APPENDIX E

Regulatory Overview

APPENDIX E

REGULATORY OVERVIEW OF RULES, LAWS & POLICIES AFFECTING SUSTAINABLE WATER MANAGEMENT in MONROE COUNTY, PA

Table of Contents

REGULATORY OVERVIEW OF RULES, LAWS & POLICIES AFFECTING SUSTAINABLE WATER MANAGEMENT in MONROE COUNTY, PA

FEDERAL CONSTITUTIONAL AMENDMENTS IMPACTING WATER, LAND USE, & COMMERCE

The basis of all laws and judicial decisions is the United State Constitution. Three Amendments in particular affect the three primary fields that interact with water management: environmental, commercial and land use:

The Fifth Amendment

The Fifth Amendment assures that no "…private property be taken for public use without just compensation." Environmental legislation that imposes a restriction of use, including development may be considered as an unlawful "taking." However, "public interest," may prevail if the legislation protects the health safety and welfare of society.

The Tenth Amendment

The Tenth Amendment defines the use of "police powers," to protect the public's health safety, welfare and morals. Pennsylvania delegates this authority to local governments, which includes land use powers. Private interests and public welfare is a common area for commercial and land use conflicts to arise.

The Fourteenth Amendment

The Fourteenth Amendment restricts the state from "depriving any person of life, liberty, or property without due process," and assures individuals "equal protection" of the laws. "Liberty," has been defined as commercial opportunity, freedom from government restriction and the right to act or express as one chooses. "Equal protection" can be defined as government intervention that protects its citizens from diminishment or harm. The balance between individual prerogative and equal protection of a major factor in land use, environmental and commercial disputes.

FEDERAL REGULATIONS and AGENCIES AFFECTING WATER MANAGEMENT

Initial federal involvement in water legislation was in response to public health issues from contaminated waters. The public health model of intervention was focused on the control of diseases through contaminated drinking water. During post-World War II

population shifts from urban to new suburban areas, the legal authority for federal government to address water management was initiated by Congress in 1948, when they passed the Water Pollution Control Act (WPCA), authorizing the Surgeon General the Public Health Service (PHS) to allocate funds to local and state governments to prepare "comprehensive plans for eliminating or solve growing water pollution problems." The WPCA funds could also be used for "reducing the pollution of interstate waters and tributaries and improving the sanitary condition of surface and underground waters." The Federal Works Administrator was authorized to assist with the construction of treatment plants to prevent sewage discharges into interstate waters or tributaries. The WPCA directed that "due regard" be given to the conservation of public water supplies, propagation of fish and aquatic life, recreation needs as well as industrial and aquatic uses.

The Water Pollution Control Act was expanded into the Federal Water Pollution Control Act (FWPCA) and directed the PHS to "enhance the quality and value of our water resources and to establish a national policy for the prevention, control and abatement of water pollution." This precursor to the current Clean Water Act, created the PHS's Construction Grants Program for local governments. FWPCA amendments in 1961, transferred FWPCA oversight to the Secretary of Health, Education, and Welfare, a cabinet level department and specifically directed federal agencies to regulate streamflow "for the purpose of water quality control (11 USC 1252)."

During the early 1960s, the public health focus of water management for disease control shifted from a clinical approach to a broader environmental perspective that acknowledged water as a valuable and to be protected for its own value. The Water Quality Control Act of 1965 (WQCA), established the Water Pollution Control Administration within the Department of the Interior, where for the first time, water quality was managed as an environmental as well as public health issue. The first enforceable water quality standards were established. A year later, the Clean Water Restoration Act of 1966 authorized the Secretary of Interior, in cooperation with the Secretary of Agriculture, to study the effects of pollution, including sedimentation, in the estuaries and estuarine zones on fish and wildlife, sport and commercial fishing, recreation, water supply and power, and other uses, including an evaluation of the economic, social, and ecological conditions in the estuaries. The Water Quality Improvement Act of 1970, expanded federal authority by introducing a state certification procedure preventing degradation of water below applicable standards.

The foundation for modern water supply planning was laid in 1965 when President Kennedy pushed the Water Resources Act through Congress. Along with the

degradation of the rivers during the 1960's, the demand for public water supply was rapidly growing, This Act established a cabinet level Water Resources Council to study, coordinate and review water and related land resources requirements, policies and plans, and authorized funding for states to plan and implement related programs. The Council also assessed the adequacy of existing and proposed policies and programs and make recommendations to the President. The WRA centralized water resources planning and water quality management by establishing interstate/interagency commissions. The WRC produced a document tilted "Principles and Standards for Planning Water and Related Land Resources." The P&S's primary objectives formally linked land use to water quality, and water resources to economic development. Both objectives were related to "social well-being."

By the time President Nixon established the Environmental Protection Agency, federal agencies with water management responsibilities were reorganized eleven times in an attempt to effectively administrate and implement water related laws. In 1972, all oversight for water quality functions were transferred to the Environmental Protection Agency and the Federal Water Quality Administration in the Department of Interior was abolished.

FEDERAL REGULATIONS DIRECTLY PERTAINING TO WATER MANAGEMENT

Clean Water Act (CWA)

The FWPCA was renamed the Clean Water Act (CWA) in 1977, and amended "to restore and maintain the chemical, physical, and biological integrity of the nation's waters," so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water." Waters were to become fishable and swimmable by 1983, and receive zero discharge of pollutants by 1985. Congress gave the EPA Administrator legal tools necessary to improve the nation's water quality, while recognizing that it was the States' responsibilities to develop their own approaches to prevent, reduce, and eliminate pollution. The CWA does not address groundwater or directly address water quantity. The statute employs a variety of regulatory and non-regulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff.

A multi-jurisdictional framework for water quality planning is found within the CWA's required planning programs. Although the federal regulatory directives are delegated to the states, the states in turn delegate planning to 'areas,' counties, regions and even local municipalities. The "consistency" requirements of the CWA incorporate local

governmental land use regulations. The type of local land use projects that can be built are determined by the regional infrastructure available, which needs to meet federal standards. The CWA's intent is to focus water resource and waste treatment planning as a regional (i.e., areawide) process. "To the extent practicable, waste treatment shall be on an areawide basis and provide control or treatment of all point and nonpoint sources of pollution, including in place or accumulated pollution sources." 33 U.S.C. § 1281(c).

The water quality planning and management elements of the CWA include processes for:

- Interstate cooperation
- River basin planning
- Areawide Waste Treatment Management Plans
- States responsibilities
- State water quality programs
- The state and local
- Municipalities, authorities and other governmental units

Interstate cooperation (Section 103) for pollution control is encouraged and consents to states making agreements and compacts to address and prevent pollution.

River basin planning (Section 209) is the broadest scale of study in the CWA. River basin studies are to evaluate water and related land resources. Section 209 establishes three classes of review for basin planning. Level A is a general overview that establishing a framework for assessing basin needs. Level B addresses complex long-range problems that involve federal, state, and local involvement in plan development and eventual implementation. These plans are useful in solving interdisciplinary issues requiring an intermediate planning process before actual policy can be realized. Level C is the implementation of plans as a result of Level B studies.

Areawide Waste Treatment Management Plans (Section 208) or Water Quality Management Plans (WQMP) are coordinated on a statewide scale. WQMPs identify all municipal and industrial sources of point and nonpoint pollution, control measures for the pollution and identify where wastewater treatment plants are located as well as site future plants. Infrastructure needs for 20 year projections include treatment of stormwater-induced combined sewer overflows; financial arrangements and programs to implement a Wastewater Management Plan (local level plan); prioritizes facility construction projects; and schedules for priority treatment works. State WQMPs are required to identify nonpoint sources of pollution, open space and recreation opportunities from improved water quality.

States' water quality management programs (Section 106) are regulated within the framework of meeting the CWA water quality goals, after EPA approval. States are required to maintain a continuing planning process (CPP) as directed in Section 303(e). The CPP 303 (e)'s 9 requirements are: 1) Effluent limitations and water quality compliance schedules; 2) Incorporating elements of 208 and appropriate 209 plans; 3) Individual water quality effluent loads (TMDLs), including nonpoint sources of pollution; 4) Updates of WQMPs (208 Plans); 5) Coordination and involvement of all levels of government in water resource planning; 6) Compliance with water quality standards; 7) Proper disposal of wastewater treatment plant wastes; 8) Prioritized infrastructure needs; 9) Prioritized permitting needs, stormwater, discharges, etc. In addition, The CPP directs that updates to 208 plans (WQMP) identify all sources of pollution, remediation and control practices for point and nonpoint sources of pollution, and plans that site where waste water facilities will be built

The state and local levels were to be the original remediators of nonpoint sources of pollution through areawide waste management plans mandated. Section 319, is a 1987 amendment to correct the deficiencies of the original nonpoint source pollution control in Section 208.

Municipalities, authorities and other governmental units have the responsibilities of preparing Wastewater Facilities Plans or "Section 201 Plans" to qualify for federal wastewater construction grants. Section 201 Plans determine the most cost effective, environmentally sound solution to water quality management in an area. Facilities' planning consist of identifying a geographic area to be served by the plant, existing conditions of that area, and identification of any sewage or wastewater problems within that area. In addition, projections for future conditions must be made and alternatives to solve the existing problems and meet future needs must be evaluated. The evaluation of alternatives includes both a cost effectiveness analysis and an environmental assessment. Section 201 established the Clean Water State Revolving Fund to help finance infrastructure necessary to meet clean water goals along with a program designed to limit the amount of pollutants discharged from the treatment plants. The 1987 CWA amendments to Section 201 requires industry to install the "best available technology (BAT) economically feasible and municipal wastewater systems are required to meet secondary treatment standards.

CWA Water Quality Standards

Water quality standards make possible the development of water quality-based discharge permits, water remediation and restoration projects, and identification of which clean waters need extra protection. Each state and is mandated to determine water quality

standards for every state waterbody. Developing water quality standards involves three actions for all waterbodies: 1) designate uses; 2) establish water quality criteria; and 3) develop and implement antidegradation policies and procedures. The CWA does not have a policy that addresses unsuccessful implementation of a state's antidegradation program.

Existing Uses and Designated Uses. Existing water body use refers to the highest use that a waterbody has attained at any time since 1975. Designated uses are "those uses specified in water quality standards for each water body or segment whether or not they are being attained." The CWA specifies that in order to designate an appropriate use for a water body, both human uses and ecological conditions must be considered, and a water body can have more than one use. "Designated uses" must include one or more "aquatic life" uses i.e. a "fishable" use. "Fishable' denotes the quality and conditions necessary to support the protection and propagation of fish during a specific part of its life cycle. The minimum standard "Swimmable" indicates safe recreation in and on the water and includes water-based recreation, where attainable.

Water Quality Criteria. Water quality criteria establish the conditions necessary for a waterbody to meet the CWA goals of "chemical, physical, and biological integrity" and its designated use. Water bodies which meet or exceed criteria, "support" their uses. Waters not supporting their uses must be bought up to standard. Criteria must be "based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use. For waters with multiple use designations, the criteria shall support the most sensitive use."

When water criteria are not met, the use is impaired. Impaired waters must be listed on a states' 303(d) List and a water quality remediation plan, i.e. a total maximum daily load (TMDL) for the pollutant must be implemented.

Antidegradation. The CWA's antidegradation policies mandate that States "develop and adopt a statewide antidegradation policy," that includes the methods for implementing such a policy." CWA establishes a three-tiered antidegradation protection system to address any proposed activities that can lower the water quality where a designated use is supported or where water quality exceeds its use designation. Tier 1 protects existing instream water uses. Tier 2 maintains and protects "high quality" waters, i.e. water bodies where existing conditions are better than necessary to support "fishable/swimmable" uses. Tier 3 maintains and protects water quality in outstanding national resource waters (ONRWs). ONRWs generally include the highest quality waters of the United States. Generally, except for certain temporary changes, water quality cannot be lowered in such waters. In exceptional situations and under close scrutiny, water quality can be lowered

where there is a prevailing “social and economical justification.” The federal Clean Water Action Plan requires each state to prepare a Unified Watershed Assessment to determine where additional funding will help achieve "fishable and swimmable" waters for all Americans.

The Safe Drinking Water Act

The Safe Drinking Water Act of 1974 (SDWA) directs the U.S. Environmental Protection Agency to set and enforce national health standards for potable water, and oversees the states, localities and water suppliers. SDWA focuses on all waters, actually or potentially, designed for drinking use, whether from above ground or underground sources. EPA establishes maximum allowable contaminant levels in drinking water and protects underground sources of drinking water. Primary enforcement responsibilities lie with the states.

SDWA rules are based on identifying and regulating contaminants that pose serious public health risks. The Act requires EPA to determine if a contaminant has an adverse effect on public health and that regulation of this contaminant presents a meaningful opportunity for health risk reduction before a drinking water regulation is established. This process includes setting a “Maximum Contaminant Level” (MCL), the highest level of a contaminant allowed in drinking water and a MCL “goal,” the level of a contaminant in drinking water below which there is no known or expected health risk.

Permits are needed to construct, operate or substantially modify collection, treatment, storage or distribution facilities. Waterline extensions are excluded. Permit approvals are focused on sanitary facility design and public health. Local land use related to water infrastructure is not included in the law.

Migratory Bird Conservation Act

The Migratory Bird Conservation Act of 1929 established a Migratory Bird Conservation Commission to approve areas recommended by the Secretary of the Interior for acquisition with Migratory Bird Conservation Funds. The Commission consists of the Secretary of the Interior (as chairman), the Secretaries of Transportation and Agriculture, two members of the Senate and two of the House of Representatives, and an ex-officio member from each State in which acquisition is being considered. The Secretary of the Interior is authorized to cooperate with local authorities in wildlife conservation and to conduct investigations, to publish documents related to North American birds, and to maintain and develop refuges. The Act provides for cooperation with States in enforcement.

Watershed Protection and Flood Prevention Act

The Watershed Protection and Flood Prevention Act of 1954 authorizes the Secretary of Agriculture to cooperate with States and local agencies in the planning and carrying out of works of improvement for soil conservation, due to "erosion, floodwater, and sediment damages in the watersheds of the rivers and streams of the United States." This would be accomplished by "furthering the conservation, development, utilization, and disposal of water, and the conservation and utilization of land and thereby of preserving, protecting, and improving the Nation's land and water resources and the quality of the environment."

The Watershed Protection and Flood Prevention Act 1996 appropriations act combined watershed planning activities and the cooperative river basin surveys activities into a single program entitled the Watershed Surveys and Planning program.

The purpose of the Watershed Program, including River Basin operations, is to assist Federal, State, local agencies, local government sponsors, tribal governments, and program participants to protect and restore watersheds from damage caused by erosion, floodwater, and sediment, to conserve and develop water and land resources, and solve natural resource and related economic problems on a watershed basis. The program provides technical and financial assistance to local people or project sponsors, builds partnerships, and requires local and state funding contribution.

Resource concerns addressed by the program include watershed protection, flood prevention, erosion and sediment control, water supply, water quality, opportunities for water conservation, wetland and water storage capacity, agricultural drought problems, rural development, municipal and industrial water needs, upstream flood damages, water needs for fish, wildlife, and forest-based industries, fish and wildlife habitat enhancement, wetland creation and restoration, and public recreation in watersheds of 250,000 or fewer acres. Both technical and financial assistance are available.

