

# ACTION PLAN FOR THE UPPER PERKIOMEN CREEK WATERSHED

*The Action Plan topics that follow are organized according to the Major Issues that affect the conservation of streams, wetlands, and ground water aquifers. Each section begins with one or more Goal statements specific to the Upper Perkiomen Creek, followed by a series of Implementation Action” that are based on the goals. These Implementation Actions identify ways to strengthen current regulations, land management, public education, etc., that would increase protection of key watershed resources. Following certain Implementation Actions are Background sections that explain the rationale for the Actions.*

*The identification of Major Issues, Goals and Implementation Actions in the Upper Perkiomen Creek watershed is based on a combination of input from public meetings, survey questionnaires, interviews with municipal officials, and from research and analysis of data from a variety of sources.*

*The “Participating Parties” listed in the table are individuals or organizations with a logical connection to the projects with which they are listed. They may be able to provide support staff or funding (e.g. the County Planning Commissions or Pennsylvania Department of Environmental Protection), undertake the project as part of their mission (e.g. Trout Unlimited), or may simply be directly affected by the project (e.g. landowners).*

*It is important to realize that the issues that affect stream, wetland and aquifer protection tend to overlap, making their separation into these discrete topics at times artificial. Quite often an Implementation Strategy for one issue is also an objective for another. In fact, the most important objectives, for example a commitment to preserving and enhancing riparian buffers, are those that address most of the issues simultaneously. Rather than repeating similar information, the recommendations are placed under what seem to be the most fitting issue.*

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## GUIDE LAND DEVELOPMENT

### GOALS

The overall *pattern and intensity* of land uses in communities throughout the Upper Perkiomen Creek watershed should be planned in a manner that:

- *Permanently protects critical environmental features* such as streams, wetlands, floodplains, riparian woodlands, major forest blocks and steep slopes from clearing, excavation and development.
- *Retains the traditional pattern of development in the area*, with homes and businesses on smaller lots in or near existing hamlets, villages and towns and crossroads (where major roads and utilities already exist), and rural lots and large properties in areas dominated by farmland and woodlands.
- *Provides flexible standards for developers to design more compact communities* adjoining substantial areas of protected open space.
- *Explicitly recognizes the value of regional planning among neighboring municipalities.*

### IMPLEMENTATION ACTIONS

1. Flexible zoning and subdivision ordinances should be adopted by municipalities. Enacting “*Conservation Design*” ordinances can strongly encourage a shift from conventional residential development on 1 or 2 acre lots to more *open space-oriented development* with residences on lots of less than 1 acre in size and substantial areas of protected open space encompassing sensitive natural features and historic resources and also otherwise “buildable” land. “*Traditional Neighborhood Design*” ordinances should be enacted to shift Highway Commercial development away from wide extended strips along major roads and toward existing “nodes” at crossroads and existing developed areas. Model ordinances from county planning commissions or nonprofits and enacted by other communities to achieve these goals should be provided to municipalities for consideration.

