

Chapter 3: Natural, Historic and Cultural Resources

Section 3.A: Natural Features and Resources

Natural features and resources are the components produced by the physical and natural environment including geology, soils, hydrology, topography, biology and botany. It is essential to provide an inventory to determine the presence of important natural features, groundwater resources, prime agricultural lands, wetlands, floodplains, woodlands, soil capabilities, as well as other natural resources and environmentally sensitive land areas within Exeter Borough

Geological Formations

The Commonwealth of Pennsylvania is divided into four (4) major physiographic provinces. The Wyoming Valley is located within the Great Valley and Northern Piedmont Province, which was formed during the Pennsylvania, Mississippian and Devonian Sequence. The following geological formations underlie the Wyoming Valley and Exeter Borough:

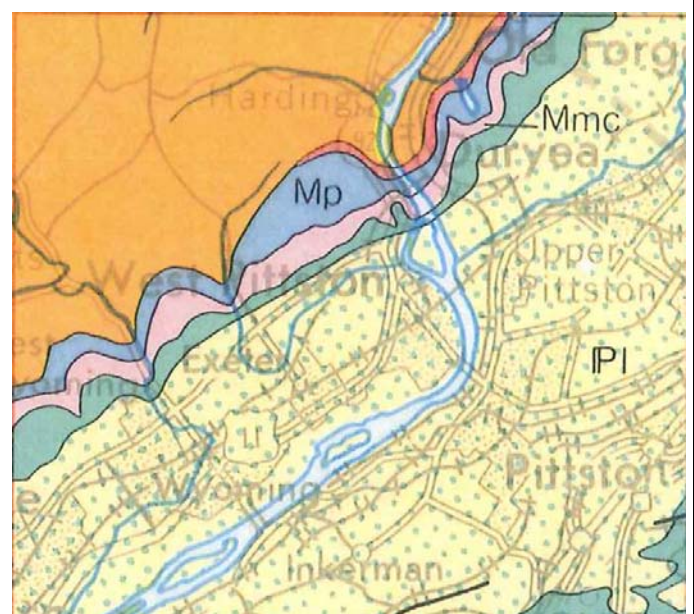
Llewellyn Formation (IPI): Vast inter-bedded band of sandstone, siltstone, conglomerate and coal located within the river valley or southern portion of Exeter Borough.

Pottsville Formation (IPp): Narrow band of coarse sandstone, siltstone, conglomerate and coal located within the north-central portion of Exeter Borough.

Mauch Chunk Formation (Mmc): Narrow band of shale, claystone, sandstone and siltstone located within the north-central portion of Exeter Borough.

Pocono Formation (Mp): Narrow band of sandstone, siltstone, quartz and conglomerate located within the northern portion of Exeter Borough.

Catskill Formation (DcK): Vast complex of inter-bedded shale, siltstone and conglomerate located within the northern portion of Exeter Borough.




Sources: *Engineering Characteristics of the Rocks of Pennsylvania (1982); United States Geological Service*

The geological features underlying Exeter Borough are significant factors in determining the suitability for existing and future land use. The geology characteristics of a given area have a direct correlation with the soil suitability, topographic constraints and hydrologic features, which also determines groundwater quality and quantity. The existing land use patterns within Exeter Borough were developed as a result of geological conditions (favorable and unfavorable) associated with slope, drainage, porosity, permeability, stability and the supply of groundwater. Based upon an evaluation of the geological characteristics of Exeter Borough, it can be concluded that the composition is typically: well bedded; moderately weathered; provides a stable foundation; offers good surface or sub-surface drainage; and is capable of a medium to high groundwater yield. A geological site investigation should be required for areas that are susceptible to carbonate geology, fractured zones, fragmented formations and/or solution openings.

Soil Characteristics

A soils analysis is a vital component in the preparation of a Comprehensive Plan. Many aspects of land use planning are influenced by soil characteristic and geological formations. The United States Department of Agriculture's (USDA) National Resources Conservation Service (NRCS), leads the National Cooperative Soil Survey and is responsible for collecting, sorting, maintaining and distributing soil survey information for all land areas throughout the United States. The NRCS has prepared the most recent version of the Soil Survey of Luzerne County, which was published in 1979. This following chart summarizes the principal soil groups and characteristics in Exeter Borough:

<p>Soil Group 2: Oquaga-Lordstown-Arnot Association; moderate to steep slopes, well drained soils; located within the northern portion of Exeter Borough.</p> <p>Soil Group 4: Chenango-Pope-Wyoming Association; nearly level to moderate slopes; well drained to poorly drained soils; typically found on glacial outwash terraces and floodplains; located within the southern portion of Exeter Borough.</p> <p>Soil Group 6: Lordstone-Mardin-Volusia Association; moderate to steep slopes; well drained to poorly drained areas on disconnected plateaus; located in the northern portion of Exeter Borough.</p> <p>Soil Groups 1, 3, 5 and 7 are not located in Exeter Borough.</p>	
<p>Source: United States Dept. of Agriculture (1979)</p>	

Based upon a review of the Soils Survey of Luzerne County, the following observations shall be considered for other functional components of this Comprehensive Plan:

- (1) Most of the soils that have moderate limitations for development, drainage and construction are located within the southern portion of Exeter Borough. The northern areas have limitations due to steep slopes and depth to bedrock.
- (2) Most of the prime agricultural soils are located within the southern portion of Exeter Borough. These areas have been partially developed with other uses or are located within the floodplain. The northern portion of Exeter Borough does have significant land areas that are suitable to support agricultural uses and operations.
- (3) The soil groups adjacent to the Susquehanna River, perennial streams and floodplains within Exeter Borough are classified as hydric soils or high water table soils with inclusions of hydric components. These soils provide hydrological, environmental and ecological zones that are essential to sustain the quality of life within Exeter Borough and the Wyoming Valley.
- (4) The geological formations and soils that have questionable characteristics should be evaluated as part of the geotechnical requirements that should be required.