Types of surveys and plans include watershed plans, river basin surveys and studies, flood hazard analyses, and flood plain management assistance. The focus of these plans is to identify solutions that use conservation practice and nonstructural measures to solve resource problems. Watershed plans involving contribution in excess of $5,000,000 for construction, or construction of any single structure having a capacity in excess of 2,500 acre feet, require Congressional approval. Other plans are administratively authorized. After approval, technical and financial assistance can be provided for installation of works of improvement specified in the plans. Project sponsors are provided assistance in installing planned land treatment measures when plans are approved. Surveys and

investigations are made and detailed designs, specifications, and engineering cost estimates are prepared for construction of structural measures. Areas where sponsors need to obtain land rights, easements, and rights-of-way are delineated. Technical assistance is also furnished to landowners and operators to accelerate planning and application of needed conservation measures on their individual land units.

Fish and Wildlife Act

Fish and Wildlife Act of 1956 establishes a comprehensive national fish, shellfish, and wildlife resources policy with emphasis on the commercial fishing industry but also with a direction to administer the Act with regard to the inherent right of every citizen and resident to fish for pleasure, enjoyment, and betterment and to maintain and increase public opportunities for recreational use of fish and wildlife resources. The Act provides for continuing research, extension, and information services on fish and wildlife matters, both domestically and internationally. The Act requires the Secretary of the Interior to take steps "required for the development, management, advancement, conservation, and protection of fish and wildlife resources" through research, acquisition of land and water or interests therein, development of existing facilities, and other means, among other commercially related obligations, such as: 1) develop measures for "maximum sustainable production of fish"; 2) make economic studies of the industry and recommend measures to insure stability of the domestic fisheries; 3) undertake promotional and information activities to stimulate consumption of fishery products; and 4) take steps "required for the development, advancement, management, conservation, and protection of the fisheries resources." (US Fish and Wildlife, Digest)

Wetlands Loan Act

Wetlands Loan Act of 1961 authorized an advance of funds against future revenues from sale of "duck stamps" as a means of accelerating the acquisition of migratory waterfowl habitat. Advances were to be repaid to the Treasury using stamp receipts. Funds are merged with "duck stamp" receipts in the Migratory Bird Conservation Fund and used for acquisition of migratory bird refuges and waterfowl production areas.

Wild and Scenic Rivers Act

The Wild & Scenic Rivers Act of 1968 protects free-flowing rivers and their immediate environments that have outstanding scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values are to be preserved in condition;. Rivers are classified as wild, scenic or recreational. Administered by the Department of the Interior, most of the land is managed by the National Park Service. The Act specifically:

Prohibits dams and other federally assisted projects that would adversely affect the river's designated character; Protects the river's outstanding natural, cultural, and/or recreational significance; Ensures water quality is maintained; and Requires a comprehensive river management plan that addresses resource protection, development of lands and facilities, user capacities, and other management practices necessary to achieve purposes of the Act. The Act recognizes the potential for appropriate use and development of these wild and historic areas. Management includes public access, such as fishing, boating, or wading in waters found in landscapes that are as close to pristine as can be found.

National Environmental Policy Act

The National Environmental Policy Act (NEPA) of 1969 requires federal government agencies "to use all practicable means to create and maintain conditions under which man and nature can exist in productive harmony while anticipating and preventing a decline in the quality of mankind's world environment." NEPA requires federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions through prepared, detailed statements assessing the environmental impact of and alternatives to major federal actions significantly affecting the environment. These statements are commonly referred to as environmental impact statements (EISs). EISs are conducted by the entity that is proposing a project with possible environmental impacts and published in the Federal Register for review.

Endangered Species Act

The Endangered Species Act (ESA) of 1973 was designed to protect critically imperiled fauna and flora from extinction as a "consequence of economic growth and development, untendered by adequate concern and conservation." The ESA also states that protection is to be given to "the ecosystems upon which they depend." In the Pocono region, ESA is administered by the U.S. Fish and Wildlife Service (FWS), which has responsibility over freshwater fish and all other species, although the National Oceanic and Atmospheric Administration (NOAA) nationally shares responsibility for EAS protection of for marine species. Where threatened or endangered species occur in both habitats (e.g. sea turtles and sturgeon), ESA is jointly managed.

FEDERAL AGENCIES CONNECTED TO WATER MANAGEMENT

Federal legislation, or statutes, are "Acts" passed by Congress and codified into the United States Code (USC) as laws. Executive branch departments responsible for developing rules and enact congressional legislation sector through rules and regulations, are regulatory agencies. Secretaries of these agencies belong to the President's Cabinet. Thirteen executive regulatory agencies report to the president and create regulations. At

least two Cabinet departments are engaged significantly with water issues; Department of the Interior, and Department of Agriculture. Rules and regulations are published in the Federal Register and codified in the Code of Federal Regulations (CFR). Rules and regulations from regulatory departments are mandatory requirements and have the power of federal law.

The Environmental Protection Agency is an independent federal agency. Independent agencies of the United States Government are executive branch agencies, but operate outside of the standing federal executive departments. Independent agencies are established through an "Act of Congress," and are not part of a specific executive department. Independent agencies address complex matters that ordinary legislation cannot adequately manage. Frequently established in response to public demand or need, these agencies are specialized have a narrow singular focus and are not subsidiaries under a Cabinet position. Regulations from independent agencies are regarded as law.

THE ENVIRONMENTAL PROTECTION AGENCY

President Nixon prompted Congress to establish the Environmental Protection Agency (EPA) in 1970 as an independent executive agency (with a Cabinet-level rank for its Administrator) to protect human health and the environment. EPA sets the "national standards for…environmental programs, and delegates to states … the responsibility…for compliance." It is the federal agency responsible for administration the Clean Water Act and the Safe Drinking Water Act.

Meeting goals established in the EPA's Strategic Plan drives the development and implementation of CWA programs. The CWA is primarily implemented through the EPA's Office of Water (OW). The Office of Ground Water and Drinking Water oversee the SDWA. These programs include reducing direct pollutant discharges into waterways, providing funds for municipal wastewater treatment facilities, and managing polluted runoff.

Regional EPA Offices

The EPA has 10 regional offices throughout the United States that administrate the US EPA programs. The multiple state Regional offices identifies the best approaches, tools and programs which will implement the federal EPA's strategic plan's goals. The Pocono Creek Watershed is in Region 3.

EPA's Federal Water Quality Programs

Implementing CWA and SWDA goals requires agency programs that supplement existing regulations that do not provide specifics for water quality protection.

National Pollution Discharge Elimination System (NPDES)

The EPA's National Pollution Discharge Elimination System (NPDES) is the implementation of the CWA's requirement that all discharge facilities obtain a permit limiting the amount of pollution discharged into the Nation's waters (Section 208). Effluent limitations are the basis for permits issued for all point source discharges. The concentration and quantity (load) of discharge pollutants are set by a NPDES permit, and are valid for 5 years.

Unified Watershed Assessments

All states are required to prepare a Unified Watershed Assessment (UWA) to determine where additional funding will best help achieve "fishable and swimmable" waters. UWAs identify restoration priorities and develop action strategies. This effort initiated stormwater and nonpoint source pollution programs throughout the nation. The 1998 Clean Water Action Plan committed additional Section 319 funding to help states with water quality restoration efforts. To be eligible for Section 319 funds, each state must prepare a Unified Watershed Assessment that

Partnership Programs

EPA Partnership Programs address a wide variety of environmental issues by working collaboratively with companies, organizations, communities, and individuals to promote voluntary compliance, high standards and innovation. National Partnership Programs related to water include the following:

Decentralized Wastewater Treatment Systems Program (Septic Systems) provides national direction and support to improve the performance of decentralized systems by promoting the concept of continuous management and facilitating professional standards of practice.

Partnership for Safe Water is a cooperative effort focused on safe drinking water and source water protection and includes national professional and business groups, such as:

American Water Works Association
Association of Metropolitan Water Agencies
National Association of Water Companies
Association of State Drinking Water Administrators

Association of Metropolitan Water Agencies
The American Planning Association
Association of State Drinking Water Administrators
Association of State and Interstate Water Pollution Control Administrators
American Water Works Association
The Clean Water Fund
Environmental Finance Centers
Farm Service Agency
The Groundwater Foundation
The Ground Water Protection Council
National Association of Counties
The National Ground Water Association
North American Lake Management Society
National Rural Water Association
River Network
U.S. Geological Survey
Trust for Public Land

Labs 21 is a voluntary program that saves money at laboratories while improving our environment. Laboratories require tens of millions of dollars worth of energy to run and add tens of thousands of pounds of pollution to our air, soil and water. EPA and the US Department of Energy are helping new and retrofitted laboratories cut their energy costs and reduce environmental damage. The goal is to create energy self-sufficiency for all EPA labs, modeling these savings for other science labs throughout the country.

Water Sense focuses on creating a market enhancement program for water efficient products. This site also provides a wide variety of information on other water efficiency topics, publications (many in down-loadable format), and links to other very useful water efficiency web sites.

The Clean Water State Revolving Loans and Funds

The federal government supports projects water quality projects through the Clean Water State Revolving Loan program. Clean Water State Revolving Funds (CWSRF) is the country's largest source of water quality funding and to date over $63 billion according to the EPA's Clean Water website. EPA provides grants to all 50 states plus Puerto Rico to capitalize state loan funds. The states then make loans to communities, individuals, and others for high-priority water-quality activities. As money is paid back into the revolving fund, new loans are made to other recipients that need help in maintaining the quality of their water. Currently, the program has more than $27 billion in assets. While

traditionally used to build or improve wastewater treatment plants, loans are also used increasingly for;

- Runoff control for agricultural, rural, and urban areas,
- Estuary improvement projects,
- Wet weather flow control, including stormwater and sewer overflows
- Alternative treatment technologies,
- Water reuse and conservation projects,
- Protection of groundwater resources.
- Soil erosion control and conservation tillage
- Streambank buffer zones; and
- Wetlands protection and restoration. (EPA, Office of Water)

DEPARTMENT OF THE INTERIOR

The Mission of the Department of the Interior is to protect and provide access to the Nation's natural and cultural heritage. The Department of the Interior (DOI) has a vast influence on water management through a number of its agencies, and is the nation's principal conservation agency. Congress created the Department of the Interior in 1849, as a steward for the nation's federal lands, its water, including groundwater, and to develop recreational opportunities and preserve cultural treasures. The watershed related parts of the DOI's mission include the protection of America's treasures for future generations, provide access to our nation's natural and cultural heritage, offer recreation opportunities … conduct scientific research,…foster sound use of land and water resources, and conserve and protect fish and wildlife. The U.S. Geological Survey, U.S. Fish and Wildlife Service and National Park Service are agencies within the DOI.

U.S. Geological Survey

The 1879 act of Congress establishing the U.S. Geological Survey charged it with responsibility for "classification of the public lands, and examination of the geological structure, mineral resources, and products of the national domain." The USGS has since become one of the nation's principal source of scientific information about its land and water. The US Geological Survey (USGS) mission is to provide reliable, impartial, timely information that is needed to understand the Nation's water resources.

USGS Water-Resources offices are located in every state. USGS monitors the quantity and quality of water in the Nation's rivers and aquifers, assesses the sources and fate of contaminants in aquatic systems, develops tools to improve the application of hydrologic information, and ensures that its information and tools are available to all potential users.

The Water Resources Discipline promotes the use of water resource information by decision makers to:

- Contribute to wise physical and economic development of the Nation's resources for the benefit of present and future generations.
- Effectively manage ground-water and surface-water resources for domestic, agricultural, commercial, industrial, recreational, and ecological uses.
- Minimize the loss of life and property as a result of water-related natural hazards.
- Protect and enhance water resources for human health, aquatic health, and environmental quality.

USGS Water Resources Programs managed by the Water Resources Discipline include:
The Cooperative Water Program is a partnership between the USGS and State and local agencies that provides vital information for many of the Nation's water-resources management and planning activities. The Cooperative Water Program has been operating for over a 100 years.

National Water Quality Assessment Program (NAWQA), collects and analyzes data and information in more than 50 major river basins and aquifers across the Nation. The goal is to develop long-term consistent and comparable information on streams, ground water, and aquatic ecosystems to support sound management and policy decisions.

Groundwater Resources Program conducts regional studies of ground-water systems, multidisciplinary studies of critical ground-water issues, provides public access to groundwater data, and research and methods. The program provides unbiased scientific information and many of the tools that are used by Federal, State, and local management and regulatory agencies to make important decisions about the Nation's ground-water resources.

Hydrologic Research and Development Program, supports long-term and multi-disciplinary investigations that integrate hydrological, geological, chemical, climatic, and biological information related to water resources issues. This program provides the

primary support for the National Research Program in the hydrologic sciences and for the Water, Energy and Biogeochemical Budgets.

State Water Resources Research Institute Program is a matching grant program supporting water resources research, education, and information transfer at the 54 university based Water Resources Research Institutes. This program includes the National Institutes for Water Resources.

An additional ten sub-programs related to water are also supported by USGS. (Wikipedia/United States Geological Survey)

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (FWS) is a bureau within the Department of the Interior, and its mission is to conserve, protect, and enhance fish and wildlife and their habitats for the benefit of present and future generations. This is accomplished through: promoting an environmental stewardship ethic for our society, based on ecological principles, scientific knowledge, and a "moral sense of responsibility;" guiding the conservation, development, and management of the Nation's fish and wildlife resources; and administering a national program to provide the public opportunities to understand, appreciate, and wisely use fish and wildlife resources. The Service provides funds to support state fish and wildlife programs and enforces federal laws protecting wildlife, such as the Endangered Species Act. The Pocono Creek Watershed is in the FWS's Northeast Region that includes the 13 states from Maine to Virginia. There is a Delaware River Coordinator's office in Monroe County.

One of the programs FWS administers is the National Wildlife Refuge System. The mission of the Refuge System is to manage a national network of lands and waters for the conservation, management, and where appropriate, restoration of fish, wildlife and plant resources and their habitat. The Refuge System maintains the biological integrity, diversity and environmental health of these natural resources for the benefit of present and future generations of Americans. In December 2008, the Director of the U.S. Fish and Wildlife Service approved the establishment of the Cherry Valley National Wildlife Refuge in Monroe County, Pennsylvania

The National Park Service

The National Park Service preserves natural and cultural resources of the national park system for the enjoyment, education, and inspiration of this and future generations. The Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

Through the Community Assistance Arm of the National Park Service, the Rivers, Trails and Conservation Assistance Program (RTCA), works with nonprofit organizations, community groups, tribes or tribal governments, and local, state, or federal government agencies to conserve rivers, preserve open space, and develop trails and greenways. The RTCA program implements Park Service's natural resource conservation and outdoor recreation mission. Rivers & Trails works in urban, rural, and suburban communities with the goal of helping communities achieve on-the-ground conservation successes. Projects range from urban promenades to trails along abandoned railroad rights-of-way to wildlife corridors, wild and scenic river conservation planning to downtown riverfront renewal, from regional water trails to stream restoration.

THE DEPARTMENT OF AGRICULTURE

The Department of Agriculture's engagement in water legislation began in the early 1900's with concerns about extensive loss of croplands due to flooding. Early versions of the Flood Control Act delegated the Department of Agriculture responsibility for the "investigations of watersheds and measures for runoff and water flow retardation and soil erosion prevention on watersheds." Recommendations for the improvements of rivers and other waterways for flood control were to be built by the Chief of Engineers of the War Department, precursors to the present Department of Defense and US Army Corps of Engineers. The current Watershed and Flood Prevention Act is implemented trough the Natural Resource Conservation Service.

Flooding also played a part in the development of the Forest Service. The issue became of "national importance" because of the increasing frequency and intensity of flooding in the major river valleys was a result of deforestation. The Forest Reserve Act of 1891 permitted the President to conserve forest reserves on public land for the public good. Due to massive alteration of the landscape from extensive timber harvesting and subsequent flooding, six years later, Congress passed the 1897 Organic Act (part of the

Sundry Civil Appropriations Act), giving the U.S. Department of the Interior's General Land Office and the U.S. Geological Survey (USGS) three management goals for those forest reserves:

- Improve and protect the public forests;
- Secure favorable water flows; and
- Provide a continuous supply of timber, under regulation.

