Acres Needed by 2030
SWLC Area	Population forecast: 28,343			
	Local, Close to Home Space <sup>(3)</sup>	177.1	182.6	
	Regional Space	425.2	0.0	425.2
Emmaus	Population forecast: 11,351			
	Local, Close to Home Space <sup>(4)</sup>	70.9	70.8	
	Regional Space	170.3	0.0	170.3
Lower Milford	Population forecast: 5907			
	Local, Close to Home Space <sup>(5)</sup>	36.9	13	23.9
	Regional Space	88.6	0.0	88.6
Macungie	Population forecast: 3,111			
	Local, Close to Home Space <sup>(6)</sup>	19.4	43	
	Regional Space	46.7	0.0	46.7
Upper Milford	Population forecast: 7,974			
	Local Close to Home Space <sup>(7)</sup>	49.8	55.8	
	Regional Space	119.6	0.0	119.6
Notes:				
(1) NRPA Guidelines for Local, Close to Home Space: 6.25 ac./1000 population; for Regional Space: 15 ac./1000 population.				
(2) Source: Lehigh & Northampton Counties Inventory of Parks and Other Outdoor Recreation Sites; Lehigh Valley Planning Commission, 2005; and Lower Milford Township.				
(3) SWLC area: 29% of space not publically-owned.				
(4) Emmaus: 10% of space not publically-owned.				
(5) Lower Milford: 69% of space not publically-owned.				
(6) Macungie: 85% of space not publically-owned.				
(7) Upper Milford: all active recreation space publically-owned.				

with wide draws. With Regional Space demands stressing some of the Community and Neighborhood Parks resources, the need for a Regional Park emerges. That stated, parks providing Regional Space amenities found in Lehigh County are located close to the SWLC area, (such as the Little Lehigh Parkway in Allentown, an exceptional greenway for trail activities) highlighting the importance of connectivity. Connectivity into the SWLC area is a recurring theme in Key Interviews, and survey responses.

Tables 6.c, 6.d, and 6.e are to be reviewed together. They reveal a deficiency of Regional

Space, and highlight the deficiency of publicly-owned parkland. Table 6.c., below, summarizes the land area for all park and open space types, as excerpted from the Lehigh Valley Planning Commission’s Inventory of Parks and Other Outdoor Recreation Sites, 2005. (When comparing these land area totals with the general land use trends reported for Parks & Recreation in Table 3.b., pg. 28 excerpted from Lehigh Valley Planning Commission’s Municipal Profiles and Trends, there is a discrepancy of approximately 100 acres.)

With its history as a rural community, centered on small towns, the SWLC Area’s park “system” is complemented by social club organizations, church picnic groves and camps,

some of which are available for youth sports organizations. Special Use sites, sportsmen’s clubs and golf courses add to the inventory of outdoor recreational spaces as well. In the aggregate these Special Use spaces make up the largest percentage of outdoor recreation acreage. These spaces provide recreational opportunities on a membership or commercial basis and serve audiences from an area greater than the planning area. These open spaces serve to reduce population density, lending to the rural character, they are compatible with agricultural land uses, and some provide greenway opportunities and wildlife habitat.

Table 6.c Acreage of Parks & Other Outdoor Recreation Space

<b>Inventory of Parks &amp; Other Outdoor Recreation Acreage</b>											
			Ownership			Classification					
Municipality	No. of Sites	Total Acreage	Municipality Owned	Lehigh Co. Owned	Owned by Other	Mini-Park, Neigh. Park/Playground, Community Park	Regional/Metro. Park, Regional Park Reserve	Linear Park	Special Use/Historic	State Gamelands	Conservation
Emmaus	18	189.6	124.8	0.0	64.8	70.8	0.0	0.0	115.4	0.0	0.0
L. Milford	8	152.5	4.0	16.2	132.3	13	0.0	0.0	108.4	0.0	16.2
Macungie	10	161.8	6.5	0.0	155.3	43	0.0	0.0	100.2	0.0	19.0
U. Milford	14	366.9	99	78	189.9	55.8	0.0	0.0	165.9	0.0	119.9
SWLC	50	870.8	234.3	94.2	542.3	182.6	0.0	0.0	508.9	0.0	155.1

Source: Lehigh & Northampton Counties Inventory of Parks and Other Outdoor Recreation Sites; Lehigh Valley Planning Commission, 2005; and, Lower Milford Township

Table 6.d Classifications as % of Total Parks & Outdoor Recreation Space

<b>Outdoor Recreation Sites by Classification as a % of Total Outdoor Rec. Acreage</b>					
Park Classification	SWLC Area	Emmaus	Lower Milford	Macungie	Upper Milford
Mini-Park, Neigh. Park, Playground, Community Park	21%	52.4%	8.5%	26.6%	49.8%
Regional/Metropolitan Park, Regional Park Reserve	0.0%	0.0%	0.0%	0.0%	0.0%
Linear Park	0.0%	0.0%	0.0%	0.0%	0.0%
Special Use/Historic	58.4%	47.6%	71.1%	61.9%	45.2%
State Gamelands	0.0%	0.0%	0.0%	0.0%	0.0%
Conservation	17.8%	0.0%	10.6%	11.7%	32.7%

Source: Lehigh & Northampton Counties Inventory of Parks and Other Outdoor Recreation Sites; Lehigh Valley Planning Commission, 2005; and, Lower Milford Twp.

Table 6.d. breaks out in percentages of total acreages, the various classifications of outdoor recreation spaces. This reveals a distribution of space by type, and highlights the fact that there are no Regional Parks, Linear Parks, or State game lands in the SWLC area.

Table 6.e % Non-public Owned

<b>% Non-public Owned*</b>	
Emmaus	34.2%
L. Milford	86.6%
Macungie	96%
U. Milford	51.8%
SWLC Area	62.3%

\* Does not take into account conservancy owned lands

A reality to be faced in planning for public parks and recreation is that the majority of outdoor recreation space provided in the SWLC area is not owned outright by the municipalities where they are located. Table 6.e. presents this summary. Access has been provided by owners, most of which are not-for-profit organizations, many of which have mutually supportive relationships with the municipalities where the space is located

(such as for on-going maintenance) or have pay-for-use relationships with youth leagues. This can be considered a surprising finding, revealing a low –level of public investment overall to-date, especially when considered with a lack of regional

(County) and state investment. Recommendations for ensuring on-going access, acquisition, or space/facility replacement are advisable as each municipality of the SWLC Area refines its plans and employs the tools for providing parks and open space. This is especially the case for the borough of Macungie where the major community park is actually privately held by a parks association, and in Lower Milford Township, where presently there is very little public parkland. The Borough of Emmaus has a well complemented park systems, though it experiences stress of growing demands. In Emmaus there are several parks and outdoor recreation sites that are privately owned. Upper Milford Township's parks are facing growing demands from youth sports organizations vying for field space as well. And although Upper Milford has two well developed Community Parks, more recreational facilities are in demand, and challenges are faced in further developing these two parks. Strong interest in trail-based activities and connectivity is evident in surveys and key interviews. The region has taken a big step in planning for greenways in adopting the Lehigh Valley Greenways Plan, by the LVPC in 2007. Coordinated actions at the municipal and county levels can fulfil this plan and create the desired greenway connections throughout the area. This Plan, in conjunction with the LV Greenways Plan, begins to address the Linear Parks deficiency revealed in this analysis.

## **6.2 Analysis of Existing Recreation Facilities within the SWLC Area Using NRPA Standards**

The NRPA also provides guidelines for numbers of specific recreation facilities for a given population and standards for their development. In this section the numbers of facilities will be addressed. Overall the recommendation for development of facilities, like soccer fields, tennis courts, and the like, is to follow standards for size, orientation, and grading. To measure objectively whether or not a park system is meeting the needs of a community, numbers per 1,000 population are suggested for specific types of sports and recreation facilities. These numbers vary and are based on national research of public interests and

expectations. Table 6.e. below highlights where the SWLC area system of parks and outdoor recreation site is either meeting or deficient in meeting population demands for facilities. According to the NRPA standards, the majority of existing facilities sufficiently serve the area population, including basketball, baseball, softball/youth baseball, volleyball, and soccer facilities. Tennis courts, football and multi-purpose fields, and swimming pools are facilities types for which a deficiencies are shown for in this analysis. Nevertheless, the most useful gauge of sufficiency is through interviews with the organizations that are responsible for recreation facilities, maintenance, scheduling, and budgeting.

Surveys and interviews of residents and stakeholders of a community being the best gauge of what types and numbers of facilities a park system needs to provide, it can be determined that additional facilities are needed, as presently service is considered deficient. Specifically, additional parking, walking trails, fields for ball sports (soccer, lacrosse, and baseball) are in demand.

Upkeep and maintenance of these spaces has not been noted as a critical concern, however leaders in the Borough of Emmaus have identified facility improvements that will make serving the demands of sports leagues and their citizens easier and more efficient.

According to a key group interview for Emmaus Borough, there is a big deficiency for all types of ball fields, including, soccer, football (also used for lacrosse), and baseball fields. Likewise during key interviews in Lower Milford and Upper Milford the need for ball fields, especially for younger youth sports organizations was expressed. In Macungie Borough, a key interview noted that swimming pool improvements were important to accommodate facility users. According to a survey respondent from Lower Milford, adequate walking trails are much needed in the region, and respondents are willing to travel for such amenities. The Appendix includes inventories of facilities found in each park and suggests opportunities for improvements in order to serve projected population demands.

Table 6.f. Recreation Facilities Demands

Item	Emmaus	L. Milford	Macungie	U. Milford	No. of Ex. Items	NPRA Standards 1 per x/pop	Current Demand	2030 Demand	Additional Demand (2030)
Community Center	0	0	2	0	2	25000	1	1	(1)
Multi-Purpose Field	2	1	4	1	8	2000	13	14	7 (2)
Soccer Field	4	0	2	5	11	10000	3	3	-
Baseball Field	5	0	5	3	13	5000	5	6	-
Softball Field	3	0	2	0	5	5000	5	6	1
Batting Cage	2	0	1	2	5	-	-	-	n/a
Football Field	0	0	0	0	0	20000	1	1	1 (2)
Basketball Court	7	0	1	1	9	5000	5	6	-(1)
Volleyball Court (paved)	2	0	0	3	5	5000	5	6	-(1)
Volleyball Court (sand)	2	0	2	2	6	(see above)	(see above)	(see above)	-
Volleyball Court (grass)	0	0	0	1	1	(see above)	(see above)	(see above)	-
Swimming Pool	1	0	2	0	3	20000	1	2	(3)
Walking Trail	2	0	1	1	4	20000	1	2	-(4)
Asphalt Trail	1	0	0	1	2	-	-	-	
Fitness Stations	0	0	0	1	1	-	-	-	-
Golf Course	0	0	0	0	0	25000	1	1	(private)
Tennis Court	3	0	2	3	8	2000	13	14	6 (5)

Notes:

(1) The community centers included here are Macungie Institute and the gymnasium/banquet hall facility in Macungie Memorial Park. Whereas Macungie Institute provides needed space for many indoor recreation activities, it is not designed for organized indoor sports leagues. The gymnasium at Macungie Memorial Park is designed for indoor sports, however funding for maintenance cannot keep pace with demands for use, therefore the association that owns and operates this facility limits usage.

Although this analysis does not reveal the current and future demand for basketball and volleyball facilities, key interviews reveal a need for space for these indoor sports, as leagues are growing. Space in schools is in demand by the schools, forcing youth associations and club teams to request space elsewhere.

(2) Key interviews reveal a need for midget football league space, a growing demand for kickball space, lacrosse, and field hockey fields. Additional multi-purpose fields would aid in meeting demands for seasonal field sports. Multi-purpose fields can also provide space for t-ball fields, freeing up baseball and softball fields for the demands placed on those facilities.

(3) The swimming pools in Macungie and Emmaus are serving populations from outside these municipalities, and the planning area. Further, the pool in Macungie is in need of capital improvements which are difficult for the non-profit association to budget for to accomplish major improvements.

(4) Walking trails as a facility should be met through greenway planning and creating Linear Parks throughout the region. The SWLC has good walking paths. (Macungie, South Mountain, Churchview Park, Emmaus Community Park) a network to connect them is a noted demand.

(5) Although this analysis demonstrates a demand for additional tennis courts, key interviews and surveys do not indicate a local preference for tennis.

#### **6.4. Results of 2007 Public Survey**

A survey questionnaire was mailed to each household in the Borough of Emmaus, the Borough of Macungie, and Lower Milford Township. Households in Upper Milford Township were given the opportunity to respond to a similar survey in 2003; the results are considered valid today and have been culled together with the results of the 2007 survey. In all 1,431 responses have been received from a total of 10,142 households, bringing in statistically significant results of 14.1% overall. (In 2003 Upper Milford gained responses from 18.5% of households, and in 2007 the rest of the planning area provided a 12.7% return.)

The purpose of the survey was to gain insight into usage patterns, and input on popular demands for recreational facilities. Questions to gain insight into the public's attitude toward open space were also posed through this means. The following summary results are for the entire region.

##### **Question 1: How long have you been residing in the area?**

The majority of responding households reported that they've resided in the SWLC area for over 30 years, 31%. Reporting that they've resided in the area for 16-30 years were 26%; as were those reporting having resided there for 6-15 years. Fourteen percent have lived in the area for 1-5 years, and 1.5% for one year or less.

##### **Question 2: Indicate the number of people in your household in each of the following age groups.**

The majority of households have persons who are 36-64 years of age. The second highest age bracket is the over 65 group. Age groups representing children and youth, ages 8-15, and ages up to 7 are the next highest. From this it can be surmised that family households, and older residents populate the SWLC region. There are nearly equal numbers of households with persons in the 16-20 age group and the 26-35 age group. The 21-25 age cohort is the least

frequent.

##### **Question 3: Which park or recreation facilities have you and persons in your household used in the past year?**

The top five facilities are listed below, presented in order of highest number of responses to fifth highest.

- 1.) Emmaus Community Park (632 respondents, of which 351 reside in the Borough of Emmaus, and 189 reside in Upper Milford Township).
- 2.) Macungie Memorial Park (560 respondents, of which 212 reside in Upper Milford Township, and 194 reside in the Borough of Emmaus).
- 3.) Jasper Park (404 respondents, of which 214 reside in Upper Milford Township, and 117 reside in the Borough of Emmaus).
- 4.) Pool Wildlife Sanctuary (391 respondents, of which 187 reside in the Borough of Emmaus, and 148 reside in Upper Milford Township).
- 5.) Lenape Park (328 respondents, of which 181 reside in Upper Milford Township, and 88 reside in the Borough of Emmaus).

##### **Question 4: How often do members of your household use parks, recreation programs and facilities?**

The highest number of responses indicates that adults use these resources several times per year. The next highest response indicates that adults, youth, and children use these resources several times per week.

##### **Question 5: What influences your decision to use a park or recreation facility? (Choices include: proximity to residence, programs and activities, facilities available, or other reason with opportunity to write in a reason.)**

Ranked in order of highest to lowest level of response: proximity to residence, then facilities available, then programs and activities. There were 134 "other" responses, the majority of

reasons written in indicate natural environment is a popular reason residents enjoy area parks and recreation facilities.

**Question 6: Would you be willing to have an increase in taxes to support improved and expanded facilities and programs?**

Over half of all respondent households indicated “no”.

**Question 7: Are you a member of an organization or group involved with any type of outdoor recreation activity?**

Over half of all respondent households indicated “no”.

**Question 8: Which types of park and recreation facilities do you and members of your household use most frequently or desire most to use that are not currently available?**

Of the 34 possible activities, trail-use activities were indicated as the most frequently used and the most desired. Prioritizing type, trails for fitness/jogging/walking were indicated as most frequently used. Trails for hiking and nature enjoyment was the category indicated most desired and received the second most replies for facilities used. Bicycle trails ranks third in this list as most desired by survey respondents.

Corresponding these results with the results of the 2003 Upper Milford Township survey, expresses a similar demand for trails. The UMT survey combined the listing for fitness and hiking trails and this item received the third highest number of responses for recreational facilities desired. The item with the most responses is for “undeveloped open space”. It can be surmised from culled together results that all communities desire open space, as trails for hiking and nature are an appropriate use of community open space when managed properly. The Upper Milford Township survey indicates that neighborhood park is the second most desired type of facility.

**Question 9: When thinking about the place that you use most frequently for recreational activity, how would you describe it?**

To gain responses to this question, a list of seven typical types of places for recreation were listed, with the opportunity to respond “other” as the eighth choice. The majority of respondents indicated that they use public parks for recreation (793, including 1 response indicating that they recreate in state parks). The second highest response was for private at-home play equipment. The third most frequent response was for health or fitness club.

**Question 10: When you consider the quality of life in your neighborhood, on a scale of 1 to 5 (where 1 is very important and 5 is not at all important) please choose how important each of the following statements are about parks, recreation, and open space areas.**

Five of the six statements received a response of “very important” from the majority of respondents. Here they are ranked by number of responses from highest to lowest:

- 1.) Protecting open space from development (1,186)
- 2.) Preserving environmentally sensitive areas (1,077)
- 3.) Providing play areas for children and youth (615)
- 4.) Making neighborhoods more attractive places to live (552)
- 5.) Offering recreation facilities for adults and seniors (404)

The sixth ranking statement, “Creating areas where neighbors can get to know each other” was indicated as of neutral importance with most respondents giving it a “3” (438).