2. Municipalities should review and consider establishing Transfer of Development Rights (TDR) programs. This strategy includes identifying important “sending zones” (such as prime farmland and large forests) where important land areas should be protected and “receiving zones” (such as village extension areas or existing “nodes” of development) where higher densities of residential or mixed-use development can be accommodated in a creative and environmentally-sensitive manner. Model ordinances enacted by other communities to achieve this goal should be provided to municipalities for consideration. This approach is also compatible with strategies such as Agricultural Land Preservation, Effective Agricultural Zoning, Village Extension Overlay Zones and Joint Municipal Comprehensive Planning.
3. Municipalities should review and consider adopting Village Extension Overlay ordinances. These can be useful in areas where important farmlands or woodlands adjoin existing villages or hamlets, and would allow development densities to be shifted from the majority of a tract of land to the portion closest to the existing village or hamlet, while requiring the new development to be planned and designed for compatibility with the existing community. This approach is also compatible with strategies such as Agricultural Land Preservation, Effective Agricultural Zoning and Transfer of Development Rights.
4. Increase enrollment of Upper Perkiomen farms in County and State Agricultural Land Preservation programs. This effort can be made by a coalition of municipalities, county agencies and conservation groups. Important issues to address include: greater consistency between actual appraised easement values and the per-acre price “ceilings” for purchasing agricultural easements; consideration of municipal funds as a match for County and State funds.
5. Municipalities should consider the use of Effective Agricultural Zoning in areas where farming is a primary use of land. This type of ordinance can be used in conjunction with Transfer of Development Right programs, Village Extension Overlay zones and Agricultural Land Preservation programs to create zoning districts that promote the viability of agricultural operations on minimum lot sizes of 25 acres or greater.
6. Neighboring municipalities should consider working together to adopt Joint-Municipal Comprehensive Plans, as allowed under the Pennsylvania Municipalities Planning Code. Since the scale and rate of development that is occurring in the Upper Perkiomen Valley affects entire landscapes and subwatersheds, a coordinated, regional approach to land use planning among neighboring municipalities allows for more realistic growth management and resource protection than the conventional mosaic of small, fragmented plans. Regional comprehensive planning is being conducted in the watershed and

- should be considered in municipal land use planning. These efforts include the Quakertown Area Regional Planning Commission, Upper Perkiomen Valley Regional Planning Commission and several communities in Berks County.
7. Municipalities should consider the use of environmental impact fees and requirements for environmental impact mitigation for major energy generation facilities and quarries.
  8. Enhance the livability of the Boroughs of East Greenville, Pennsburg, and Red Hill through the promotion of revitalization programs and joint municipal planning with neighboring Townships.
  9. Ensure that municipalities throughout the watershed adopt the full range of environmental protection ordinances, including those dealing with wetlands, floodplains, riparian buffers, steep slopes and grading. Most of these regulatory approaches are described in under the relevant section of this plan. Steep slope ordinances should be adopted by municipalities to protect steep slopes and limit development in these areas. Steep slopes are naturally constrained in that they often have shallow depth to bedrock and highly erodible soils. Construction on steep slopes generally require excessive amounts of grading that alters natural hydrology and generates accelerated erosion and sedimentation in areas adjacent to streams.

***Implementation Action Summary:  
Issue #1: Guide Land Development***

UPPER PERKIOMEN CREEK WATERSHED CONSERVATION PLAN

<b><i>Specific Tasks Involved</i></b>	<b><i>Potential Participating Parties</i></b>
<i>1) Flexible Zoning and Subdivision Ordinances should adopted by municipalities.</i>	<i>Municipalities, County Planning, Conservation. Organizations, DCNR (Growing Greener)</i>
<i>2) Municipalities should review and consider establishing Transfer of Development Rights (TDR) programs.</i>	<i>Municipalities, County Planning, Conservation Organizations</i>
<i>3) Municipalities should review and consider adopting Village Extension Overlay ordinances.</i>	<i>Municipalities, County Planning, Conservation Organizations</i>
<i>4) Increase enrollment of Upper Perkiomen farms in County and State Agricultural Land Preservation programs.</i>	<i>A coalition of Municipalities, County Agencies and Conservation Organizations</i>
<i>5) Municipalities should consider the use of Effective Agricultural Zoning in areas where farming is a primary use of land.</i>	<i>Municipalities, County Planning, Conservation Organizations</i>
<i>6) Neighboring municipalities should consider working together to adopt Joint-Municipal Comprehensive Plans.</i>	<i>Same as above</i>
<i>7) Municipalities should consider the use of environmental impact fees and requirements for environmental impact mitigation for major energy generation facilities and quarries.</i>	<i>Same as above</i>
<i>8) Enhance the livability of the Boroughs of East Greenville, Pennsburg, and Red Hill through the promotion of revitalization programs and joint municipal planning with neighboring Townships.</i>	<i>Municipalities, County Planning</i>
<i>9) Steep slope ordinances should be adopted by municipalities to protect steep slopes and limit development in these areas.</i>	<i>Same as above</i>