During the early 1900's, scientific research into the causes of floods showed that the construction of levees was insufficient as a method of control. The first steps were made to provide for reforestation and soil conservation. The extensive expertise in the areas of watershed management, flood control, and soil conservation in the Department of Agriculture's Soil Conservation Service made it possible and logical to transfer forest management to the U.S. Department of Agriculture and create a new bureau, the Forest Service in 1907. Forest reserves were renamed as national forests and the Forest Service was responsible for the conservation and the protection of the national forest system.

Today the Under Sectary for Natural Resources and the Environment supervises policy development and day-to-day operations of the United States Forest Policy and the Natural Resources Conservation Service. The Natural Resources and Environment bureau ensures the health of the land through sustainable management. Its agencies, the Forest Service and the Natural Resource Conservation Service, work to prevent damage to natural resources and the environment, restore the resource base, and promote good land management.(Encarta)

United States Forest Service

The Forest Service (FS) was established in 1905 to provide quality water reserves and timber for the Nation's benefit. The FS manages public lands in national forests and grasslands, "to sustain the health, diversity, and productivity of the Nation's forests and rangelands to meet the needs of present and future generations." This is accomplished by such activities as: Protection and management of natural resources on National Forest System Lands and Research on all aspects of forestry, rangeland management, and forest resource utilization.

The Forest Service Washington Office's Watershed Team leads core Agency programs in Watershed Restoration, Water Rights & Uses, Surface Water, Ground Water, and Riparian & Wetlands. The broader Watershed Team includes fisheries biologists, aquatic ecologists, geologists, and soil scientists who lead complimentary programs within the

staff group. Program leaders support regional and field scientists and managers with technical guidance to conserve, protect, and restore the soil, riparian, water and aquatic resources of the national forests and grasslands.

In 2007, Forest Service and Environmental Protection Agency signed a Memorandum of Agreement to increase coordination to improve water quality on National Forests and Grasslands. The shared vision for both agencies is to increase coordinated efforts to manage, protect, and restore the health of the Nation's water resources by combining the organizational strengths and capabilities of the Forest Service with EPA's Office of Water. By leveraging the best assets of both agencies, watershed based programs will be implemented to improve water quality on national forest lands.

National Resource Conservation Service

In 1935, Congress established the Soil Conservation Service in the Department of Agriculture to "conserve natural resources on private and non-Federal lands." The Department of Agriculture Reorganization Act of 1994 gave additional financial and technical assistance for natural resource conservation giving rise to the re-titled Natural Resources Conservation Service (NRCS).

The NRCS mission is to: "improve, protect, and conserve natural resources on private lands through a cooperative partnership with local and state agencies." NRCS has an established reputation as an inter-agency collaborator for data gathering, technical studies, community action, resource protection and program delivery. The agency's hallmark commitment to maintaining healthy watersheds as the foundation for effective stewardship makes it a leader in water management. The small watershed program that evolved out of the Watershed Protection and Flood Prevention Act of 1954 created the opportunities for managing upstream watersheds and encourage individuals to apply conservation measures that would reduce erosion and slow runoff.

Today NRCS implements the Watershed Protection and Flood Prevention Act through three programs:

- Watershed Surveys and Planning
- Watershed Protection and Flood Prevention Operations
- Watershed Rehabilitation

In 1994, NRCS assumed management of the Wetland Reserve Program, offering landowners the opportunity to protect, restore, and enhance wetlands on their property. The NRCS goal is to achieve the greatest wetland functions and values, along with optimum wildlife habitat, on every acre enrolled in the program. This program offers landowners an opportunity to establish long-term conservation and wildlife practices and protection. (FS website: http://www.fs.fed.us/water/)

US ARMY CORPS OF ENGINEERS

The US Army Corps of Engineers (USACE) provides engineering services as a public service to the Armed Forces and the Nation. The Corps' role in protecting the country's water resources has evolved over the last century and includes missions for water resources, environment, and infrastructure. Since 1936, Congress has authorized the Corps of Engineers to construct hundreds of miles of levees, flood walls, and channel improvements and major reservoirs. Today, the USACE intention is to build broad-based relationships and alliances to collaboratively provide comprehensive, systems-based, sustainable and integrated solutions to water resource challenges. Restoration and stewardship are main focuses while following the Corps environmental operating principles, which balance economic and environmental concerns.

The USACE is responsible for issuing Nationwide Permits in all navigable waters of the United States. The types of permits typically issued for projects include:

- Bank Stabilization, for activities necessary for erosion prevention
- Minor Discharges, for dredged or fill material
- Minor Dredging, of no more than 25 cubic yards below the plane of the ordinary high water mark or the mean high water mark
- Aquatic Habitat Restoration, Establishment, and Enhancement, for restoration, enhancement, and establishment of tidal and non-tidal wetlands and riparian areas, non-tidal streams and other non-tidal open waters, and
- Residential Development discharges of dredged or fill material into non-tidal waters from the residential construction

Wetlands Compensatory Mitigation Programs: The USACE recognizes that wetlands and streams provide important environmental functions including protecting and improving water quality and providing habitat to fish and wildlife. When disruption to high valued water resource landscapes is unavoidable, compensatory mitigation projects will replace environmental functions that are lost as a result of permitted activities.

FOOD AND DRUG ADMINISTRATION (FDA)

The U.S. Food and Drug Administration (FDA), branch of the Department of Health and Human Services, is involved in water issues since it regulates bottled water as a food product. The Federal Food, Drug and Cosmetic Act (FFDCA) regulates water quality of bottle water by requiring testing for bacteria on a weekly basis and physical, chemical and radiological parameters on an annual basis, including pesticides and other synthetic organic compounds (SOCs) and volatile organic compounds (VOCs). Bottlers may apply for and receive waivers based upon past test results, reducing the frequency of testing."

INTER-STATE AGENCIES and REGULATIONS IMPACTING WATER RESOURCES

Interagency river basin management spawned during the Flood Control Acts deliberations. By 1961, both the Administration and the Congress agreed that water resource planning should be done cooperatively by representatives of the Federal, state and local governments. An Ad Hoc Water Resources Committee recommendations that called for the Federal government, in cooperation with states, to prepare plans for the comprehensive development and management of the water resources of all major river basins. President Kennedy forwarded his recommendations for legislation to implement the recommendations of the report of the Committee, that included a proposed Water Resources Council to review current policies, standards and procedures for formulation, review, and evaluation of water projects and develop new ones for uniform adoption by all Federal agencies in consultation of the Secretaries of Agriculture, Army, Health, Education and Welfare, and Interior.

The Water Resources Planning Act authorizes the President to establish river basin water and related lands resources commissions to serve as the principal agency for the coordination of federal, state, interstate, local and nongovernmental plans for developing water and related land resources in its area. The river basin commissions had to prepare comprehensive, coordinated and joint plans for water development, recommend priorities, study water and related land resources problems in its area. (Featherstone)

DELAWARE RIVER BASIN COMMISSION

The Delaware River Basin Commission is an independent federal agency establish through Congress in accordance with the Water Resources Act, which provided the enabling legislation for interstate commission for water management to be created. DRBC consists of representatives from the federal government and the four basin states' governors' offices, for the equitable management of the river basin's water resources through a unified approach to managing a river system.

The DRBC provides watershed management for surface and groundwater resources of the Delaware Basin. The DRBC focuses its efforts with respect to surface water quality, including both point and nonpoint sources of pollution; ground and surface water quantity, including water demands, water withdrawals, water allocations, water conservation, and protected areas; drought management; and in-stream flow management. By serving basin-wide, interstate and local interests, the DRBC is unique in that the agency can address and resolve issues by adopting, implementing and integrating policies in a planned fashion to manage surface and groundwater resources. DRBC adopts regulations, policies, and standards and has the authority to enforce these rules. In the field of water pollution control, DRBC has regulations, adopted water quality standards, review for approval docket projects, monitors water quality, and collects data. Furthermore, DRBC can also finance, construct, own, and operate pollution control facilities.

DRBC reviews all development projects in the Delaware Rive Basin (Basin) that can have a "substantial effect" on the water resources. A project is subject to review by the DRBC for determination as to whether the project impairs or conflicts with the Comprehensive Plan if it involves the following:

- Impoundments or the enlargement or removal of existing impoundments with a 100 million gallons storage capacity;

- Groundwater withdrawals of groundwater exceeding 100,000 gallons a day, except in areas within the Groundwater Protected Area of Southeastern Pennsylvania, where the daily withdrawal will exceed 50,0000 gallons a day;
- Surface waters withdrawal exceeding 100,000 gallons a day, except Special Protection Waters, where the withdrawal will exceed 10,000 gallons a day;

- New or upgrading of domestic sewage treatment facilities having the design capacity for 10,000 gallons per day in the drainage area to Outstanding Basin

Waters and Significant Resource Waters or more than 50,000 gallons per day elsewhere in the Basin;

- Industrial discharges to surface or groundwater of 10,000 gallons per day in the drainage area of Special Protection Waters or less than 50,000 gallons per day elsewhere in the Basin;

- Projects encroaching upon the stream or upon the 100-year flood plain of the Delaware River or its tributaries;

- Change in land cover on major ground water infiltration areas;

- Hydroelectric power projects, including pumped storage projects;

- Projects or facilities of federal, state and local agencies such as highways,

- Deepening, widening, cleaning or dredging existing stream beds or relocating any channel, or the dredging of the bed of any stream or lake and disposal of the dredged spoil, when the nature or location of the project would affect the quantity or quality of ground or surface waters, or fish and wildlife habitat;

- Bridges and highways that would pass in or across an existing or proposed reservoir or recreation project area as designated in the Comprehensive Plan;

- Facilities designed to intercept and transport sewage to a common point of discharge; and pipelines and electric power and communication lines; and

- Draining, filling or otherwise altering marshes or wetlands in the Basin.

Special Protection Waters

In 1992 DRBC adopted Special Protection Waters (SPW) regulations to protect the existing high quality waters from any measurable change. At the time the SPW regulations were passed the water quality standards for the designated reaches were amongst the country's most protective. The SPW program allows for growth and development as a part of its water quality protection measures.

The SPW strategy for controlling point source pollution includes prohibiting direct wastewater discharges to the river, requiring non-discharge and other natural treatment

systems, i.e. spray irrigation and BMP wetlands, be used wherever possible. The regulations require that all new or expanding wastewater treatment plants in the SPW region use advanced treatment and employ required safeguards, i.e. 24 hour alarm, etc. The SPW regulations also address non-point pollutants that include watershed management planning and area wide non-point source pollution control plans. All wastewater treatment projects in Special Protection Waters basin, which are over 10,000 gpd, must be approved by DRBC.

The DRBC established 2 SPW categories, Outstanding Basin Water (OBW) and Significant Resource Waters (SRW). In Outstanding Basin Waters, the existing water quality must be maintained and no discharges are allowed. Significant Resource Waters can not be degraded below existing water quality, but localized degradation from mixing zones are possible if the Commission finds that it is in the public interest to justify and permit for such a situation. When a mixing zone permit is granted, the highest possible point and non-point source treatment levels necessary to limit the size and extent of the mixing zones. The waters in the 81/2 mile stretch are designated SRW.

When considering the 'public interest' as a part of a permit application in a SRW, DRBC SPW regulations require, a locally or regionally developed Growth Management Plan be included the as a part of a permit application for a SRW. Growth Management Plans must be actively referenced by local governmental decisions in order for the Commission to make a determination on public interest.

Regulations established to protect existing high quality waters from any measurable change to existing water quality as defined by the regulations for a list of seven or eight parameters (depending on the location of the discharge) at established water quality control points. DRBC approval is required for new and expanding industrial and municipal wastewater treatment plants when the proposed facility is designed to discharge a daily average rate of 10,000 gallons a day or more. In the rest of the basin, the review threshold remains 50,000 gallons a day or more. The regulations discourage new and increased discharges of wastewater directly to the designated waterways by prohibiting new wastewater treatment facilities and substantial alterations and additions to existing facilities discharging directly to Special Protection Waters unless all non-discharge/load reduction alternatives have been fully evaluated and rejected because of technical and/or financial infeasibility.

Basin Planning

In 2004, the DRBC completed the Water Resources Plan for the Delaware River Basin (Basin Plan), a Level A study. The Basin Plan provides a broad assessment and

framework of the needs and desires of a wide range of shareholders for the conservation, development, and utilization of water and related land resources. In accepting the Basin Plan, the Governors directed the preparation of a periodic environmental condition report. This Delaware River: State of the Basin Report 2008 fulfills that mandate. In December 2008, DRBC published the first State of the Delaware River Basin Report, which serves as a benchmark of current environmental conditions in the Delaware River Basin and provides a platform for measuring and reporting future progress.

WATER QUALITY, LAND USE AND PLANNING in the COMMONWEALTH OF PENNSYLVANIA

Currently, Pennsylvania has extensively reviewed and begun integrating statewide programs that address connections between land use choices and the environment, with a particular emphasis on water resources management, infrastructure and planning. Initiated by the past two Governors' administrations, a coordination of statewide policies addressing these issues at all governmental levels has taken place at the Cabinet level The working groups' bought together a collective vision that linked economic prosperity with the environment. In order to foster economic development "that will sustain and grow urban and rural economies, and conserve the state's natural, heritage and fiscal resources," the complex issues facing the state regarding growth and the environment would have to be systematically and institutionally addressed.

COMMONWEALTH of PENNSYLVANIA CONSTITUTION and STATE AGENCIES' AFFECTING WATER

The state's strong tradition of local control has allowed its citizens to have a close relationship to and a direct influence in many aspects of daily life, such as local education, government services, and land use planning.

COMMONWEALTH OF PENNSYLVANIA CONSTITUTION

Pennsylvania is a commonwealth state, and the state constitution was established as a declaration for the common good of the people. The constitution vested most power and authority over to local governments. The constitution provides the fundamental rules for local government and the regulatory structure for municipalities to exercise their corporate powers.

Section 27, "Natural Resources and the Public Estate"

Section 27 of the Constitution, is titled "Natural Resources and the Public Estate."

It states that,

> "The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people."

The state can pass and enforce laws with which municipalities must comply. Regulatory agencies within the state can establish the requirements for local governments' compliance. The state also can support local municipalities fiscally through programs that provide funding for projects that are beyond the fiscal realities of local tax revenues.

Pennsylvania has a strong institutional foundation for the protection of natural resources through its environmental laws. Numerous state agencies are tasked with managing its water resources along with aquatic habitats. Currently, Pennsylvania is reviewing and integrating statewide programs that address connections between land use choices, public health and the environment (with a particular emphasis on water resources management), infrastructure, and planning. The Governor's office has taken an active role addressing the "sustainability" of its natural resources and calls for a balance between economic development and natural resource protection.

Pennsylvania is a 'home rule' state, where the planning, land use powers and functions primarily take place within the local governments. The state planning and land use statutes establish the types of planning and land-use control authorities permitted their functions, and procedures. Mandatory elements of a local comprehensive plan are articulated, as well as roles and responsibilities boards for local zoning, land development and review process.

Pennsylvania Environmental Law

Pennsylvania's eastern landscape along the Delaware River is intrinsically a part of its environmental history. Four hundred years ago, its natural resources included forests with lakes, pristine rivers, minerals, and unimpeded access to the Atlantic Ocean. These natural resources also included reserves of coal and minerals. Agriculture required land to be cleared. Timber and water provided energy for the earliest industries and commerce, such as iron and shipbuilding. Industrial growth made Pennsylvania a world actor with its steel, oil and iron production, and demands for coal motivated canals to be cut along the Delaware River and across the landscape to the Great Lakes.