**Question 11: When you consider the quality of life in the Southwestern Lehigh County region, on a scale of 1 to 5**

**(where 1 is very important and 5 is not at all important) please indicate your level of agreement with each of the following statements about open space and agricultural areas.**

All four statements in this section received “very important” responses from the majority of households. Below the statements are ranked in order of highest number of responses to lowest.

- 1.) Open space contributes to overall quality of life (702)
- 2.) Agricultural land contributes to the overall quality of life (608)
- 3.) The public has a role in financing the protection of open space (293)
- 4.) The public has a role in financing the protection of agricultural land (244)

**Question 12: Are you or would you be willing to participate as a volunteer to assist in a public recreation area, facility, or program?**

The majority of respondents (1,178) indicated “no”.

**Question 13: Would you be willing to participate as a volunteer on an environmental advisory council?**

The majority of respondents (1,284) indicated “no”.

## **6.5 Highlights of Key Interviews**

### *Key Interview: Wildlands Conservancy*

Lehigh River watershed: continuing activities to support the goals of the Lehigh River Watershed Conservation Management Plan

South Mountain Preserve: continuing activities to manage use of the preserve, in support of the South Mountain Preserve, Conservation, Greenways, and Trails Plan, continuing outreach to add to the Robert Rodale Reserve; involved with

Lehigh Mountain, Walking Purchase Park plan

Lehigh Valley on-the-ground partner in the Highlands Coalition, actively supporting conservation of NAI sites, connecting critical habitats, and promoting compatible recreation (hiking, bicycling, open space protection), Lehigh Mtn, South Mtn.; promoting Metro-Wilderness theme (Highlands Coalition office opened in S. Bethlehem, Jonathan Meade). Woodlands are also important to the Highlands to support connectivity; promoting Highlands Conservation Act to gain federal level action, affording priority status for protection of natural resources in this region.

Wildlands Conservancy stands ready to receive conservation easements to support NAI protection throughout the planning area, Green Futures Fund grant facilitation, encouraging prioritization of NAI sites; involved with stream restoration projects, including the Hosensack Creek, at the PPL site

Municipal outreach program for the Highlands region subject of DCNR grant, WC has hired staff to carry out program, is inventorying EACs and the tools available to protect open space Involved with municipal outreach, to encourage formation, and expansion of responsibilities of Environmental Advisory Councils, aiming to reach out to the Emmaus, Upper Milford EAC, and Lower Milford Township

Promoting land conservation-based zoning and land development ordinances; promoting use of Official Map planning tool for resource protection, and Environmental Advisory Councils

WC is assisting Lehigh County on an inventory of County owned property, preparing recommendations on what should happen to these parcels. Conducting assessment of confidential list of parcels to make recommendations on priority and means of protection.

The Seem Seed Farm (the largest county holding in the planning area at 400+/- ac.) is subject of a proposal to create a demonstration farm that will function also as an incubator for new farmers and farming techniques, to promote production

of high value crops, establishing a model for the state (participants are FarmLink, PASA, LCCD, Penn State Cooperative Extension, Delaware Valley College, has support of Lehigh County, State Dept. of Agriculture Sec. Dennis Hall. Purpose is to preserve farming as an industry.

*Key Interview: Coalition for Alternative Transportation*

(This board member for CAT is also formerly a Recreation Commissioner for the Borough of Emmaus, is a fitness coach, and fitness writer, a trail runner and a bicyclist.)

Coalition for Alternative Transportation is a Lehigh Valley-based group that advocates for bicycle usage for transportation and recreation, promote safe connectivity, on-road and off-road, pathways and trails. CAT has 500 active members, average age of members is 40, its office is located in Bethlehem, where a bicycle cooperative is located.

Interviewee uses South Mountain for trail bicycling and trail running.

Sees a need to meet the demands for alternative sports, skateboard/terrain parks. Sees a growing demand for good bicycling facilities (safer roadways, connections to trails and trailhead facilities) and sees these as meeting more age groups (youth to adult)

There are existing mountain bike trails on South Mountain and on nearby Lehigh Mountain, maintained by mountain biking clubs. BMX riders, who use terrain parks, become mountain bike riders (often).

Interviewee believes that the demand for traditional sports facilities is met (there are enough ball fields for baseball, football, soccer, etc.)

Interviewee feels that it is easier for residents who present a single issue to municipality gain attention than it is for a group with a broader agenda to help make change.

*Key Interview: Upper Milford Township Recreation Commission*

Having recently completed a Parks, Recreation,

and Open Space Plan, the commission feels it has been proactive, as far as expanding their park systems; they've adopted a "wait and see" tact. They believe taxpayers want to keep their tax dollars within the township.

The Recreation Commissioners support measures to control/slow growth through zoning and land development ordinances. They have identified a parcel on St. Peter's Rd. that may be appropriate for park/open space acquisition. The Schreiber subdivision should contribute to parks and recreation

Lower Macungie Township's growth in population has placed the strain on park facilities faced (primarily in Macungie and Emmaus); it was acknowledged that they are looking for ways to accommodate the demand created by their growth. They suggest that Emmaus limit EPSD use of their municipal fields, so that they are available for community sports groups.

On the whole they do not favor pocket parks, though one is proposed as part of a cluster development on Indian Creek Rd., where the homeowners association will own and maintain the park.

They recommend that the Fulmer Tract remain for conservation purposes, could accommodate appropriate use, trails (suggested a Braille Trail like one at the Montour Preserve)

Lenape Park: recently upgraded with a new concessions stand; the sight distance at the entrance is poor and in need of improvement; grading to improve drainage will help improve field conditions and maintenance.

Jasper Park: the sight distance at the entrance is poor and in need of improvement; it is used for encampments by the Lenape Historical Society; long-term, if ball fields can be developed elsewhere, Jasper Park might best serve as a conservation park for open space and provide appropriate recreational uses, hiking, bird watching, and the like.

Churchview Park: appropriately used for hiking, primarily serves the township.

Lighted ball fields would help extend usage.

Youth basketball league is growing (UMYA) and is need of space, rents from Victory Valley, and uses the Macungie Memorial Park Recreation center. Development of a recreation center could help with this demand.

Residents have requested a dog park.

There is vocal support for keeping the township rural in character.

Seem Seed Farm: development of a regional park might help all communities involved in the regional plan, alleviating Emmaus and Macungie somewhat. Would benefit Upper Milford Township as well, new ball fields could reduce the need for ball fields at Jasper and Lenape Parks (keeping fields active at Lenape over the long-range, converting Jasper Park to conservation over the long range.) The view is that Seem Seed Farm could accommodate both active recreation and conservation-appropriate recreation, and farming. (Though commissioners are aware that current residents favor conservation/rural character, they feel that active recreation is open space protection and that new residents would favor active recreation) Key ideas include:

Use of the pond for fishing is a liability;

UMT needs 4 baseball fields, the region could use 8 baseball fields. 4 are needed for younger age groups alone, and at least 2 for older groups. Lighted fields extend usage.

UMT needs 2 full size soccer fields, the region needs 4 (again lights could extend use)

Parking lots would be needed

A regional police force will be needed for safety, traffic management, deter vandalism

Walking trails would be appropriate

A master plan is needed, Wildlands Conservancy should be involved with it.

A regional board would be necessary, with a regional funding stream, to ensure fairness

When a golf course was proposed, residents were concerned about traffic

If a sports complex were to be developed, it would alleviate demand on smaller, inferior parks were the entranceways are each a concern, they could be re-purposed to more appropriate activities.

*Key Interview: Borough of Macungie Park Facilities Managers*

Represented were: Macungie Memorial Park, Macungie Institute, Kalmbach Memorial Park, and the Macungie Flower Park, the Borough was represented by its Mayor

If serving only borough residents, population not growing at a significant rate, the facilities available within the borough appear to meet demand. There is no space to acquire to provide significantly more parks and recreation space. Feeling increasing demand from population growth in Lower Macungie Township, to a lesser extent from Upper Milford Township.

Macungie Institute: supported by the borough, following a business plan striving for self-sustainability; evenings and weekends are nearly fully reserved, weekdays during the daytime show capacity for programming, and the manager is marketing the facility to businesses for rental. A variety of activities are held at the Institute, classes, fitness classes, the historical society for Macungie, scout groups.

Macungie Memorial Park: owned and managed by a volunteer association who accepts new board members who are willing to volunteer (don't need to be borough residents). Most user groups who rent the park for special interest events are themselves self-sustaining and the income from gate fees and refreshment sales, support the maintenance required to accommodate them. The gym was recently upgraded; use of it is limited to allow deferral of maintenance. The swimming pool is the biggest challenge, it will soon need a new pump system, it doesn't have a diving board (reducing memberships). It is used extensively by day care centers located outside

the borough (who take care of children from all over the region)

Kalmbach Memorial Park: managed by a board of directors who have hired a land and programs manager who also lives on site, and endowment supports the park, which is self-sustaining, it is meeting the purpose stated, to serve the residents of the Macungie area free of charge, programming is continually evaluated and adjusted based on popularity, teens show little interest in programs.

Macungie Flower Park: initial funding was privately donated, maintenance is provided by the borough (watering) and by volunteers (ensuring a volunteer base over the long term is a concern), which serves as an adult recreational activity, the replica train depot is a sitting place, plans include planting more perennials.

The play lots in the borough serve their purpose; the Spruce St. lot is not used.

Memorial Park is serving the borough and the region extensively, leagues use the fields, day cares use the pool, special interest events (vehicles, pets) and concerts use the fields (serving the region), the picnic facilities are heavily used, as are the playground structures. It is where community celebrations are held (4th of July, holiday trolley). Cruise nights are more popular, Das Awkfest is waning. Use/maintenance is at a sustainable level for ball fields, the pool (needs diving board, but not designed to modern standards to allow) and the gym are the biggest concerns, no longer allow indoor soccer, organized outdoor volleyball has waned.

*Key Interview: Lower Milford Township Recreation and Open Space Board*

The population of the Township is geographically dispersed, the foreseen growth over the next 20-30 years, mostly young families moving in, they want close-to-home recreation space, will need ball fields for youth leagues.

Township residents use Upper Saucon Township parks and Coopersburg Living Memorial Park and Pool, information sharing happens through

schools (S. Lehigh SD), working to augment the Upper Saucon Township park system.

Baseball park at Limeport serves adult leagues, regional

Township leaders are revising land development ordinances to allow a balance of growth and open space protection and farmland conservation, want to maintain rural character, working toward recreation/open space provisions in the SALDO, want to achieve buffer zones, greenbelts around neighborhoods. The Parks and Recreation Board support conservation development, strengthening ordinances to protect natural resources, with overlays for wetlands, woodlands, creek setbacks, requiring 60% open space, use of mechanisms as home owners associations, township ownership, and land trust for easement holding. Will support use of conditional use option to gain optimal open space/recreation/natural resource conservation results, will support transfer of development rights to achieve these goals also, will support use of Official Map for greenway, natural features and areas recommended for preservation.

Connectivity of open space is desirable, for wildlife, for trails, hiking and horseback riding, some bicycling, not mountain biking, connectivity to South Mountain trails desirable. Support for trail development by developers as recreation contribution (portion).

Most roads are 2nd & 3rd class roadways; bicyclists use Township roads (routes titled "Hills of Emmaus" and "South Mountain Century"); Kings Hwy. carries 2500 v/d; Limeport Pike is heavily traveled; most is due to increased population outside the township.

Agriculture: The Lehigh County Agricultural Conservation Easement program has been successful (2700 acres); there are concerns for the sustainability of agriculture over the long term; niche farming for organics, specialty produce/livestock, for farmer markets, cooperative farming, all are supportive of smaller tract farming, horse farms, nursery stock, Christmas tree farms, pumpkin patches; rural character important to support agriculture, open space protection helps this.

Within the Southern Lehigh School District area (Lower Milford Township, Upper Saucon Township and Coopersburg Borough) Lower Milford Township probably presents the best opportunity to form a regional park, given that there remain large undeveloped parcels.

*Key Interview: Borough of Emmaus Recreation Commission*

The borough park system is beyond capacity for all types of ball fields, soccer, football, baseball, also used for lacrosse (a newly popular sport); they need additional little league regulation fields, they turn away requests and base their usage decisions on team rosters, favoring teams with borough residents.

Feeling demand from the EPSD area, primarily Lower Macungie Township, where the population has grown, some demand from Salisbury Twp, some from Upper Milford Twp.

The borough park system serves predominately school aged children, the t-ball program has grown, there are some adult sports groups.

Due to field space limitations, softball tournaments (a revenue source) bump t-ball and baseball practices and games.

Soccer and football use the same fields. EPSD use borough fields for practices.

Space for lacrosse is a new demand, from the Lower Macungie Township residents primarily. The skating rink is popular when it can be kept frozen; this limits ability to provide lessons and a hockey rink. Kickball is becoming popular; volleyball clubs use EPSD gyms.

Bicycling is very popular; roads are not safe, connections to South Mountain trails (trailhead) desired.

The new walking path at Community Park with the LCCD stream restoration project is lightly used, needs signage to acquaint the public, themed signage throughout the borough for the park system is desirable.

A Leibert Creek greenway could connect

Community Park with Indian Creek Golf Course (disposition of golf course often a concern) at least for stream protection.

Natural resource open space, when publicly funded should provide appropriate use, hiking, bicycling. Borough residents do benefit from close to home natural resource open space. The Bicycling community is large in the Emmaus area. Borough residents use the Little Lehigh Creek Parkway in Allentown. They use Pool Wildlife Sanctuary for environmental education and hiking.

*Key Interview: Borough of Emmaus and Upper Milford Township Environmental Advisory Council*

Formed to advise on the Leibert Creek watershed, a tributary to the Little Lehigh Creek, with headwaters in Upper Milford Township; a Lehigh County Conservation District sponsored project in Emmaus Community Park was completed, native plants and stream bank restoration are now completed with a walking path, restoring the riparian zone as a demonstration project.

Looking for additional riparian zone restoration projects to complete along Leibert Creek.

Also looking into the Indian Creek watershed, headwaters for the Macungie Municipal water system, for protection/restoration projects.

Suggested that the Seem Seed Farm be allowed to grow fallow after farming lease is terminated. Allowing natural processes to overtake and return the area to become an environmental resource. Some appropriate recreational uses, bird watching, hiking, might be allowable if properly managed.

*Key Interview: South Mountain Cycles, Emmaus*

Emmaus is a hub of bicycling activity, nearby are the following popular places for bicycling: Little Lehigh Parkway (pathway and park roadways, Allentown), South Mountain Preserve, Walking Purchase Park, (mountain biking, Upper Saucon Twp. and Salisbury Twp.) western Lehigh County eastern Berks County have been good areas for roadway bicycling (Lehigh Valley Velodrome, Bob Rodale Park, Upper Macungie Twp.)

though development over the course of recent years has increased traffic on local roadways to the point of being unsafe. Some roadway circuits follow through Lower Milford Township and Upper Milford Township.

Emmaus is a town, didn't want to locate in a shopping center.

The connection from Emmaus to the Little Lehigh Parkway for bicyclists needs to be completed along Keystone Drive, a narrow stretch of roadway makes it unsafe for the average bicyclist to travel. The most popular form of bicycling (based on sales) is road to pathway riding (Little Lehigh Parkway being the most popular facility in the area for this type riding).

Mountain bicycling is very popular, there are several groups who build and maintain trails on South Mountain and Lehigh Mountain, and it is a part of their ethic to properly maintain the trails they use. Young adults enjoy this form of bicycling.

Road bicyclists groups also exist in the area, having long-term support, adults ranging in age from 30 – 60 years.

Population growth has fueled demand for bicycling; increasing popularity of BMX bicycling among older youth and young adults presents the need for terrain parks.

There aren't enough paths for bicycling, Little Lehigh Parkway is heavily used. Lehigh River towpath floods, it is not complete, it is linear not looped, and towpath could be a good intra-regional connector to towns and other paths. Perkiomen trail is a good example; connecting into it from the Emmaus area would extend the reach.

Generally maintenance of pathways is good, roadways are generally well maintained, though getting more vehicular traffic.

Reducing the rate of development can help keep roadways safer for bicycling. Accommodating bicycling with roadway improvements should take place. Preserved open space presents opportunities for trail sports. The presence of Rodale,

Inc., helps increase demand for bicycling and trail sports.

*Key Interview: Rodale Inc.*

Rodale, Inc. is a publishing company that produces books, and magazines about wellness, fitness, and healthful living. Fitness is a big part of corporate culture. Employees attracted and recruited to work for the company tend to be fitness oriented.

Rodale provides fitness facilities on site for all employees, as well as fitness programs that include routes for bicyclists and runners to be able to exercise during breaks. The company also maintains a couple of company owned fitness parks with ball fields, they are primarily for use by company teams, but they have been made available to the community at large for organized sports (when available) and are always available for casual use when not in use by teams.

Their facilities are meeting the demands and there is capacity for growth. Bicycling and running are very popular among employees and connectivity to the region's facilities (Lehigh Canal Towpath, Perkiomen Trail, Little Lehigh Parkway) would be ideal.