## BACKGROUND

*Land development is perhaps the single most critical issue facing the Upper Perkiomen Creek watershed. Of all the issues affecting watersheds in the rapidly growing region of southeast Pennsylvania, suburban sprawl typically has the most far-reaching effects on the quality and quantity of both ground and surface water resources. This fact, combined with the significant growth projections facing the communities of the Upper Perkiomen, place the land development issue at the top of the list for watershed conservation planning.*

*Poorly planned growth and overdevelopment in other watersheds in the region are directly linked to a broad array of serious, often interrelated watershed impacts. These include:*

### *Water Quantity Impacts*

- *Severe flash flooding due to increased runoff from impervious surfaces and poor stormwater management practices*
- *Depletion of aquifers and resulting well failures due to increased runoff, reduced ground water recharge, and increased reliance on ground water for public and private water supply wells (occasionally discharging to streams via sewage treatment plants).*
- *Unnaturally low stream flows during droughts due to increased runoff, depletion of aquifers and loss of wetlands*

### *Water Quality Impacts*

- *Groundwater contamination due to failed septic systems and pollutants found in runoff*
- *Stream contamination due to increased discharges from industrial plants, municipal and package sewage treatment plants, and non-point sources such as stormwater runoff washing pollutants from roads, parking lots, and lawns.*

### *Water Quality and Quantity Impacts*

- *Loss of critical wetland habitats and associated flood control, water filtration and stream baseflow functions*
- *Erosion, sedimentation and channelization of streams due to increased runoff and loss of natural stream and wetland vegetation*
- *Loss of aquatic biodiversity of plants and organisms and associated water filtration functions*

*Land consumption is one of the greatest impacts of sprawl – we are wasting valuable farmland and natural areas by converting it to suburban environments. While the population of the Philadelphia region has remained relatively constant over the last 30 years, the acreage of land consumed to accommodate that population and related services and businesses has increased dramatically. The costs associated with excessive land consumption extend beyond the loss of important open space to include the community costs of maintaining unnecessarily large infrastructure and utility systems.*

### ***Conservation Design***

One of the most effective approaches communities in southeastern Pennsylvania are using to deal with these sprawl-related watershed impacts is to change the *pattern and intensity* of land development through flexible, open space-oriented zoning and subdivision ordinances. The municipal zoning district codes described above often include provisions for concentrating development in part of a property, and leaving the remainder in a form of open space, either public park land, common open space owned by a Homeowners' Association, or in some cases privately owned. Conservation subdivision (often referred to as cluster development) has been permitted as an option in modern zoning codes for several decades because smaller lots generally require less roadway and utility lines to service the homes, meaning less municipal maintenance, and they provide a public amenity and environmental protection in the preserved open space.

To protect municipal government and taxpaying residents from the public costs of poorly conceived designs, cluster ordinances lay out a number of standards that the developments must meet. They generally include:

- either on-lot wells with a certain percentage permitted within the open space, community wells in the open space, or public water
- either on-lot septic systems with a certain percentage permitted within the open space, community systems in the open space, or public sewer.
- A minimum percentage of open space, often at least 50% including buildable land
- above and beyond constrained land (i.e. floodplains and steep slopes).
- Some provision for active recreation (i.e. ballfields) or passive recreation (walking trails) within the open space.
- A mechanism to establish the maximum density of units to be built on the site.
- Modest density bonuses to encourage use of the Conservation Design option, and to
- encourage optimum size and layout of open space.

### **Traditional Neighborhood Design**

One of the most important national trends in planning has been a rediscovery of the value of traditional neighborhoods, such as those that exist in the historic villages and hamlets of the Upper Perkiomen Valley. As an alternative to the isolated, land consumptive, automobile-dependent pattern of suburban development, many communities are promoting new neighborhoods with features such as sidewalks, front porches, small front yards, village greens, and corner stores to create a sense of community and a sense of place. This pattern of development can be encouraged in developments adjoining existing villages and hamlets.