Pennsylvania's prosperity was driving the national economy. As the economy boomed, the landscape and natural resources were permanently altered. Farmland productivity was depleting soils, charcoal production required 12,000 trees a year on average. When the adverse effects of contamination and pollution became a serious public health issue, laws were eventually enacted to reduce adverse impacts on the population. However, these were not put in place until the 20th Century.

The story of Dock Street during the 1700's is representative of the tensions that still exist between the balances of "liberty" with the "public good" in Pennsylvania. Benjamin Franklin argued for "public rights" and against industrial pollution when the disposal of rotting animal parts from slaughterhouses and tanneries located on Dock Creek, in Philadelphia in 1739. Citizens' complaints were recorded as early as 1699 about the creek being literally choked with hair, horns, guts and other byproducts of those industries. Foul smells, lower property values, and disease are cited as cause for "state" action. The few fish that entered the creek "soon floated belly up." By 1739 the General Assembly was receiving numerous petitions to move the tanneries and slaughterhouses which they said were creating epidemics of disease in the city. The tanners responded with proposals for self-regulation and complained that "an attempt" (attack) on their liberty was being made. Franklin argued in his Gazette, for what he called "public rights." Rather than an attack on tanneries, Franklin saw "only a modest Attempt to deliver a great Number of Tradesmen from being poisoned by a few, and restore to them the Liberty of Breathing freely in their own Houses."

Photo: Art Installation "Drawing Dock Creek" by Winifred Lutz (P. V'Combe)

The petitioners did not win, but dumping was curtailed. However, it was by local initiative, and not the power of the general assembly that remedied the situation. By 1747, Franklin was on a committee considering "the best method of improving the said swamp for the general use and benefit of the city." By 1765 the creek was paved over, as it is today. (Kovarik)

Background: Water pollution was a primary driver for early environmental legislation at the turn of the 20th Century. Pennsylvania established a State Board of Health in 1886 since local health boards were unable to improve, sanitary conditions. Overburdened by care taking efforts for the ill and dying, local health care workers needed the state to address preventing epidemics caused by the increasing sewage from polluted waterways. Water pollution was no longer a local clinical issue. In 1905, during typhoid fever

outbreaks, the "Purity of Waters Act," was passed to reduce pollution from domestic sewage and prevent further disease from spreading. The Department of Health was created and given jurisdiction over public water supplies and water pollution from sewage. The Act, made it illegal to discharge untreated sewage to Commonwealth waters without a state permit, and gave the Secretary of Health, the Attorney General and the Governor the authority to issue sewerage permits. The state's first water pollution control legislation exempted pumping and overflows from coal mines. In the 1920's, Governor Pinchot proposed the creation of a board in the Department of Health be established to establish water quality standards and regulations. The nation's first water pollution control agency, Sanitary Water Board was created. However, the General Assembly initially only granted it the ability to investigate the public health issues and make recommendation. By 1923, the first stream classification system was used to assess the water quality in the streams and to document its uses. (Pennsylvania DEP website) These studies later became the basis for setting limits on what could be discharged to streams. Eventually, the Board was vested with the authority to grant permits for sewage treatment and construction of new sewers. No legal authority for controlling industrial wastes and coal mine drainage existed until later. Although the Board was limited to regulating sewage pollution, their actions were able to control industrial wastes and mine drainage pollution to some extent well before the legislative mandates of 1937 and 1945.

TITLE 25 OF THE PENNSYLVANIA CODE – ENVIRONMENTAL CONSERVATION

Within the 1025 chapters found in the Pennsylvania Code's Environmental Conservation Rule (Title 25), is the Commonwealth's fundamental environmental philosophy that sets forth the direction for all its environmental mandates and programs, including those related to the management of water resources (Article 2, "Water Resources")

Title 25 Chapter 9 - Environmental Goal and Environmental Master Plan
The "Overall Environmental Goal of the Commonwealth" is stated as:

> "To protect the natural processes and ecological relationships of man's (sic) life-support system, and manage our activities to preserve natural, scenic, and aesthetic values of the environment while meeting society's needs." (Subchapter A 9.3 (b).

Environmental Master Planning Program

Chapter 9 calls for the Commonwealth to incorporate "a broader understanding of the natural environment and the human impact on the environment" into a Environmental

Master Planning Program for the Commonwealth. The master environmental plan should evolve out of "an understanding of and a respect for ecologic values," and a state environmental ethic is essential. This "requires a rethinking of traditional human - environment relationships." (Subchapter A 9.1.(b))

The state's Environmental Master Planning Program's objectives are the implementation of policies, which reflect "sensitivity for the environment." Anticipating that such polices may "conflict with other policies addressing social and economic priorities," the law calls for "a comprehensive planning program" that brings "together social, economic, and environmental policies into a single Commonwealth policy reflecting tradeoffs between conflicting concerns." (Subchapter A 9.3 (a-h).

The law directs that the development of ecological values is a result of "traditional attitudes related to the environment" must be "challenged." The law includes examples of the types of attitudes should be reviewed, such as:

(1) Growth is good.
(2) Technology can solve any problem.
(3) Economics is a higher concern than environmental protection.
(4) Maintaining a natural environment is not a productive use of the land.
(5) Reducing population growth eliminates resource consumption problems.
(6) Nature can be protected by setting aside small environmental areas.
(7) The knowledge and superiority of man (sic) places him above the laws of nature.

Subchapter A 9.2 (b) 1 – 7

Principles of the Commonwealth's Environmental Ethic

The Commonwealth's "environmental ethic" should guide development of the Commonwealth Environmental Master Plan. The Commonwealth's Environmental Ethic's Principles:

- Humans are a part of the total ecosystem and are trustees of the earth's resources.
- Long term survival of society depends on the planet's finite air, water and land resources.
- The natural environment's complex interrelationships and interdependencies must be recognized and respected.
- The quality and productivity of natural resources, processes, and systems are to be protected.
- The natural and assimilative capacities of the environment must be recognized in management programs.

- Human activities creating adverse impacts on health and the natural environment are to be minimized.

Commonwealth Policies for Environmental Planning

The Environmental Master planning process includes the development of Commonwealth Policies for:

- Critical environmental areas;
- Other environmental values of statewide importance;
- Pollution abatement and enhanced environmental health;
- Environmentally sensitive regional and local growth and development plans, and;
- Management of natural resources.

These policies are to provide the groundwork for a Commonwealth growth and development plan that is environmentally sensitive, with environmental guidelines and criteria for statewide, regional, and local environmental planning and management activities. A land use and resource information system for policy development and evaluation is also an EMPP product. (Subchapter A 9.3 (g))

Policies for Critical Environmental Areas

Concern about impacts from "emerging growth and development patterns and specific uses of the land" on "geographic areas…of statewide environmental importance" was the impetus to include a broad range of landscapes, (such as prime farmlands, watersheds with high quality streams, floodplains, coal resources, areas with limited water supply, clean air resource areas, open space in metropolitan areas, landslide prone areas and areas with carbonate geology) into ''critical environmental area'' (CEA) designations. Protecting natural areas with "better than existing regulatory standards," and "protecting ecological relationships," by designating a critical environmental area would help conserve the existing quality of the environment. Inclusion of CEAs would provide a level of protection from development. (Chapter 9 Subchapter B Sec.9.101)

Environmental Policies for Watersheds with High Quality Streams

This section (Subchapter B Sec. 9) includes anti-degradation policies noting the vulnerability of high quality streams due "to development activities" and states that the Commonwealth will protect these streams "by discouraging land use and development activities that degrade or threaten to degrade water quality." (Subchapter B Sec. 9.121I)

These policies include that the Commonwealth land policy, "will include the "consideration" of "development activities throughout the watershed," and notes that:

> "In many instances, existing growth and development patterns and the siting of large scale facilities is directly attributable to Commonwealth action." (Subchapter B Sec. 9.125) However, the policies recognize land use powers are mostly at the local government level and that state regulations alone will "are not able to provide fully for the protection of watersheds with high quality streams."

Pennsylvania Scenic Rivers Act

The Pennsylvania Scenic Rivers Act of 1972 establishes the Pennsylvania Scenic Rivers System to protect the outstanding aesthetic and recreational values of many of the rivers of Pennsylvania and to practice sound conservation policies and practices within the scenic rivers system. Under the act, DCNR is required to study, conduct public hearings, and submit to the Governor and to the General Assembly proposals for the designation of rivers or sections of rivers as components of the Pennsylvania Scenic Rivers System. Rivers designated as part of the System are classified as one of the following: wild, scenic, pastoral, recreational, and modified recreational.

Wild Resource Conservation Act

The Wild Resource Conservation Act of 1982 provides for the preservation and enhancement of flora and fauna species, including those that are rare or endangered, which are not commonly pursued, killed or consumed either for sport or profit. The act directs DCNR to conduct an investigation to determine the status of wild plants; creates an enforcement system to protect endangered, threatened, and vulnerable wild plant species; creates a permit procedure for persons interested in wild plant management; creates a commercial license procedure for persons who purchase vulnerable plants with the intent to sell them; and authorizes DCNR to create a statewide system of private wild plant sanctuaries. The regulations establish a plant classification system, create permit and license procedures, establish restrictions regarding threatened, endangered, and vulnerable plants, and provide for the designation of sites as private wild plant sanctuaries.

To carry out the WRCA purpose, the act creates a Wild Resource Conservation Fund supported by voluntary contributions. The Department of Revenue is directed to provide a check-off on the Pennsylvania State income tax return forms so that voluntary

contributions to the fund may be made from income tax refunds. The act also authorizes raising money for the fund by the sale of items of personal property.

Land Acquisition and Borrowing Act

Land Acquisition and Borrowing Act of 1964 authorizes the Commonwealth and political subdivisions to acquire suitable lands for recreation, conservation and historical purposes by eminent domain. Under the act, no lands acquired through the act may be disposed of without the General Assembly. Funding for conservation land acquisitions was authorized by the law to issue $70,000,000 bonds for the acquisition of land for State parks, reservoirs and other conservation and recreation and historical preservation purposes, and for participation by the Commonwealth with political subdivisions in the acquisition of land for parks, reservoirs and other conservation and recreation and historical preservation purposes.

Recreation of Land and Water Act

The Recreation of Land and Water act of 1966 was passed "to encourage owners of land to make land and water areas available to the public for recreational purposes by limiting their liability." For landowners to be granted protection through the state court system from simple negligence for injuries arising out of the free recreational use of lands and waters, lands and waters must largely be unimproved and no admission fee be charged. Landowners can still be liable for "willful or malicious failure to guard or warn against a dangerous condition."

PENNSYLVANIA WATER QUALITY LAWS AND REGULATIONS

While Congress authorized the EPA to set the national standard for water quality planning and management, EPA delegated day-to-day implementation of these programs to the states. During initial CWA water quality management efforts, many states did not have environmental protection agencies. Wastewater management responsibilities fell to agencies with existing wastewater-related responsibilities, frequently involving states' health departments. Pennsylvania's water quality programs are implemented through legislation and regulations. Since the EPA established national standards for water quality programs, implementation of the EPA's Clean Water Act at the state level generally follows the framework found in the federal regulations.

Clean Streams Law

The State's Clean Streams Act of 1937 was enacted as a result of the increasing public awareness of municipal and industrial pollution and demand for improvements. This was one of the first water pollution control laws in the nation. The Clean Streams Law decree was to "preserve and improve the purity of the waters of the Commonwealth for the

protection of public health, animal and aquatic life, and industrial consumption and recreation." The legislation brought industrial wastes under legal prohibitions for the first time by limiting and controlling sewage discharges, and included prohibitions against petty pollutants, and eliminated a previous exemption of municipal sewer systems in existence prior to April 22, 1905.

The Clean Streams Law updates authorize DEP to regulate water quality in Pennsylvania and affirm the need for unpolluted streams for economic and recreational reasons. It establishes a comprehensive watershed management and control program to prevent pollution, reclaim and restore polluted every polluted stream in the Commonwealth. (P.L. 1987, as amended, 35 P.S. §691.307(b) (1937))

The Clean Streams Act created the financial mechanism through bonds and penalties to implement and enforce public works to remediate polluted waters by regulating sewage and industrial waste discharges, including mining operations.

Article II, "Sewage Pollution" prohibits any unpermitted discharges of any kind. The "Municipal Sewage" section establishes that the PADEP may "order such municipality to acquire, construct, repair, alter, complete, extend, or operate a sewer system and/or treatment facility" (Section 203 (a)) and can order a municipality to file a report about any of its wastewater systems and the effect of any sewage discharges.

PADEP must approve a construction plan for any new or expanded wastewater system that has a discharge, although if a municipal sewage plan has been previously approved that identifies s specific extension that will collect from 250 single-family dwelling units or their equivalent , a discharge permit is not required. "However, all such sewer extensions remain subject to any conditions imposed by the department, the municipality or any municipal authority whose interest may be affected by the sewer extension." (CSL Section 207 (b)).

Title 25 Chapter 93 - Water Quality Standards

The Pennsylvania Department of Environmental Protection has developed Water Quality Standards for all surface waters in the Commonwealth to implement the state's Clean Streams Law and other statutes that authorize protection of surface water quality. The standards are designed to safeguard water quality, include use designations, and water quality criteria necessary to protect these uses. All Commonwealth waters must be free of any substance in a concentration that is "inimical or harmful to the water uses to be protected or to human, animal, plant or aquatic life," (25 Pa. Code -93.6 (a). Chapter 93 states that "When an interstate …agency under an interstate compact…establishes water

quality standards regulations applicable to surface waters of this Commonwealth,... more stringent than those in this title, the more stringent standards stand."

Designated and Protected Uses

Pennsylvania has developed uses to be protected that include categories in Aquatic Life, Water Supply, Recreation and Fish Consumption, Special Protection and Navigation. Each use is classified as follows:

Aquatic Life Uses

Cold Water Fishes: Maintenance and/or propagation of fish species, including the Salmon family, and flora and fauna indigenous to a cold water habitat.

Warm Water Fishes: Maintenance and propagation of fish species and additional flora and fauna indigenous to a warm water habitat Migratory Fishes: Passage, maintenance and propagation of anadromous and catadromous fishes and other fishes which ascend to flowing waters to complete their life cycle.

Trout Stocking: Maintenance of stocked trout from February 15 to July 31 and maintenance and propagation of fish species and additional flora and fauna indigenous to a warm water habitat

Water Supply Uses

Potable Water: Used by the public or other water users that require a permit from the Department under the Pennsylvania Safe Drinking Water Act, after conventional treatment, for drinking, culinary and other domestic purposes, such as inclusion into foods, either directly or indirectly.

Industrial Water: For industry for nonfood products, processing and cooling.
Livestock Water: Supply for drinking and cleaning of livestock and poultry.
Wildlife Water Supply: Waterfowl habitat and wildlife drinking and cleansing.
Irrigation: Water for growing crops.

Recreation and Fish Consumption Uses

Boating: Power and sail boating, canoeing and rowing for recreational purposes.
Fishing: Fishing for sport, recreation and/or consumption.
Water Contact Sports: Swimming, kayaking and related activities.
Esthetics: an esthetic setting for recreational pursuits.

Special Protection Uses
High Quality Waters
Exceptional Value Waters

Other Uses
Navigation: Commercial transfer and transport of persons, animals and goods

Minimum Use
The minimum Statewide Water Use for all surface waters is warm water fisheries and potable (WWF/Potable). Exceptions are allowed, including socio-economic hardships resulting from the implementation of BMPs and when correcting a violation would cause more environmental damage than already exists.

