

GLOSSARY

- Advocacy** Programs or projects intended to educate or influence public opinion or political decisions, or to promote organizational proceedings within the watershed.
- AMD** *Acid Mine Drainage*
Acid mine drainage results when the mineral pyrite (FeS₂) is exposed to air and water, resulting in the formation of sulfuric acid and iron hydroxide. Pyrite is commonly present in coal seams and in the rock layers overlying coal seams. AMD formation occurs during surface mining when the overlying rocks are broken and removed to get at the coal. It also can occur in deep mines that allow the entry of oxygen to pyrite-bearing coal seams. The products of AMD formation, acidity and iron, can devastate water resources by lowering the pH and coating stream bottoms with iron hydroxide, forming the familiar orange colored "yellow boy" common in areas with abandoned mine drainage. (PA DEP 1997:http://www.dep.state.pa.us/dep/deputate/enved/go_with_inspector/coalmine/What_is_Acid_Mine_Drainage.htm)
- Aquifer** A permeable body of rock or other geologic structure that contains and conducts groundwater to supply wells and springs.
- BASINS** *Better Assessment Science Integrating Point and Non-point Sources*
US EPA program and software. BASINS is a multipurpose environmental analysis system for use by regional, state and local agencies in performing watershed and water-quality based studies. This new software makes it possible to quickly assess large amounts of point source and non-point source data in a format that is easy to use and understand. Installed on a personal computer, BASINS allows the user to assess water quality at selected stream sites or throughout an entire watershed. This tool integrates environmental data, analytical tools, and modeling programs to support development of cost-effective approaches to environmental protection (US EPA 2000: <http://www.epa.gov/OST/BASINS/basinsv2.htm>)
- Biodiversity** Biological diversity; the existence of a wide range of different species in a given area or during a specific period of time.
- Bioremediation** Use of natural organisms (e.g., microorganisms, plants) to remove, neutralize or otherwise clean up contaminants or waste products, as in polluted soil or water.
- BMP** *Best Management Practice*
A practice or activity that represents the "best management" for a particular resource. BMPs usually refer to specific practices or actions that mitigate an activity that might otherwise have environmental impacts: for example, the use or restoration of riparian buffers to protect water quality and natural habitat.

Brownfields	Abandoned, idled, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination. (US EPA 1997: http://www.epa.gov/swerosps/bf/glossary.htm#brow)
Bryophyte	Any primitive plant in the botanical division <i>Bryophyta</i> , which includes mosses, hornworts and liverworts.
Channel gradient	The average gradient or angle of a river or stream bed.
Clearinghouse	A comprehensive website that provides or links to available information and data for a particular subject or region.
Cluster development	A cluster subdivision generally sites houses on smaller parcels of land, while the additional land that would have been allocated to individual lots is converted to common shared open space for the subdivision residents. Typically, road frontage, lot size, setbacks, and other traditional subdivision regulations are redefined to permit the developer to preserve ecologically sensitive areas, historical sites, or other unique characteristics of the land being subdivided. Also called conservation development.
Community/urban redevelopment	Programs or projects intended to improve economic, environmental, and general living conditions, usually in older population centers, downtowns, and/or brownfields.
CSO	<i>Combined Sewer Overflow</i> Combined sewers carry domestic sewage, wastewater from commercial, industrial and institutional establishments, and groundwater infiltration along with surface runoff. Combined Sewer Overflows occur during wet weather when the downstream interceptor sewers become overloaded, spilling a mixture of untreated wastewater and rainwater into the receiving water body.
DEM	<i>Digital Elevation Model</i> The term digital elevation model or DEM frequently is used to refer to any digital representation of a topographic surface. However, most often it is used to refer to a digital file that contains regular (raster) grid of “spot heights:” terrain elevations for ground positions at regularly spaced horizontal intervals. DEMs may be used to generate three-dimensional graphics displaying terrain slope, aspect (direction of slope), and terrain profiles between selected points. DEMs are available online in a variety of formats and for various geographic locations, including coverage of much of the US, from the US Geological Survey. (USGS 2001: http://rockyweb.cr.usgs.gov/elevation/dpi_dem.html)
Denitrification	An anaerobic bio-chemical process by which bacteria liberate elemental nitrogen from nitrogenous compounds in the soil. The nitrogen gas generated through this process is released to the atmosphere; thus denitrification results in the loss of nitrogen from terrestrial and aquatic ecosystems.