The documentation contained within the Soils Survey of Luzerne County should be considered as a guide to support future preservation, growth and development efforts. Additional field testing should be considered as part of the planning and development process.

Topography

Exeter Borough is comprised of a variety of topographical features, which have been principally formed as a result of the geological formations and hydrological conditions. Steep slopes are primarily found in northern portion of Exeter Borough. These areas are essentially underlain by geological formations that consist of shale and sandstone conglomerate. The southern portion of Exeter Borough consists of a flat to rolling terrain, which is essentially underlain by geological formations that consist of sandstone and siltstone conglomerate that is typically found in the vicinity of floodplains.

The highest elevation within Exeter Borough is 1,530 feet above sea level and is found at the Observation Tower on the Northern Ridge of the Wyoming Valley (aka Anthracite Valley).

The lowest elevation within Exeter Borough is 537 feet above sea level and is found along the Susquehanna River, just west of Wintermoot Island.

Source: USGS Quad Map



Slope is defined as the change in vertical distance per unit area of horizontal. Given the vast area that these slopes encompass, Exeter Borough may consider a steep slope classification system that ranges between 20 to 30 percent in grade (Category 1 Slopes) and then over 30 percent in grade (Category 2 Slopes). Further discussion on slope categories shall be considered as part of the recommendations and the functional components of this Comprehensive Plan.

Hydrology

A drainage basin or watershed is a regional area bounded peripherally by water parting and ultimately draining into a particular watercourse or body of water. The boundaries of a drainage basin are defined by natural ridge lines, which separate one drainage basin from another. Exeter Borough is located within the Susquehanna River Regional Basin, which is part of the Chesapeake Bay Watershed Basin.

The North Branch of Susquehanna River is considered a prominent regional feature, running through the seven (7) counties within Pennsylvania, including the Wyoming Valley of Luzerne County. The Susquehanna River is one of the largest rivers (646 miles) and the drainage basin occupies nearly half of the land area within Pennsylvania. It is considered as a “national treasure” providing recreational, cultural, educational, ecological and environmental opportunities.

Hicks Creek is a first order tributary to the North Branch of the Susquehanna River. It is approximately 4.5 miles in length and the watershed is approximately 3.95 square miles within portions of Exeter Township and Exeter Borough. Significant portions of Hick Creek are considered impaired as a result sedimentation, siltation, surface water discharge and water flow variability. Portions of the creek have been channelized for stormwater management and flood control.

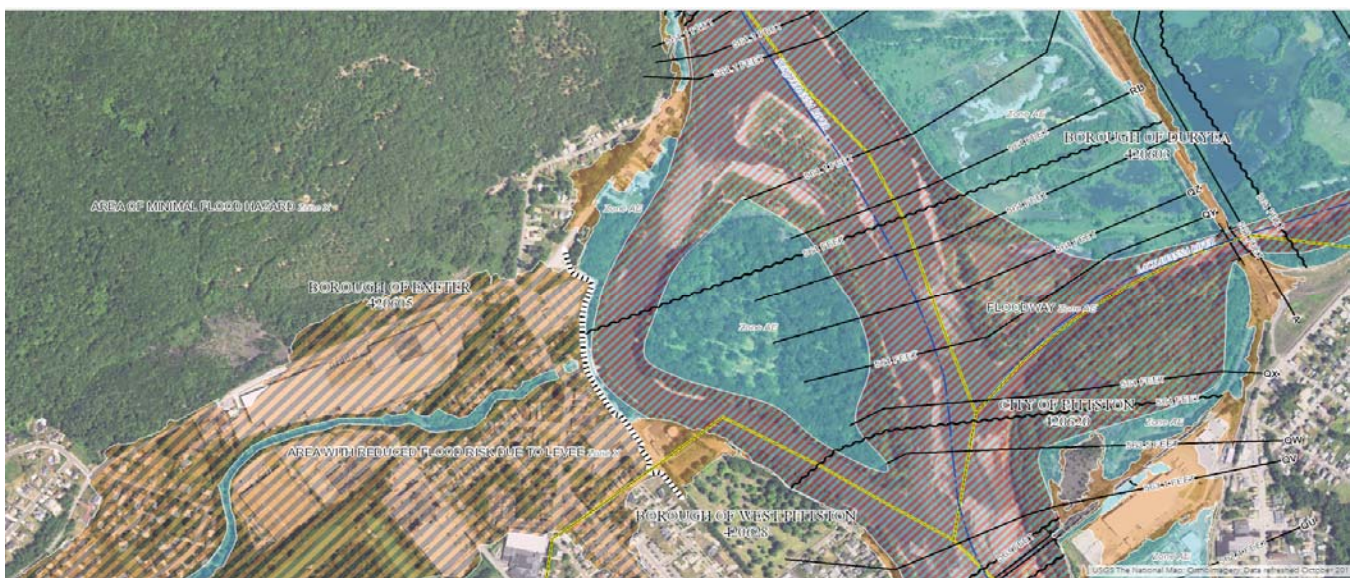
Floodplains

Floodplains provide ecological, aesthetic and recreational benefits, while at the same time imposing constraints to development. The primary function of a floodplain is to provide an area that will accommodate the floodwaters of a given storm. The Federal Emergency Management Agency (FEMA) has defined the floodplain by the 100-year or base flood, which has a one (1) percent chance of being equaled or exceeded in a given year.