Anti-degradation Regulation/Policy
The state's anti-degradation policies are not a specific action or program in the CSL, but a part of the Administrative Code as are all Commonwealth water quality standards. High Quality Waters and Exceptional Value Waters are designated uses in Pennsylvania and are provided special protection by the state. Exceptional Value (EV) is the highest level of protection afforded in the state and for waters that meet the most stringent chemical and biological criteria set forth by DEP. Only discharges of equal or better ambient water quality are permitted. An EV designation does not prohibit development. Best Management Practices (BMPs) are required to promote better planning and execution of development plans. The primary BMP for new developments in EV waters is to provide high quality treated water discharges or to use land application of such water. The High Quality (HQ) designation permits water quality degradation if a social or economic need can be proven.

For a new, additional, or increased discharge to an HQ or EV watershed, a cost-effective and environmentally sound nondischarge alternative is required. If a non-discharge alternative is neither cost-effective nor environmentally sound, the best available combination of treatment and technologies are to be used, plus assurance that any discharge is non-degrading.

PADEP will make a determination as to whether lower water quality is necessary to accommodate important social or economic justification (SEJ) development in the areas in which the waters are located. If an SEJ is approved, "PADEP will assure that cost-effective and reasonable management practices for nonpoint source control in HQ and EV waters are achieved. The "antidegradation best available combination of technologies" (ABACT) analysis, establishes a minimum level of performance for

dischargers in HQ and EV waters based upon the more stringent of water quality-based effluent limits (WQBEL) or ABACT. If ABACT produces a non-degrading discharge, the discharge can be approved in either HQ or EV waters. If implementation of ABACT would produce a degrading discharge, it cannot be used, without supplemental treatment, to ensure protection of existing quality in EV waters and could only be applied to HQ waters after approval of SEJ. Intergovernmental coordination and public participation is required to be included in the application process (PADep WQ Guidance, 2003).

Safe Drinking Water Act

The Safe Drinking Water Act provides safe drinking water by establishing standards for public drinking water and construction of public water systems. Permits are needed to construct, operate or substantially modify collection, treatment, storage or distribution facilities. Waterline extensions are excluded. Permit approvals are focused on sanitary facility design and public health. Local land use related to water infrastructure is not included in the law.

General requirements states that public water suppliers shall:

(1) Protect the water sources under the supplier's control.

(2) Provide treatment adequate to assure that the public health is protected.

(3) Provide and effectively operate and maintain public water system facilities.

(4) Take whatever investigative or corrective action is necessary to assure that safe and potable water is continuously supplied to the users." (PA Code Title 25 Chapter 109)

Pennsylvania Sewage Facilities Act

Pennsylvania Sewage Facilities Act (Act 537) of 1966 was enacted to correct e existing sewage problems throughout the Commonwealth and prevent future problems. The goal of the program is to determine whether wastewater is treated properly before discharge, and to prevent discharges of partially treated sewage into the surface or ground waters. Therefore, Act 537 requires proper planning and design of all types of sewage facilities, uniform design standards, and permitting of individual and community On Lot Disposal Systems (OLDS).

The sewage facilities program, "Act 537 program," is largely administered by individual municipalities, groups of municipalities, local agencies including County Health Departments and groups of local agencies (known as joint local agencies). These agencies receive technical and financial assistance and oversight from the PADEP.

Act 537 requires that all municipalities develop and implement a comprehensive "Official Plan" that: addresses existing sewage disposal needs or problems; accounts for future land development; and provides for future sewage disposal needs of the entire

municipality. Sometimes a these are "base" plans that includes: population figures and projections; drinking water supplies; waterways, soil types and geologic features; sanitary survey results; location, type and operational status of existing sewage facilities; local zoning and land use designations; estimates of the future sewage disposal needs; identification of rational and cost estimates of those alternatives.
Municipalities are required to revise their "Official Plan" if a new land development project is proposed or if unanticipated conditions or circumstances arise that make the base plan inadequate. The two types of plan changes are "Official Plan Revisions" resulting from new land development and can be from individual projects and "Update Revisions," used to substantive changes to their Official Plan. PA DEP reviews and approves the official plans and any subsequent revisions.

Local agencies are required to employ both primary and alternate certified Sewage Enforcement Officers (SEO). SEOs are responsible for operation their OLDS permitting program, and approve or deny permits for construction of onlot sewage disposal systems prior to any septic installation. Act 537 provides grants to municipalities and local agencies for costs associated with the Act 537 planning and permitting programs through the PADEP, which are passed annually by the legislature.

Two committees are established in the Act. The Sewage Advisory Committee (SAC) is the regulated community's advisory group to the Secretary of PADEP. SAC reviews existing and proposed rules, regulations, standards and procedures. PADEP was directed to establish an Environmental Quality Board (EQB) to adopt regulations establishing Commonwealth-wide standards for sewage disposal facilities.

Act 537 does not give DEP authority to make permitting decisions or deny private requests for revisions based on inconsistencies with local land use plans and ordinances. Primary method of disposal related to environmental constraints and available treatment capacity and not land use and zoning matters.

Environmental Stewardship and Watershed Protection Act
Environmental Stewardship and Watershed Protection Act which was followed by the Growing Greener initiative of 1999 AND addresses; pollution of watersheds from acid mine drainage, atmospheric deposition, urban and agricultural runoff; the need for new and improved water sources and sewage treatment; environmental degradation in state parks and forests; and promotion of greenways, recreational trails, fish and wildlife habitats, and scenic environments. Preference is that local problems be addressed at the local level. Funding is provided for projects through the Environmental Stewardship Fund.

Safe Drinking Water Act

Under the Safe Drinking Water Act the US EPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. The 1996 amendments to the Federal Safe Drinking Water Act requires states to produce Source Water Assessments (SWAs) and Source Water Protection Plans (SWPP) for all their public water systems and to make the results of those assessments available to the public. These assessments involve a process whereby water suppliers, watershed organizations, and other stakeholders identify the protection priorities of the water supply. Water suppliers are required to make this information available to the public in their Consumer Confidence Reports to help the public understand the source of their drinking water and the standards that must be met to protect it. As part of the federal requirement to conduct SWAs, the Pennsylvania Department of Environmental Protection seeks to involve all water suppliers and communities in the SWA process.

PENNSYLVANIA LAWS & REGULATIONS IMPACTING GROUNDWATER and WATER SUPPLY

General Pennsylvania Groundwater Law

Pennsylvania's groundwater law was established at the beginning of the Industrial Revolution to promote economic growth and development. The Pennsylvania Common Law is based on the "American Rule", in which landowners may withdraw percolating groundwater from beneath their property for any "natural and ordinary" use without regard for neighboring users (Abdalla). The American Rule was not designed to deal with conflicts between competing users, drought conditions or areas where groundwater resources are declining. (Abdalla).

Court decisions about liability in relation to groundwater withdrawals are not consistent. Court rulings can range from finding the landowner liable for damages when the withdrawal interferes with other users; and other court decisions have ruled in favor of the landowner thus requiring that the effected party to drill deeper wells and install more powerful pumps.

Pennsylvania's Common Law system, also includes the "natural flow doctrine" that states an owner of lowlands must accept all the diffuse surface water that flows naturally onto the property from uplands. Diffuse surface water is classified as water that does not flow within a defined channel and consists of water resulting from precipitation. This doctrine falls under the assumption that the upland landowners do not increase or change the

amount, speed, or direction of the flow. If there are changes to the amount, speed, or direction of the flow the upland landowner may be liable.

The "common enemy" rule also falls under Pennsylvania's Common Law, which addresses the drainage of diffuse surface water runoff in developed areas. Landowners may use this water, but in most cases landowners wish to have the water leave their property. The "common enemy" rule allows all landowners equal rights to improve their property and change the natural flow as necessary as long as it is reasonable (and the water is not transported to the lower lands by artificial channels or ditches) regardless of what it may effect adjacent or lowland landowners.

Water Rights Act

The Water Rights Act of 1939 statute addresses water acquisition and allocation. DEP sets the allocations and withdrawal limits for public water suppliers utilizing surface water sources. DEP allocates water among public water supply agencies, meaning public utility corporations, municipalities, districts and authorities vested the power to supply water to the public. Commercial and industrial withdrawals do not require a DEP permit for surface water allocations. DEP reviews applications to determine whether the proposed use will conflict with rights of any other public water supply agencies. DEP does not review groundwater withdrawals from any water from dug, drilled, bored, jetted or driven wells and infiltration galleries as well as springs which emerge at the surface within the confines of a springhouse.

In certain cold-water streams, DEP follows a department-wide, standard process for protecting aquatic resources and related stream uses, when approving acquisitions of water rights. This policy establishes a method for determining appropriate protective flows in certain cold-water streams, of generally 100 square mile drainage area or less, that support naturally reproducing trout populations. The policy enables DEP to condition surface water allocation permits to prevent degradation of such Special Protection waters and to maintain and protect existing and designated aquatic life uses defined in Chapter 93.

These regulations do not apply to or regulate groundwater withdrawals. Water infrastructure and land use concerns are not addressed in the law. DEP does not regulate amount of commercial and industrial withdrawals or other withdrawals than public water suppliers.

Water Resources Planning Act

The Water Resources Planning Act of the 2002 commonly referred to as Act 220, requires the development of a new statewide water resources plan (State Water Plan) by

the end of 2008, and requires that the plan be updated every fives years thereafter. Plan development includes an analysis of water supply and demand, as well as a public process. Additional provisions include a statewide water use data system, water registration and reporting of all water users of 10,000 gallons a day or more (within a 30 day period) and a water conservation technical assistance center.

The Pennsylvania Water Resources Planning Act established a statewide water resources committee and six regional water resource committees. The committees consist of a broad representation of business and industry, agriculture, local government, and environmental interests and are working to identify potential problems with water supply or conflicts among water uses and users. The statewide committee will prepare and amend the State Water Plan. Regional committees will prepare and amend regional plans, which will then become elements of the State Water Plan.

Critical Water Planning Areas

Act 220 also pays particular attention to Critical Water Planning Areas (CWPAs), areas where water resources may be limited due to natural or human constraints. Any person or organization can nominate a hydrologic unit or watershed as a CWPA. Once reviewed and designated as a CWPA by the regional and statewide committees, a Critical Area Resource Plan (CARP) is developed to identify particular management strategies that will balance current or projected uses and existing supplies, and to improve water resource conditions.

The Act does not allow political subdivisions (townships, boroughs, cities, or counties) to allocate water resources or regulate water withdrawals. The act does allow the local governments to control land use under the Pennsylvania Municipalities Planning Act and other laws. Because land use and water resources go hand-in- hand, municipalities are able to access water use and supply information that is generated through the planning process to make appropriate land use decisions. The act does not regulate water infrastructure.

Water Well Drillers License Act

The Water Well Drillers License Act of 1956 purpose was to provide the Commonwealth with information on Pennsylvania's groundwater resources. Well drillers are to record and file information on well locations, rock types, well design, and yield data for each well drilled. The information could provide basic data for geologic mapping and groundwater investigations to be used for estimating groundwater availability, management and protection.

The act requires water well drillers to obtain an annual license from DCNR, that allows a driller to operate one drilling rig and for every additional rig operated during the license year a rig permit fee is collected. The driller must submit construction information to the well owner and also to the DCNR. No license is required if the rig is on land owned or leased by the well driller and the well is for farming or residential purposes. The act requires drillers to keep records of each well, and to make them available to DCNR upon request. The act also requires drillers to file with DCNR a notice of intention to drill, within 24 hours of making a contract to drill a well. There is no enforcement to administer this act, and many wells go unreported each year. DCNR implements this act through Pennsylvania Code Title 17 Chapter 47.

Pennsylvania is one of the only states that does not have regulations that impose well construction standards and does not address water quality or quantity. Licensed driller are NOT required to demonstrate knowledge of proper drilling or well construction practices in order to become licensed. There are no statewide construction standards for domestic supply wells. Local township or county governments may have applicable ordinances. Pennsylvania has developed construction standards only for public water-supply wells.

PENNSYLVANIA STORMWATER REGULATIONS – WATER QUALITY and QUANTITY

Pennsylvania Storm Water Management Act

The Pennsylvania Storm Water Management Act of 1978 (Act 167) provides the legislative basis for statewide stormwater management. The legislation stated that due to, in adequate management of stormwater runoff from development throughout a watershed, flood flows increase, causing soil erosion and sedimentation "overtaxes the carrying capacity of streams and storm sewers, greatly increases the cost of public facilities to carry and control storm water, undermines flood plain management and flood control efforts in downstream communities, reduces groundwater recharge, and threatens public health and safety."

The legislature asserted that a " comprehensive program of stormwater management, including …regulation of development and activities… is fundamental to the public health, safety, and welfare and the protection of the people of the Commonwealth, their resources and the environment.

Section 3 states that the policy is the "preservation of natural storm water runoff regimes, groundwater and groundwater recharge areas." The Act's purpose is to:

1. Encourage planning and management of stormwater runoff in each watershed which is consistent with sound water and land use practices.

2. Authorize a comprehensive program of stormwater management designated to preserve and restore the flood carrying capacity of Commonwealth streams; to preserve to the maximum extent practicable natural storm water runoff regimes and natural course, current and cross-section of water of the Commonwealth; and to protect and conserve ground waters and groundwater recharge areas.

3. Encourage local administration and management of stormwater consistent with the Commonwealth's duty as trustee of natural resources and the people's constitutional right to the preservation of natural, economic, scenic, aesthetic, recreational and historic values of the environment.

The Pennsylvania Department of Environmental Protection (DEP) administers the Commonwealth's stormwater management program, which requires stormwater be treated to the maximum extent practicable. Modeled after the federal National Pollutant Discharge Elimination System (NPDES) program, Pennsylvania's program establishes permit requirements for construction sites disturbing more than one acre, industrial sites, and Municipal Separate Storm Sewer Systems (MS4s).

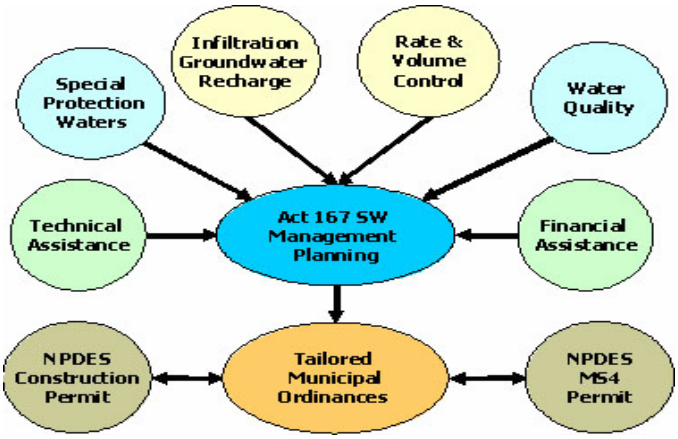
In Pennsylvania, most NPDES permits are administered by county conservation districts through delegation agreements with the Pennsylvania Department of Environmental Protection (DEP). Conservation districts process and authorize the permit applications, conduct site inspections, respond to complaints, and in certain circumstances, conduct enforcement actions.

Stormwater management in Pennsylvania has been an evolving process. When the original legislation was passed, the intent was to basically get water of the land. In 1980, amendments addressed controlling the peak rate of discharge to protect downstream persons and property. Watershed stormwater management was introduced to prevent downstream flooding. Where watershed boundaries included land in more than one county, DEP reserved the right to require counties to develop joint plans.