An identified demand for a skateboard park was discussed; Emmaus High School has created a club and has allowed club members to use the property as a terrain park to some extent. Development of a park with a terrain park would be ideal for the area. It was expressed that traditional field sports get more attention than alternative sports from the municipalities.

Roadways for bicycling and running are less safe as they increasingly carry more traffic as Lower Macungie Township's population grows with development. Off road trails have opened up providing some alternatives. Connections are needed, to South Mountain, to Little Lehigh Parkway, and to the Lehigh Canal Towpath.

As Rodale, Inc. grows, the demand for bicycling and running increases in the area.

A primary factor in deciding where in the

region to live (for new employees) is the school district and the sports programs. (EPSD has a good reputation on both counts). A secondary factor is lifestyle, urban, town, suburban, or rural. Also considered is spouse's commute to work.

It was noted that when municipalities allow fees-in-lieu of land donation from developers, the opportunity to protect open space is lost. It is felt that Rodale employees make use of the trails at the Robert Rodale Reserve, open space protection important to them.

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## Section 7

# Conclusions and Recommendations

### 7.1 Conclusions

1. Although there are pressures to develop beyond the urbanized area of the SWLC area, the opportunity to reserve open space for parks and for natural resource conservation still exists.
2. It is important to ensure that existing park areas used for public recreation remain available to the public in perpetuity – any loss of existing parkland or natural resource open space would be to the detriment of the entire area.
3. Many of the Lehigh Valley's Outstanding Natural Resources are present in the SWLC area; with impending pressure to develop, now is the time to seek measures to protect these critical natural areas.
4. Establishing a "green infrastructure" using as a core the Lehigh Valley Greenways Plan is a good basis for meeting public demands for providing recreation space and preserving natural resource areas to ensure healthy ecological functions.
5. Regional Park space is presently at a deficit, and by year 2030, 425.2 acres will be in demand according to NPRA guidelines.
6. Local, Close to Home Park space is presently sufficient in acreage, according to an analysis against NPRA standards, however nearly 70% of Local, Close to Home Park space (as classified by LVPC) is not owned by either Lehigh County nor the municipality where these parks and facilities are situated.
7. Lower Milford Township (at the time of this writing) has no township-owned parks or public recreation facilities. In light of a forecast for unprecedented growth, now is the time for this township to enact land development codes that balance growth with open space protection and parks provision (via Official Map adoption, enactment of fees-in-lieu, and other measures).
8. Parks and recreation facilities usage demands have increased due to population increases in neighboring Lower Macungie Township; it is therefore important to strive to include this municipality in the SWLC area planning efforts. Including Lower Macungie Township and the Borough of Alburtis would provide the same "footprint" as the 2005 Comprehensive Plan for the SWLC Area.
9. Upper Milford Township has a fairly balanced infrastructure of Parks facilities, having municipal, County, and Conservancy owned sites within its borders. Development of these sites to meet recreation demands is an important objective. Having a current Parks, Recreation, and Open Space Plan provides the local basis for appropriate land development codes. Participation in this multi-municipal Parks, Recreation, and Open Space Plan allows for cross-municipal resource sharing, should these opportunities develop.
10. According to an area-wide analysis of recreation facilities against NPRA standards and guidelines, there aren't strict deficiencies in provision of most facility types. This analysis doesn't hold up to realistic demands on existing facilities as expressed through local input. In addition to seeking means to facility sharing across municipal borders, development of additional multi-purpose ball fields and improvements to existing fields to increase usability is important to plan for.

11. As is evident in review of the Public Survey results and Key Interviews, there is tremendous interest among residents of the area in trail-based activities and safe bicycling routes. These activities are supported by the Lehigh Valley Greenways Plan, and the 2005 SWLC Comprehensive Plan. These activities can be further enhanced if connectivity is considered with each park, open space and local transportation decision. (off-road and/or safe roadway sharing).
12. Programming and facilities for teenagers does not keep pace with need, according to key interviews. The middle and high schools by default are the facilities for teenagers, however these provide traditional competitive sports and clubs usually associated with a school environment. Teens who desire to find alternative sports and forms of recreation find it difficult to find appropriate space for their activities.
13. Support for agriculture is reinforced through open space protection; efforts to ensure viability of farms and local downtown areas are reinforced when viewed comprehensively and in concert. (i.e. local produce, in-town farmers markets, niche farming and local consumer support for niche farm produce).

## **7.2 Recommendations for Parks, Recreation, and Open Space on an Area-wide Basis**

1. Balance the provision of parks for organized and active recreational pursuits with protection of natural features and resources. Use the findings of the Green Infrastructure Map to support adoption of Official Maps in each municipality, public acquisition, easement protection, or other forms of resource protection (including development ordinances) to fulfill the needed for ecological connectivity, and the public desire for rural character.
2. Provide appropriate types of recreation in publicly sponsored natural areas (typically trail-based activities and nature study) in support of Green Infrastructure.
3. Promote Green Infrastructure for balanced connectivity for both recreational and ecological purposes. This will also aid in retaining the rural character that is desired by residents. Many open space sites in the SWLC area are owned by entities other than public ones. Presently there are cultural values associated with these sites, many provide for active recreation that residents of the region depend upon, and some actually reinforce rural character and support Green Infrastructure. These sites should be considered for easements, acquisition, or other form of protection from change. Some sites that are extensively developed, such as the country clubs and golf courses present limited opportunity for connectivity and ecological functions. If these sites became available, or were proposed for development, careful planning to reintroduce native landscapes and to protect natural watercourses is recommended. Other privately owned sites that provide recreation and leisure-time pursuits may or may not be desirable for public acquisition if, or when they were to become available. This would depend on how these sites fit into the area's Green Infrastructure, whether or not important Outstanding Natural Resources are located at these sites, and funding availability. In some cases, land development ordinances can achieve conservation while balancing sensitive development.
4. Strive to incorporate Lower Macungie Township and the Borough of Alburty into the SWLC Parks, Recreation and Open Space Plan. Population growth has generated demand on resources from Lower Macungie. Future plans for recreation space development in Lower Macungie Township will likely include the Camp Olympic site which is located near centers of population within the municipalities that are part of the SWLC area who will be drawn to use this facility. Also, how the provision of recreation facilities at Camp Olympic may affect the demands on facilities in the Borough of Macungie and the Borough of Emmaus, and to some extent Upper Milford Township needs to be studied.

5. Work toward establishing a SWLC Area Parks, Recreation, and Open Space Council to carry-out the recommendations of this plan. The SWLC Comprehensive Plan, 2005 recommends a Recreation Coordinating Council in each of the school districts of the SWLC area to oversee recreation facilities. If divided by school district, many of the other recommendations of this plan will become difficult to plan for, such as those for Green Infrastructure. It is therefore important for such a Council to liaison with the two school districts that serve these municipalities, as the schools both provide facilities for recreation that can help in meeting demand, and they place demand on public parks (as is the case in Emmaus accommodating the East Penn School District). Suggested responsibilities of such a council include: developing a master scheduling process, develop promotions, marketing, and wayfinding system for the park system, developing a budgeting mechanism that funnels County support, grants and other forms of acquisition/procurement support to the municipalities. These are just a few suggestions, an exploratory task force of constituent leaders would best create the full scope of responsibilities for a regional council. Suggested constituents include: Recreation Commissions of each municipality, Youth League Associations, Environmental Advisory Councils, Wildlands Conservancy, Rodale, Inc., Lehigh Valley Wheelmen, Lehigh Valley Roadrunners.
6. Develop a Master Plan for Lehigh County holdings in Upper Milford and Lower Milford Townships. There are substantial land areas owned by Lehigh County that may be appropriately developed for some recreation facilities. In conjunction with Lehigh County, and the Lehigh County Conservation District, the SWLC Area partners, Wildlands Conservancy, and Lehigh Valley Planning Commission would have a stake in developing a Master Plan for the tracts held by the county. Plans that are currently under development for the Seem Seed Farm support agriculture. Church-view Park, the Lehigh County Conservation Demonstration Site, may be appropriately developed for some Regional Park amenities while protecting natural resources.
7. Begin site selection for a Regional Park. Lehigh County, together with the SWLC Area partners, Wildlands Conservancy, and the two school districts would be advised to identify members for a task force to begin the process of site selection for a Regional Park of approximately 425 acres to serve both active and passive recreation needs. Ideally a selected location would functionally connect green infrastructure, become a node in the context of greenways within the region, and provide needed field space for popular sports activities. Ultimately a Master Plan for a Regional Park would determine needed recreational facilities and specifications.
8. Begin site selection for a community center, keeping the existing facilities incorporated in program planning. This is to ensure that overlap isn't created, (especially with respect to Macungie Institute) and to consider opportunities for funding of operations and improvements to existing facilities, such as the gymnasium in Macungie Memorial Park.
9. Establish a task force to explore meeting the recreation demands of teenagers of the community. The need for a skateboard park has been expressed in several key interviews. Other alternative sports that may be appropriate include mountain biking, frisbee golf, indoor activities provided in a community center, a music venue, and the like. Although the facilities for meeting teenagers needs are not always suggested in standards and guidelines, many these forms of recreation have staying power and can be expected to meet needs for a long time.
10. Establish a task force to further explore the implementation of the trails and bicycle-ways component of the 2005 SWLC Comprehensive Plan. It is advisable to include Lehigh County, LVPC, SWLC Area partners, PA DOT District 5-0, Lehigh Valley Wheelmen, Coalition for Alternative Transportation, and Rodale, Inc., in such an endeavor. Public

surveys and key interviews indicate broad support for recreational trails and connectivity improvements. The SWLC area is fast-growing, although there is an overriding desire to retain the rural character. Planning for and provision of recreational trails and connectivity for bicyclists, runners, and hikers, works in lock-step with regional plans for Lehigh Valley Greenways, Natural Resources, and Natural Areas Protection. This is a primary purpose for developing the Green Infrastructure Map for open space in conjunction with Parks and Recreation planning.

11. Park master planning and park land management practices advisedly should incorporate native species plant materials, wetlands plants where appropriate, and plans for management of invasive non-native plant species. Best Management Practices for wetlands, riparian zones, floodplains, and areas of hydric soils are important to follow to ensure healthy ecological functions and to promote wildlife protection.
12. Draft and adopt an Agricultural Resources Plan. Lehigh County stands to be a leader in farmland conservation especially in light of developing plans for the Seem Seed farm. In concert with this plan, establishment of Green Infrastructure for the SWLC Area, and the 2005 SWLC Area Comprehensive Plan, a logical outgrowth is planning for the continuation of farming and agriculture in the area. Sustainable agriculture and niche farming are practices that are growing in the region, and the SWLC Area stands to be a demonstration of how conservation farming works within the context of the greater community through planning. It is advisable to include the promotion of in-town farmers markets in such a plan.

### **7.3 Recommendations for Each Municipality that will Support the Region**

1. Secure Macungie Memorial Park for public recreation in perpetuity. Explore options to either secure it through outright public pur-

chase, purchase of development rights, deed restrictions, or other means. Macungie Memorial Park provides Community Park space, and serves Regional Park space needs. The pool located here is in need of capital improvements, which could be draining on the current reserves of the current owner. This facility provides needed recreation for residents of the Borough and outside the Borough. If this site were to be lost, the affects would likely be felt throughout the region, though most profoundly in the Borough of Macungie, which is positioned as a cultural center for the region.

2. Support Lower Milford in securing Close-to-Home Park space. The population increase in Lower Milford projected over the 30-year horizon will be the greatest within the SWLC area. The Township is taking steps to ensure natural resources protection through development standards; this provides opportunities to reserve some space for active recreation while promoting connectivity for recreational trails and for ecological purposes. Lower Milford Township is also in the process of drafting its first Parks, Recreation, and Open Space Plan, which will give it the basis for enacting ordinances for land dedication and fees-in-lieu of land within their updated Subdivision and Land Development Ordinance. It is recommended that Lower Milford Township explore the creation and adoption of an Official Map to highlight opportunities to enhance the Green Infrastructure, as there are several Outstanding Natural Areas within the township. With these tools, officials can ensure that parcels that fall within Official Map areas are addressed appropriately through the review process. These tools will provide for appropriate active recreation facilities development at a pace that responds to increases in population. Providing for Close-to-Home Park space while protecting important natural features and connectivity will enable the area to retain a rural character, in balance with the Township's successful Farmland Conservation Preservation efforts.

3. Provide for some level of recreational use of County-owned land that is located in both Upper Milford Township and Lower Milford Township, the Lehigh County Conservation District Demonstration Site. This site currently provides for passive recreational activities and is recommended to have a master plan prepared for its on-going use. LCCD, and Wildlands Conservancy need to be involved with such an effort. The 435-acre Seem Seed Farm will remain in agricultural use, supporting farming in Lehigh County and enhancing the rural character of the region. The 17-acre Churchview Park may present some opportunity for regional facilities identified as needed, though unless additional acreage can be added, the service area will be localized to meeting needs in Upper and Lower Milford Townships (younger-aged youth leagues, for example).
4. Both Upper Milford Township and Lower Milford Township have significant woodland areas. These woodlands are important to the green infrastructure of the SWLC Area. As such, each township is advised to ensure land owners follow sound forestry management procedures when harvesting. LVPC has model ordinances available for townships to adopt, as needed.
5. The Borough of Emmaus, having the most fully-developed parks and recreation system, is receiving the brunt of demand from the entire region, and from Lower Macungie Township (though to a lesser extent from Lower Milford Township which historically has aligned with Upper Saucon Township and the Borough of Coopersburg). Representatives of various constituent groups have clearly articulated improvements that would serve to provide for the entire region. The Recreation Commission has enumerated physical improvements that will enhance the existing parks; those recommendations are incorporated in the Opportunities listed for each park in the Municipal Parks Inventory of the Appendix.
6. Emmaus is a hub for bicycling and runners. The presence of Rodale, Inc. supports this, as does South Mountain Cycles. Bicycling and trail-use advocates have clearly expressed needed improvements for connectivity to regional recreational assets near Emmaus. They are as follows:
  - Connect the Borough of Emmaus to the Little Lehigh Parkway (City of Allentown) at Keystone Drive (Salisbury Township). The Little Lehigh Parkway is a Lehigh Valley Greenway with intra-regional connectivity potential (mostly off-road).
  - Improve trailhead facilities (at Alpine Street, Emmaus) and connectivity to South Mountain Preserve. South Mountain Preserve is part of the Robert Rodale Reserve, a series of tracts that are protected along the ridge of South Mountain. Hiking trails are used for nature study by naturalists from Wildlands Conservancy, trail bicycling and mountain biking take place here also, these are all activities that serve the SWLC area and the Lehigh Valley region (primarily Lehigh County)

See Appendix F. Municipal Parks Inventory for specific recommendations for each public facility (and for some publicly-used, privately owned facilities).

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## **Appendix**

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- 77    B. Elements of a Watershed**
- 80    C. Agricultural Resources**
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- 94    E. Funding Opportunities**
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## **A. Municipal Goals and Objectives**

### *Borough of Emmaus*

- To systematically and effectively provide for the park and recreational needs of all residents by use of both public and private resources.
- To sponsor and support a comprehensive program of recreation and park activities with the opportunity for a variety of experiences adjusted to meet the physical and psychological needs of all residents.
- To provide facilities for both passive and active recreation to meet the needs of all residents.
- To create open space as a balance to manmade development. To preserve and protect areas of important environmental consideration, and to incorporate such areas into the park and recreation system.
- To maintain safe and reliable facilities in an efficient and cost effective manner.
- To work with municipal officials in the creation and maintenance of parks, recreation, and open space as a vital cog in the quality of life for residents.
- The municipalities will budget for and finance the system at appropriate funding levels.
- To make residents aware of the programs and facilities available to them.
- To encourage residents' involvement and participation in every aspect thereof.

### *Lower Milford Township*

- Preserve open space as a balance to manmade development; for every acre of land developed, preserve at least 2 acres of land in open space.
- Create at least three community parks; at least one for passive purposes and at least two multi-use parks.
- Create facilities and develop programs for the township park system that are in keeping with the rural agricultural character of the township and relate to the customs and traditions of our community and history.
- Create awareness of public park and recreation offerings, as well as the array of private, commercial, quasi-public, and neighboring municipality choices available to satisfy recreation needs.
- Preserve and protect areas of important environmental and historic consideration. Where appropriate, incorporate such areas into the park and recreation system. Where such areas may support future infrastructure development such as a Wetlands Wastewater Treatment facility, integrate these areas as a function of Conservation by Design.
- Promote cooperation with adjacent and nearby municipalities in creating regional recreation opportunities including multi-purpose "greenways" within the township that connect to a regional greenway network.

### *Upper Milford Township Parks, Recreation, and Open Space Plan*

- Organize and administer park and recreation services in a way, which ensures year-round attention to both current and newly proposed programming and facility initiatives.
- Develop and operate a comprehensive program of recreation and park activities that continue the traditionally strong athletics component for youth while branching into other areas for more interest to the overall population.