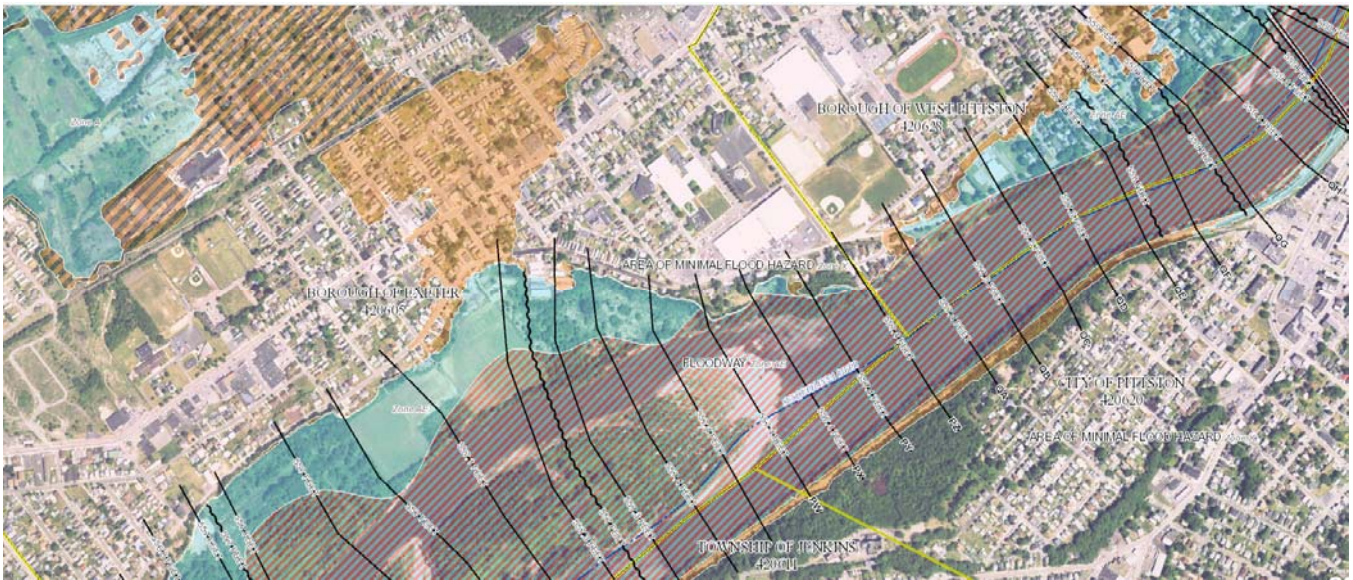
The National Flood Insurance Program (NFIP) was created to respond to the rising cost of taxpayer funded disaster relief for flood victims and the increasing amount of damage caused by floods. The NFIP makes federally-backed flood insurance available in communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage. As a result, National Flood Insurance is available to communities across the United States and its territories. The NFIP is managed by FEMA. Pursuant to the procedures established by FEMA, Exeter Borough has established and adopted regulations regarding floodplain management for the following purposes:

- (1) To promote the general health, welfare, and safety of the community;
- (2) To encourage the utilization of appropriate construction practices in order to prevent or minimize flood damage in the future;
- (3) To minimize danger to public health by protecting water supply and natural drainage;
- (4) To reduce financial burdens imposed on the community, its government units, and its residents, by preventing excessive development in areas subject to flooding; and
- (5) To comply with federal and state floodplain management requirements.

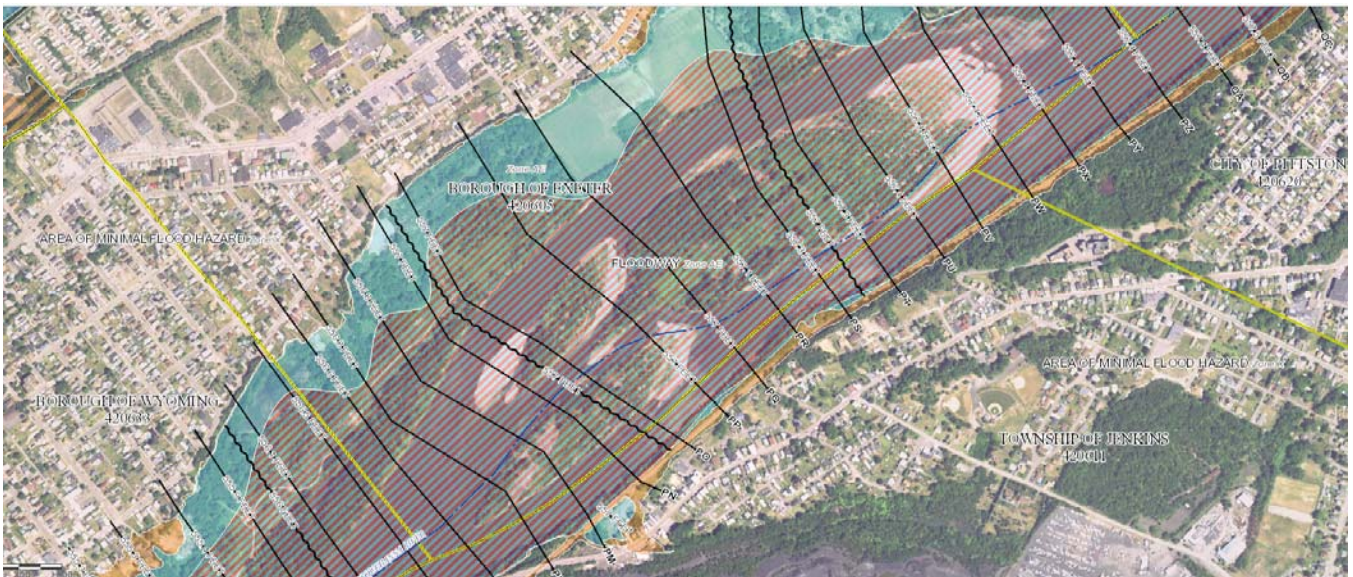
The NFIP has established minimum requirements, which prohibit new construction or substantial improvements to existing structures, fill or encroachments within the floodway. The areas along the Susquehanna River and Hicks Creek are impacted by the 100-year flood elevations, which are depicted on the following FIRM issued by FEMA:



FEMA Segment 1: Susquehanna River and Hicks Creek on east side of Exeter Borough



FEMA Segment 2: Susquehanna River in Exeter Borough, west of West Pittston Borough



FEMA Segment 3: Susquehanna River in Exeter Borough, east of Wyoming Borough

These segments portray the limits of the floodway and the 100-year floodplain. FEMA has also designated specific flood elevations along the North Branch of the Susquehanna River, which establishes limitations on land use, zoning, developments and site improvements. These areas have also been impacted by several storm events. As a result state and federal assistance was provided to improve flood control features and stabilization efforts along the banks. The Luzerne County Flood Protection Alliance has also assisted municipalities along flood prone areas. Portions of Exeter Borough remain vulnerable to flooding as a result of significant storm events compounded by inadequate or incomplete infrastructure improvements within the 100-year floodplain.