As technologies improved and knowledge about the impacts on hydrologic integrity from landscape alterations become evident, DEP is using a multi-pronged approach with

stormwater management as a means to ameliorate numerous water issues. Currently, "comprehensive" stormwater management seeks to minimize increases in runoff volume, control peak discharge rates, maintain groundwater recharge, and protect water quality. In 2002, DEP issued the Comprehensive Stormwater Management Policy, DEP Policy No. 392-0300-002 that began the integration of various stormwater management programs and promotion of a comprehensive watershed approach to stormwater management. The Pennsylvania Stormwater Best Management Practices Manual was released in December 2006 to assist with the implementation of the Policy. The stated goal of the Manual is "to protect, maintain, and improve the Commonwealth's water resources, while allowing for the continued growth and development of Pennsylvania."

Figure: DEP BMP manual



The Manual describes a stormwater management approach to land development that:
Emphasizes reducing the impacts of development activities through planning and development techniques that avoid potential impacts to watershed resources; and minimizes and mitigates any unavoidable impacts through the use of both structural and non-structural best management practices

Water quality issues are presented as desirable Stormwater Management Standards:
In Special Protection Waters – No measurable change in post-construction stormwater runoff volume, rate and quality.

In Waters other than Special Protection – No loss of the existing use from any change in post construction stormwater runoff volume, rate and quality

Recommended Approach to Achieve the Standard: Post construction stormwater runoff volume, rate, and quality should mimic pre-construction stormwater runoff volume, rate, and quality to the maximum extent possible.

Sustaining baseflows and groundwater recharge through best management practices include systems which infiltrate and provide for groundwater recharge. Preventing stream bank erosion and overall stream impact with related aquatic biota damage by minimizing flow velocities will prevent erosion.

The Act distributes the responsibilities of stormwater planning among counties, municipalities and the state. Counties ability to plan on a regional basis is easily transferred to watersheds that typically encompass many local municipalities. Therefore, counties have the responsibility of preparing and implementing watershed based stormwater management plans for all watersheds within its boundaries. Stormwater plans are to be updated every five years. Municipalities must adopt and enforce stormwater ordinances in conformance with the plans. DEP provides financial and technical assistance, including model ordinances, guidelines, and the BMP manual. The unusual "sharing" of power and authority between levels of government was designed to provide flexibility to address the specific characteristics of each watershed.

PENNSYLVANIA AGENCIES ENGAGED WITH WATER ISSUES

Pennsylvania Department of Environmental Protection

The Department of Environmental Resources was the state's first environmental department, established in 1971, (DER). In 1995, the Pennsylvania General Assembly enacted the Conservation and Natural Resources Act (Act 18), which split DER into two agencies, the Department of Environmental Protection and the Department of Conservation and Natural Resources (DCNR). The Pennsylvania Department of Environmental Protection (DEP) was given the authority to discharge its regulatory obligations to promulgate regulations pertaining to the environment, and then administrate, implement and enforce its regulations. The DCNR was given the authority to manage the state's public lands, state forests, parks, and outdoor recreational facilities. (Mattioni). DEP is not directly involved in administering public properties.

The DEP's mission is to protect Pennsylvania's air, land and water from pollution and to provide for the health and safety of its citizens through a cleaner environment. The DEP

works as partners with individuals, organizations, governments and businesses to prevent pollution and restore natural resources.

Pennsylvania Environmental Quality Board

The Pennsylvania Environmental Quality Board (EQB) is an independent body of DEP that develop a master environmental plan for the state; adopts rules and regulations that govern DEP; advises DEP on policy matters; and receives petitions for the issuance, amendment, or repeal of any regulation administered or enforced by DEP" (Mattioni).

Although most environmental regulations originate within DEP, as a result of federal regulations, once the EQB has reviewed the DEP draft regulations, it votes to approve or disapprove them for publication within the Pennsylvania Bulletin as proposed regulations. When approved by the EQB, there is a 30-day public comment period following publication.

Pennsylvania Department of Conservation & Natural Resources

In July 1995, the Pennsylvania Department of Conservation and Natural Resources (DCNR) was formed and with its two primary bureaus (out of 8), inherited two land management agencies dating back over 100 hundred years, Pennsylvania Forest and Parks Bureaus. The state's present conservation programs are a response to the devastating effects of clear cutting forests and contaminated rivers from a century ago. Its mission today is to maintain, improve and preserve state parks; to manage state forest lands to assure their long-term health, sustainability and economic use; to provide information on Pennsylvania's ecological and geologic resources; and to administer grant and technical assistance programs that will benefit rivers conservation, trails and greenways, local recreation, regional heritage conservation and environmental education programs across Pennsylvania.

Recognizing the $30 million timber harvesting brings to the state, the $1 billion dollars the state's natural gas reserves has generated since 1955, and over $4 billion generated from the outdoor leisure and recreation (1997 as of 2001, economic importance of the state's natural resources DCNR has evolved into an advocate for the natural resources and taken an active leadership role around land and water issues. DCNR also asserts that the state's natural resources will provide the basic building blocks to "build sustainable and attractive communities." (DCNR, 2003)

DCNR is also committed to using the "best science and technology" to guide natural resource management and is supporting economic development through the sound

management of natural resources and increased outdoor recreation tourism opportunities. The Department has concluded that a "lack of planning and intergovernmental coordination threatens these resources and contributes to the decline of Pennsylvania's communities." DCNR is committed to supporting "regional and county level planning that conserves natural and heritage resources and promotes recreation and by directing its financial resources and technical assistance to these efforts.

DCNR Initiatives

Conservation Landscape Initiatives (CLI)

Enhancing inter-departmental and regional stakeholder coordination to meet local conservation challenges and opportunities through a seamless integration of DCNR resources and outdoor recreation opportunities on DCNR managed lands. Two CLIs already identified and operating include the Pocono Forest and Waters and Kittatiny Ridge.

State Comprehensive Outdoor Recreation Plan (SCORP)

Working with other state and regional partners, DCNR is developing a comprehensive plan to optimize the economic, public health, and cultural values that Pennsylvania's natural resources and outdoor recreational opportunities provides its citizens.

DCNR Water Resource Planning

One of the original purposes for establishing the state forest system was to protect forested watersheds, and this remains part of the Bureau of Forestry's mission today. DCNR recognizes that as water usage and environmental pressures increase, developing appropriate policies for managing Pennsylvania's water resources is critical to the Commonwealth's towns, cities, and natural resources, now and in the future. DCNR has formed an internal working group to advance the Bureau of Forestry's management of water resources. Specific tasks and accomplishments include:

- Partnering with other agencies to establish data and interpretation gaps and needs to address aquatic resource sustainability.
- Established a multi-agency PA Instream Flow Advisory Committee (TAC);
- Data collection from the three new stream gauging stations
- Analyze, monitor, integrate, and modify (if needed), information generated from the DEP State Water Plan.
- Initiate a needs assessment for both the hydrogeologic and aquatic life issues with the USGS based on work done to date.

- Develop procedures for evaluating requests for water well development on State Forest Land based on a groundwater inventory and water budget.
- Develop consistent policies for administering water leases.

Pennsylvania Aquatic Community Classification

The Pennsylvania Aquatic Community Classification Project developed and applied standardized aquatic ecosystem classifications and reference conditions, which will allow conservation planners to identify, characterize, and map existing locations of freshwater plants and animals and their habitats across the state. The project will help identify the highest priority areas for aquatic resource conservation as well as augment and strengthen statewide conservation programs. Additionally, it will provide important data to watershed groups and other organizations to assist local watershed planning, protection and restoration efforts.

Aquatic Habitat Buffer Guidelines

Aquatic Habitat Buffer Guidelines were evaluated to improve the format of existing guidelines, assure adequate protection of ecosystem resources, clarify management options, and ensure compliance with Forest Stewardship Council requirements. The water resources section of the water resource plan will be updated to include links to current management plans for Wild and Scenic rivers that flow through State Forest lands. Wild and Scenic River plans supersede other management plans as specified in the revised Aquatic Habitat Buffer Guidelines.

Bureau of Forestry

The state forest supports a forest products industry that employs in excess of 80,000 people with sales in excess of $16 billion annually, and a total economic impact of $27 billion annually, The state forest represents a two million acre water treatment plant and air purification system and provide recreational opportunities and mineral resources, as well as an aesthetic setting that is vital for Pennsylvania's tourism industry.

In order to ensure the long-term health, viability and productivity of the Commonwealth’s forests and to conserve native wild plants, in 2003 the Bureau of Forestry implemented an Ecosystem Management and Forest Certification approach, where all aspects of an ecosystem are intrinsic to a functional natural system. The overarching goal of forest sustainability in turn assures the array of resources, uses, and values for current and future generations.

Services provided include resource planning and information, forest fire protection, forest pest management, operations and recreation, ecological services, minerals, rural and community forestry, silviculture, field operations, and Penn Nursery.

Pennsylvania State Parks

The primary purpose of Pennsylvania State Parks is to provide opportunities for enjoying healthful outdoor recreation and serve as outdoor classrooms for environmental education. In meeting these purposes, the conservation of the natural, scenic, aesthetic, and historical values of parks should be given first consideration. Stewardship responsibilities should be carried out in a way that protects the natural outdoor experience for the enjoyment of current and future generations.

Pennsylvania Game Commission

The Pennsylvania Game Commission is responsible for managing the Commonwealth's wildlife resources. The Pennsylvania Game Commission was formed in 1895 although the first seasonal hunting limits were set in 1721. The Game Commission enforces hunting and trapping laws (Title 34 Game and Wildlife Code) to protect wildlife; investigate hunting accidents; conducts wildlife surveys; assists in wildlife research projects; and provides educational programs. In addition to citing for violations within the Game and Wildlife Code, Wildlife Conservation Officers are also empowered to enforce the Fish and Boat Code, Forestry Laws and Pennsylvania's Crimes Code; they also frequently assist local and state police. The Commission also annually reviews hundreds of land development permit applications (road, bridge, building construction) for wildlife impacts. If problems are apparent, the agency recommends ways to reduce or eliminate wildlife conflicts.

Wildlife habitat management is one of the most effective and important ways to manage wildlife. To ensure wild animals always have food and shelter, the agency, since 1920, has been purchasing lands for inclusion in its State Game Lands system, which currently contains about 300 separate tracts comprising a total of more than 1.4 million acres within the Commonwealth. Many Game Lands have wetlands, streams, ponds or other aquatic environments present. Each State Game Land has an individual management plan designed to improve wildlife habitat and provide recreational opportunities. Portions of State Game Lands #38 and State Game Lands #168 are located within the Pocono watershed. (Pennsylvania Game- Web site)

Pennsylvania Fish and Boat Commission

In 1866 the Pennsylvania Fish and Boat Commission (PFBC) was established to protect, conserve and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities. In addition to managing the Commonwealth's boating activities and game fish; other fishes such as baitfish and fishbait (aquatic insects and other macroinvertebrates), reptiles, amphibians are also managed and protected by the PFBC. The PFBC has the authority under Title 30 Fish and Boat Code to enforce and cite for violations.

Various permits and plans required by local, State and Federal regulatory authorities for proposed development or disturbances are also reviewed buy the PFBC. These permits include the DEP's Chapter 105 and the U.S. Army Corps of Engineers' section 404 permits for stream or wetland encroachments; the DEP's NPDES permits for stormwater releases; and County Conservation District Erosion and Sedimentation (E&S) Control permits or plans. Comments are provided to the appropriate regulatory agency about potential risks to jurisdictional species and their habitats and recommend ways to avoid, minimize or mitigate potential harm. This function is consistent with the Commission's "Resource First" mission.

The PFBC's, natural diversity section completes species impact review (sir) to identify the potential disturbance or harm from a proposed project to a species of concern or its habitat. This search is completed through a computer database for species of special concern listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, the Pennsylvania Fish and Boat Code or the Wildlife Code.

The PFBC also has the ability to write citations to protect water resources from erosion and sediment control issues, (including development, roads, logging operations etc), trash dumping, and the mismanagement of oil and gas wells (Pennsylvania Fish – web site).

PENNSYLVANIA GOVERNMENT ENGAGED WITH LAND USE AFFECTING WATER

The "shed" in watersheds is land. The relationship between land and water is inextricable. Land is where the terrestrial mechanics of the water cycle takes place. Land provides the medium for water to flow, infiltrate, and transpire. How land is used determines how the watershed functions. Land uses upstream affect water conditions

downstream. How the land is used determines its waters' quality. Land uses also impacts the availability of water for human and aquatic uses.

Determining how land is used is a local government function in Pennsylvania, but the legal procedures and processes used in land use decision making are determined by state powers. Although referred to as a 'home rule' state, Pennsylvania, as the state, remains sovereign and municipalities are subject to the plenary power of the state. The state delegated its authority to act in municipal affairs to the municipal governments. This transfer of state powers to local municipalities only granted limited independence to municipal government when the rules and regulations as to how municipalities will exercise self-sufficiency were written. Local municipalities are obligated to comply with uniform state laws, such as the Sewage Facilities Act (Act 537), Clean Stream Law, Flood Plain Management Act and other state environmental laws.

There are 12 agencies required to consider local land use planning prior to making decisions. Through policies and programs the Commonwealth and its Executive offices can have an immense influence on the types of land use decisions local officials make. Leaders in Pennsylvania have acknowledged that the existing rules and regulations written during the days of first moon landing occurred or when disco was popular are not appropriate for the world we live in today. During the past decade, efforts have been made to systematically organize and coordinate state agencies, programs and funding throughout the government to balance economic growth, development and natural resources.

Executive Initiatives

During the last decade, both Governors recognized that in order for Pennsylvania to remain competitive in the global economic market while maintaining the state's natural resource base doing business "as usual" was not in the best interests of the state and its citizens. Governors have developed strategies to reposition the state for economic growth while recognizing the need to protect a major economic engine in, natural resources. A number of policies with common themes have come out of both administrations, such as:

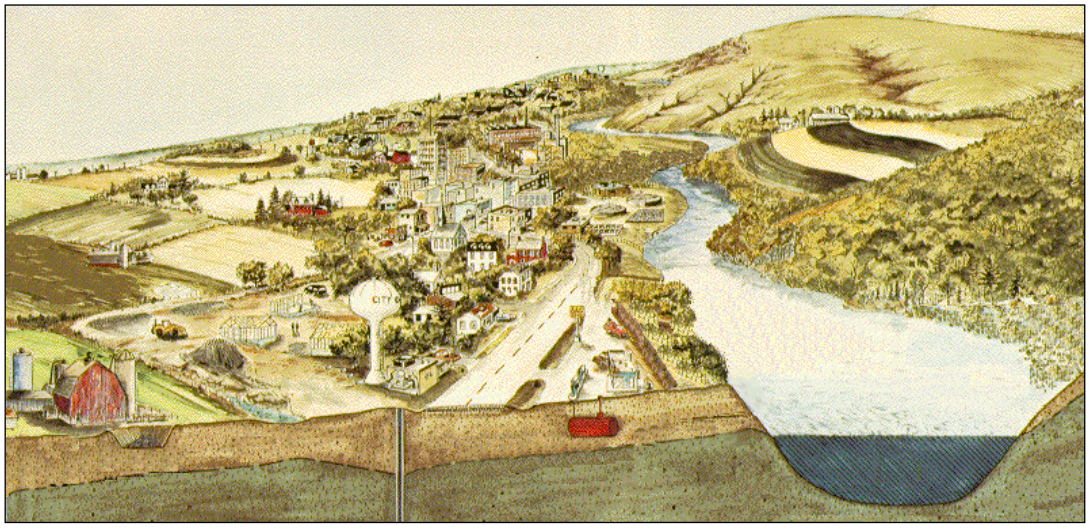
- A strong 'voluntary compliance' ethic that promotes meeting environmental regulations
- Sound science as a basis to make decisions

- Outreach and education to all levels of government and the public about state policies and programs to support and promote policies
- Strong public participation in permit decisions and the development of environmental policies, regulations and legislation; and regulatory reviews
- Promotion of green technologies

Governor Thomas Ridge Administration

Governor Tom Ridge campaigned on overhauling the existing environmental protection programs while ensuring that public and private resources were directed to rational economic development approaches.