- Modernize existing facilities at existing parks to increase accessibility, improving such appurtenances as signage, parking, equipment, play fields, and take better advantage of untapped program potentials at each site.
- Pursue a program of gradual expansion of the existing park system in order to preserve dwindling open space within the region and maintain a balanced mix between sustained growth of the area and the current quality of life (rural character in the townships, town character in the boroughs).
- Expand current volunteer efforts to maximize programming and upkeep of key park facilities in a cost effective manner.
- Seek to utilize County, State, and Federal grant programs along with private and local municipal resources in order to help provide the funding necessary for a parks and recreation system that meets the needs of area residents.
- Expand current publicity efforts to make area residents more aware of public park and recreation offerings, as well as the array of private, commercial, quasi-public, and nearby choices available to satisfy recreational needs.
- Seek to preserve the rural character, and town character of the region, and to protect natural and environmentally sensitive areas.

#### *Borough of Macungie Background and Need for Trails Plan*

- Past planning efforts support Macungie's trail planning and construction efforts.
- Trail connections have been recommended since Macungie's 1966 Comprehensive Plan.
- The Southwestern Lehigh County Joint-Municipal Comprehensive Plan creates an atmosphere encouraging joint municipal planning, this plan includes trail planning.
- Acquisition and completion of new parks (Flower Park in Macungie) create new hubs and additional reasons to connect neighborhoods with recreational resources.
- Existing linear greenways create pockets of green space, awaiting opportunities for connection.
- Increasing traffic on main roadways has caused a shift of traffic to secondary streets, compromising walking and bicycling on narrow, formerly country roads.
- An active events calendar for existing parks and downtowns gives rise to the need for travel mode options and pedestrian conflict resolution.
- Efforts to improve the quality of life for residents of the region through alternative transportation routes connecting residential areas to work, school, and play is an important issue.
- East Penn School District's campuses located in Macungie accommodate over 2,000 students; current curriculum utilizes Kalmbach Park for nature studies; students and teachers walk in back alleys to minimize pedestrian-vehicular conflicts.
- A recent study of student health (EPSD) brings to light a need to provide safe pedestrian connections to local schools to encourage exercise.

## **B. Elements of a Watershed**

The following water resources are elements of a watershed; the condition and treatment of these resources has a direct impact on the quality and quantity of groundwater that is within the watershed. Therefore, the management and protection of the following components is essential in promoting the stability of the associated watershed. A short statement of impact has been included for each of the following water resources that have a direct impact on the stability of watersheds.

### *Headwaters*

Headwater areas are land areas that both drain into first order streams and which contain springs, marshes, and intermittent streams at the uppermost terminus of a stream. Headwater areas provide stream recharge into first order streams during periods of low flow and are important for maintaining groundwater flow. The headwater areas around first order streams often contain hydric or wet soils and provide important wildlife habitat and breeding areas. Water in these streams is usually clearer than water in larger order streams, and are more likely to support trout and a variety of aquatic species and other wildlife. Alterations to these first order streams, caused by development or other disturbance, can lead to degradation of the stream corridor. Headwater areas maintained under a forest (riparian forest buffer) or dense meadow cover yield streams with higher water quality and greater natural diversity than those that are not. This is particularly true for the Southwestern Lehigh County Area, where the land area that forms watershed headwaters areas, particularly the two Townships, where farms and open space exist and land development can be forecasted.

### *Floodplains, Alluvial Soils, and Vernal Pools*

The 100-year floodplain and the floodway shown on the Primary Conservation Areas Map, Section 5, are based on mapping from the Federal Emergency Management Agency (FEMA), updated as of 2004. According to FEMA, a floodplain is defined as “the flood elevation that has a 1% chance of being equaled or exceeded each year.” FEMA’s definition of a floodplain is subdivided into two parts: the floodway and the flood fringe. According to FEMA, the floodway must be reserved to carry the base floodwaters without increasing the base flood elevation more than one foot. This area should be the most strictly regulated portion of the floodplain; any obstructions within the floodway that might raise the base flood elevation should be prohibited. The remainder of the 100-year floodplain beyond the floodway, known as the flood fringe, may be developed if structures are elevated. However, many communities choose to prohibit all or most development within the entire 100-year floodplain.

Natural vegetated floodplain areas, such as riparian forest buffers and grasslands, help to catch and filter sediments from floodwaters and reduce the velocity of sediment-laden water. The natural vegetation of floodplains also filters water runoff by collecting and holding nutrients, chemicals, and other natural and man-made pollutants. Floodplains left in their natural state can provide valuable wildlife habitat that contribute to the stability of the natural diversity of the SWLC Area.

In addition to its important environmental functions, floodplain areas provide recreational, scenic and open space opportunities. While floodplain land is generally narrow, it provides a valuable source of open space. Great potential exists to link existing parks and open space areas by using open space corridors along the many creeks and streams. However, use for passive recreation, such as hiking trails, must be balanced with other preservation and resource protection goals. For example, there will be areas where the provision of undisturbed wildlife habitat and corridors for the movement of wildlife is likely to be a higher priority than recreational access.

### *Alluvial Soils*

Alluvial soils are those soils which have been eroded, transported and deposited by flooding water over time and thus, generally indicate a strong potential for flooding (i.e. define floodplain boundaries). Most floodplains and areas of alluvial soils are narrow and found immediately adjacent to streams, largely due to the presence of very steep slopes along most of the subsequent floodways. Because few first order streams have FEMA-mapped floodplains, the presence of alluvial soils can be used to define the extent of the floodplain in these unmapped areas.

#### *Vernal Pools*

A vernal pool is a contained basin depression lacking a permanent above ground outlet. In the Northeast, it fills with water with the rising water table of fall and winter or with the runoff of winter and spring snow and rain. Many vernal pools in the Northeast are covered with ice in the winter months. They contain water for a few months in the spring and early summer. By late summer, a vernal pool is generally (but not always) dry. A vernal pool, because of its periodic drying, does not support breeding populations of fish. Many organisms have evolved to use a temporary wetland which will dry but where they are not eaten by fish. These organisms are the “obligate” vernal pool species, so called because they must use a vernal pool for various parts of their life cycle.

#### *Wetlands and Hydric Soils*

Wetlands are unique ecosystems that provide a number of environmental benefits. These areas offer key wildlife habitat and are important storage areas for surface and groundwater recharge. The Army Corps of Engineers and the Pennsylvania Department of Environmental Protection (DEP) protect wetlands under Section 404 of the Clean Water Act of 1977. From a regulatory standpoint, the presence of wetland areas is determined based on the site’s soil, hydrology, and vegetation. Areas lacking any one of these three parameters are generally not considered wetlands. From a layman’s perspective, any area with periodic standing water and hosting wetland-type vegetation (including cattails, skunk cabbage, red maple, and silver maple) is likely to fall within the official definition of a wetland.

There is no comprehensive inventory of wetlands. However, the National Wetlands Inventory (NWI) identifies certain wetland areas, based on aerial photography. The NWI identified stream systems, certain marshy areas, stormwater detention areas, open excavations, and farm ponds as wetlands. While other wetlands certainly exist, they were not identified probably as a result of their limited size or specific characteristics that make them more difficult to identify from aerial photography. Site-specific wetland studies are the only clear method to completely determine the extent of wetlands in the SWLC Area.

Primary Conservation Areas Map, Section 5, shows areas of wetlands that have been identified within the Area based on the NWI. The map indicates that the majority of wetlands can be found adjacent to streams or concentrations of hydric soils. The largest concentration of wetlands within the SWLC Area is found along stream banks within the Perkiomen Creek and Little Lehigh Creek watersheds, which lie in Upper and Lower Milford Townships. A significant wetland is located in Lower Milford Township, the Hosensack Marsh. Significant wetlands identified as an Outstanding Natural Area by the Nature Conservancy and the Lehigh Valley Planning Commission include: Hosensack Marsh, and Lower Milford Marsh, in Lower Milford Township; and Macungie Watershed, which is located in Upper Milford Township and Lower Macungie Township. In addition, there are several small concentrations of wetlands found in headwater drainage areas as well as floodplains, like the Leibert Creek, which flows from Upper Milford Township, through the Borough of Emmaus, to where it joins the Little Lehigh Creek in Lower Macungie Township.

Hydric or wet soils contain high amounts of moisture that accommodate anaerobic processes

to thrive within the soil. These soils are typically found in low-lying areas of headwater regions, at the fringes of floodplains, and sometimes in upland depressions. Generally, hydric soils have a shallow depth to the underground water table. This makes these areas particularly sensitive to alteration and very susceptible to contamination of ground water. Areas of hydric soils indicate poor drainage. Therefore, development in these areas is generally not appropriate for on-lot sewage systems.

#### *Ponds and Other Bodies of Water*

Farm ponds and other man-made small bodies of water that do not overlap or fall within an area identified, as a floodplain or wetland, have been included on Primary Conservation Areas Map, Section 5. Although filtration of stormwater may be an element of their design, they are not part of the natural water system. In fact, these facilities were more than likely designated as irrigation or recreational facilities and primarily add to the rural or agrarian character of the SWLC Area.

#### *Groundwater and Surface Water*

Both groundwater and surface water are valuable and indispensable resources in the area. Continued reliance by most residents and property owners of the SWLC Area on groundwater for domestic water supplies dictates careful management of this resource. Most of the groundwater supplies come from individual on-site wells rather than central or community systems that use water drawn from reservoirs or community wells.

Surface water in the form of springs, marshes, wetlands, streams, ponds, or rivers supports wildlife, helps reduce flood hazards, and provides supplemental sources of water for domestic use. In addition, stream and river valleys represent valuable resources for their scenic qualities and as settings that define the rural character of the SWLC area.

## **C. Agricultural Resources**

*Included in this Appendix:*

### Preservation Efforts

- Preservation Funding Options
- Public and Private Entities: Program or Initiatives
- Agricultural Land as a Type of Open Space

### Outreach Initiatives

- Buy Fresh/Buy Local
- Community Supported Agriculture
- Farmers' Markets
- Farm Stands

### Existing Organizations for the Preservation of Agriculture

- Federal Entities
- Statewide and Local Entities

### Additional Conservation Programs

- Private Landowner Assistance Program
- Nutrient Management Plan Implementation Grant Program
- Agricultural Management Assistance Program
- Conservation Security Program
- Stream Bank Fencing Program
- Environmental Quality Incentives Program
- Wetlands Reserve Program
- Emergency Conservation Program
- Emergency Watershed Program
- Grassland Reserve Program

### Legal Basis for Resource Protection

#### *Preservation Efforts*

There are many public and private entities that preserve agricultural land and there is a variety of mechanisms to aid these groups.

#### Preservation Funding Options

Two primary ways to preserve agricultural land and open space are through conservation easements and land purchases (in fee). Both public and private entities use these mechanisms depending on the type and scope of the preservation. Funding comes from various public and private sources and sometimes more than one source is necessary to cover the cost of an easement or land purchase. As preservation strategies are developed, it is important to be aware of the financial resources available so the Region may benefit from as many programs and resources as possible. It is recommended that before a landowner initiates any preservation option they consult with an attorney or tax consultant to discuss their options.

*Conservation Easements:* When an entity such as the state, county, municipality, or a private non-profit land trust, acquires an easement on a property (either by bargain-sale/donation from the seller or purchase for compensation), the entity does not purchase the property from the owner but rather,

they purchase certain rights on the property. These rights limit development and govern the way in which the property can be used or maintained in the future. Easements are legal documents that run with the land in perpetuity and are recorded by the County Recorder of Deeds. See Map \_\_\_ for eased parcels as of 2006 (state/county agricultural easements and land trust open space easements). Conservation easements can be tailored for each property to protect specific resources such as wildlife habitat, farmlands, watersheds, historic sites, or other features. The great majority of eased parcels are private property and are not open to the public without the specific permission of the property owner. However, the public does benefit from the scenic views of the property, protection of resources, and the municipal tax savings realized by the limitations on new development.

*Land Purchase:* An alternative to conservation easements is the purchase of land in which an entity such as a land trust takes title of the property. An advantage to owning the land in-fee is that the land trust has full control over what happens on the property. For example, the land trust may choose to allow access to all the land by the public, which is a less likely scenario with property protected through conservation easements. The future use of the property for conservation purposes and enforcing the terms of the conservation easement agreement is not an issue on land trust owned property, but maintenance and liability costs to the land trust will be greater. Because of the high cost of land and the management responsibilities that are associated with owning land, the acquisition of parcels “in-fee” by a land trust or other entity is less common than the purchase of conservation easements.

*Land Donation:* Land donation occurs when a landowner donates the property or donates an easement to a land trust for a nominal fee (often \$1.00). A landowner may choose this option if he does not want to pass the land on to his heirs, or if the land has appreciated greatly and the land owner needs to reduce estate tax burdens if he has substantial real estate holdings. Selling the land would create capital gains liability; land donation allows the landowner to avoid that responsibility.

*Bargain Sale:* Bargain sales occur when a landowner sells either the property or an easement for a price that is less than the appraised or fair market value of the land or easement. This option provides the seller with some income and reduces the price of the land or the easement which may further enable the land trust to purchase the land or the easement. There may be tax benefits (e.g. avoiding some capital gains) to landowners or their heirs

#### *Public and Private Entities: Programs & Initiatives*

The following entities play a vital role in the SWLC Area’s ability to retain its rural character, and initiate preservation efforts using the mechanisms discussed above (conservation easements, land purchase, etc.). The first part of this section examines entities/programs specific to agriculture. The second part looks at entities/programs specific to open space preservation, of which agriculture is one component.

It is understood that all of the programs in this subsection require some level of landowner cooperation (even if just initially to sell the property or easement to a land trust). Landowner initiatives to promote agriculture, such as community supported agriculture or farm stands, and other initiatives such as programs to help landowners deal with erosion or nutrient management, are discussed later in the section.

*Agricultural Land Preservation Board:* The Lehigh County Board of Commissioners established the Agricultural Land Preservation Board (ALPB) in 1989. The nine-member Board was originally established to administer the Commonwealth of Pennsylvania’s Agricultural Conservation Easement Purchase Program (as created through PA Act 43, P.L. 128, No. 43, the Agricultural Security Area Law, as amended),

however, the Board currently administers both the Commonwealth of Pennsylvania and Lehigh County Agricultural Conservation Easement Purchase Program. These easement programs ensure preservation of viable agricultural lands in order to protect the agricultural economy and resources of the County.

**Preserved Acres:** As of June 2007, through the Commonwealth of Pennsylvania and Lehigh County Agricultural Conservation Easement Purchase Program, 45 farms and 3,134.95 acres have been preserved in the Region. Countywide, the programs have preserved 209 farms and 17,281.16 acres.

Before describing the ALPB program, it is necessary to discuss agricultural security areas, which are a threshold requirement for both programs.

*Agricultural Security Areas (ASA):* The Agricultural Security Areas Act (Act 43 of 1981) permits municipalities to designate an “agricultural security area” (ASA), which may cross municipal lines. Act 43 requires that each ASA consist of a minimum of 250 acres of productive farmland, although the parcels do not need to be contiguous. One or more farmers must request an ASA, and demonstrate that the Act requirements have been met, prior to the municipality approving the ASA. A farm may enroll in an ASA in a neighboring municipality if no ASA exists in that farmer’s municipality.

Once adopted the municipality may not pass ordinances that restrict farm structures or practices within the ASA. Municipalities may not define agricultural activities and operations as a “public nuisance) or prohibit farming activities within the ASA. Lands in the ASA can only be condemned after condemnation is approved by the Agricultural Land Condemnation Approval Board, which consists of representatives of state agencies, elected officials, and farmers. Lands in ASAs are not protected from all development or condemnation because landowners may take their property out of the ASA at any time to be sold or developed.

*Commonwealth of Pennsylvania and Lehigh County Agricultural Conservation Easement Purchase Program:* The program enables landowners to sell the development rights of their property through the Board to the Commonwealth, the County, their municipality, or any combination of these entities. Once the development rights are sold, these entities own an “agricultural conservation easement” on the property, and the land will be kept productive in perpetuity. As of January 2006, the agricultural conservation easement payments are limited by the County to a maximum of \$6,000 per acre.

Individual farms may benefit from this program with a lower tax assessment as the result in a decrease in land value because of the loss of the development rights (yet they may still profitably farm the land). Lower property values would also benefit the heirs because they pay less inheritance tax. Farmers receive cash payments through one of several options:

- In a lump sum, a like-kind payment to allow for the purchase of the property;
- An installment payment, or
- Allocated through an Installment Purchase Agreement (IPA).

For more information on these programs, contact the Lehigh County Agricultural Land Preservation Board at (610) 391-9583 or view the current program manual at ([www.lehighcounty.org](http://www.lehighcounty.org)).

*Agricultural Land as a Type of Open Space:* Preserving open space is another way to preserve agriculture because agricultural land is one type of open space. However, open space encompasses more than agricultural land; open space very often includes areas such as woodlands and parklands. Since 1989, the County in partnership with municipalities has attempted to protect and preserve the quality of

life of Lehigh County through open space preservation. Of the four of the municipalities in the Southwestern Lehigh Region only Upper Milford Township has completed and adopted Parks, Recreation and Open Space Plan. As of this writing, Lower Milford Township has begun the process of completing its first Park, Recreation and Open Space Plan. The boroughs of Emmaus and Macungie do not have Park, Recreation, and Open Space Plans per se, but each has addressed the issue of recreation and parks provisions. The borough of Emmaus has an active Recreation Commission and an ordinance that guides its actions. The Borough has benefited from other organizations in planning for recreation, including the Pennsylvania State University which has offered student projects to provide ideas on recreation, and Rodale, Inc, a corporation headquartered in Emmaus, who provides open space recreation areas for employees and Borough residents. The borough of Macungie has completed a Trail Master Plan. This plan shows how to link the boroughs various assets with a walking path that utilizes sidewalks, trails, and crossings, all marked with decorative pavement trail markings. The Borough has had success in constructing the trail system within the community, and has plans to extend the pathway beyond its borders, into Lower Macungie Township, connecting with the Borough of Alburtis, with their cooperation. With this planning foundation in place, municipalities and nonprofit land trusts have worked in partnership with the County to acquire and develop park and open space areas, which sometimes include agricultural lands.