## 2

# RIPARIAN FOREST BUFFER PROTECTION AND RESTORATION

### GOAL

*Protection, restoration and management of a full riparian buffer extending 75 to 100 feet from each stream bank of streams throughout the **entire** Upper Perkiomen Creek watershed. Where this width cannot be achieved, a sliding scale of buffer widths should be considered. The majority of these buffers should consist of native floodplain forest vegetation, however, existing herbaceous wetland vegetation, meadow, and shrub vegetation should be considered as alternatives where forest buffers are not feasible. In addition, historic settings should be respected.*

### IMPLEMENTATION ACTIONS

1. Establish an Upper Perkiomen Riparian Buffer Initiative. Protection, restoration and management of riparian forest buffers and, in some cases, vegetative buffers, should be established as the goal of a watershed-wide program such as an *Upper Perkiomen Riparian Buffer Initiative*. The initiative should be sponsored by a coalition of local watershed and conservation organizations and should promote this goal by encouraging the adoption of riparian buffer ordinances by municipalities. The Initiative utilize the *Riparian Buffer Assessment* prepared by Heritage Conservancy as a basis, and should involve local volunteers in conducting a more detailed assessment of riparian corridor priorities. In addition, funding assistance should be encouraged and provided for private, institutional and government landowners to voluntarily protect and restore these areas on their lands through easements, fencing, and reforestation.
2. Municipalities throughout the watershed should consider adoption of a Riparian Buffer Ordinance. This ordinance would require anyone submitting a land development plan application or a building permit application to demonstrate that a full riparian buffer zone of 75 to 100 feet on either side of a stream or wetland has been protected as a condition of approval (as recommended by the USDA Forest Service and the Stroud Water Research Center). When larger-scale residential, industrial or commercial developments are proposed, reforestation of unforested riparian buffer zones (as identified in the Heritage Conservancy *Riparian Buffer Assessment*, summarized in this Plan) should be required as a

mitigating measure and stormwater Best Management Practice to offset the impact of the development on streams running through or adjacent to the site. A sliding scale of alternative buffer widths (15-25 feet, 25-50 feet, 50-75 feet, based on stream size) should be provided where applicants can demonstrate that 75 feet or greater is not feasible. Riparian buffer ordinances can be freestanding, to apply to specific areas of degradation along streams. The Montgomery County Planning Commission has developed a model ordinance that has been adopted in Upper Hanover, Upper Salford, and Pennsburg. Additional models are available through the Pennsylvania Stream ReLeaf manual prepared by DEP.

3. Provide Riparian Forest Buffer protection/restoration funding assistance to landowners. Landowners should be encouraged to consider implementing voluntary riparian buffer projects including streambank fencing, reforestation, and conservation easements. Riparian buffer projects have been instituted on a number of farms and properties in the watershed by the Berks County Conservancy, Perkiomen Valley Trout Unlimited, the Upper Perkiomen Watershed Coalition and Milford Township. Philadelphia Suburban Water Company has worked to restore portions of the Perkiomen Creek in the fly fishing area near Green Lane. Such projects should also follow the 75-100 foot standard for each side of the stream, but should allow for a sliding scale of reduced buffer widths where the full amount cannot be achieved.
- 4) Develop riparian habitat restoration and interpretive projects at locations throughout the watershed.
  - a) Establish riparian restoration and natural landscaping projects at the Pennsburg Nature Preserve and Green Lane Nature Center. These projects are key locations for promoting riparian buffer awareness through demonstration projects developed at public education facilities. These projects should be developed as part of an overall Restoration and Management Plan for each site.
  - b) Additional restoration and interpretive projects include:  
Riparian habitat restoration should be continued in and around Green Lane Reservoir, Deep Creek Lake, and Knight Lake, specifically:
    - install reed beds and sediment basins along Deep Creek inflow to lake
    - install natural landscaping, erosion control, stormwater management facilities adjacent to Deep Creek Lake
    - construct environmental education stations, bird blinds, boardwalks
    - expand natural areas, wildflower plantings, and afforestation programs along streams and lakes
    - acquire land to preserve woodlands around streams and lakes
    - install shorebird habitat around Knight Lake
    - eradicate and control invasive vegetation along waterways