The tourism industry was the second largest in the state at that time and generated over $4 billion annually. Ridge's office understand that economically it made sense to keep the air and water clean since treating polluted resources is more expensive. His vision was to restore Pennsylvania as a world leader in industry again, only in the 21st Century the basis for such a position would be for "green technology."



Source: Institute of Water Research, Introductory Land & Water Learning Module (ILM) website

Governor Ridge tackled the challenge of invigorating the economy and protecting the state's natural resource base by overhauling the existing Department of Environmental Resources. The old was replaced by 2 agencies, the Department of Environmental Protection to concentrate the state's resources on protecting our environment and a

Department of Conservation and Natural Resources to act as a cabinet-level advocate for State Parks and Forests and to better management of the Commonwealth's recreation, natural and river environments. Non-environmental functions such as restaurant inspections, sanitation of migrant labor camps, swimming pool inspections, vector control and shellfish inspection programs were reassigned to more appropriate departments of state government. He also created the 21st Century Environmental Commission to analyze and identify environmental priorities and recommend changes to laws and regulations to address the use of best land management practices across the Commonwealth.

Governor Ridge also created the Governor's Center for Local Government Services "…as the principal state entity responsible for land use assistance and monitoring…" (by Executive Order 1997-4) to support the implementation of his administrations policies. The new center was the designated as the principal state entity responsible for land use assistance and monitoring. He presented his administration's policy to be the guide for "all Commonwealth agencies when making decisions that impact the use of land in Pennsylvania." Matters of consideration to be used as guidance included:

1. Soundly planned growth is in the best long term interest of the Commonwealth and should be encouraged at all levels of government.

2. Farmland and open space are valued Commonwealth natural resources and reasonable measures for their preservation should be promoted.

3. Development should be encouraged and supported in areas that have been previously developed or in locally designated growth areas.

4. Because land use decisions made at the local level have an impact that expands beyond municipal boundaries, regional cooperation among local governments should be encouraged.

5. The constitutional private property rights of Pennsylvanians must be preserved and respected.

6. The Commonwealth shall work to improve the understanding of the impact of land use decisions on the environmental, economic, and social health of communities.

7. Sustaining the economic and social vitality of Pennsylvania's communities must be a priority of state government.

8. Infrastructure maintenance and improvement plans should be consistent with sound land use practices.

The same executive order charged the Governor's Center for Local Government Services to:

1. Develop an inventory of sound land use practices and make the inventory available to interested local governments and developers.

2. Assist local governments seeking to implement the land use objectives of the Commonwealth.

3. Advise the local governments of the existing tools available to manage growth within their communities.
4. Encourage local governments to cooperate with neighboring municipalities and the county when planning and zoning.

5. Assist, in conjunction with the Governor's Green Government Council, other state agencies in identifying laws, regulations, practices or policies, including the disbursement of public funds, that will advance the Commonwealth's land use objectives.

6. Partner with the Department of Education to identify opportunities for local education agencies to incorporate land use education into curricula.

7. Work in conjunction with the Governor's Greenway Commission to support the incorporation of the statewide Greenways Plan into local and regional land use planning strategies.

8. Form advisory committees that will help the Center develop and disseminate the inventory of sound land use practices.

9. Report annually to the Governor on land use trends in Pennsylvania and make recommendations, if appropriate, regarding changes in law or policy to support the land use policy goals of the Commonwealth.

Governor Edward Rendell Administration

The Rendell administration's primary efforts have been economic development supported by sound land use to strengthen Pennsylvania's long term economic prospects. Governor Rendell continued the work begun in the previous administration. He reauthorized the Economic Development Committee of the Cabinet, and directed it to:

- Coordinate programs and policies affecting economic growth, job creation and retention, and workforce development across state agencies.
- Develop policies and programs to foster business development and job creation.
- Evaluate and redirect, as necessary, the objectives of state economic development and tax policy.
- Establish the criteria for measuring the effectiveness of state policies and programs related to economic development, job creation, and community revitalization.
- Monitor market conditions that could affect economic development in the Commonwealth.
- Promote policies that encourage the wise stewardship and conservation of the natural resources of the Commonwealth. (Executive Order 2004– 9)

The Committee consisted of 13 agencies to identify what programs were impeding sound land use, resource conservation and economic growth and causes of negative environmental economic and social trends. The Committee was to develop policies and strategies for conserving land and open space, reusing previously developed sites, and rehabilitating existing infrastructure.

Interagency Land Use Team

The Interagency Land Use Team, was formed by the Economic Development Committee in order to use planning as an organizing principle to coordinate economic development and resource management. The Team organized 14 working groups to executive the Governor's directives: Infrastructure, Tourism & Infrastructure, Tourism & Recreation, Workforce Development, Energy & Recreation, Workforce Development, Energy & Technology, Manufacturing, Small Business, Technology, Manufacturing, Small Business, Health Care & Life Sciences, Agricultural & Agribusinesses.

After two years of work with ultimately 23 agencies, Governor Ridge presented the Keystone Principles and Criteria for Growth, Investment & Resource Conservation. The Principles are goal statements for the state and the criteria are specific implementation measures to achieve the goals. The Keystone Principles will be used by state agencies to guide investment and support local growth and economic development across the commonwealth. The Principles and Criteria are not to replace agency program criteria guidelines, but to be integrated to supplement existing programs. They are to be used to evaluate various project proposals in all agency programs. The criteria supplement, but do not replace, agency program guidelines.

A joint agreement among 10 state agencies explained how the Economic Committee will work with local governments when there are issues of consistency related to county and local or multi-municipal plans and ordinances. The land-use agreement creates a process to ensure that consistent county and local planning and zoning are considered in state agency permitting and funding decisions. The 10-agency agreement strengthens the ability of state agencies to consider and prefer projects that are generally consistent with local plans and ordinances. The agreement was developed by a consistency review committee of the Interagency Land Use Team It is modeled on the policy developed by DEP to respond to the 2000 Municipalities Planning Code amendments.

The primary areas of focus for Governor Rendell's policy and & program initiatives are:

- Revitalizing core communities – cities, boroughs, cities, boroughs, developed areas of townships.
- Reclaiming & reusing brownfields.
- Growing urban and rural economies through investments in sustainable, job-producing, regional asset based businesses.
- Coordinated investments across agencies.
- Promoting regional and multi-municipal planning with local implementation.

The Keystone Principles & Criteria for Growth, Investment & Resource Conservation were adopted by the Economic Development Cabinet and developed by the Cabinet's Interagency Land Use Team. Twenty-three state agencies and programs that play a role in land use, development and conservation crafted the principles and criteria.

The Principles & Criteria coordinates interagency efforts to promote sustainable development and resource conservation by favoring investments in complying communities. The principles are integrated into the agencies' existing criteria and used for consideration when evaluating projects for grants and loans. Guidelines have been developed to help local governments address consistency issues related to county and local or multi-municipal plans and ordinances.

Keystone Principles

1. Redevelop First: Revitalize cities and towns. Funding preference for reuse and redevelopment of "brownfield" and previously developed sites and rehabilitation of historic buildings and neighborhoods.

2. Provide Efficient Infrastructure: Fix it first. Use and improve existing infrastructure. Provide public water and sewer service for dense development in designated growth

areas. Use on-lot and community systems in rural areas. Require private and public expansions of service to be consistent with approved comprehensive plans and consistent implementing ordinances.

3. Concentrate Development: Support infill and compact development, that is integrated with existing or planned transportation, water and sewer services, and schools.

4. Increase Job Opportunities: Invest in businesses offering high quality jobs and that are located near existing or planned water & sewer infrastructure, housing, existing workforce, and transportation access (highway or transit).

5. Foster Sustainable Businesses: Support economic development that builds on existing industry clusters.

6. Restore and Enhance the Environment: Maintain and expand our land, air and water protection and conservation programs.

7. Enhance Recreational and Heritage Resources: Maintain and improve recreational and heritage assets and infrastructure throughout the Commonwealth.

8. Expand Housing Opportunities. Coordinate the provision of housing with the location of jobs, public transit, services, schools and other existing infrastructure.

9. Plan Regionally: Implement Locally. Support multi-municipal, county and local government planning and implementation that has broad public input and support and is consistent with these principles. Provide education, training, technical assistance, and funding for such planning and for transportation, infrastructure, economic development, housing, mixed use and conservation projects that implement such plans.

10. Be Fair: Support equitable sharing of the benefits and burdens of development. Provide technical and strategic support for inclusive community planning to ensure social, economic, and environmental goals are met.

State Planning Board

Another action Governor Edward G. Rendell took to was reactivating the Pennsylvania State Planning Board in 2004. The Board, first established in 1929, was reauthorized to establish it as an advisory board within the Governor's office with the following powers and duties:

- Conduct research and collect, compile and analyze data bearing upon social, economic, physical, demographic, and other factors which may influence the present and future welfare of the Commonwealth.

- Monitor national and State trends, identify issues of potential interest and concern to the Commonwealth and prepare for the Governor and the General Assembly an annual report.

- Develop strategic plans, programs and recommendation to promote and enhance the welfare of the Commonwealth.
- Solicit information and input from State and local government officials and private citizens in Pennsylvania as part of the process of developing strategic plans and programs.

The Governor appointed fifteen citizens representing diverse interests and regions of the state. By law, four legislative members appointed by the majority and minority parties in each house, as well as the Secretaries of Agriculture, Community and Economic Development, Environmental Protection, Natural Resources, Transportation and Public Welfare are also members of the Board. The Center for Local Government Services, Pennsylvania Department of Community & Economic Development, provided professional and administrative support to the Board and its committees.

The Board began its work in 2005 in response to the Governor's charge to examine and make recommendations in three areas:

> Conflicts among development, municipal, and conservation interests and needs on open space and infrastructure issues;
>
> Specific policies, such as criteria for state investments, incentives for more multi-municipal planning and implementation, attracting private investment, and tax and revenue sharing that will achieve smart growth goals for revitalization of cities and towns and sound economic development in rural communities; and
>
> Proposed options for improved governance measures that will enable Pennsylvania to compete more effectively for economic growth while improving the quality of life in Pennsylvania's diverse communities.

The Board's May 2006 report prioritized three priority areas for study; governance, infrastructure and economic development. Individual sub-committees were formed to address these priority areas. Recommendations include legislative changes involving transportation, infrastructure, and economic development issues, and endorse the planning process being initiated by state agencies to prioritize economic development projects and integrate them with transportation, infrastructure and land use decisions.

Governance Sub-Committee Report Summary

The Governance Committee's recommendations are intended to enable municipalities to work together more effectively to improve the Commonwealth's economy, quality of life, attract new residents, businesses and visitors to Pennsylvania. They've concluded that an energetic economy is the result of effective planning that coordinates investment and implementation by the state, county and local governments, municipal authorities and school districts. Below are some of the issues the committee noted and recommendations their report made related to a sustainable watershed management include:

Issue: Different approaches are needed to provide municipal governments with options to meet needs for service provision in their communities. Municipal authorities need to be able to enter into cooperative agreements with local governments. Currently, conflicts among the governing codes for cooperating municipalities cause confusion as to how new inter-governmental ventures can be legitimate.

Recommendation

Change the scope and improve the clarity of the Pennsylvania Intergovernmental Cooperation Law to enable additional cooperative ventures.

Amend the Pennsylvania County Code to:

- Provide clear legal authority for all counties to take on traditional local services in partnership with boroughs, cities and townships.

- Permit counties and boroughs, cities and townships to purchase particular municipal services from counties.

- Authorize boroughs, cities and townships to permit counties to establish special service districts and taxing authority, with citizen representation, in their area to provide municipal services in designated areas agreed to by the local municipalities.

Issue: Consistency of Planning and Implementation

Section 303 (c) of the MPC dramatically reduces the importance of comprehensive planning in Pennsylvania because it renders comprehensive plans legally powerless and prevents their appropriate use as the rationale for zoning, subdivision, and other land use ordinances and decisions.

Recommendation

Amend Section 303(c) to provide protection from challenges brought against developments that have been approved under existing, duly adopted ordinances, while still giving meaning to comprehensive plans.

Issue: Tax Base & Revenue Sharing

The cost of development often impacts facilities and services in multiple municipalities and school districts, but there is no clear means to use the new tax revenue to offset the increased costs of providing services to new development or to increase the tax base of all affected taxing jurisdictions.

Recommendation

Investigate new approaches for economic development, the concept of tax revenue sharing and additional authority for tax base sharing with the public.

Issue: Barriers to Jurisdictional Boundary Change

The Pennsylvania Constitutional amendments adopted in 1968 require that the Legislature enact laws that allow municipalities to be established, dissolved, merged, or consolidated. However, the laws governing mergers and consolidations are unclear and cumbersome, and they do not provide sufficient guidance to integrate or create new municipalities from the existing ones.

Recommendation

Amend County and municipal codes to establish procedures for municipal dis-incorporation as an intermediate step to merger or consolidation.

Amend the Municipal Consolidation or Merger Act to allow for merger or consolidation where municipalities have voluntarily agreed to such an initiative.

Transportation & Infrastructure Sub-Committee Report Summary

The Commonwealth should play a major role to facilitate planning for transportation and infrastructure to best support community economic growth, quality of life, and sound land use policies, and to be consistent at local, county, and state levels.

Issue: Common Terminology

A common understanding of infrastructure definitions is needed by state agencies and local governments that gives priority not only to water, sewer, and roads, but also to telecommunications and "natural" infrastructure.

Recommendation

The State Planning Board developed a definition inclusive of all elements of infrastructure to be used uniformly by all state agencies, and amended into the PA Municipalities Planning Code.

Issue – Infrastructure planning at a local level

Local comprehensive plans need to be more effective at infrastructure planning by strategically determining infrastructure capital investments, ensuring maximum economic and community impact from those investments, and coordinating planning for different elements of infrastructure.

Recommendation

Amend the Municipal Planning Code (MCP) to include necessary elements included in a well-prepared comprehensive plan. The State Planning Board developed specific suggested amendments.

Amend the MCP to include integration coordination of all infrastructure elements.

The DCED Governor's Center for Local Government Services needs to publish "Best Planning Guidelines" that go beyond minimum MPC requirements to describing best planning practices for transportation and infrastructure plans.

Issue: Multi – municipal plan implementation

Incentives are needed to encourage long-term partnerships through multi-municipal, county, and regional planning of infrastructure & transportation. While many municipalities have multi-municipal comprehensive plans, they have not routinely created lasting partnerships, proceeded to implementation, and produced positive results.

Recommendation

Create an incentive-based program using existing resources to push effective, results-oriented, coordinated and cooperative planning at a multi-municipal and/or regional scale.

NOTE: State Planning Board has outlined such a program.

Economic Development Sub-Committee Report Summary

Investing in natural resources and preserving agriculture as a means to improving the quality of life and revitalizing communities to spur economic development and sound land use. The State Planning Board supported these initiatives and recommended three areas of additional study to further strengthen the Commonwealth's approach to sustainable economic development.

Issue: Greater coordination among state agencies

There is need for greater coordination among state agencies regarding investment in economic development and land use initiatives. Programmatic and policy changes in state agency outreach and programmatic efforts for economic development will generate better development.

