



Riparian Buffer on the Bushkill Creek

Riparian buffers provide numerous benefits to landowners and the community by protecting groundwater recharge areas, providing flood control, providing stormwater management potential, and stimulating economic opportunities by creating valuable open space which may increase land values and the tax base. The Lehigh Valley Planning Commission recommended a 75 foot riparian buffer in its model *Riparian and Wetland Buffers* regulations.

Riparian buffers in the Lehigh Valley have been seriously disrupted over the years. Farming operations often have been practiced with little regard to protecting streams. More recently, residential and other forms of urban development have put serious stress on local streams. With proper planning this does not have to happen.

#### GOAL

*To protect rivers and streams so they can provide numerous recreational and environmental benefits to Lehigh Valley residents.*

#### POLICIES

- Encourage the restoration of riparian buffers on lands that border rivers and streams whether they are privately owned or owned by government.
- Recommend riparian buffers of 75 feet with a 25 foot residential setback along rivers and streams not covered by a 150 ft. buffer required under DEP erosion and sedimentation regulations that apply to Exceptional Value and High Quality Cold Water streams.
- Encourage riparian buffers that contain a variety of native trees and plants. Discourage the development of riparian buffers with monocultures of exotic vegetation.
- Educate officials and landowners as to why it is important to protect rivers and streams.
- Encourage the development of rivers conservation plans for major streams.
- Encourage landowners with streams on their property to have conservation plans prepared that include best management practices for riparian buffers.
- Encourage landowners to put conservation easements on the parts of their property that include riparian buffers.

- Promote the use of existing voluntary best management practices in the management of forestry activities in and along streamside buffer areas.
- Municipalities should include provisions for the preservation and restoration of riparian buffers in their comprehensive plans, zoning ordinances, and subdivision and land development ordinances.
- High priority should be given to recreation, greenway and open space projects that involve rivers and streams.

#### **IMPLEMENTATION**

- The LVPC will comment on the need for riparian buffers in reviews of municipal plans and subdivisions.
- The LVPC will create GIS maps and a database that provide information on streams. Information will include items such as water quality, recommended riparian buffer widths, identification of existing parks and other open space features.
- The LVPC will prepare examples of riparian buffer regulations that can be used by municipalities in their zoning ordinances and subdivision and land development regulations.
- The LVPC will explore ways it can promote educational programs on riparian buffer restoration and stream protection.
- The LVPC will cooperate with other organizations that are concerned about stream protection.
- As part of their open space initiatives, Lehigh and Northampton counties should give consideration to park and open space proposals that involve the protection of land along rivers and streams.
- The counties and municipalities and other organizations should take advantage of state and federal grant programs that can be used to protect riparian buffers.
- The LVPC will prepare a regional greenways plan for Lehigh and Northampton counties. The plan will emphasize the importance of rivers and streams in greenway planning.

### **FLOODPLAINS**

Floodplains absorb and store large amounts of water which is a source of aquifer recharge. Natural vegetation supported by floodplains helps trap

sediment from upland surface runoff, stabilize stream banks and reduce soil erosion. Floodplains also provide shelter for wildlife and proper stream conditions for aquatic life. Many of the most scenic areas in Lehigh and Northampton counties are found within the floodplain of the Delaware River, Lehigh River, and larger streams such as the Little Lehigh Creek, Jordan Creek and Bushkill Creek (see Map 4).

Regulation of floodplains helps to reduce the threat to human life and property caused by periodic flooding. For regulatory purposes, a floodplain is defined by the 100-year or base flood which has a one percent chance of being equalled or exceeded in a given year.

The Pennsylvania Floodplain Management Act (Act 166 of 1978) requires municipalities identified as being flood-prone to enact floodplain regulations which, at a minimum, meet the requirements of the National Flood Insurance Program (NFIP). All flood-prone municipalities in Lehigh and Northampton counties participate in the program and have flood-mapping that was prepared by the Federal Insurance Administration of the U.S. Department of Housing and Urban Development.