*Private Non-Profit Land Trusts:* Private land trusts are instrumental in open space preservation. These organizations, classified by the United States Internal Revenue Service as 501(c)(3) nonprofit organizations, often provide education for people on the importance of land preservation as well as actually purchasing easements or land. There are many land trusts in the Lehigh Valley and southeastern Pennsylvania, and they vary in size and scope. Some are regional, such as the Wildlands Conservancy, In addition, there are other entities, such as The Nature Conservancy, that while not land trusts per se, have impacted agricultural and open space preservation in the Region

*Wildlands Conservancy:* Founded in 1972 Wildlands Conservancy is a non-profit, member-supported organization that has been dedicated to land preservation, river restoration, trail development and environmental stewardship through education for the past thirty-two years.

*Municipal Initiatives to Preserve Open Space:* Municipalities need money to preserve open space. One way that a municipality can raise funds is through an open space tax. The typical approach is through an open space referendum to allow the municipality to tax residents, usually as a percentage of either the earned income tax or a separate additional property tax levy, for open space preservation. This funding is then used in the purchase of properties in fee or through easements on private land based on a set of preservation priorities organized in a Land Preservation Plan, as required under Act 153.

#### *Outreach Initiatives*

Farmers often supply the local community with seasonal produce. Finding such produce and locations to purchase or subscribe is an increasing trend among residents in the County and Lehigh Valley. In addition, several farmers in the Region are participating in the Pennsylvania Association for Sustainable Agriculture's "Buy Fresh/Buy Local" campaign.

*Buy Fresh/Buy Local:* The Pennsylvania Association for Sustainable Agriculture (PASA), in partnership with the Philadelphia Fair Food Project and Farm to City's, "Buy Fresh/Buy Local" (BFBL) campaign promotes area farmers markets, stores, community supported agriculture (CSAs), and other entities that support local agriculture. One goal of the BFBL campaign is to create a brand label for consumers to look for when shopping to help consumers identify when produce has been grown locally and they are supporting area farmers. The Pennsylvania campaign is part of a larger, nationwide BFBL initiative orga-

nized by FoodRoutes Network and provides technical support to community-based groups working to strengthen regional markets for local food and beverages.

*Community Supported Agriculture (CSA)* is a relatively new idea in farming. The concept of CSA is that local residents purchase an agreed upon amount of harvest for an agreed upon price in advance from a local farmer. Benefits include building relationships between farmers and residents, in that residents feel more a part of the agricultural community when they receive fresh produce throughout the growing season, and farmers are guaranteed payment and have stakeholders that share in the risk of good or bad crop production.

*Farmers' Markets:* These allow consumers to purchase fresh, seasonal vegetables, fruit, and other food items from several farms at one location. Some farmers' markets host other vendors and offer additional goods such as flowers or novelty items. These markets may be open-air or enclosed, are generally open to the public one or two days a week at a specific time during the growing season (although some may be open year-round). There are several farmers' markets operating around the County.

*Farm Stands:* A farm stand can be either a temporary structure or permanent building, where a single farm sells its produce. Temporary farm stands can be on-site at the farm, or a structure placed on a roadside. Sometimes the farmer sells directly out of the back of a truck. Temporary farm standards are generally only open during the growing season; however, permanent farm stands are often open year-round and have regular hours of operation. Municipal zoning ordinances often regulate farm stands (e.g. road setbacks, parking).

#### *Existing Organizations for Agricultural Preservation*

##### Federal Entities

*United States Department of Agriculture (USDA):* USDA provides leadership on food, agriculture, natural resources, and related issues based on sound public policy, the best available science, and efficient management. They are the organization recognized as able to efficiently provide the integrated program delivery needed to lead a rapidly evolving food and agriculture system. USDA has created a strategic plan to implement its vision and the framework of this plan depends on these key activities: expanding markets for agricultural produces and support international economic development, further developing alternative markets for agricultural products and activities, providing financing needed to help expand job opportunities and improve housing, utilities and infrastructure in rural America, enhancing food safety by taking steps to reduce the prevalence of foodborne hazards from farm to table, improving nutrition and health by providing food assistance and nutrition education and promotion, and managing and protecting America's public and private lands working cooperatively with other levels of government and the private sector.

*The Farm Service Agency (USDA and FSA Service Center Office):* FSA was set up when the Department was reorganized in 1994, incorporating programs from several agencies, including the Agricultural Stabilization and Conservation Service, the Federal Crop Insurance Corporation, and the Farmers Home Administration. During the 1930s, Congress set up a unique system under which Federal farm programs are administered locally. This grassroots approach gives farmers a much-needed say in how Federal actions affect their communities and their individual operations. After more than 60 years, it remains a cornerstone of FSA's efforts to preserve and promote American agriculture. Stabilizing farm income, helping farmers conserve land and water resources, providing credit to new or disadvantaged farmers and ranchers, and helping farm operations recover from the effects of disaster are the missions of the FSA.

*Natural Resources Conservation Service (NRCS):* Many local, state, and federal agencies and policymakers rely on the expertise of the NRCS to make educated and sound land use policy decisions that impact soil, water, and other resources. The NRCS provides technical assistance that is suited to specific needs of a particular property. Cost shares and financial incentives are available in some cases. Most work is done with local partners such as the Lehigh County Conservation District (LCCD). The LCCD partners with the NRCS in multiple programs.

#### Statewide and Local Entities

*PA Department of Agriculture - Bureau of Farmland Protection:* The bureau oversees the Commonwealth's program to purchase agricultural easements and administers legislative programs designed to preserve farmland through the State Agricultural Preservation Board (Agricultural Security Areas (ASAs) and the Pennsylvania Agricultural Conservation Easement Purchase Program).

*Lehigh County Conservation District (LCCD):* The mission of the LCCD is to provide technical assistance to farmers in implementing conservation practices. A Board of Directors oversees the activities of the LCCD. LCCD acts as a liaison between various local, state, and federal agencies while providing leadership in addressing natural resource conservation issues to the citizens of Lehigh County. Through education and technical assistance, the LCCD promotes the sustainable use of natural resources. It is the LCCD which develops conservation farm plans for landowners who participate in the Lehigh County Agricultural Land Preservation Program.

*Penn State Cooperative Extension in Lehigh County:* The extension provides local residents with easy access to the resources and expertise of the Pennsylvania State University. Through educational programs, publications, and events, cooperative extension agents deliver unbiased, research-based information to Lehigh County residents. Their mission is to extend educational opportunities to individuals, families, businesses, and communities throughout Pennsylvania.

#### Additional Conservation Programs

*Private Landowner Assistance Program (DCNR):* The Department of Conservation and Natural Resources (DCNR) and the Pennsylvania Game Commission (PGC), in cooperation with the Pennsylvania Fish & Boat Commission (PFBC), implement a program called the "Private Landowners Assistance Program" that focuses on the protection of natural habitat for "species of concern" throughout the State. Landowners can contact the Wildlife Diversity Biologist in their area who will provide technical assistance and help develop a habitat management plan for each individual site, work with the landowner's objectives while helping to save vital habitat for species of concern throughout Pennsylvania.

*Nutrient Management Plan Implementation Grant Program:* Nutrient management is the use of good farming practices to prevent the loss of applied primary plant nutrients through leaching or runoff. The Nutrient Management Plan Implementation Grant Program is a cost share program administered by the State Conservation Commission to assist financially stressed operators in the implementation of conservation practices outlined in their nutrient management plan. Operations eligible to receive this grant are those that were in existence prior to October 1, 1997.

*Agricultural Management Assistance Program:* Agricultural Management Assistance (AMA) is authorized under the Agricultural Risk Protection Act of 2000, Title I, Section 133 (Public Law 106-224. Section 524(b), was further amended by the Farm Security and Rural Investment Act of 2002, (Farm Bill), Public Law 107-171. AMA provides cost share assistance to agricultural producers to voluntarily address issues such as water management, water quality, and erosion control by incorporating conservation into their farming operations.

The NRCS administers the conservation provisions of AMA. The Agricultural Marketing Service (AMS) is responsible for an organic certification cost-share program and the Risk Management Agency (RMA) is responsible for mitigation of financial risk through an insurance cost-share program. AMA is budgeted at \$20 million per year. Funding for AMA is authorized through Fiscal Year 2007.

Since AMA began in 2001, USDA has entered into 1,899 contracts, enrolled more than 392,000 acres into the program and obligated more than \$23.4 million to help producers implement resource conservation practices on working agricultural lands.

A conservation plan is required for the area covered in the application and becomes the basis for developing the AMA contract. NRCS will work with the landowner to develop a conservation plan. Landowners must agree to maintain cost-shared practices for the life of the practice. Contracts are for three to ten years. Incentive payments are permitted under AMA.

The NRCS state conservationist, in consultation with the State Technical Committee, will determine eligible structural and/or vegetative conservation practices using a locally led process. Participants will be paid based upon certification of completion of the approved practice.

*Conservation Security Program:* The Conservation Security Program was introduced by the USDA in 2002. The goal of this program is to support ongoing conservation stewardship of agricultural lands by providing assistance to producers to maintain and enhance natural resources. This program is designed to reward the best conservationists and motivated others to strive to work towards conservation goals and practices.

The Conservation Security Program provides financial and technical assistance to promote the conservation and improvement of the soil, water, air, energy, and plant and animal life on tribal and private working lands. Working lands include cropland, grassland, prairie land, improved pasture, and rangeland, as well as forested land that is accompanying part of an agricultural operation. The program provides impartial access to benefits to all farmers, regardless of size of operation, crops produced, or geographic location. The applicants must submit complete records of the previous two years including nutrient management and application on their fields, as well as manure application and management. There is no minimum acreage to participate in this program, but participants must have fully implemented a conservation plan. Payments are made based on the continued implementation of the conservation plan.

*Stream Bank Fencing Programs:* Stream bank fencing reduces the amount of nutrients, sediments, farm chemicals, and microbes entering streams. Fencing and buffers improve watershed function by decreasing flood frequency and severity and increasing groundwater recharge. Fencing can improve herd health by increasing biosecurity (preventing contact with water contaminated by livestock upstream), and by decreasing changes of ailments such as mastitis, foot rot, and Johne's disease in animals. In addition, stream bank fencing and buffering help restore a host of wildlife habitats. There are two primary stream bank fencing and buffering programs available to the Southern Lehigh Region.

*Conservation Reserve Program (CRP):* CRP is an older version of the CREP. This program is continued through funding from the USDA.

*Wildlife Habitat Incentive Program (WHIP):* The Wildlife Habitat Incentive Program is a voluntary program that encourages the creation of high quality wildlife habitats that support wildlife populations of national, state, tribal, and local significance. Through WHIP, the NRCS provides technical and financial assistance to landowners and others to develop upland, wetland, riparian, and aquatic habitat areas on their property. Funding for WHIP comes from the Commodity Credit Corporation. WHIP is much

more restrictive compared to other stream bank fencing programs available. The grant monies offered are to be used on lands affecting the stabilization of streambanks and can only be used on land within 150 feet of the streambank or stream corridor.

*Environmental Quality Incentives Program (EQIP):* The Environmental Quality Incentives Program (EQIP) is a statewide program that provides a voluntary conservation program for farmers and ranchers that promotes agricultural production and environmental quality as compatible national goals. The EQIP offers financial and technical help to assist eligible participants install or implement structural and management practices on eligible agricultural lands. The program is administered by the NRCS and funded through the Commodity Credit Corporation.

The EQIP offers contracts with five to ten year terms, with a minimum term that ends one year after the implementation of the last scheduled conservation practices. These contracts provide incentive payments and cost-shares to implement conservation practices. Persons engaged in livestock or agricultural production on eligible land may participate in the EQIP. Activities funded under the EQIP are carried out according to a plan of operations developed in conjunction with the producer, which identifies the appropriate conservation practice or practices to address resource concerns. These practices are subject to NRCS technical standards adapted to local conditions. The LCCD approves the plan.

The EQIP is an incentive program which is a fixed cost depending on the landowner's prioritization and the cost estimate provided to individual farms by the NRCS. The program is devised to help fund the installation of best management practices (BMPs) which are typical components of a farm's conservation plan, often including conservation buffer practices.

The EQIP may provide funding for up to 75 percent of the costs of certain conservation practices. Incentive payments may be provided for up to three years to encourage producers to carry out management practices they may not otherwise use without the incentive. However, farmers with limited means, or beginning farmers and ranchers, may be eligible for cost-shares of up to 90 percent. Farmers and ranchers may elect to use a certified third-party provider for technical assistance.

There are mandated financial caps to this program. The federal cap amount is \$450,000 for the life of a farm, with the state cap amount at \$100,000 per year. The local work group, comprised of an NRCS representative, the Penn State Cooperative Extension, the LCCD and the Farm Service Agency, can set a local cap, which can vary from year to year.

*Wetlands Reserve Program:* The Wetlands Reserve Program (WRP) is a federal program that provides eligible landowners with technical and financial assistance to address wetlands, wildlife habitat, soil, water, and related natural resource concerns. Landowners receive financial incentives to enhance or restore wetlands in exchange for retiring marginal land from agriculture. WRP is administered by the NRCS through funding provided by the Commodity Credit Corporation. There are three enrollment options:

**Permanent Easement.** In addition to paying for the easement, the USDA pays 100 percent of the costs of restoring the wetland.

**30-Year Easement.** USDA pays 75 percent of the price for what would be paid for a permanent easement, as well as 75 percent of the restoration costs.

**Restoration Cost-Share Agreement.** An agreement, generally for a minimum of 10 years, to reestablish degraded or lost wetland habitat. USDA pays 75 percent of the cost of the restoration activity.

*Emergency Conservation Program (ECP):* The Emergency Conservation Program (ECP) is a USDA program administered by the Farm Services Agency which provides 100% of the technical cost and up to 64 percent of the cost of removing debris and restoring fencing terraces, diversion, irrigation systems, and other conservation installations after emergency situations, with a maximum of \$200,000 paid per individual per disaster. This program is only open to farms properties which suffer natural disaster damage, and the payment is a reimbursement to make emergency payments for restoring existing practices damaged by a storm or weather event, or to repair gully erosion. The program requires that applicants demonstrate imminent damage to property has occurred or will occur to their property, usually from flood damage.

*Emergency Watershed Program (EWP):* The Emergency Watershed Program (EWP) is a separate program after hurricane-related flooding to restore and stabilize stream channels where there is an imminent threat to life or property, based on the determination of an NRCS engineer. This program does not include the restoration of roads or bridges, which is addressed by PennDOT.

*Grassland Reserve Program (GRP):* The Grassland Reserve Program (GRP) is a voluntary program that helps landowners and operators restore and protect grassland, including rangeland, pastureland, shrubland, and certain other lands while maintaining the areas for grazing.

GRP is authorized by the Food Security Act of 1985, as amended by the 2002 Farm Bill. The NRCS and Farm Service Agency administer the program, in cooperation with the US Forest Service. Funding for the GRP comes from the Commodity Credit Corporation.

Applications may be filed for an easement or rental agreement with NRCS or the Farm Service Agency at any time. Participants voluntarily limit future use of the land while retaining the right to conduct common grazing practice; produce hay, mow, or harvest for seed production (subject to certain restrictions during the nesting season of bird species that are in significant decline or those that are protected under Federal or State law); conduct fire rehabilitation; and construct firebreaks and fences. GRP contracts and easements prohibit the production of crops other than hay, fruit trees, and vineyards that require breaking the soil surface, and any other activity that would disturb the land surface, except for appropriate land management activities included in a conservation plan.

Each state establishes ranking criteria that prioritize enrollment of working grasslands. The ranking criteria consider threats of conversion, including cropping, invasive species, urban development, and other activities that threaten plant and animal diversity on grazing lands.

Landowners with clear title to land are eligible to participate in an easement program. Leaseholder may submit an application for a rental agreement. There is no maximum on the amount of land that may be offered for the program, but there is a minimum for enrollment of 40 contiguous acres, unless special circumstances exist to accept a lesser amount. The NRCS State Conservationist determines these special circumstances.

Individuals or entities that have an average adjusted gross income exceeding \$2.5 million for the three tax years immediately preceding the year the contract is approved are not eligible to receive program benefits or payments. However, an exemption is provided in cases where 75 percent of the adjusted gross income is derived from farming, ranching, or forestry operations. Eligible land includes grasslands; land that contains forbs (including improved rangeland and pastureland or shrubland); or land that is located in an area that historically has been dominated by grassland, forbs, or shrubland that has the potential to serve as wildlife habitat of significant ecological value. Incidental lands may be included to allow for the efficient administration of an agreement or easement.

## Legal Basis for Agricultural Preservation

This section summarizes the major legislation for farm preservation at the federal and state levels.