Dissolved oxygen	(DO) The oxygen freely available in water to aquatic organisms. Dissolved oxygen is vital to fish and other aquatic life, and for the prevention of odors. Traditionally, the level of dissolved oxygen has been accepted as the single most important indicator of a water body's ability to support desirable aquatic life. Secondary and advanced waste treatments generally are designed to protect DO in waste-receiving waters.
Ecoregion	A relatively large unit of land and water delineated by the biotic (living) and abiotic (non-living) factors that regulate the structure and function of the natural communities within it. Using ecoregions to classify and delineate landscapes provides a unit of geography that is more relevant than political units for organizing and prioritizing conservation planning efforts. (TNC 1999: http://consci.tnc.org/library/pubs/forest/report.pdf)
Ecosystem	The plants, animals and people living in an area together with their surroundings, such as earth and weather, considered as a system of relationships.
Education and outreach	Programs or projects intended to provide educational tools to or an educational forum for members of the public.
Effluent	Liquid waste that is sent out from factories or places where sewage is dealt with, usually flowing into the sea or rivers. Usually refers to the water flowing out from a Sewage Treatment Plant, animal manure treatment system, or other point source that may release polluted or treated waters.
Environmental justice	The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies. (US EPA 1998: http://es.epa.gov/oeca/ofa/ejepa.html)
Eutrophication	Eutrophication is the overabundance of nutrients in a natural system, especially in ponds or lakes. Waters rich in mineral and organic nutrients may promote an excessive proliferation of plant life, especially algae, which reduces the dissolved oxygen content and may cause the death or extinction of other organisms. In nature, eutrophication is a gradual process, but human activities may accelerate the process of nutrient loading.
Export coefficient	The annual amount of nutrient (e.g., nitrogen or phosphorus) or nutrient loading in a water body, estimated to result from water flow over various land cover types. In this Plan, export coefficients from literature have been used to estimate the nitrogen and phosphorus contributions of various MRLC land cover types.

Fragmentation	The process of breaking a whole up into smaller parts. In the natural sciences, this term refers to the breaking up large contiguous blocks of a landscape or land cover type (e.g., forest) into smaller patches surrounded by disturbed areas. Forest fragmentation occurs naturally through such agents as fire, landslides, windthrow and insect attack. In managed forests timber harvesting and related activities have been the dominant disturbance agents.
Geomorphology	The study of the changing features of the earth's surface (rivers, beaches, glaciation, erosion, etc.), especially the nature and evolution of present landforms, their relationships to underlying structures, and the history of geologic activity as represented by such surface features.
GIS	<i>Geographic Information System</i> A GIS is computer software that links geographic information (where things are) with descriptive information (what things are like). Unlike a flat paper map where "what you see is what you get," a GIS can have many layers of information underneath its surface. As for this Plan, these multiple map layers (biological, socio-political) can be analyzed simultaneously, permitting inquiry into ecological patterns and their relationship to human activities. (ESRI 2001: http://www.esri.com/partners/alliances/orcl_news/esri_orclnews_0301.html#oc9)
Groundwater	Subsurface water, held or moving through geological formations, that accumulates through seepage and returns to the surface as springs and through wells.
Headwaters	Headwaters are the source waters and first-order streams of a river network. Headwaters may be non-tidal rivers, streams, and their lakes and impoundments, including adjacent wetlands, which are part of a surface tributary system to an interstate or navigable water body. Headwaters are classified as the point on the river or stream at which the average annual flow is less than five cubic feet per second.
Historic preservation	Programs or projects intended to protect property of historic and/or cultural value.
Hydrology	The branch of physical geography concerned with the properties, distribution and circulation of water in the atmosphere, on the surface of the earth and underground.