Maps 2, 3, 4 and 6 of this Comprehensive Plan also depict the limits of the 100-year floodplain, as established by the FEMA.

Wetlands

Wetlands are recognized as being highly productive ecosystems, providing critical wildlife habitats, and important storage areas for surface and groundwater. The Clean Water Act requires that anyone interested in depositing dredged or fill material into waters of the United States, including wetlands, must apply for and receive a permit for such activities. The United States Army Corps of Engineers has been assigned the responsibilities for administering the permitting process. Activities in wetlands for which permits may be required include, but are not limited to: placement of fill material; ditching activities when the excavated material is side cast; levee and dike construction; land clearing involving relocation of soil material; land leveling; road construction; and dam construction. The rationale for these requirements are to protect and preserve wetlands for the following purposes:

- (1) Wetlands provide deep water habitats, which are essential breeding, rearing and feeding grounds for many species of fish and wildlife.
- (2) Wetland can be extremely rich areas for plant growth and animal habitats. Wetlands often serve as breeding places for many organisms and are consequently rich in species diversity.
- (3) Wetlands are important for nesting and feeding grounds for migratory animals.
- (4) Wetlands protect water sources and can actually help to keep these sources of water clean. They act as natural filters in removing pollutants such as bacteria and sediment from water. This is achieved because the plants growing in and around a wetland will help to trap these pollutants, which are then consumed as food by organisms living in the wetland.
- (5) Wetlands also perform important flood protection functions by decreasing the peak flood flow and spreading out the discharge over a longer period of time.
- (6) They act as a natural form of stormwater detention required in a new development. Wetlands also act to remove sediment and pollution from stormwater by this reduction in the flow rate.
- (7) The soils associated with wetlands are often acidic, and consequently the plants growing within the wetlands are predominantly acid tolerant species. This allows a wetland to receive acidic infiltrations and remain relatively unaffected.

The National Wetlands Inventory (NWI) of the United States Fish and Wildlife Service produces information on the characteristics, extent, and status of the nation's wetlands and deepwater habitats. Information from the National Wetlands Inventory Center (NWIC) is utilized by federal, state, and local agencies, academic institutions and the private sector. Congressional mandates require the NWIC to produce status and trends reports to Congress at ten-year intervals. In addition, the NWIC has produced over 130 publications, including manuals, plant and hydric soils lists, field guides, posters, wall size resource maps, atlases, state reports, and numerous published articles.

The NWI areas have been delineated utilizing satellite imagery and aerial photography. The accuracy of this information is limited to larger concentrations of surface water and should not be construed as representation of all wetlands within Exeter Borough. Since the NWI does not show all areas, which should be classified, as wetlands, it is important to recognize the need for additional wetland evaluation and mapping requirements through the subdivision and land development process. Soils that are considered as "hydric soils" or "high water table soils" may have characteristics, which could be indicative of a wetlands area and should be evaluated by a qualified and trained professional.

Section 3.B: Historic and Cultural Resources

Local History

The Wyoming Valley has a rich and diverse heritage that is reflected in the historic and cultural resources that are integrated within the existing land use patterns. The area was initially settled in the 1770's by European-Americans who defended the area from British soldiers during the Revolutionary War. During the colonial period, the area was considered a prominent and fertile agricultural area due to its proximity to the Susquehanna River. In the 1830's and 1840's, the region entered the industrial age and began shipping coal via the Pennsylvania Canal and Lehigh Canal. By the 1860's, the Lehigh and Susquehanna Railroad extended its railroad lines throughout the Anthracite Valley, which opened the area to a new wave of employment opportunities and settlements.

Exeter was officially incorporated as Exeter Borough in 1884. By 1900, the population consisted of 1,948 citizens. The population has increased to an estimated 5,558 occupants, who consider Exeter Borough as their Home Town. The total land area is currently 5.00 square miles of which 4.67 square miles are considered land and 0.33 square miles as surface water. The Wyoming Valley has been reshaped as the result off several significant flood events that occurred in 1959, 1972 and 2011.

Regional Planning Guidelines

The Lackawanna-Luzerne Regional Comprehensive Plan provides a regional profile, planning goal along with defined community objectives for historic and cultural resources. The Regional Plan emphasizes the preservation, protection and enhancement of historic and cultural resources. The Regional Plan does provide options to revitalize and rehabilitate the historic resources in existing communities in ways that are sympathetic to economic and other community concerns. These objectives can be accomplished through: the protection of historic and cultural resources; preservation of an economic stimulus tool; heritage tourism; adaptive reuse; preservation of character; promotional opportunities; and education. The Regional Plan does provide a series of preservation actions and implementation tools that should be considered by Exeter Borough, which shall be considered by this Comprehensive Plan.

Programs and Organizations

Exeter Borough contains numerous sites that have historical and cultural significance. The identification and evaluation process is an essential step in developing a successful historic preservation program. The preservation of these resources should be considered as an implementation effort in order to establish a community bond from past generations to future generations. Since these resources are not renewable, it is essential to recognize their value and promote a future land use plan that is based upon fundamental principles in an effort to preserve, protect and enhance their presence within the community.

Exeter Borough should consider establishing a Historic Preservation Commission (HPC) to oversee the historic and cultural aspects of this Comprehensive Plan. The HPC could solicit assistance from the following groups and organizations: the Pennsylvania Historic and Museum Commission (PHMC); the Luzerne County Historical Society; and the Wyoming Historic Society. The HPC in conjunction with other agencies could conduct a municipal survey to document the location, historical significance and architectural features of certain sites. These initial steps could become the foundation of other preservation efforts.