### Federal Legislation:

**FEDERAL FARM BILL AND THE FARMLAND PROTECTION PROGRAM OF 1996, AS AMENDED IN 2002:** The 2002 Farm Bill authorizes the programs listed above for various conservation practices, as well as the funding limits and program criteria that are issued by the USDA.

**FEDERAL FARMLAND PROTECTION POLICY ACT OF 1981:** The Farmland Protection Policy Act (FPPA) of 1981 created a federal mandate that applies to federally funding projects that might convert farmland which is zoned for agricultural use to nonagricultural uses. The FPPA directs federal agencies to consider how their projects might impact preservation of farmland and consider alternative actions that could lessen adverse effects. Federal agencies are also directed to assure that their programs are compatible with state, local, and private efforts to protect farmland.

### State Legislation

**THE AGRICULTURE, COMMUNITIES, AND RURAL ENVIRONMENT INITIATIVES (ACRE) – ACT 38 OF 2005:** This legislation attempts to balance the right of farmers engaged in the business of agriculture and municipalities to regulate agricultural activity. The Act provides for State Attorney General review of existing or future municipal ordinances and for that office to bring a challenge directly to the Commonwealth Court for judicial determination (to ensure state-wide precedence) if the local ordinance surpasses state law. The Act also established standards for odor control for major new animal farming operations. In addition, the Act addresses standards for governing the spreading of animal manure on the land as fertilizer to prevent pollution of surface waters. This issue is addressed primarily through regulations issued by the DEP and the State Department of Agriculture.

**ACT 247, THE PENNSYLVANIA MUNICIPALITIES PLANNING CODE OF 1968, AS AMENDED (MPC):** The MPC defines and authorizes the protection of agricultural lands and promoted the continuation of agricultural operations.

- Section 105, Purpose of Act. “It is the intent, purpose and scope of this act to...promote the preservation of this Commonwealth’s natural and historic resources and prime agricultural land...to encourage the preservation of prime agricultural land...through easements, transfer of development rights and rezoning; to ensure that municipalities enact zoning ordinances that facilitate the present and future economic viability of existing agricultural operations in this Commonwealth and do not prevent or impede the owner or operator’s need to change or expand their operations in the future in order to remain viable...”

Specifically, Article III of the MPC establishes the basis for comprehensive planning in municipalities. Related to agricultural protection, Section 301(a) states, “The municipal, multimunicipal, or county comprehensive plan...shall include...”

- Section 301(a)(2) “A plan for land use, which may include provision for the amount, intensity, character and timing of land use proposed for residence, industry, business, agriculture...preservation of prime agricultural lands...”

- Section 301(a)(6) “A plan for the protection of natural and historic resources to the extent not preempted by federal or state law. This clause includes...prime agricultural land...”

Article VI of the MPC establishes the basis for zoning ordinances and provides for the protection of agricultural lands and operations through zoning as follows:

- Section 603(b) “Zoning ordinances, except to the extent that [the]...regulation of activities related to commercial agricultural production would exceed the requirements imposed under the...’Nutrient Management Act,’ regardless of whether any agricultural operation within the area to be affected by the ordinance would be a concentrated animal operation as defined by the ‘Nutrient Management Act,’...the ‘Agricultural Area Security Law,’ or the act ‘Protecting Agricultural Operations from Nuisance Suits and Ordinances under Certain Circumstances,’...may permit, prohibit, regulate, restricted and determine: (5) “Protection and preservation of...prime agricultural land and activities.”
- Section 603(c) “Zoning ordinance may contain: (7) provisions to promote and preserve prime agricultural land...”
- Section 603(g)(1) “zoning ordinances shall protect prime agricultural land and may promote the establishment of agricultural security areas.”
- Section 603(h) “Zoning ordinances shall encourage the continuity, development and viability of agricultural operations. Zoning ordinances may not restrict agricultural operations or changes to or expansions of agricultural operations in geographic areas where agriculture has traditionally been present, unless the agricultural operation will have a direct adverse effect on the public health and safety. Nothing in this subsection shall require a municipality to adopt a zoning ordinance that violates or exceeds the provisions of the...’Nutrient Management Act...the ‘Agricultural Area Security Law,’ or...’An Act Protection Agricultural Operations from Nuisance Suites and Ordinances Under Certain Circumstances.”
- Section 604 “the provisions of zoning ordinances shall be designed: (3) To preserve prime agriculture and farmland considering topography, soil type and classification, and present use.”
- Section 609.1(c) “The governing body shall consider the curative amendments, plans and explanatory material....and shall also consider: (5) the impact of the proposal on the preservation of agriculture and other land uses which are essential to public health and welfare.”

ACT 319 OF 1974 (PENNSYLVANIA FARMLAND AND FOREST LAND ASSESSMENT ACT – THE CLEAN AND GREEN ACT) AS AMENDED BY ACT 156 OF 1998: Act 319 allows counties to place two values on each parcel of farmland or forestland that is a minimum of 10 acres in size, known as the Fair Market Value and the Agricultural-Use Value, commonly called the “Clean and Green” Value.

Fair Market Value not only reflects the value of the property’s current use but also the property’s potential for other uses that are best suited for the property’s particular characteristics and conditions (often referred to as the property’s “highest and best use”) as determined through the appraisal process.

The Agricultural-Use Value does not consider all of the property’s potential uses or the property’s highest and best use, but what it is worth as if it were to be used for only agricultural purposes such as cropland, woodland or pasture. The law states that the Agricultural-Use Value must reflect the potential of the individual parcel to produce, based upon soil capability. In addition, the land under the landowner’s house and outbuildings is also eligible for Agricultural-Use Value assessment.

Property enrolled in the program remains in the program continuously, or until the owner chooses to withdraw and return to the standard tax assessment. Landowners who enroll in Act 319 agree to maintain their land as farmland or forestland and in return the County assesses their tax according to

the Agricultural-Use Value rather than the Fair Market Value. In many areas that are undergoing development, the value of undeveloped land and the taxes levied on that land increases and brings pressure on the landowner to sell. Under those conditions, the Agricultural-Use Value can be significantly lower than the Fair Market Value, and a landowner enrolled in the program can achieve a significant tax reduction. This benefit is carried forward only so long as the property is not developed but left in agricultural production, open space, or forest.

**NUTRIENT MANAGEMENT ACT – ACT 6 OF 1993:** The purpose of the Act is to minimize surface and groundwater nutrient loads from agricultural operations and to increase farm profitability through proper nutrient management. The Nutrient Management Act establishes criteria, planning requirements, and an implementation schedule for the application of nutrient management measures on certain agricultural operations which generate or utilize animal manure. The Act targets Concentrated Animal Operations (CAOs) which are defined as greater than 2 animal units per acre of suitable cropland or pasture for spreading manure (an animal unit is defined as 1000 pounds of live animal weight). Any operation which is a CAO must have a Nutrient Management Plan written for the operation by a certified Nutrient Management Specialist. If a farmer continues operation under an approved and properly implemented Nutrient Management Plan, this will mitigate the response to a complaint filed against the farm in question.

The Nutrient Management Act pre-empts local nutrient ordinances, but does not affect local zoning, building, fire or safety codes.

**PA RIGHT TO FARM LAW – ACT OF JUNE 10, 1982, P.L. 434, NO. 133:** The purpose of the Right to Farm Law is to reduce the loss of agricultural resources by limiting the circumstances under which agricultural operations may be the subject matter of nuisance suits and ordinances. This Act creates a mandate for local municipalities to encourage the continuity, development and viability of agricultural operations within their local jurisdictions. The Act requires that every municipality that defines or prohibits a public nuisance must exclude from the definition any agricultural operation so long as the agricultural operation does not have a direct adverse effect on public health and safety.

The Act affords additional protection from nuisance suits in that no nuisance action can be brought against an agricultural operation which has lawfully been in operation for one year or more prior to the date of bringing such action, where the conditions or circumstances constituting the basis for the nuisance action have existed substantially unchanged since the established date of operation and are normal agricultural operations. In addition, the same protections apply to the physical facilities of such agricultural operations that are substantially expanded or altered and the resulting facility has been in operation for one year or more prior to the date of bringing such action.

**AGRICULTURAL AREA SECURITY LAW – ACT OF JUNE 30, 1981, P.L. 128, NO. 43, AS AMENDED, and Lehigh County Commissioners Resolution – XXX, 1989:** This Act provides the means by which agricultural land may be protected. The Act encourages landowners to make a long-term commitment to agriculture by offering them financial incentives and security of land use. In addition, the Act protects farming operations in Agricultural Security Areas from incompatible nonfarm land uses that may render farming impracticable. The Act assures permanent conservation of productive agricultural lands by providing compensation to landowners in exchange for their relinquishment of the right to develop the property. The program is administered through the State Department of Agriculture with the local implementation of County Agricultural Land Preservation Boards.

**ACT 71 OF 1976:** Act 71 exempts farmer from payments of assessments for municipal improvements such as installation of sewer and water lines. Farmers whose land has been used for agricultural

production for three years prior to the installation of the water and sewer lines are not liable for the cost of lines fronting or crossing their land if they do not make use of the facilities. The Department of Agriculture certifies farm properties as eligible for this exemption.

**PENNSYLVANIA COVENANT FOR PRESERVATION ACT – ACT 515 OF 1966:** This Act is the forerunner of the “Clean and Green” Act, and is administered through the Board of County Commissioners. The Act enables Pennsylvania counties to covenant with farmers and landowners to preserve land in farm, forest, water supply or open space in exchange for taxing land according to its use value rather than the prevailing market value. With Act 515, the value of land is based upon location, size, and use, and owner is required to renew enrollment after 10 years. The program is voluntary and requires a minimum acreage to be enrolled that will remain in the designated land use for a period of 10 years. Extensions of the covenant only are available to landowners at this time, and penalties for violations are outlined in the Act.

## D. Prime Agricultural Soils Found in SWLC

Class of Soil	Name of Soil
I	Duffield silt loam, 0 to 3 percent slopes
I	Washington silt loam, 0 to 3 percent slopes
II	Duffield silt loam, 0 to 3 percent slopes, moderately eroded
II	Duffield silt loam 3 to 8 percent slopes
II	Murrill silt loam, 3 to 8 percent slopes
II	Ryder silt loam, 0 to 3 percent slopes
II	Ryder silt loam, 3 to 8 percent slopes
II	Washington silt loam, 3 to 8 percent slopes
II	Laidig silt loam, 3 to 8 percent slopes
II	Penn Channery silt loam, 3 to 8 percent slopes
II	Buchanan silt loam, 3 to 8 percent slopes
II	Comly silt loam, 3 to 8 percent slopes
II	Glenville silt loam, 0 to 3 percent slopes
II	Glenville silt loam, 3 to 8 percent slopes
II	Monongahela silt loam, 3 to 8 percent slopes
II	Readington silt loam, 3 to 8 percent slopes
II	Comly silt loam, 0 to 3 percent slopes, moderately eroded
II	Glenville silt loam, 0 to 3 percent slopes, moderately eroded
II	Monongahela silt loam, 0 to 3 percent slopes, moderately eroded
II	Readington silt loam, 0 to 3 percent slopes, moderately eroded
III	Duffield silt loam, 8 to 15 percent slopes
III	Ryder silt loam, 8 to 15 percent slopes
III	Washington silt loam, 8 to 15 percent slopes
III	Klinesville silt loam, 3 to 8 percent slopes
III	Penn Channery silt loam, 8 to 15 percent slopes
III	Comly silt loam, 8 to 15 percent slopes
III	Glenville silt loam, 8 to 15 percent slopes
III	Readington silt loam, 8 to 15 percent slopes

## **D. Funding Opportunities**

### *Parks and Recreation*

Lehigh County offers several grant opportunities to municipalities and non-profit organizations. The matrix to the right outlines the funding that can be used to fulfill recommendations of this plan. The funds available for these programs are the result of a voter referendum to approve the Green Futures Fund.

### *Local Taxing for Financing Open Space Initiatives: PA Act 153 of 1996*

The citizens of townships and boroughs may elect through referendum, the imposition of one of two types of taxes to achieve municipal open space goals as presented in an adopted planning document. By ordinance as approved by referendum, local municipalities may either a.) impose a tax on real property not exceeding the millage authorized by voter referendum, in addition to the statutory rate limits on real estate taxes in the relevant municipal code; or b.) an earned income tax on residents of that local government unit not exceeding the rate authorized by referendum, in addition to the earned income tax rate limit found in the Local Tax Enabling Act. Municipalities may use this revenue to acquire rights through numerous means to: protect and conserve water resources, watersheds, forests, natural or scenic resources, and farmland; the protection of an existing or planned park, forest or other recreation or conservation site by controlling the use of contiguous or nearby lands; the protection of scenic areas for public visual enjoyment from public rights-of-way; and the limiting of the use of real property by reselling it after acquiring fee simple title, subject to restrictive covenants or easements that limit its use for the purposes described above, and in accordance with procedures set out in the Pennsylvania Conservation and Land Development Act.

### *Agricultural Land and Conservation Open Space*

Recently enacted tax legislation provides a new incentive for owners of farmland to preserve their lands, protecting viable agricultural resources and open space. Act 4 of 2006, amending Act 442 of 1967 (Open Space Lands Act) and Act 153 of 1996 allows school districts, counties, and municipalities in Pennsylvania to freeze the property tax millage rates on preserved properties. All three levels of taxing authority are required to approve Act 4 in order for property owners to take advantage of the tax freeze. To be eligible, the local municipality has to have acquired a conservation easement on the land in accordance with Act 442; the property must be subject to Act 43 Agricultural Conservation Easements; or the property development rights must have been transferred to a local municipality. Detailed information about applying for tax relief under this provision can be obtained from the Lehigh County Farmland Preservation Program, (610) 391-9583.

The Lehigh County Agricultural Conservation Easement program, administered by the Lehigh County Agricultural Land Preservation Board authorizes up to \$6,000.00 per acre for the purchase of easements on productive farmland. Other opportunities exist to protect open space through conservation easements both through this organization and through the Wildlands Conservancy's Conservation Easement program. The Wildlands Preservation Fund is another mechanism to protecting important natural areas. The municipalities of the SWLC Area are encouraged to use these programs to fulfill recommendations for establishing its green infrastructure.

CATEGORY	GRANT PROGRAM	CRITERIA	TOTAL AMOUNT AVAILABLE (Varies)	AMOUNTS AVAILABLE	SOURCE OF FUNDS	TIME FRAME
		ELIGIBLE ENTITIES			CONTACT	
COMMUNITY AND ECONOMIC DEVELOPMENT	Community Development Block Grant (CDBG)	Capital projects in Lehigh County that will benefit the Low-to-Moderate Income	\$600,000 - \$700,000 per year	Varies Based on Project	PA DCED	Applications issued mid-August, due early November, awarded the following October, money available January of the following year
		Available to all Lehigh County municipalities except Allentown, Bethlehem, and Slatington. Also available to local non-profits			Lehigh County Department of Community and Economic Development (610) 782-3565	
	Community and Economic Development Fund	Community and Economic Development projects	\$250,000 per year	Comm. Dev. \$10,000 - \$100,000	LCGPA fees	Applications accepted year round - to be reviewed 1 or 2 times per year
		Capital projects in Lehigh County		Econ. Dev. no limit	Lehigh County Department of Community and Economic Development (610) 782-3565	
TOURISM DEVELOPMENT	County-owned Regional Tourism Venues	Capital projects that will develop county-owned regional tourism venues	\$100,000 per year	Varies Based on Project	Lehigh County Hotel Tax	Invitations to apply sent in May
		County-owned regional tourism venues			Lehigh County Department of Community and Economic Development (610) 782-3565	
	Regional Event or Venue Enhancement	Large one-time events, first year events, or capital projects	\$100,000 per year	\$10,000 - \$25,000 per year	Lehigh County Hotel Tax	Applications due in June, awarded in December, funding available the following year
		Regional tourism venues that are non-profit 501c organizations, government entities			Lehigh County Department of Community and Economic Development (610) 782-3565	
RECREATION AND PARK DEVELOPMENT	Parks 2005	Acquisition of open space property for parks	\$2,600,000	50% of acquisition costs	Lehigh County	Applications accepted year round - to be reviewed 1 or 2 times per year
		Available to all Lehigh County municipalities			Lehigh County Department of Community and Economic Development (610) 782-3565	
	Recreation Reinvestment	Support and encourage recreational reinvestment within urban communities	\$250,000 per year	\$10,000 - \$100,000	Lehigh County	Applications accepted year round - to be reviewed 1 or 2 times per year
		Available to all Lehigh County municipalities			Lehigh County Department of Community and Economic Development (610) 782-3565	
CIVIC AND CULTURAL	Quality of Life	Civic, cultural, or recreational: operations, programs, events, or capital projects	\$265,000 per year	\$1,000 - \$66,250	Lehigh County	Applications due in June, awarded in December, funding available the following year
		Non-profit 501c organizations, government entities			Lehigh County Department of Community and Economic Development (610) 782-3565	
	Small Arts	Fine and performing arts events/projects that are regional in nature, focus on traditional arts or commission or create new or original work (no capital projects)	\$8,800 per year	\$100 - \$1,000	Lehigh County/PA Council on the Arts	Applications due in April, awarded in June, available in July
		Non-profit 501c organizations, government entities			Lehigh County Department of Community and Economic Development (610) 782-3565	

## Appendix F **Municipal Parks Inventory & Action Plan**

This section includes site inventories for each park in each municipality, coupled with a 5-year action plan matrix. The final page of this section provides a 5-year action plan matrix for the recommendations found in Section 7.2. Conclusions and Recommendations, pp. 69-71.