IBA	<p><i>Important Bird Areas</i></p> <p>As defined by the Audubon Society, an Important Bird Area (IBA) is a site providing essential habitat to one or more species of breeding or non-breeding birds. The sites vary in size, but usually are discrete and distinguishable in character, habitat, or ornithological importance from surrounding areas. Site boundaries may be either natural (rivers, watersheds) or human-made (roads, property boundaries). In general, an IBA should exist as an actual or potential protected area, with or without buffer zones, or should have the potential to be managed in some way for birds and general nature conservation. An IBA, whenever possible, should be large enough to supply all or most of the requirements of the bird(s) during the season for which it is important. Not all IBAs, such as fly-over sites for raptors, can or will meet this last definition.</p>
Impervious cover	<p>Surfaces that do not allow water to penetrate or infiltrate – e.g., asphalt or concrete structures and infrastructure (buildings, roads). Impervious cover prevents the infiltration of surface water into the soil, and may cause surface water sheeting and stormwater runoff, and prevent groundwater/aquifer replenishment and movement of water and nutrients into the soil.</p>
Indicators	<p>Measures that assess current conditions (e.g. water quality, watershed health, organizational efficiency) or progress towards a goal.</p>
Infiltration	<p>The flow of liquid water (surface water) into soil and porous rock via pores or small openings (groundwater).</p>
Land cover	<p>Natural or human-made features that cover the land, usually grouped into land cover types – e.g., <i>water, forest, crops, residential development</i>. Land cover maps may be generated from satellite images of the earth’s surface. Land cover usually is expressed as an average value within a certain area (e.g., within a 30m by 30m area or “cell”), depending on the map scale involved.</p>
Land preservation	<p>Programs or projects intended to conserve open space or protect current open space and public park land holdings, through fee simple purchase, easement or other land protection methods.</p>
Landsat	<p>Landsat is the name of a series of seven U.S. satellites used to acquire remotely sensed images of the Earth’s land surface and surrounding coastal regions. Landsat is also the name of the NASA program that administers and manages these satellites and their data.</p>
Macroinvertebrate	<p>An invertebrate animal (animal without a backbone) large enough to be seen without magnification. In this Plan, macroinvertebrate refers to a number of aquatic species of insects that live in streams, which are sensitive to conditions in their environment, so that their presence or absence may be used as an indicator of stream health and water quality.</p>
Mainstem	<p>The major stream channel of a stream system.</p>

Microbe	Any microorganism; or specifically, any microorganisms (bacteria, protozoa, fungi) that are capable of causing disease in humans and animals.
Nitrification	A bio-chemical process by which soil bacteria of the family <i>Nitrobacteraceae</i> oxidize and convert nitrogen organic compounds (e.g., ammonia) to inorganic compounds of nitrogen (nitrites and nitrates).
NMP	<i>Nutrient Management Practice</i> A land use management activity that manages the amount, source, placement, form and timing of the application of nutrients and soil amendments. Nutrient management practices help to budget and supply nutrients for plant production, to minimize agricultural non-point source pollution, and to maintain or improve the physical, chemical and biological condition of the soil. (NRCS March 2001: http://www.ia.nrcs.usda.gov/fotg/section4/pstands/590std.pdf)
Non-point source pollution	Non-point source (NPS) pollution, unlike pollution from industrial and sewage treatment plants, comes from many diffuse sources but may be attributed to specific activities. NPS pollution is carried by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and even to underground sources of drinking water. The diffuse sources and intermittent nature of NPS pollution can make it more difficult to control than point source pollution.
NPDES	<i>National Pollutant Discharge Elimination System</i> The purpose of the National Pollutant Discharge Elimination System (NPDES) Program is to protect human health and the environment. The Clean Water Act requires that all point sources discharging pollutants into waters of the United States must obtain an NPDES permit. By point sources, US EPA means discrete conveyances such as pipes or man made ditches. Although individual homes that are connected to a municipal system or that do not have a surface discharge do not need permits, facilities must obtain permits if their discharges go directly to surface waters. Some pollutants that may threaten public health and the nation's waters are: human wastes, ground-up food from sink disposals, laundry and bath waters, toxic chemicals, oil and grease, metals, and pesticides. (US EPA 2001: http://www.epa.gov/owm/npdes.htm)
Nutrient	Natural elements and chemical compounds required by organisms for nourishment, growth or survival (e.g., nitrogen, phosphorus, potassium).
Nutrient load	The amount of nutrients added to a natural system, such as a stream or lake; or, the amount of that nutrient carried by receiving water bodies.