Section 3.C: Scenic and Transitional Landscapes

Natural Areas and Wildlife Habitats

In 2006, the Pennsylvania Natural Heritage Program (PNHP) prepared a comprehensive update of the Natural Heritage Inventory (NHI) of Luzerne County. This document contains information on the locations of rare, threatened, and endangered species and of the highest quality natural communities in the two counties; it is not an inventory of all open space. It is intended as a conservation tool and is not intended to be used as a field guide. Each site description contains a general recommendation that would help to ensure the protection and continued existence of these natural communities, and species of concern. The recommendations have been recommended by the Western Pennsylvania Conservancy (WPC) based upon the biological needs of these elements. The NHI sites that have regional significance to Exeter Borough include: the Susquehanna River; Campbell Ledge and Pittstown Rockery.

The PNHP is valuable for its ability to supply technically sound data that can be applied to natural resource decisions. Information on the occurrences of elements of special concern (species and natural communities) have been collected and evaluated by the PNHP to identify the areas of highest natural integrity and significance in the Wyoming Valley. Implementation of the recommendations is up to the discretion of the landowners. However, cooperative efforts to protect the highest quality natural features through the development of site-specific management plans are greatly encouraged. Landowners working on the management of, or site plans for, specific areas described in this document are encouraged to contact the PNHP for further information

The Pennsylvania Department of Conservation and Natural Resources (DCNR) also maintains records of sites, which are listed under the Pennsylvania Natural Diversity Inventory (PNDI) and Natural Areas Inventory. There are several sites within the Wyoming Valley that have been identified as PNDI sites. These sites are typically found within natural landscapes (floodplains, wetlands, hydric soils and woodlands) that should be recognized as environmentally sensitive areas and ecological habitats with local significance. These are areas within the upland and lowland areas of Exeter Borough.

The protected and unprotected open space network within Exeter Borough provides an essential habitat for many plant and animal species. These areas form a biodiversity corridor that are comprised of woodlands, floodplains, wetlands, surface water, farms, meadows, hedgerows and vacant parcels of land, which are either publicly or privately owned. The biodiversity corridor should be protected or linked to preserve the integrity of these natural areas and wildlife habitats.

Agricultural Land Areas and Resources

Agricultural land uses and resources have been considered as an important attribute to the region since the Wyoming Valley was settled in the 1770's. Some of the assets for preserving this resource includes: continuing agriculture as a prominent industry; protecting natural and historical resources such as productive soils, surface water, groundwater, air quality, wildlife habitats and scenic beauty; and maintaining real estate taxes and property values. Approximately 15 percent of the total land area of Exeter Township is actively being farmed. The most prominent agricultural areas that are considered as viable farmland include the areas along the floodplain of the Susquehanna River. These areas are depicted on Maps 2, 3 and 4 of this Comprehensive Plan.

Woodlands, Pastures and Vegetative Landscapes

Approximately 15 percent of Exeter Borough is comprised of prominent woodland clusters. These areas are primarily located on areas of steep slopes, floodplains, and other areas that may be unsuited for agriculture, subdivision and land development activity. Woodlands are a vital resource and provide a number of community benefits including: minimizes erosion on areas of steep slopes and stream banks; improves groundwater quality and quantity by filtering out pollution and sediment; provides wildlife habitats for plants and animals; provides effective stormwater management and erosion control; provides shade from direct sunlight and reduces temperatures; stabilizes adverse climate conditions by providing buffer and wind breaks; provides active and passive recreation opportunities; enhances the scenic characteristics; and reduces air pollution by absorbing airborne pollutants.

Scenic Vistas and Viewsheds

Exeter Borough has scenic resources within the suburban and transitional landscape. These scenic resources include scenic vistas and viewsheds, which include areas that provide extended visual access to farmlands, woodlands, ridges, stream valleys and villages. The scenic vistas typically offer panoramic views from land areas with considerable topographical relief. Visual intrusions devalue the characteristics of the scenic vistas and viewsheds. There are limited visual intrusions associated with scenic vistas and viewsheds. As part of this planning process, the vistas and viewsheds have been examined to determine their overall value as a community asset. The most prominent vistas and viewsheds are located along the Susquehanna River and the Northern Ridge of the Wyoming Valley.

Reclamation and Restoration Concepts

Reclaiming the Black Dessert is a visionary project that was prepared by Andrew Freifeld from Temple University in 2017. This project combines a potential reclamation and restoration concept by integrating community revitalization, ecological, environmental and recreational issues as part of a master plan. The focus of this effort was a 110 acre abandoned coal mining, processing and distribution site within Exeter Borough. The master plan is a futuristic vision on a community eyesore can become a “diamond in the rough”. This Comprehensive Plan shall attempt to support and advance this project.

Transitional Landscapes

Exeter Borough can be described as a municipality that has maintained its’ suburban characteristics. Within a ten (10) mile radius, there are many diverse changes that have been directly influenced by the rural, suburban to urban characteristics of the Wyoming Valley. This area is geographically linked by various modes of transportation to various metropolitan centers within the United States. Therefore, Exeter Borough and the surrounding communities could be vulnerable to urban development patterns that are uncharacteristic to the existing suburban landscape. Based upon the results of the Community Survey and Business Survey that were conducted in 2018, this issue was considered to be the highest priority issue for Exeter Borough to consider for this Comprehensive Plan.