<i>e) Restore streambanks along the Unami Creek at Unami Creek Park in Marlborough Township and install wetland boardwalks in Township parks.</i>	<i>Marlborough Township, Conservation Organizations</i>
<i>f) Conduct educational outreach programs on riparian buffers in Upper Hanover Township.</i>	<i>Upper Hanover Township, Conservation Organizations</i>

## BACKGROUND

The riparian forest, or the woodland that lines the banks and corridors along streams, has been shown to be critical to the continued stability and health of waterways (US Forest Service, *Riparian Forest Buffers*, 1991). Most streams in the northern Piedmont region evolved within a naturally forested cover, including those of the Upper Perkiomen watershed. With the human alteration of land over the last 300 years, many streams have been taken out of these natural settings and instead flow through miles of agricultural fields, lawn grasses and even paved areas. *Protection and restoration of riparian forest buffers is perhaps the single most important strategy that can be used to maintain the health of streams in the Upper Perkiomen Valley.*

Riparian forest buffers are natural sponges that have been shown to absorb and bind much of the sediments, nutrients and some of the pollutants in runoff before it reaches the waterway. The shade provided by the trees and shrubs maintain lower water temperatures and their leaves and twigs are the primary source of food for the aquatic food web. They slow the speed of stormwater, reducing erosion of the small swales and gullies that feed the stream. Research by the Stroud Water Research Center on the White Clay Creek in Chester County has shown that forests along streams also support cooler, wider streams (Sweeney 1992). The US Forest Service publication cited above, and the 1995 paper by the Montgomery County Planning Commission titled "*Riparian Corridor, the Benefits of Protection,*" are both excellent brief descriptions of the many benefits of riparian forests.

An increasing number of funding sources are available for riparian buffer protection and restoration. Different programs are set up to fund different riparian project types, including streambank fencing, streambank restoration, agricultural properties, easement acquisitions, stormwater management projects. A partial list of funding sources includes the USDA Conservation Reserve Program, Act 319 Clean Streams grants, Pennsylvania Fish and Boat Commission, Pennsylvania Game Commission, PA Department of Environmental Protection (Growing Greener), certain county programs, Ducks Unlimited and Trout Unlimited, and certain private foundations. Local or regional conservation groups such as the Upper Perkiomen Watershed Coalition, Perkiomen Watershed Conservancy, Montgomery County Conservancy, Berks County

Conservancy, Wildlands Conservancy, Heritage Conservancy, Natural Lands Trust, Schuylkill Riverkeeper and County agencies can all be considered as partners that are active in riparian corridor protection and restoration.

**3**

**CONSERVATION OF MAJOR WOODLANDS**

**GOAL**

*Large, contiguous blocks of “deep woods” (or forest-interior habitat) should be identified and prioritized for conservation to limit impacts from clearing and development.*