#### **GOAL**

*To minimize flood damage and protect floodplains.*

#### **POLICIES**

- Prohibit new buildings, structures and fill in the 100-year floodplain except for highways and certain other structures owned or maintained by the Commonwealth of Pennsylvania, municipalities or public utilities as defined and regulated in Chapter 106 Floodplain Management of Title 25 Environmental Protection, Pennsylvania Code.
- The reuse or substantial improvement of existing buildings or the redevelopment of vacant but formerly developed land is appropriate within the floodway fringe if adequate floodproofing measures are taken. Redevelopment of vacant, formerly developed land is not recommended within the floodway.

#### **IMPLEMENTATION**

- The LVPC will provide model regulations covering floodplains.

- Municipalities should adopt special zoning and subdivision regulations to prohibit or otherwise control development in the 100-year floodplain.
- The LVPC will maintain a set of the most up-to-date floodplain maps that have been prepared for the National Flood Insurance Program. In the absence of other data, maps of alluvial soils should be used to identify areas subject to flooding.
- The LVPC will assist property owners, lending institutions, businesses and others in determining what properties are subject to the National Flood Insurance Program.
- The LVPC will promote and support park, greenway and other proposals that preserve floodplains for recreation and open space.
- Any conflicts with policies on floodplains will be noted during LVPC reviews of subdivisions and land developments.

### **WETLANDS AND HYDRIC SOILS**

Wetlands perform a variety of important physical and biological functions. They moderate stormwater runoff and downstream flood crests because they are natural water storage areas. Also they provide habitat for many species of plant and animal life. Wetlands also help to maintain stream flow and groundwater discharge.

There are problems associated with developing near wetlands or on hydric soils. Wetlands located in floodplains are often flooded. Draining or filling in of upland wetlands removes natural water storage which can add to stormwater runoff problems downstream. Hydric soils are easily compacted. This results in uneven settling of structures. Hydric soils with low permeability and high groundwater tables are not suitable for the installation of on-lot septic systems.

Lehigh and Northampton counties contain over 1,000 individual sites that can be classified as wetlands. Wetlands and potential hydric soils are found in every municipality, but the largest concentrations occur in Upper Mt. Bethel Township and along the base of Blue Mountain in both counties (see Map 4).

#### **GOAL**

*To protect the remaining wetlands in the Lehigh Valley.*

#### **POLICIES**

- Preserve 100% permanent open space in all wetlands.
- Manage county-owned wetlands to maintain and enhance their environmental, scenic, scientific and educational values.
- Recommend a 50 foot natural buffer around all wetlands.
- Recommend that a wetland assessment be prepared by a qualified professional for development proposed on potential hydric soils.