NWI	<p><i>National Wetlands Inventory</i></p> <p>The National Wetlands Inventory (NWI) of the U.S. Fish and Wildlife Service produces information on the characteristics, extent, and status of the Nation's wetlands and deepwater habitats. This information is used by Federal, State, and local agencies, academic institutions, U.S. Congress, and the private sector. The Emergency Wetland Resources Act of 1986 directs the Service to map the wetlands of the United States. The NWI has mapped 89% of the lower 48 states, and 31% of Alaska. The Act also requires the Service to produce a digital wetlands database for the United States. About 39% of the lower 48 states and 11% of Alaska are digitized. In 1982, the NWI produced the first comprehensive and statistically valid estimate of the status of the Nation's wetlands and wetland losses, and in 1990 produced the first update. Future national updates are scheduled for 2000, 2010, and 2020. (US FWS, NWIC [undated]): http://www.nwi.fws.gov/overview.htm</p>
Orphan dam	<p>A dam that has been abandoned, that has no known owner, or for which no one entity or individual is responsible.</p>
Park/preserve management	<p>Programs or projects that supervise, monitor, and care for parks and preserves. Often these parks and preserves are owned by the managing organization.</p>
Pathogen	<p>Any virus, microorganism, or other substance that causes disease or serves as an infecting agent.</p>
PCS	<p><i>Permit Compliance System</i></p> <p>Information on water discharge permits is contained in the US EPA Permit Compliance System, a national computerized management information system. This system automates the entry, update, and retrieval of National Pollutant Discharge Elimination System (NPDES) data and tracks permit issuance, permit limits and monitoring data, and other data pertaining to facilities regulated under NPDES. PCS records water discharge permit data on more than 75,000 facilities nationwide. (US EPA 1999): http://www.epa.gov/enviro/html/pcs/pcs_overview.html</p>
pH	<p>System of measuring the acidity or alkalinity of a substance; refers to the negative logarithm of the hydrogen ion content of the solution. Values for pH run from 1 to 14; a pH of 7 indicates that a substance is neutral. A value of more than 7 indicates the substance is basic (alkaline) and a value of 11 or more indicates it is very basic and is likely to cause corrosion and/or tissue damage. Likewise, a value of less than 7 indicates that the substance is acidic, and a value of 3 or less indicates it is a strong acid. (Biotech Life Science Dictionary 1995-1998): http://biotech.icmb.utexas.edu/search/dict-search.phtml</p>
Physiography	<p>The physical form of the earth's surface. Physical geography: the science which studies the earth's exterior physical features, climate, life, etc., and the physical movements or changes on the earth's surface, such as the currents of the atmosphere and ocean, the secular variations in heat, moisture, magnetism, etc.</p>

Phytoplankton	Small, often microscopic marine organisms (mostly algae and diatoms) that live suspended in water bodies, and are responsible for most of the photosynthetic activity in the oceans.
Planform	The outline or shape of a body of water as determined by the still-water line.
Point source pollution	Pollution that has a distinct, defined source and/or outlet, such as pollution from industrial and sewage treatment plants. Point sources are regulated under the NPDES permitting program of the US EPA.
Primary productivity	The transformation of chemical or solar energy to biomass. Most primary production occurs through photosynthesis, whereby green plants convert solar energy, carbon dioxide, and water to glucose and eventually to plant tissue. Primary production refers to the <i>amount</i> of material produced. <i>Net primary production</i> is the measure of the actual accumulation of biomass after some of the products of photosynthesis are expended for the plant's own maintenance. Productivity, or the <i>rate</i> of production, is affected by various environmental factors, including the amount of solar radiation, the availability of water and mineral nutrients, and temperature. (WRI 1992: http://www.wri.org/wri/biodiv/gbs-glos.html#OPQ)
Protist	A member of the biological kingdom of eukaryotes and the phylum <i>Protista</i> . This group of organisms includes one-celled and multicellular algae, slime molds, and protozoans.
RCP	River Conservation Plan of the Pennsylvania Department of Conservation and Natural Resources Rivers Conservation Program.
Recreation	Programs or projects intended to enhance and promote outdoor activity such as hiking, walking, canoeing, fishing, or biking.
Research	Programs or projects that conduct scientific studies other than water quality testing within the watershed.
Riparian	The area along, or the habitat or organisms dwelling along, the banks of a stream or river.
Riparian buffer	A strip of vegetation that filters nutrients and sediment from surface and groundwater flowing through it; often composed of trees, shrubs, and/or tall grasses adjacent to water bodies. Riparian buffers vary in width, but usually are between 20 and 150 feet wide on either side of a water body.
Setback	A term used in zoning to indicate how far back from a property boundary a structure can be built.
Smart growth	A term used to describe policies that encourage new building and development in locations that will minimize environment impacts and/or that foster redevelopment of urban, blighted areas.