**IMPLEMENTATION ACTIONS**

- 1). Establish an Upper Perkiomen Woodland Conservation and Restoration Initiative. Partnerships between Pennsylvania DCNR, parks departments and planning departments in the four counties, municipalities, land trusts, local conservation and watershed organizations, and landowners should be established and maintained with the goal of permanent forest conservation in priority locations throughout the watershed. In addition, priority areas for expansion of existing forest networks should be identified, with the goal of increasing the size, shape, connectivity and health of these networks through reforestation and restoration.
- 2) Prioritize the largest blocks of contiguous forest in the watershed for conservation. These include the Deep Creek woodlands, Unami Forest in Salford, Marlborough, Milford and West Rockhill Townships, (identified as a high priority for conservation in numerous plans prepared by county and municipal agencies and conservation organizations) , and other large wooded tracts in the headwaters areas for the West Branch, Main Stem Perkiomen, and Hosensack Creek.
- 3) Utilize the full range of conservation options for parcels containing key woodlands. Partnerships should tailor one or more options to each situation, including donation of land or conservation easements, bargain sale of land or conservation easements, purchase of land or conservation easements, transfer of development rights (TDR), and limited development with conservation of key wooded open space. The Pennsylvania Forest Stewardship Program and the Forest Legacy Program should be pursued where appropriate.

- 4) Municipalities should consider adoption of a woodland conservation ordinance to reduce the impacts of land development in priority woodlands.

**Implementation Action Summary:  
Issue #3: Conservation of Major Woodlands**

<b>Specific Tasks Involved</b>	<b>Potential Participating Parties</b>
1) Establish an Upper Perkiomen Woodland Conservation and Restoration Initiative.	Partnerships of State, County, Local Governments, Conservation Organizations, landowners
2) Prioritize <u>the largest blocks of contiguous forest in the watershed for conservation.</u>	Same as above
3) Utilize the full range of conservation options for parcels containing key woodlands.	Same as above
4) Municipalities should consider adoption of a woodland conservation ordinance to reduce land development impacts to priority woodlands.	Municipalities, Conservation Organizations

**BACKGROUND**

*Forest fragmentation and destruction due to urbanization and conversion to other uses is perhaps the greatest threat to the biological diversity of northern Piedmont forests.*

*The forests of the Upper Perkiomen watershed are among the largest, most unfragmented networks of “deep woods” or forest-interior habitat in the region, and are concentrated in the Unami Creek, Ridge Valley Creek, and Deep Creek valleys, and along major ridges and slopes at the headwaters of the West Branch, Main Stem Perkiomen, and Hosensack Creeks. The wide variety of Sites of Statewide Significance and Sites of Local Significance identified in the Natural Areas Inventories for Montgomery, Berks, Bucks and Lehigh Counties includes a number of ecologically important woodlands in the watershed. In addition, the entire Ridge Valley Creek watershed within the Unami Forest is identified as a Priority 1 Site within the Bucks County Natural Areas Inventory. The Montgomery County Open Space Plan of 1996 identified the Unami Forest as a Significant Natural Area of special emphasis for biodiversity conservation, and recommends it be preserved. The Unami Creek Valleys Landscape Conservation Plan prepared by Natural Lands Trust focuses on the importance of conservation and restoration of this area as a regionally-significant forested landscape.*

*Natural Lands Trust, Montgomery County Land Trust, Heritage Conservancy, Montgomery County, Bucks County, DCNR, local townships, local citizens groups and private foundations and organizations have already contributed to the conservation of many significant wooded*

parcels in the Upper Perkiomen Valley, with several critical acquisition projects pending on major wooded tracts.

A local citizens group in Salford and Marlborough Townships, the Unami Hills Preservation Association, is actively involved in preservation of the Unami Forest. Preservation of the Unami Forest has been identified by the Upper Perkiomen Watershed Coalition as consistent with other long-term natural areas conservation efforts, including those of Bucks County and Montgomery County, the Quakertown Swamp, and the Highlands Coalition strategy for protecting a landscape-scale corridor linking the Highlands of northern New Jersey and the diabase woodlands extending to Reading.