#### **IMPLEMENTATION**

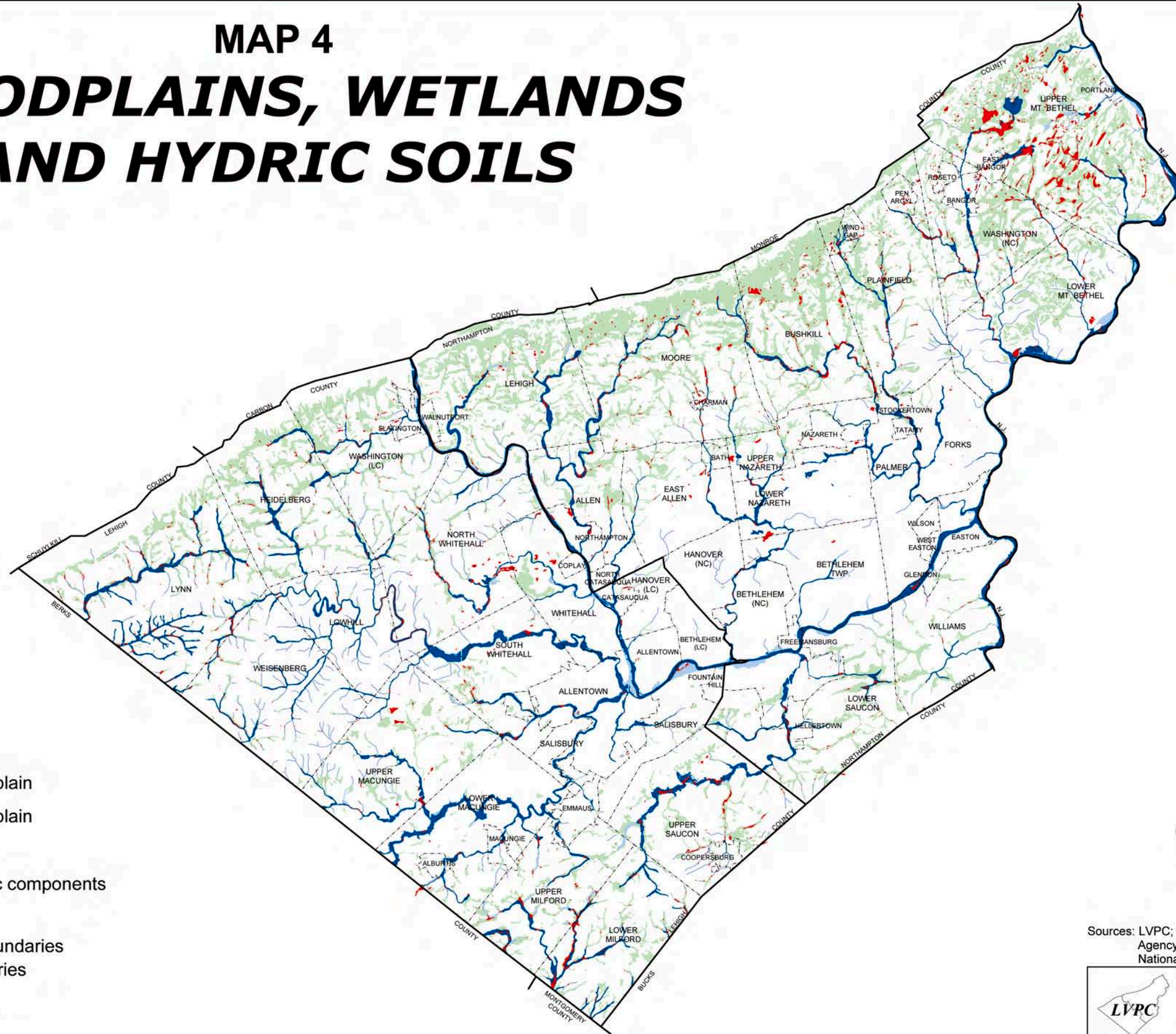
- The LVPC will maintain copies of the National Wetlands Inventory Maps and other wetlands information for public use and plan reviews by staff.
- LVPC staff will improve and expand the inventory of wetlands as new information becomes available.
- During subdivision, land development and sewage facilities reviews, LVPC staff will check to insure that the proposed development is consistent with the wetlands policies and that sewage disposal systems and wetlands are adequately separated.
- During review of local comprehensive plans, zoning ordinances, or subdivision and land development ordinances, the LVPC will recommend strategies for protection of wetlands and wetland buffers.
- Municipal comprehensive plans should include an identification of wetland areas. Municipalities should include provisions for the protection of significant wetlands in local zoning and subdivision ordinances.
- The LVPC recommends that municipalities, counties or conservancies acquire and manage wetlands that are identified as having special significance.

### **STEEP SLOPES**

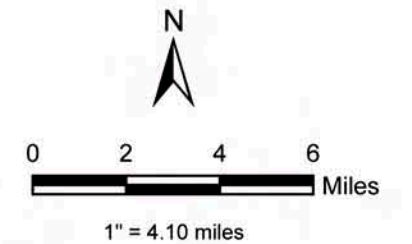
Slopes with grades of 15% or over are steep. If disturbed, these areas can yield heavy sediment loads on streams. Very steep slopes, over 25% grade, produce heavy soil erosion and sediment loading.

Septic systems for on-lot sewage disposal are impractical to construct and maintain on very steep

# MAP 4 FLOODPLAINS, WETLANDS AND HYDRIC SOILS



- 100-year Floodplain
- 500-year Floodplain
- Wetlands
- Soils with hydric components
- Streams
- Municipality Boundaries
- County Boundaries



Sources: LVPC; PennDOT; Federal Emergency Management Agency (FEMA), 2001; U.S. Fish & Wildlife Service, National Wetlands Inventory

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