## Borough of Emmaus

### Emmaus Community Park

Action	Year					Estimated Cost	Comments
	1	2	3	4	5		
Legion Field: Press Box	√					150,000	
Legion Field: Grass Infield	√					25,000	
Legion Field: Drainage		√				40,000	
Legion Field: Fencing			√			30,000	
Bicycle Racks		√				2,500	
Wetlands Walking Path Awareness				√		20,000	

# Borough of Emmaus

## Emmaus Community Park



### Description:

This is a 35 acre public community park providing a location for organized sports, community recreation, concert events, picnics, active and passive recreation. It is where the borough pool is located and includes a walking trail. It is easily accessible, includes parking, and recently the riparian zone along Leibert Creek has been improved with native wetlands plant species to reinforce the creek banks and improve water quality, interpretive signs, a walking path, bridge and benches.

### Features:

- Picnic Pavilions
- Open Stage (summer concerts)
- 2 Baseball/Softball Fields (spring/summer)
- Swimming Pool (new slide in 2008)
- Volleyball Courts
- Basketball Courts
- Multi-purpose Field (soccer & midget football)
- Lighted Legion Field
- Play Equipment

### Opportunities:

- Construct a press box with concession stand at Legion Field
- Add grass infield at Legion Field
- Improve drainage at Legion Field
- Add permanent fencing at Legion Field
- Include bicycle racks at key features
- Improve awareness of the wetlands walking path

### Issues:

Emmaus Community Park is fully developed. If new features were to be introduced, existing features would be displaced. Maintenance of the multi-purpose field is an apparent issue, as it is closed for general use for pick up games.

## Borough of Emmaus

### Cintas Fields/Remembrance Garden/Knauss Homestead

Action	Year					Estimated Cost	Comments
	1	2	3	4	5		
Signage: Improve Location Signage		√				700	
Baseball Field: Create 90' Baseline Infield				√		5,000	
Structure Public/Private Partnership for Parking			√			1,200	
Multipurpose Field Improvements			√			10,000	

# Borough of Emmaus

## Cintas Fields/Remembrance Garden/Knauss Homestead



### Description:

This is a 39.6 acre public special- use park area providing a location for organized sports on 3 acres, active and passive recreation. It includes a baseball/softball field, a multi-purpose field, an historic resource, and a memorial garden. It is located in the eastern section of the borough, behind an industrial business (Cintas Uniform Company).

### Features:

- Multi-purpose Field (soccer)
- Baseball/Softball Field
- National Register of Historic Places building
- Memorial Garden with benches
- Creek within a wooded area

### Opportunities:

- Improve signs located at E. Main Street to represent all of the facilities available in the park area
- Improve the baseball field (infield) for 90' baselines, and improve the slopes
- Install fencing or netting at baseball field
- Structure a public/private arrangement for use of the parking area
- Improve the multi-purpose field for newer sports that are in demand

### Issues:

With four distinctive features in this park area, improved signage will help public awareness. The parking area is provided by Cintas, a private company, which limits availability for the public.



## Borough of Emmaus

### Furnace Dam Park

Action	Year					Estimated Cost	Comments
	1	2	3	4	5		
Pond: Bank Plantings			√			16,000	
Pond: Fishing Access					√	40,000	
Educational Signage: Wildlife Feeding	√					6,000	
Educational Signage: Cultural	√					6,000	
Bicycle Racks	√					2,500	
Artwork			√			12,000	

# Borough of Emmaus

## Furnace Dam Park



### Description:

This is 3.5 acre public access fishing park provides a location for recreational fishing, picnics, and passive recreation. Some active recreational facilities are provided as well.

### Features:

- Stocked Fishing Pond (aerated)
- Picnic Pavilion
- Volleyball Courts
- Play Equipment
- Small Parking Lot

### Opportunities:

- Reinforce pond banks with appropriate plant materials
- Manage access to pond edge for fishing
- Provide educational signs informing park users about proper feeding of geese
- Use signage to establish informational connection between Furnace Dam Park and the privately held Rodale Park that is located nearly one block away
- Install bicycle racks
- Placement of public art

### Issues:

Furnace Dam Park provides a unique recreational experience for park users, though some activities are taking a toll on facilities. The geese population (likely encouraged due to well-meaning albeit improper feeding of human food to geese) is denuding the landscape of grass. Use of the pond banks by humans and geese is compromising the stability of the banks, including significant areas of bank slumping. Establishing a native plant border is advisable, as is moving picnic tables away from tree root zones. Educational signs informing the park using public about natural goose habitat and proper geese feeding is advisable as well, as there is an overwhelming presence of goose feces and matted-down grass and bare dirt areas around the pond and picnic pavilion.

## **Borough of Emmaus**

### **Borough Line Park**

<b>Action</b>	<b>Year</b>					<b>Estimated Cost</b>	<b>Comments</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>		
Parking Lot Expansion			√			20,000	
Baseball Field: Fence Relocation		√				2,400	
Trailhead Signage: South Mountain Preserve			√			1,200	
Trailhead Facilities: Restrooms			√			1,200	
Trailhead Facilities: Parking			√			20,000	
Trailhead Facilities: Trail Map at Kiosk		√				400	
Trail Connectivity Study			√			2,000	

# Borough of Emmaus

## Borough Line Park



### Description:

This is a 5.5 acre public neighborhood park/playground providing a location for organized sports, picnics, active and passive recreation. It is immediately adjacent to Wildlands Conservancy's South Mountain Preserve, and the Robert Rodale Reserve, a Natural Areas Inventory Site.

### Features:

- Picnic Pavilion
- 1 Baseball/Softball Fields
- 2 Tennis Courts
- Basketball Court
- Mowed Open Space
- Sand Box
- Play Equipment
- Bicycle Racks
- Hiking Trails (South Mountain Preserve)
- Kiosk

### Opportunities:

- Increase the size of the parking lot
- Improve the baseball field to allow use for older teams by moving the fence
- Establish the park as a trailhead facility for South Mountain Preserve through use of signs, and other public awareness means
- As a trailhead facility, the park will need fully functioning restrooms, a larger parking lot, trail map at kiosk
- Trail connectivity to other borough parks and downtown Emmaus is desirable

### Issues:

Borough Line Park could serve both neighborhood park needs and regional park needs if trailhead facilities are established. Ideally walking, hiking, and bicycling activities can be accommodated with select improvements. Connectivity and public awareness are desirable, as survey results indicate support for connectivity and pathway activities.

## **Borough of Emmaus**

### **Klines Lane Field**

<b>Action</b>	<b>Year</b>					<b>Estimated Cost</b>	<b>Comments</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>		
Promote Field Sports	√					1,200	
Trail Connectivity Study			√			2,000	

## **Borough of Emmaus**

### **Klines Lane Field**



#### **Description:**

This is a 3 acre public multi-purpose field park providing a location for organized sports including soccer and similar field outdoor field sports. It has an adjacent gravel parking area.

#### **Features:**

- 1 Multi-Purpose Field

#### **Opportunities:**

- Explore use of the field for field sports that are newly in demand, i.e. lacrosse, field hockey, kickball
- Adjacent to the privately held Unami Rod & Gun Club - open space land
- Adjacent to borough recycling facility and fire training facility
- Possible trail connection to other parks

#### **Issues:**

Presently there is only enough available property for a multi-purpose field, for which soccer is in the greatest demand.

## **Borough of Emmaus**

### **Lions Field/Citizen's Fire Company**

<b>Action</b>	<b>Year</b>					<b>Estimated Cost</b>	<b>Comments</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>		
Expand Off-street Parking				√		15,000	
Upgrade Playground Equipment				√		15,000	

## **Borough of Emmaus**

### **Lions Field/Citizen's Fire Co. #2**



#### **Description:**

Combined, this is a 8 acre (2.2 ac. public, 5.8 ac. non-profit) ball field and neighborhood park/playground providing a location for organized sports, community recreation, active and passive recreation. There are two cinder block buildings on the premises, one is dedicated to police lieutenant Eugene "Buzzy" Carl, and the other appears to be a storage facility.

#### **Features:**

- 1 Baseball/Softball Fields (spring/summer)
- Play Equipment
- Mowed Open Areas
- Building(s)

#### **Opportunities:**

- Explore use of building for indoor recreation
- Expand Off-Street Parking
- Renovate the ball field, reorient the home base away from seasonal late afternoon/evening sun
- Upgrade playground equipment

#### **Issues:**

The ball field is listed as a private non-profit facility. Some evidence of graffiti is present on the storage building. The park is accessible, but there is no off-street parking.

## Borough of Emmaus

### South 4th Street/Shelter House Park

Action	Year					Estimated Cost	Comments
	1	2	3	4	5		
Construct Taller Fence					√	6,000	
Turn Backstop			√			12,000	
Improve Public Awareness of Facility		√				200	
Improve Parking Area	√					8,000	

# Borough of Emmaus

## South 4th Street/Shelter House



### Description:

This is a 28 acre public special use park with an adjacent multi-purpose field are comprising 3.3 acres. The multi-purpose field is most frequently programmed for use by Emmaus High School and includes a rest room facility and picnic table. The Shelter House is known to be the oldest, continuously occupied building in the Lehigh Valley, located along a known Lenape trail, and is a National Register of Historic Places resource. Parking is limited for both facilities.

### Features:

- Picnic Pavilions
- Open Stage (or outdoor classroom)
- Multi-purpose Field (baseball, soccer, football practice)
- Historic Building
- Woodlands with creek

### Opportunities:

- Construct a taller fence
- Turn the back stop to the rear of the field
- Improve awareness of the Shelter House property for hiking/nature enjoyment
- Improve parking area

### Issues:

This facility is difficult to find from main roadways in the borough; blue street sign banners assist with locating the Shelter House, though the ball field is not incorporated with this signage. Parking is a main issue, the park area is located at the edge of a residential area.

## Borough of Emmaus

### Williams Street/Kiwanis Field

Action	Year					Estimated Cost	Comments
	1	2	3	4	5		
Construct Perimeter Walking Path			√			10,000	
Construct Concession Stand & Press Box			√			40,000	
Gold Tubing on Outfield Fence		√				1,200	
Build Dugouts			√			20,000	
Build Bridge Between Fields					√	40,000	
Basketball Courts: Reline	√					700	
Basketball Courts: Install Rims	√					800	
Basketball Courts: Safety Padding	√					600	

## **Borough of Emmaus**

### **Williams Street/Kiwanis Field**



#### **Description:**

This is a 7.1 acre public neighborhood park/playground providing a location for organized sports, active and passive recreation. The ball fields are utilized by the EPSD and athletic associations. A portable concession stand is available during games in season.

#### **Features:**

- 1 Baseball/Softball Fields (spring/summer)
- Batting Cage
- 2 Basketball Courts
- Ice Skating (seasonal weather dependant)
- Play Equipment
- Restrooms

#### **Opportunities:**

- Construct a walking path around the perimeter
- Construct a concession stand and press box
- Install gold tubing on outfield fence
- Cover benches or build dugouts
- Build a bridge between the fields
- Paint new lines at basketball courts
- Install single rims for basketball hoops
- Add safety padding to poles at basketball courts

#### **Issues:**

This park is nearly fully developed, new features would displace existing features. Upgrade of existing features will improve usage. Parking is limited, though on-street parking is possible with the cemetery adjacent to the park. It is an easily accessible park for borough residents, bicycle racks installed near key features may improve accessibility.

## **Borough of Emmaus**

### **West End Playground**

<b>Action</b>	<b>Year</b>					<b>Estimated Cost</b>	<b>Comments</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>		
Landscaping: Plant Trees & Shrubs for Shade			√			5,000	
Landscaping: Plant Native Ground Cover			√			2,500	
Paint Blacktop for Hard Surface Games			√			600	

# Borough of Emmaus

## West End Playground



### **Description:**

This is a .3 acre public mini park providing a location for active recreation. This park serves the immediate neighborhood, and is easily accessible to residents living within a 1/4-mile radius. There is no off-street parking.

### **Features:**

- Basketball Court
- Play Equipment

### **Opportunities:**

- Planting native trees and shrubbery can provide shade
- Encouraging landscaping with native ground cover and flower gardens may reduce mowing
- The asphalt surface can be painted for additional hard top games for pick up play

### **Issues:**

Expansion of the park is impractical, additional features would need to fit into the existing area. There is no opportunity to provide off-street parking, therefore this park appropriately serves the immediate neighborhood. Encouraging the neighborhood to “adopt” the park may provide a focal point for activities, including garden maintenance, and small gatherings/events.

## **Borough of Emmaus**

### **Laura Street Playground**

<b>Action</b>	<b>Year</b>					<b>Estimated Cost</b>	<b>Comments</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>		
Landscaping: Plant Trees & Shrubs for Shade			√			1,200	
Landscaping: Plant Native Ground Cover			√			1,200	
Paint Blacktop for Hard Surface Games			√			600	

## **Borough of Emmaus**

### **Laura Street Playground**



#### **Description:**

This is a .3 acre public mini park providing a location for active and passive recreation. This park serves the immediate neighborhood, and is easily accessible to residents living within a 1/4-mile radius. There is no off-street parking.

#### **Features:**

- Basketball Court
- Play Equipment
- Benches

#### **Opportunities:**

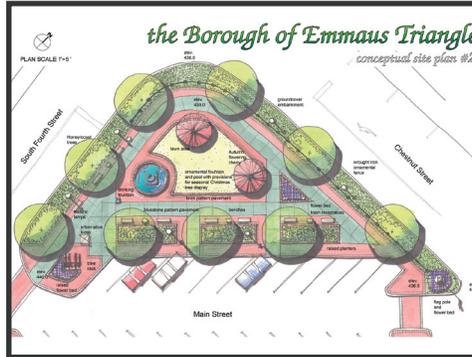
- Planting native trees and shrubbery can provide additional shade
- Encouraging landscaping with native ground cover and flower gardens may reduce mowing
- The asphalt surface can be painted for additional hard top games for pick up play

#### **Issues:**

Expansion of the park is impractical, additional features would need to fit into the existing area. There is no opportunity to provide off-street parking, therefore this park appropriately serves the immediate neighborhood. Encouraging the neighborhood to “adopt” the park may provide a focal point for activities, including garden maintenance, and small gatherings/events.

## Borough of Emmaus

### Triangle Park (under development during process for this plan)



#### Description:

This is a .3 acre public urban park providing a location for community celebrations and passive recreation. To reinforce its role in anchoring downtown Emmaus, plans to be completed by August 2009 include ornamental fencing, brick and bluestone patterned pavement, new landscaping for containers and ground cover, 8 park benches, 6 receptacles, 1 drinking fountain, a bicycle rack, a kiosk, a water fountain, and a new flagpole.

#### Features:

- Benches
- Kiosk
- Ornamental landscaping, and furnishings
- Water fountain
- Bicycle rack
- Drinking fountain
- Community Christmas tree
- Flag pole
- Monument to time capsule

#### Opportunities:

The \$400,000 improvement project will anchor Triangle Park as the focal point in downtown Emmaus, where several community events are held each year.

#### Issues:

Currently Triangle Park is primarily a "town green". With the scheduled improvements it will provide an urban park within the downtown business district.

## **Borough of Emmaus**

### **Catholic War Veterans Park**



#### **Description:**

This is a 1.5 acre mini park provides a location for organized sports, active and passive recreation. It is on the grounds surrounding a private, non-profit social hall, and is near the Rodale Park (private) and within a close distance from Furnace Dam Park (public).

#### **Features:**

- 1 Baseball/Softball Fields (spring/summer)
- Basketball Court
- Play Equipment

#### **Opportunities:**

- Structure a public/private partnership to ensure long-term availability of the park area
- Improve the ball field for league use
- Upgrade playground equipment
- The asphalt surface can be painted for additional hard top games for pick up play
- Include in wayfinding signage
- Should the social hall become vacant, an opportunity to provide some indoor recreation space may exist

#### **Issues:**

This is a privately held park area. Should it become available, it may be desirable to acquire for park. It is located at the edge of the borough, and is not well marked with signs, therefore it is difficult to locate. Accessibility to a large number of residents is limited due to its location. On-site parking is associated with the social hall, parking for outdoor recreation is therefore limited.

# **Borough of Emmaus**

## **Rodale Recreation Park**

<b>Action</b>	<b>Year</b>					<b>Estimated Cost</b>	<b>Comments</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>		
Landscaping: Plant Native Species along Perimeter				√		4,500	
Acquire Property if Becomes Available					√	tbd	

# **Borough of Emmaus**

## **Rodale Recreation Park**



### **Description:**

This is a 10 acre private multi-purpose park providing a location for organized sports, active and passive recreation. It is primarily provided for employees of Rodale, Inc., though access is open to residents. Use of the ball fields is primarily for company teams, use by community organizations is by permission. The fitness path is used by EPSD by permission of the company.

### **Features:**

- Baseball/Softball Field
- Multi-Purpose Field (soccer)
- Fitness path

### **Opportunities:**

- Encourage planting of native trees, shrubbery, and ground cover at the perimeter, which may reduce mowing
- If the property were to become available, the borough is advised to acquire the park
- This asset benefits the borough and the company in employee/resident recruitment.