## 4

# PROTECTION AND RESTORATION OF WETLANDS

## GOALS

- *Permanently protect existing wetlands throughout the Upper Perkiomen Creek watershed from excavation, filling and clearing of native vegetation.*
- *Provide adequate open space buffers between all wetlands and adjacent land uses such as lawns, agricultural fields, and improvements such as roads, parking lots, stormwater basins and structures*
- *Previously drained, filled or cleared wetlands should be restored wherever possible.*

## IMPLEMENTATION ACTIONS

- 1). Establish a watershed-wide initiative to accurately identify and characterize all existing wetlands. This can be achieved through a combination of aerial photo interpretation, Soil Survey and National Wetland Inventory (NWI) mapping, field verification, and in some cases wetland delineation. Characterization should be based on general wetland types including forested, shrub, emergent, wet meadows and other wet habitats such as vernal ponds. Data should be compiled and regularly updated on the *Upper Perkiomen GIS Database*.

- 2) Establish a Wetland Conservation Initiative in the watershed. Partnerships between Pennsylvania DEP, DCNR, parks departments and planning departments in the four counties, municipalities, land trusts, local conservation and watershed organizations, and landowners should be established and maintained with the goal of permanent wetland protection throughout the watershed. Vernal ponds should also be protected, such as those along Unami Creek, Ridge Valley Creek and along the headwaters tributaries of the Main Stem Perkiomen Creek. Adoption of riparian buffer and wetland protection ordinances should be promoted in municipalities throughout the watershed to avoid impacts from adjacent land development.
- 3) Protect and restore wetlands listed as high priority sites in county Natural Areas Inventories. These sites are described in the Vegetation and Wildlife section of this Plan, and include: Green Lane Marsh/New Goschenhoppen Meadows, Whites Mill Swamp and Deep Creek Marsh in Montgomery County; Hosensack Marsh and Lower Milford Marsh in Lehigh County; and Ridge Valley Creek floodplain marsh, Butter Creek floodplain marsh, Unami Creek from Upper Ridge Road to the County Line, and Hazelbach Creek wetlands. The drainage areas helping to supply water to these wetlands should also be prioritized for conservation to minimize the impacts of adjacent land uses.
- 4) Establish a Wetland Restoration Initiative in the watershed. Public and private partnerships should be established and maintained with the goal of identifying degraded or destroyed wetlands altered by draining (tiling, ditching), excavation or filling, and areas with potential for reestablishment of wetland soil, vegetation and habitat conditions. Programs such as the PA DEP Wetland Mitigation Banking program can provide funding for projects as a means of mitigating impacts from permitted development projects located elsewhere in the region.
- 5) Utilize the full range of conservation options for parcels containing important wetlands. Partnerships should work to educate landowners and tailor one or more conservation options to each situation, including donation of land or conservation easements, bargain sale of land or conservation easements, purchase of land or conservation easements, transfer of development rights (TDR), and limited development with protection of key wetlands and buffers.
- 6) A wetland assessment service should be initiated by the Upper Perkiomen Watershed Coalition. This service should provide professional wetland delineation expertise to local groups, landowners or municipalities. It would provide additional detail for watershed-wide wetland inventory mapping, and allow additional evidence as a (“second opinion”) for wetland delineations presented as part of a land development project.

**Implementation Action Summary:  
Issue #4: Protection/Restoration of Wetlands**

<b><i>Specific Tasks Involved</i></b>	<b><i>Potential Participating Parties</i></b>
<i>1) <u>Establish a watershed-wide initiative to accurately identify and characterize all existing wetlands</u></i>	<i>Partnerships of State, County, Local Governments, Conservation Organizations, landowners</i>
<i>2) <u>Establish a Wetland Conservation Initiative in the watershed</u></i>	<i>Same as above</i>
<i>3) <u>Protect and restore wetlands listed as high priority sites in county Natural Areas Inventories.</u></i>	<i>Same as above</i>
<i>4) <u>Establish a Wetland Restoration Initiative in the watershed</u></i>	<i>Same as above</i>
<i>5) <u>Utilize the full range of conservation options for key wetland parcel.</u></i>	<i>Same as above</i>
<i>6) <u>A "wetland assessment service" should be initiated by the Upper Perkiomen Watershed Coalition</u></i>	<i>UPWC</i>

























