Section 3.D: Planning Implications and Issues

Based upon an evaluation of the natural, historic and cultural resources of Exeter Borough, the following planning implications and issues are hereby identified:

- (1) The geological formations and soil characteristics of Exeter Borough have moderate limitations for future development and revitalization efforts. The foundation stability associated with the geological formations is generally good, which indicates that the bearing capacity is sufficient for most construction activities. However, a geotechnical site investigation should be required for areas that are susceptible to fractured zones, fragmented formations or solution opening.
- (2) Hydric soils and high water table soils are vital hydrological resources, which should be carefully identified, preserved and protected. Setback requirements or buffer yards should be considered to promote groundwater recharge and protect wildlife habitats.
- (3) Future development activity should be carefully planned in relationship to the topographical constraints of Exeter Borough. Limiting development on steep slopes is important for preventing soil erosion, minimizing pollution of surface waters, reducing flooding, preserving stream banks, and maintaining flows in the headwaters of first-order stream valleys.
- (4) Aesthetic features and scenic vistas associated with steep slopes should be preserved and protected from the adverse effects of development activity. As part of these efforts, Exeter Borough should continue to enforce and enhance its steep slope regulations, which are contained within the municipal ordinances.
- (5) Best Management Practices (BMPs) for agriculture, conservation, stormwater management and development activity should be considered provided they are realistic and consistent with the natural characteristics of the receiving watershed. Proper management of our hydrologic resources should be considered as a priority to meet growing demands, while protecting water quality and quantity from degradation and depletion.
- (6) The Susquehanna River is a unique resource, which has the potential to provide recreation, education, historic and conservation opportunities within Exeter Borough and the Wyoming Valley. Development and revitalization efforts must be carefully planned to avoid any adverse impacts associated with pollutants, stormwater, erosion and groundwater balances.
- (7) The land areas located within the limits of the 100-year floodplain must be carefully planned, recognized and zoned to permit the proper land uses. Based upon the proximity of wetlands, hydric soils and high water table soils, it is important that the limits of the floodplain be conserved and/or protected from adverse flood impacts. Exeter Borough must consider mitigation opportunities that include a combination of engineered infrastructure and natural riparian buffers to protect vulnerable areas from future flood damage.
- (8) There are many visual accents such as historic properties and natural features that enhance the value of the scenic roads. These visual accents should be identified and protected. The plans and ordinances that are adopted by Exeter Borough are vital tools to support the preservation of historical, cultural and scenic resources.

- (9) The Susquehanna River provides a natural corridor that reflects the historic and cultural heritage on a local and regional perspective. This resource should be protected in accordance with the policies endorsed by the Pennsylvania Natural Heritage Program, the Pennsylvania Natural Diversity Inventory and this Comprehensive Plan.
- (10) A coordinated effort between the public and private sectors will be necessary to implement the recommendations for historical, cultural and scenic resources. Partnerships should be encouraged to promote a versatile approach to preservation efforts in the community.
- (11) Protection measures should be considered to maintain natural diversity while preserving and protecting environmental features and land areas, which support plant and animal species within the Wyoming Valley.
- (12) Local, regional, county and statewide plans should be reviewed and implemented in an effort to identify and plan for the protection of wildlife biodiversity corridors. Where appropriate, design requirements and specifications should be adopted as an implementation effort.
- (13) Municipal landscape requirements are generally generic and do not account for local plant and wildlife needs. A careful evaluation of the trees, shrubs and other plant species that are to be integrated into nature should be evaluated to avoid inappropriate or invasive species.
- (14) A coordinated effort between the private development community and private interest groups should be established to protect existing forest areas, preserve woodland clusters and implement woodland reclamation projects.
- (15) The historical and cultural resources within Exeter Borough are vital components to the natural and suburban landscapes. The integrity of these resources become vulnerable as new subdivision and land development activity is introduced into the rural and natural landscape.
- (16) The cultural heritage of Exeter Borough has evolved from its origins as an agricultural community to a mineral extraction center to a vibrant suburb within the Wyoming Valley. Although vast areas of farmland and abandoned quarries remain, the private development community has become very active within the Wyoming Valley. As new development is introduced within the region, visual obstructions and intrusions are introduced that could jeopardize the scenic qualities of Exeter Borough. The regulatory measures to preserve and protect the remaining agricultural lands should be continued in the future.
- (17) Successful historic and cultural resource planning efforts are predicated upon community support and comprehension of the issues. Exeter Borough should consider innovative methods to educate the residents about their local heritage as well as the importance of historic preservation efforts. A coordinated effort between the public and private sectors will be necessary to implement the recommendations for historical and cultural resources. Partnerships should be encouraged to promote a versatile approach to preservation efforts in the community.

Section 3.E: Natural, Historic and Cultural Resources Plan

The community goals, objectives and policies that are relative to natural, historic and cultural resources are contained within Chapter 2 of this Comprehensive Plan. Exeter Borough has determined that a strategic plan should be considered for implementation over the next 10 to 20 years. The following plan for natural, historic and cultural resources has been established for this Comprehensive Plan:

- (1) Review and consider effective growth management and revitalization techniques, which promote the development of land areas that have the infrastructure and capabilities to support development activity, while preserving land areas considered environmentally sensitive, agriculturally significant and have the greatest potential for flooding.
- (2) Surface and sub-surface drainage associated with the geological formations can be described as good, which should be considered as part of stormwater management and floodway control plans associated with development or revitalization activity. Opportunities for groundwater recharge through infiltration should be considered for all proposed development activity.
- (3) The ease of excavation and foundation stability associated with certain geological formations may be problematic for certain construction activities and site improvements. Where site conditions are questionable, a geotechnical investigation should be conducted to determine how the site improvements can be completed satisfactorily. This condition should be applied to plans and building permits. Amendments to the Exeter Borough Subdivision and Land Development Ordinance should be considered.
- (4) Hydric soils and high water table soils are vital hydrological resources, which should be carefully identified, preserved and protected. Mandatory setback requirements or buffer yards should be considered to promote groundwater recharge and protect wildlife habitats. Exeter Borough should consider amendments to the Subdivision and Land Development Ordinance.
- (5) Soils considered “prime” or “significant” in terms of their agricultural rating should be considered as a natural resource that is essential for many agricultural uses to prosper. In order to avoid future planning conflicts, subdivision and land development activity should be directed to other areas of Exeter Borough that have existing and/or planned infrastructure.
- (6) Endorse and implement Conservation Best Management Practices (BMPs), which include educational programs to address soil erosion control measures and stabilization techniques. The following Conservation BMPs should be considered:
 - (a) Stabilize stream embankments by utilizing structural or natural techniques designed to minimize erosion and sedimentation problems.
 - (b) Provisions for grass or filter strips intended to remove sediment from point or non-point pollutant sources.
 - (c) Preserve natural resources and habitats by establishing a network of riparian buffers.
 - (d) Establish a network of forested riparian buffers.
 - (e) Establish mandatory setback requirements from wetlands and floodplains.