STATSGO	<p><i>USDA-NRCS State Soil Geographic Database</i></p> <p>Soil maps for the State Soil Geographic (STATSGO) database are made by generalizing detailed NRCS soil survey data. The mapping scale for STATSGO maps is 1:250,000 (with the exception of Alaska, which is 1:1,000,000). The level of mapping is designed to be used for broad planning and management uses covering state, regional, and multi-state areas. (NRCS 1999: http://www.ftw.nrcs.usda.gov/statsgo.html)</p>
STORET	<p><i>US EPA Storage and Retrieval database</i></p> <p>STORET (short for STORage and RETrieval) is a database repository for water quality, biological, and physical data and is used by state environmental agencies, US EPA and other federal agencies, universities, private citizens, and many others. (US EPA 2000: http://www.epa.gov/storet/)</p>
Stormwater	<p>Water that runs off the land and into rivers and streams during a storm.</p>
STP	<p><i>Sewage Treatment Plant</i></p> <p>A facility constructed for the treatment of wastewater or other water containing toxins or pollutants (e.g., organic, metals, solids), before returning it to a receiving water body.</p>
Stream order	<p>A method of describing how small or large a river or stream is, and its location within a river network, based on the number of other streams or rivers flowing into it.</p>
Subwatershed	<p>A smaller watershed nested within a larger watershed; an area of a river basin based on the tributaries and their watersheds as defined by the area's natural topography. For this Plan, 37 subwatersheds were defined within the greater Schuylkill River watershed.</p>
SWA	<p><i>Source Water Assessment</i></p> <p>The 1996 Amendments to the Safe Drinking Water Act require states to develop, and submit to US EPA for approval, source water assessment programs (SWAPs). Upon EPA approval, these programs are to complete assessments for all public water supply systems within two years after approval if not extended. A State assessment program is required to: (1) delineate the boundaries of the areas providing source waters for public water systems, and (2) identify (to the extent practicable) the origins of regulated and certain unregulated contaminants in the delineated area to determine the susceptibility of public water systems to such contaminants. (US EPA 1996: http://www.epa.gov/safewater/sdwa/summ.html)</p>

TMDL	<p><i>Total Maximum Daily Load</i></p> <p>A TMDL or Total Maximum Daily Load is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and non-point sources. The calculation must include a margin of safety to ensure that the water body can be used for the purposes the State has designated. The calculation must also account for seasonal variation in water quality. The Clean Water Act, section 303, establishes the water quality standards and TMDL programs administered by US EPA (US EPA 1999: http://www.epa.gov/owow/tmdl/intro.html#definition)</p>
Topography	<p>The shape of the land surface, including its relief and the position of natural and human-made features.</p>
Tributary	<p>A smaller stream that runs into, or feeds, a larger stream at any point along its course.</p>
USLE	<p><i>Universal Soil Loss Equation.</i></p> <p>The USLE is used to measure erosion. USLE states that the field soil loss in tons per acre, A, is the product of six causative factors: $A = 2.24 RKLSCP$ where R = rainfall and runoff erosivity index, K = soil-erodibility factor, L = length of slope factor, S = degree of slope factor, C = cropping-management factor, P = conservation practice factor. (Purdue University [Undated]: http://pasture.ecn.purdue.edu/~aggrass/agnps/usle.html)</p>
Vascular	<p>Refers to the xylem and phloem tissues of certain plants, such as ferns and seed-bearing plants, which conduct water and nutrients through the plant body.</p>
Wastewater	<p>Water that has been "used;" usually relates to sewage but may also include "graywater" or water from sinks, baths, showers, dishwashers, etc. Non-potable (non-drinking) water.</p>
Water quality projects	<p>Projects intended to manage or improve water quality or restore aquatic habitat.</p>
Water quality testing	<p>Programs or projects which examine the chemical, biological, and physical aspects of a stream as they relate to overall water quality.</p>

ORGANIZATIONAL ACRONYMS

ANS	Academy of Natural Sciences
DCNR	Department of Conservation and Natural Resources (PA State)
DEP	Department of Environmental Protection (PA State)
DER	Department of Environmental Resources (PA State)
DNREC	Delaware Department of Natural Resources and Environmental Control
DRBC	Delaware River Basin Commission
DVRPC	Delaware Valley Regional Planning Commission
FEMA	Federal Emergency Management Agency
EPCAMR	Eastern Pennsylvania Coalition for Abandoned Mine Reclamation
MRLC	Multi-Resolution Land Characteristics Interagency Consortium
NGO	Non-Governmental Organization (e.g., registered nonprofit)
NLT	Natural Lands Trust
NLREEP	Fairmount Park Natural Lands Restoration and Environmental Education Program
NRCS	Natural Resources Conservation Service
PA GAP	Pennsylvania Gap Analysis Program
PASDA	Pennsylvania Spatial Data Access
PCER	Patrick Center for Environmental Research, Academy of Natural Sciences
PEC	Pennsylvania Environmental Council
PEMA	Pennsylvania Emergency Management Agency
PHMC	Pennsylvania Historic and Museum Commission
PWD	Pennsylvania Water Department
SRGA	Schuylkill River Greenway Association
TAC	Schuylkill Watershed Conservation Plan Technical Advisory Committee
TCF	The Conservation Fund
TNC	The Nature Conservancy
US ACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
US EPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WRI	World Resources Institute