### **Issues:**

The park is privately owned, though Rodale allows residents to use it, company use takes precedent. This fulfills a need for organized adult outdoor recreation, as is encouraged by the company.

## Borough of Emmaus

### Meadow Pool

Action	Year					Estimated Cost	Comments
	1	2	3	4	5		
Acquire Property if Becomes Available					√	tbd	appraisal required
Renovate for Competition Use					√	160,000	
Parking: Create Additional Parking					√	60,000	

# Borough of Emmaus

## Meadow Pool



### Description:

This is a 2 acre parcel with an outdoor swimming pool. It is currently owned, and operated by a private association and use of the facilities is by members only. It is located in a populous area at the eastern end of the borough.

### Features:

- Swimming Pool
- Bath House
- Picnic Tables

### Opportunities:

- Should this facility become available, it is advisable for the borough to explore acquisition
- Renovation of the pool for competition use is advisable
- Additional parking may be desirable

### Issues:

At the time of this writing, the Meadow Pool is a private facility for use by members only. The shallow end of the pool, used for competition is not of regulation depth. It is located within easy access by a large portion of the borough population.

## Borough of Emmaus

### Trail Connectivity

Action	Year					Estimated Cost	Comments
	1	2	3	4	5		
Connect Borough to Little Lehigh Parkway					√	tbd	need to study
Connect to South Mountain Preserve					√	tbd	need to study



## Borough of Macungie

### Macungie Memorial Park

Action	Year					Estimated Cost	Comments
	1	2	3	4	5		
Acquire Land Across Montain Creek	√					tbd	appraisal needed
Improve Pool to Meet Usage Demands			√			125,000	
Provide Indoor Sports Leagues in Gymnasium		√				tbd	needs further study
Structure Public/Private Partnership	√					tbd	needs further study
Explore Securing in Perpetuity	√					tbd	needs further study

# **Borough of Macungie**

## **Macungie Memorial Park**



### **Description:**

This is a 35-acre private, non-profit owned community park, located in the heart of Macungie, within walking distance of any part of the Borough. It provides opportunities for organized sports, active and passive recreation. It is owned, and managed by the Macungie Park Association, with the Borough of Macungie providing much of the on-going maintenance. This park is the focus of community celebrations and is the location of many events that have region-wide draws. This public recreation facility contains a swimming pool, basketball courts, tennis courts, picnic pavilions, ballfields, a gymnasium, banquet room and meeting rooms.

### **Features:**

- Picnic Pavilions
- Grills
- Open Stage (summer concerts)
- 5 Baseball Fields
- 2 Softball Fields
- Net Enclosed Batting Cage
- Swimming Pool
- 2 Volleyball Courts
- 1 Basketball Court
- 2 Multi-purpose Fields
- 2 Soccer Fields
- 2 Tennis Courts
- Play Equipment
- Benches
- Concession Stand
- Restrooms
- Outdoor Band Shell
- Gymnasium/banquet hall/meeting rooms

### **Opportunities:**

- Acquisition of land across Mountain Creek
- Establish a riparian zone through the park along Mountain Creek
- Improve the pool to accommodate increased usage, capital improvement funding is need to fulfill this
- Indoor recreation facilities could provide for indoor sports leagues, maintenance funding is needed to fulfill this
- Structure a public/private partnership to ensure availability to the public over the long-term.

### **Issues:**

Macungie Memorial Park is fully developed. If new features were to be introduced, existing features would be displaced. Funding for maintenance and upgrading (capital improvements) are becoming limitations to full usage and improved provisions. The non-profit organization that owns and manages the park is in the process of developing a master plan at the time of this writing.

## Borough of Macungie

### Kalmbach Memorial Park

Action	Year					Estimated Cost	Comments
	1	2	3	4	5		
Greenway Connection to Reimert Bird Haven			√			125,000	appraisal needed
Acquire Conservation Easement		√				tbd	needs further study

# Borough of Macungie

## Kalmbach Memorial Park



### Description:

This is a 19 acre special-use park providing trail-based active and passive recreation. It is owned by a private non-profit organization. It's purpose is to provide a center for environmental education and appropriate recreation, primarily walking trails. Classes are held for the community. It is easily accessible to residents of the borough via the newly established pathway system. The on-site manager is responsible for maintenance and programming on behalf of the board of directors for the estate.

### Features:

- Historic Buildings
- Walking Paths
- Environmental Interpretive Signs
- Wooded Areas

### Opportunities:

- Recreational and education programming is continually evaluated for popularity and meeting the needs of residents
- Establishing a greenway connection to the Reimert Bird Haven, a protected parcel nearby in Lower Macungie Township
- A conservation easement might be advisable in the long-term if development pressures become an issue.

### Issues:

Kalumbach Memorial Park provides needed environmental recreation and education in the EPSD. Ensuring its availability to the public over the long-term is advisable. The current ownership/board of directors intends to continue doing this for the local population.

## Borough of Macungie

### Macungie Flower Park

Action	Year					Estimated Cost	Comments
	1	2	3	4	5		
Acquire Adjacent Parking Lot				√		200,000	appraisal needed
Landscaping: Increase Native Species Plantings			√			6,000	
Improve Public Awareness of Facility		√				tbd	

# Borough of Macungie

## Macungie Flower Park



### Description:

This is a .2 acre public urban open space park providing a location for volunteers to plant and tend seasonal flowers. It is a borough beautification project that includes landscaping, hard-scape features, a fountain, and a pavilion that replicates a vintage train depot. It is easily accessible from all points in the borough via the sidewalk/path system that Macungie Borough has recently completed.

### Features:

- Pavilion
- Gardens
- Fountain
- Stone walls

### Opportunities:

- Acquisition of an adjacent parking lot
- Introduction of increased numbers of native plant species, both annual and perennial
- Increase awareness among residents who enjoy gardening to increase the number of volunteers

### Issues:

Ensuring continual maintenance by volunteers who are familiar with gardening over the long-term will be the challenge.

## Borough of Macungie

### Playlot Parks

Action	Year					Estimated Cost	Comments
	1	2	3	4	5		
Survey Local Residents About Use Options		√				tbd	appraisal needed
Landscaping: Plant with Native Trees & Shrubs				√		4,000	

# **Borough of Macungie**

## **Playlot Parks**

**976 Hillcrest Dr. S. - 1.3 acres**

**250 Spruce St. - 3.3 acres**

**250 Village Walk Dr. - 1.7 acres**

**The Ridings Recreation Area (private) - 2 acres**

### **Description:**

These mini parks are intended to provide close-to-home active and passive recreation space for those who reside within a 1/4 mile distance. Village Walk Dr. and The Ridings are improved for casual play. Hillcrest Dr. S. and Spruce St. are not improved and provide open space. These areas are mowed and can be used for pick up games.

### **Features:**

- Play Equipment (two facilities)

### **Opportunities:**

- Gain input from local residents about use options that might be made available at these parks
- Plant with native trees, shrubbery, and ground cover to reduce the need for mowing

### **Issues:**

Small mini parks, also known as pocket parks are difficult to maintain given limited funding. Encouraging local residents to adopt these small park areas aids in maintenance and programming. Use of native planting materials can reduce mowing, and provide some green space.

# **Borough of Macungie**

## **Macungie Institute**



### **Description:**

This public community facility provides meeting and classroom space within a renovated historic school building. State of the art conference infrastructure allows it to meet any need for meeting space. Active recreation classes, leisure-time classes, clubs and community organizations utilize the facility. The Macungie Historical Society has its home here as well.

### **Features:**

- Elevated stage, lighting, curtain
- Chairs and tables
- State of the art audio/video systems, wireless internet
- White screen
- Podium
- Whiteboard/markers
- Classrooms, Conference room, Auditorium
- Serving kitchen
- ADA accessible

### **Opportunities:**

The facility is marketed to business and organizations in need of classroom or conference space, as well as community groups for indoor activities and meetings.

### **Issues:**

The facility currently has capacity to serve more groups. It does not serve as a community center for active recreation or organized sports.



# Upper Milford Township

## Lenape Park

Action	Year					Estimated Cost	Comments
	1	2	3	4	5		
Parking Lot: Construct Turn-around		√				20,000	
Parking Lot: Improve Drainage			√			20,000	
Improve Sight Visibility at Entrance			√			tbd	needs further study
Install ADA Accessible Pathway		√				4,000	
Landscaping: Use Native Materials		√				4,000	
Install Bicycle Racks		√				1,200	

# Upper Milford Township

## Lenape Park



### Description:

This is a 12.1 acre public neighborhood park providing a location for organized sports, community recreation, active and passive recreation, and close-to-home park amenities for the village of Old Zionsville. It is fully developed, additional features introduced would displace existing resources. It is centrally located, accessible by main roadways and there is ample parking.

### Opportunities:

- Construct turn-around for parking lot and improve drainage
- Improve sight visibility at entranceway
- Acquisition of adjacent properties will provide the opportunity needed to improve access
- The addition of an ADA accessible pathway will expand usage
- Use of native plant materials when landscaping plans are executed will encourage greenway connectivity
- Repair and replacement of key features and infrastructure will ensure long-term useage
- Installation of bicycle racks would encourage access via bicycle

### Features:

- 2 Soccer Fields
- 1 Multipurpose Field
- 3 Tennis Courts
- 3 Volleyball Courts
- 2 Sand Volleyball Courts
- 1 Net Enclosed Batting Cage
- 1 90' Baseball Field
- 1 75' Baseball Fields
- 1 Basketball Court
- Restroom
- Concession Building
- 1 Pavilion (30' x 40')
- 14 picnic tables
- 2 water fountains
- 2 Elevated Grills
- 2 Horseshoe Pits
- Play Equipment
- 16 benches (concrete ends with wooden slats)

### Issues:

The entranceway has poor sight distance and improvement is constrained by existing private structures. Greenway connectivity is desirable, particularly for ecological functions (there are tracts protected by conservation easements in close proximity)

# Upper Milford Township

## Jasper Park/Fulmer Tract

Action	Year					Estimated Cost	Comments
	1	2	3	4	5		
Explore Alternative Access Options		√				3,500	
Educational Signage: History & Geology			√			2,400	
Improve Sight Visibility at Entrance			√			tbd	needs further study
Maintain Mature Woodland				√		tbd	
Landscaping: Use Native Materials		√				4,000	
Install Bicycle Racks		√				1,200	
Update Fulmer Tract Master Plan		√				6,000	

# Upper Milford Township

## Jasper Park/Fulmer Tract



### Description:

These township-owned parcels are presented together because they are across the road from one another; combined they represent an area of open space of 62 acres. Jasper Park is a 26.7 acre community park providing a location for organized sports, community recreation, picnics, active and passive recreation. It is easily accessible within the village of Vera Cruz and includes close-to-home park amenities. The Fulmer Tract is a 35.3 acre open space resource, with mature woods. These parks are in a populous area of the township, and are easily accessible by main roadways, with ample parking.

### Opportunities:

- Improve sight visibility at entranceway
- Use of native plant materials when landscaping plans are executed will encourage greenway connectivity
- Develop educational programming/materials to express the history and geology of the site
- Improve connectivity for accessing the park via bicycle, install bicycle racks
- Improve the Liebert Creek riparian zone through use of native plant materials
- Strive to not disturb mature wooded areas, programmatically remove non-native species
- Explore alternative access points and acquisitions to enable improved entrance
- Revisit the master plan for the Fulmer Tract to determine priorities for appropriate improvements

### Features:

- Picnic Pavilions
- 1 90' Baseball Field
- 3 Soccer Fields
- 1 Net Enclosed Batting Cage
- Restrooms
- Concession Building
- 2 Picnic Pavilions
- Picnic Tables
- 4 Elevated Grills
- Play Equipment
- 16 Benches
- Fitness Stations/Walking Path
- Volleyball
- Play Equipment
- Jasper Quarries

### Issues:

Expansion of Jasper Park is limited due to site location. Expansion of areas for active recreation and organized sports would displace current conditions, and the Fulmer tract is not the appropriate site for this, although trail-based activities may be appropriate for the Fulmer tract.

# Upper Milford Township

## Churchview Park

Action	Year					Estimated Cost	Comments
	1	2	3	4	5		
Develop Churchview Park Master Plan			√			7,500	
Landscaping; Use Native Materials			√			6,000	
Establish Multi-Use Playing Field		√				60,000	

# Upper Milford Township

## Churchview Park



### Description:

This is a 17 acre community park providing a walking/ bicycling pathway. It is located across the road from agricultural land owned by Lehigh County. It is also in close proximity to farms with conservation easements and the Township Wetland.

### Features:

- Asphalt paved loop path
- Portable ADA Compliant Restroom
- Information Kiosk
- Parking lot

### Opportunities:

- Develop a master plan for the park to explore additional appropriate uses
- Use of native plant materials when landscaping plans are executed will encourage greenway connectivity
- Establish a multi-use field for a variety of play, including ball field space for younger children

### Issues:

Although this park provides a feature that is in demand (trails) it is under utilized. Given that it is a remote parcel without connectivity, and little nature interest presently, a master plan that expands on the pathway facility is advisable.

# Upper Milford Township

## Township-wide

Action	Year					Estimated Cost	Comments
	1	2	3	4	5		
Adopt/Amend Woodland Protection Ordinances		√				tbd	Zoning/SALDO & General (e.g. Burning, Forestry)

# Upper Milford Township

## Other Open Space & Recreation Resources

**Burkhart Preserve - 25.3 acres**

**LCCD Demonstration Site - 61 acres**

**Township Wetland - 8 acres**

**Upper Milford S. Mountain Property - 15.6 acres**

**Milford Park Bible Camp (private) - 31 acres**

**Mystic Chain Park (private) - 3.4 acres**

**U. Milford Field & Stream Assoc. (private) - 14.9 acres**

**Victory Valley Camp (private) - 40.3 acres**

### **Description:**

Combined, these tracts represent nearly 200 acres of open space, some provides recreation for members only, all of which adds to the potential for greenway networks. Some of these resources provide space for youth league teams.

### **Features:**

- Open Space
- Woodlands
- Wetlands
- Riparian Zones
- Limited Outdoor Recreation

### **Opportunities:**

- Use open space planning techniques to promote and ensure greenway connections over the long-term
- Consider development of these sites to meet various recreational demands, as appropriately supported by the land

### **Issues:**

Upper Milford Township is facing demands for land development. Many of these parcels provide open space, some of them are not protected. Others are developed for some recreation, and it may be advisable to ensure long-term continuation in the face of development pressure.

# Lower Milford Township

## Township-wide Open Space & Recreation Resources

Action	Year					Estimated Cost	Comments
	1	2	3	4	5		
Adopt Development Standards for Natural Resource Protection		√				tbd	
Adopt Township Parks, Recreation, and Open Space Plan		√					in process during this planning process
Official Map: Highlight Green Infrastructure		√				tbd	needs further study
Adopt Woodland Protection Ordinances		√				tbd	Zoning/SALDO & General (e.g. Burning, Forestry)

# Lower Milford Township

## Township-wide Open Space & Recreation Resources

**Ball field (private) - 3.2 acres**

**LCCD Demonstration Site - 16.2 acres**

**Limeport Stadium (private) - 5.7 acres**

**Twin “S” Gun Club (closed, private) - 106.892 acres**

**Picnic Grove & Ball field (private) - 15 acres**

**Multi-purpose field @ Twp. Bldg. - 4 acres; 2.75 multi-purpose field**  
pending completion

### **Description:**

Combined, these tracts represent approximately 150 acres of open space, some provides recreation for members, all of which adds to the potential for greenway networks.

### **Features:**

- Open Space
- Woodlands
- Wetlands
- Riparian Zones
- Limited Outdoor Recreation

### **Opportunities:**

- Use open space planning techniques to promote and ensure greenway connections over the long-term
- Consider development of these sites to meet various recreational demands, as appropriately supported by the land

### **Issues:**

Lower Milford Township is facing demands for land development. Many of these parcels provide open space, some of them are not protected. Others are developed for some recreation, and it may be advisable to ensure long-term continuation in the face of development pressure.

## Southwestern Lehigh County Area

### Area-wide Recommendations & Action Plan

Recommendation	Year					Estimated Cost	Comments
	1	2	3	4	5		
7.2.1. Balance Active Recreation & Natural Resource Protection	√					20,000	
7.2.2. Appropriate Recreation in Natural Resource Protection Areas			√			varies, tbd	needs further study
7.2.3. Promote Green Infrastructure		√				varies, tbd	needs further study
7.2.4. Recruit Alburtis Borough & Lower Macungie Township to the SWLC Area for Parks, Recreation, and Open Space Planning	√					tbd	
7.2.5. Establish SWLC Area Parks, Recreation, and Open Space Council				√			
7.2.6. Master Plan for Lehigh County holdings				√		20,000	
7.2.7. Site Selection for a Regional Park			√			40,000	
7.2.8. Site Selection for a Regional Community Center			√			20,000	
7.2.9. Task Force for Teenager Recreation Planning		√					
7.2.10. Task Force for Trails and Bicycle Ways Connectivity		√					
7.2.11. Master Park Planning/Incorporate Best Management Practices, Sustainability, and Native Landscape Restoration	√						
7.2.12. Agricultural Resources Plan/Local Farm to Farmer Market Promotion			√				