- (f) Develop a public education program to provide information to the residents of the community on the importance of protecting our natural and hydrological resources.

Solicit support from qualified engineers, environmental specialists and planning consultants should be considered to implement this conservation management strategy. Amendments to the Exeter Borough Zoning Ordinance, Stormwater Management Ordinance and/or the Subdivision and Land Development Ordinance should be considered.

- (7) The Susquehanna River has local and regional significance within the Wyoming Valley. The land uses within each watershed should be carefully planned so the water quality levels are protected at their current standards. In order to accomplish this task, the following stewardship actions should be endorsed by Exeter Borough:

- (a) Protect water quality from non-point source pollutants.
- (b) Protect first and second order streams with a network of vegetated riparian corridors.
- (c) Undertake integrated water resources planning for growth areas.
- (d) Protect and enhance water-based cultural, historic, and recreational resources.

Solicit the support of qualified environmental specialists who have experience with hydrological enhancements and ecological preservation efforts. Amendments to the Exeter Borough Zoning Ordinance, Stormwater Management Ordinance and/or the Subdivision and Land Development Ordinance should be considered.

- (8) Consider land acquisition opportunities and potential site improvement along the banks of the Susquehanna River, which can advance the community vision and planning objectives for natural resources, open space and recreation. Solicit the support of the Pennsylvania Department of Conservation and Natural Resources (DCNR) and the Luzerne County Planning Commission. This recommendation may be considered as a high priority that can be completed through a coordinated effort over the next 10 to 20 years.
- (9) Understand and appreciate the power, velocity and volume of flood waters by observing flood levels and updating floodplain management regulations in accordance with the guidelines established by the Federal Emergency Management Agency. Continue to work with local, state and federal agencies to promote floodplain management and enforcement. Update floodplain management ordinances so that the land areas located within the limits of the 100-year floodplain are planned and zoned to permit the proper land uses.
- (10) As part of development and revitalization projects, require areas classified as hydric soils and/or high water table soils to be evaluated by a qualified and trained professional to determine if wetlands are present on the property. Continue to establish mandatory setback requirements for areas that have been delineated as wetlands.
- (11) Understand the parameters and ingredients that are required to develop a plan for sustainability considering existing and future water supply demands. As part of this endeavor, coordinate efforts with adjacent municipalities within the regional watersheds and undertake the necessary steps to implement local and regional planning efforts.

- (12) Review the effectiveness of steep slope provisions to account for varying degrees of slope with consideration towards land use, impervious surfaces, construction methods, aesthetic features, scenic vistas and procedural requirements. Consider a Steep Slope Overlay District consisting of Category 1 Slopes (20 to 30 percent slopes) and Category 2 Slopes (over 30 percent). Amendments to the Exeter Borough Zoning Ordinance should be considered.
- (13) Consider opportunities to implement restoration and revitalization concepts that can advance the community vision while considering ecological, environmental and recreational benefits on a local and regional scale. Reclaiming the Black Desert is an excellent example on how Exeter Borough can make a difference by advancing this project by considering the following steps:
- (a) Evaluate funding opportunities through state and federal programs that can be applied to planning, design, land acquisition and site improvements. This should be a continuous planning effort that will require research by volunteers within the community.
 - (b) Prepare a master plan and feasibility study for the site considering the concepts developed by Reclaiming the Black Desert and this Comprehensive Plan. This is a necessary step that must be accomplished within the next 10 years in order for the conceptual ideas can be implemented.
 - (c) Advance the project forward from the planning phase to the engineering and design phase and ultimately to the site improvements phase. This will take a considerable amount of time and effort and should be completed over the next 20 years.

Solicit the support of the Pennsylvania Department of Conservation and Natural Resources (DCNR) and the Luzerne County Planning Commission. This project may be considered as a high priority that can be completed through a coordinated effort over the next 10 to 20 years.

- (14) Promote the prominent value of the scenic vistas and viewsheds within Exeter Borough. The following recommendations should be considered:
- (a) Maximize scenic accents and minimize visual intrusions within the natural landscape of Exeter Borough.
 - (b) Consider funding opportunities to preserve land along the banks of the Susquehanna River and the Northern Ridge of the Wyoming Valley.
 - (c) Prepare and adopt zoning and development regulations to consider and maintain scenic vistas and viewsheds within Exeter Borough

Coordinate efforts with the Pennsylvania Department of Conservation (DCNR) and Natural Resources and the Luzerne County Planning Commission.

- (15) Consider resource protection measures to maintain natural diversity by preserving and protecting vital environmental features and vacant land areas, which support plant and animal species. Solicit the support of county and state agencies, as well as the surrounding municipalities, to initiate a regional campaign to implement the goals, objectives and policies of the Natural Heritage Inventory and the Pennsylvania Natural Diversity Inventory. As part of this effort, identify local and regional wildlife biodiversity corridors, which provide vast land areas and/or waterways for animal and plant species to spread beyond a confined area.

- (16) Utilize native plant species, which do not pose a serious threat to local plant or animal species. Invasive or non-native plant species could disrupt or degrade the overall quality of the ecosystem. As part of this effort, Exeter Borough should develop and adopt effective landscaping provisions, which identify a broad list of acceptable trees, shrubs and other plant species. These provisions should be initially imposed as part of the requirements for all subdivision and land development plan applications. The list should be utilized as a guide by private landowners who may consider landscaping related improvements on their property.
- (17) Develop an effective tree replacement and protection regulations for all subdivision and land development plan applications. Solicit recommendations from qualified foresters, landscape contractors and landscape architects. Amendments to the Exeter Borough Zoning Ordinance and/or the Subdivision and Land Development Ordinance should be considered.
- (18) Develop effective forest management and woodland extraction requirements for timber harvesting operations. Solicit recommendations from qualified foresters, timber harvesting contractors and landscape architects. Amendments to the Exeter Borough Zoning Ordinance and/or the Subdivision and Land Development Ordinance should be considered.
- (19) Establish a conservation management and volunteer program, which endorses the goal of planting of one hundred (100) new trees within Exeter Borough per year. As part of this effort, solicit the support of private development community, local schools and special interest groups to work together on establishing new forested areas and woodland reclamation projects. Efforts should be focused on riparian buffers along perennial streams in Exeter Borough.
- (20) Promote smart-growth techniques as an effective method to perpetually preserve large contiguous tracts of land located along the floodplain of the Susquehanna River. These techniques should be considered in an effort to: provide an optional approach to community development with provisions to permit more efficient utilization of land and of community facilities and services; encourage innovative residential land development that will conserve open space and environmental amenities; and protect environmentally sensitive areas.
- (21) The Exeter Borough Historic Commission should be reorganized through the appointment of 3 to 5 residents who have an interest in historic preservation and cultural resources planning efforts. As part of this process, considering the following actions:
 - (a) Formulate and adopt an official policy statement for the protection and preservation of historic and cultural resources within Exeter Borough. This policy statement should be initially drafted by the Exeter Borough Historic Commission. A formal draft should be presented to the Exeter Borough Council for consideration.
 - (b) Formulate and adopt administrative procedures for the Exeter Borough Historic Commission to ensure that consistency is maintained over the years. A formal draft should be presented to the Exeter Borough Council for consideration.
- (22) Coordinate planning efforts with local, regional and state-wide agencies who may share similar visions for the protection and preservation of historical and cultural resources. As part of this effort, consider the following:

- (a) The Exeter Borough Historical Commission should become familiar with programs, resources and opportunities that are available to local volunteers and organizations.
 - (b) Since historical and cultural resources are not bound by municipal borders, Exeter Borough should coordinate efforts with the adjacent municipalities to discuss local and regional planning efforts.
 - (c) The Exeter Borough Historical Commission should host periodic meetings and invite experts in the field of historical preservation and cultural resource planning to discuss the opportunities that are available to implement the recommendations of this Plan.
- (23) Conduct a comprehensive site survey of all known or potential historic sites and cultural resources within Exeter Borough. As part of this effort, consider the following objectives:
- (a) The Historic Commission should review the surveys and inventories that may have been established by other agencies or volunteers.
 - (b) Develop a list of significant historic areas, buildings and sites. Take pictures and interview the landowners to ascertain as much documentation.
 - (c) Solicit qualified consultants in the fields of historic preservation, architecture and planning to review the results of the survey and prioritize the significance of the historic sites and cultural resources.
 - (d) Develop a draft list of short term and long term strategies that will protect and preserve each historical and cultural resource.
 - (e) Develop a Historic and Cultural Resources Map.
- (24) Establish a community education program on the benefits of effective historical and cultural preservation efforts. As part of this effort, consider the following issues:
- (a) The Exeter Borough Historic Commission should attempt to meet with the owners and tenants of the historical sites with the highest significance to gain support and discuss preservation strategies.
 - (b) Promote the historic and cultural heritage of the community by forming a reference library to showcase the evolution of Exeter Borough.
 - (c) Develop a municipal database with a link to historic and cultural resources. An integrated system with other resources could assist the Exeter Borough Historic Commission documentation and recognition.
 - (d) Compile resource materials and reference manuals to assist local officials. This information should be made available to the community.
 - (e) Identify potential funding opportunities, which could provide financial assistance for historic preservation activities and nominations within Exeter Borough.
 - (f) Participate in training sessions, conferences and seminars sponsored by local, regional and state agencies.

- (25) Nominate significant historic and cultural resources to the National Registry of Historic Places. As part of this effort, consider the following issues:
- (a) A comprehensive historic survey of the areas, building and sites should be completed. The Exeter Borough Historical Commission should attempt to prioritize the nominees.
 - (b) Solicit the input of qualified professionals or volunteers to determine if the building, site, structure, object or district is eligible for listing with the National Registry.
 - (c) Complete and submit the nomination forms to the agencies with jurisdiction.
- (26) Prepare and adopt amendments to the Exeter Borough Zoning Ordinance and the Exeter Borough Subdivision and Land Development Ordinance considering the following issues:
- (a) Consider provisions for historic zoning overlay districts, permitted land uses within defined zoning districts, lot size and dimensional requirements, buffer provisions, signs, and conservation management techniques as part of the Exeter Borough Zoning Ordinance.
 - (b) Consider provisions for procedural requirements, historical impact provisions, landscaping, lighting, road construction, and other design requirements to protect historical and cultural resources from development within the Exeter Borough Subdivision and Land Development Ordinance.
 - (c) Maximize scenic accents and minimize visual intrusions within the natural and rural landscape of Exeter Borough.
 - (d) Preserve the integrity of scenic vistas and viewsheds by evaluating appropriate zoning and land use techniques.
 - (e) Consider funding opportunities to preserve and restore the stone walls along the scenic roads of Exeter Borough.
- (27) Evaluate alternatives to restructure building code provisions so they do not devalue the integrity of historic buildings and properties. Utilize the historic site surveys to prioritize the significance of historic buildings and properties. Establish a Building Code Appeals Board to determine if alternate restoration measures can be employed to retain the historic value of the building.
- (28) Exeter Borough will be celebrating its 150th municipal anniversary in the year 2034. As part of this celebration, consider preparing an historic reference book, which documents the evolution of Exeter Borough with pictures, stories and events that have taken place over the years.