Recommendation

Commit to implementing common action items from recent initiatives supporting economic development through a comprehensive inter-agency strategy

Issue: Unidentified barriers to economic development exist at all levels of government

Sustainable economic growth requires a focused, intentional program if Pennsylvania is to succeed at long-term economic growth. Understanding the deficiencies and limitations of existing programs is essential to the formulation of a successful economic future.

Recommendation

Consult with private sector development professionals, local government officials, planning and economic development professionals to identify key barriers to economic development and recommend solutions.

Identify best practices in Pennsylvania that illustrate planning efforts and regulatory frameworks that support high quality and sustainable economic development projects.

Issue: Local comprehensive plans need to prioritize economic development projects

Local governments' capacity to develop and effectively use comprehensive plans can vary greatly. MPC requires local plans to identify "interrelationships among the various plan components," the economic impact of plans and future development. General statements are frequently substituted for effective plan preparation, analysis and prioritization of development projects.

Recommendation

Amend the PA MPC to include specific language that provides guidance for appropriate content of an economic development element of a well prepared comprehensive plan.

The DCED Governor's Center for Local Government Services will publish Planning Guidelines that go beyond minimum MPC requirements and describe how to prepare a substantive local comprehensive plan that effectively prepares economic development projects of significant community-wide impact.

Governor's Green Government Council

The Governor's Green Government Council is to help state government integrate environmental sustainability throughout its policymaking and operational processes. The council works in partnership with agencies throughout the Commonwealth and by extension with their constituencies, as a catalyst to stimulate the development and continuous improvement of environmentally sustainable practices in planning, policymaking and regulatory operations. It operates opportunistically, nurturing champions where it finds them in targeted areas. .

Chaired jointly by the secretaries of the Departments of Environmental Protection and General Services, the GGGC supports green teams within each agency. Teams comprise at a minimum the agency head or a deputy level alternate as the GGGC member, responsible for leadership, policy coordination and management facilitation and a middle management green team leader, responsible for managing implementation of the agency's greening initiatives and involving relevant staff as green team members. The council presents a report to the Governor annually on September 1 summarizing the past year's activity.

Governor's Sustainable Water Infrastructure Task Force

A priority concern of Governor Rendell's is Pennsylvania's aging infrastructure and the current funding gap the state faced to rebuild it. Rebuilding the state's water infrastructure requires nearly $11 billion in unmet drinking water infrastructure needs and at least $7.2 billion in unmet wastewater infrastructure needs, plus millions of dollars more in ongoing operation and maintenance costs. His Executive Order 2008-02 created a Sustainable Water Infrastructure Task Force to to consider new funding options and non-structural alternatives to capital upgrades, such as nutrient credit trading, water re-use and conservation.

In the task force's report, "Creating a Sustainable Solution for Pennsylvania, Sustainable Water Infrastructure (November 2008) it states, "Our water resources are interconnected

one community's wastewater becomes its neighbor's drinking water, highlighting the imperative to manage wastewater and to protect drinking water,"

Recommendations are generally in four areas:

I. Watershed Approach:

Regionalizing and "right-sizing" systems, through regional management and planning, shared purchasing, even shared staff. Incentives should be offered for regional cooperation. Also, new systems should not be permitted if they are not viable and new developments should be required to plan for future water and sewer needs.

Maximize land conservation and other such solutions

Incentives for Green Infrastructure, riparian forest buffers, rain gardens, green roofs and the restoration of flood plains. Such practices not only better protect source water, but as the report states, they also reduce drinking water treatment costs and use stormwater that would otherwise enter sewer systems.

Limit suburban sprawl and reinvesting in existing cities reduces demand for water resources and makes use of existing water infrastructure.

Promote low impact development, conservation design, and non-structural alternatives

Implement Integrated Water Resource Management, by coordinating Sewage and Water Facilities Planning and Permitting, State Water Plan and comprehensive planning

II. Consumer Ratable Cost Pricing:

Infrastructure Financing, requires adequate rates, consumer based, subsidy where necessary

III. Water Use Efficiency:

Operating efficiently, water systems should reduce leaks, achieve energy- savings and encourage customers to conserve.

Sewer systems should reduce the inflow of groundwater.

Promote and expand innovative approaches and technologies.

IV. Management:

Managing systems more effectively, through business planning, financial oversight, timely contractor payments and educating board members, managers and workers.

Allow for public-private partnerships and changing PUC rules so public systems can operate more effectively.

Managing assets, through long-term planning and requirements for setting up operation, repair and replacement funds

Education, not just the general public about the value and costs of water and sewer service, but also potential system operators. Pennsylvania systems generally employ on aging work force, with few trained operators ready to take the place of retirees.

Water and Sewers Systems Assistance Act

Water and Sewers Systems Assistance Act of 2008 Governor signed executive order 2008-02 creating a water infrastructure task force to ensure that Pennsylvania maintains a sustainable drinking water and wastewater infrastructure.

Pennsylvania Municipalities Planning Code

Authority for county planning in Pennsylvania is provided by the Pennsylvania Municipalities Planning Code, Act of 1968. The MPC, empowers local municipal governments, individually or jointly, to prepare comprehensive plans for development and to govern land use when there are no municipal master plans. The MPC provides an advisory role in local land use planning and regulation. Designed to promote public health, coordinate development, guide the use of land and facilities, and preserve natural resources.

Since 1989, counties are mandated to adopt comprehensive plans. It provides for the establishment of planning commissions, planning departments, planning committees and zoning and subdivision hearing boards to control the “location, character and timing of future development” (Section 301). It authorizes local governments to prepare capital improvement programs. Article VII-A allows joint municipal planning and zoning.

The Comprehensive Plan is an official public document that serves as a policy guide to decision making about physical development in the community. A comprehensive plan in Pennsylvania must have six elements; a statement of the municipality's vision for future development, a plan for the character and density of land use, along with a growth phasing plan, a community commerce, facilities and utilities element, plus a statement about the interrelationships of the plan components and the relationship of the plan's growth strategy to the surrounding communities as well as a discussion of long and short term strategies for plan implementation. Article V of the MPC addresses the regulations for subdivision and land development ordinances.

Municipalities must provide counties with the updates of their zoning ordinances (Section 608 – 609) comprehensive plans (Section 306) but Counties are not required to be a part of infrastructure planning. Counties in Pennsylvania are responsible for stormwater management, sewage facilities planning and solid waste. Primarily addresses water services to support growth and development. Only provides general authority to plan for sewer infrastructure.

Detailed provisions are not provided for sewage facilities or provide explicit authority to require consistency between municipal, multi-municipal, or county land use plans and ordinances and the sewage facility plans and revisions. Applications for new sewage facilities are rarely denied based on inconsistency with local sewer plans and land use plans and ordinances.

Pennsylvania Flood Plain Management Act

The Pennsylvania Flood Plain Management Act of 1978, (Act 166) requires municipal compliance with the federal National Flood Insurance Program (NFIP). NFIP compliance by municipalities limits new construction, development and major improvements in floodplain areas. The Act applies only to development within the 100 year floodplain, i.e. land located along a waterway that has a one percent chance of being flooded in a given year. This area is depicted on municipal floodplain maps created by FEMA. Municipalities respond by enacting floodplain management regulations that comply with the minimum standards of NFIP and regulations set forth by the Act. Municipalities are not prohibited from implementing more restrictive floodplain management regulations. Municipalities typically meet compliance by establishing floodplain districts in their zoning ordinances and with the issuance of building permits. The Act provides financial assistance to implement the NFIP. The state will reimburse municipalities for half of the cost of the enactment and revision of their floodplain ordinances.

Water and Sewers Systems Assistance Act

Water and Sewers Systems Assistance Act of 2008 in response to the Governor's executive order 2008-02 creating a water infrastructure task force to ensure that Pennsylvania maintains a sustainable drinking water and wastewater infrastructure. The funding of this act is to be administered by PENNVEST, which will provide grants and loans for the construction or repair of water supply and sewage treatment systems, or for the purchase of nutrient credits approved by the DEP. During the November 2008 elections voters to approved the Governor's $400 million bond program for the Act.

PENNSYLVANIA AGENCIES IMPACTING LAND USE

PA Dept of Community and Economic Development

Pennsylvania is the 18th largest economy in the world. Attractive to technology based companies and with more cross border projects than any other state, it is poised to be the nation's largest exporter. The goal of the Department of Community and Economic Development (DCED) is to ensure growth and development in businesses and communities across Pennsylvania thereby enabling Pennsylvanians to achieve a superior quality of life.

The DECE provides support services to foster a prosperous opportunities for economic growth and community's quality of life. The types of services offered include:

Business Assistance

Businesses seeking to locate in Pennsylvania begin with the Governor's Action Team (GAT), a group of economic-development professionals who report directly to Governor. These professionals were chosen to help businesses with every aspect of expansion or relocation projects. The Governor's Action Team is comprised of GAT works with individual companies to provide "one-stop shopping" for any relocation or expansion needs. The team members provide liaison with local governments, subcontractors, and utility companies. GAT works with domestic and international businesses, as well as professional site consultants, on projects involving significant investment and job creation opportunities. They identify available grants, loans, and other financial incentives. And they help find the best place to locate the business.

Community Development

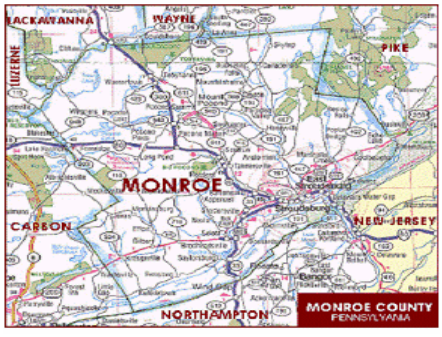
The DCED focuses on physical and economic infrastructure improvements. A variety of assistance programs enhance a communities' quality of life through improved housing, water and sewer infrastructure, public facilities and economic assets.

Community Action Teams (CAT) is the community version of a GAT. CATs create priority "impact" projects within a community, an "impact" being "a community-changing revitalization project that includes multiple components, and uses a variety of local, state, federal and private investment sources." The team assists with all stages of a project and acts as single point of contact, enhancing communication between agencies and departments so that attention and resources are focused on the most deserving projects. CAT works in collaboration with the community to provide a customized package that includes a progressive business plan, and identification of accompanying funding.

Each project has a primary point of contact, known as a Strategic Investment Officer (SIO). The SIO is assigned to work with the community to assess their plans, determine impact and readiness, identify project needs, and develop timelines. These goals are accomplished through meetings with all community stakeholders, including elected officials, private investors, community groups, civic groups and individuals that have a role in the community's revitalization.

MONROE COUNTY'S INVOLVEMENT WITH WATER and LAND USE

Counties provide a regional context to address common concerns within a place that has a broader identity than a town or city. As with many areas with abundant natural resources, residents within the Pocono watershed do not identify with or have interest in a particular town, but have regional pride and affiliation of where they live. Most find value far beyond the boundaries of their local communities.



County planners generate a common vision for the future at a regional scale throughout the greater community. Their offices inventory regional resources- natural, cultural and historic, identify shared concerns, provide the direction for managing shared resources, and coordinate the exchange of information throughout the planning process. Recommendations and strategies are developed with

input from multiple local governments, civic associations, and private businesses. County planning often drives local municipal planning, efforts.

Management of water resources requires programs developed within watershed boundaries can extend beyond municipal boundaries, and even the county. Coinciding with that principle, watershed programs are developed and implemented within a multi-jurisdictional context requiring the cooperation of numerous towns simultaneously. Counties provide a governmental level and scale to manage watershed programs. States recognized this when counties were authorized to develop areawide wastewater and stormwater management plans.

Ultimately, county planning can provide proactive programs for orderly growth where communities can shape their character and protect their quality-of-life. The regional scale of counties situates them in a critical role of coordinating inter-municipal programs at the watershed scale. County planners can provide technical assistance to municipalities and leverage resources in support of local efforts, particularly in water resource management and open space preservation.

Counties in Pennsylvania are given authority in the Pennsylvania Municipalities Planning Code, Act of 1968, (P.L. 805, No. 247) to implement land use laws and planning and has primacy when there are no municipal master plans. Since 1989, counties are mandated to adopt comprehensive plans. Municipalities must provide counties with the updates of their zoning ordinances (Section 608 – 609) comprehensive plans (Section 306)

Counties in Pennsylvania are responsible for stormwater management, sewage facilities planning and solid waste. Yet, counties are not required to be a part of infrastructure planning. Counties are responsible for developing a municipal waste management plan. The plans are aimed at ensuring each county has sufficient processing and disposal capacity for its municipal waste for at least 10 years. Alternative methods of disposal and feasible waste reduction and recycling of municipal waste must be examined. Prior to developing a waste management plan, Commonwealth counties must form an advisory committee and include representatives from industry, all classes of municipalities, and citizen organizations. The plans must describe the content, origin, weight or volume of waste currently generated within the counties boundaries, as well as the same for the next ten years. Finally, the plan must include proposed ordinances, negotiated contracts or other requirements that will be used to implement the plan and that will insure efficient and safety capacity to dispose or process municipal waste for the next ten years. The public must be included in all aspects of plan review. County's must submit an annual

report which provides a detailed description of the plan's progress, either in development or implementing the plan. (APA)

Monroe County Planning Commission

The Monroe County Planning Commission's mission is continue working to sustain and improve the quality of life by ensuring that the county's environmental, economic, and cultural assets are within reach of all its people

Monroe 2020 Comprehensive Plan

The Monroe 2020, the county's comprehensive plan is a tool for economic development, environmental conservation, and land use policy in this rapidly-growing County and its 20 independent municipalities. The plan recommends methods to accommodate projected growth that will preserve and enhance the quality of life for all Monroe County residents. It establishes broad principles for County action and incorporates substantial County incentives for municipalities to adapt their plans and regulations to support those principles.

The Plan is the result of more than 3 years of deliberations by 5 task forces (approximately 100 people) representing business and community leaders in the County and in each of its school districts (Stroudsburg, East Stroudsburg, Pleasant Valley, Pocono Mountain). Numerous public forums generated broad public input and the County Planning Commission staff and outside professionals provided technical and analytic support.

MONROE 2020 GOALS

The Plan reflects the goals that the task forces and the public urged be implemented by the County and its Municipalities:

1. Preserve and enhance the most environmentally valuable natural features, including:
    - water resources, quality and quantity
    - the best land for agricultural use
    - critical wetlands and wildlife habitats
    - unique scenic views and areas of visual quality

2. Establish more efficient, compact patterns of land use while maintaining and upgrading the County's visual character.

Diversify the County's economy and support and upgrade tourism and other existing industries.

3. Pursue as a priority the retention and expansion of existing Monroe County businesses.

4. Attract new enterprises that create jobs with good pay, contribute to the tax base, and balance the burden homeowners and businesses now face for financing public facilities and services, especially schools.

5. Locate new development on sites served by existing infrastructure (water, sewer, roads, etc.) or where existing infrastructure can be extended economically.

6. Create more places for community activities.

7. Expand recreational opportunities and sites to serve more local resident participation.

8. Create greenways, trails, and more facilities for safe pedestrian and bicycle travel, both on and off existing roadways.

9. Maintain and enhance the school system as an organizing element and a focus for community activity.

10. Encourage multi-municipal planning and zoning activity (aided by the County).

11. Encourage joint municipal agreements on operation of services.

12. Develop required infrastructure to support economic development.

Plan policies are designed to accommodate up to 70,000 new residents and as many as 30,000 new dwellings by the year 2020, along with a range of 17,000-25,000 new jobs. These increases are commensurate with trends and a vigorous county promotional effort. The manner in which new residential and commercial development is accommodated on the land, however, must be quite different from practices of recent years characterized by urban sprawl, loss of open space, and reliance on inadequate infrastructure.

The plan calls for concentration of new growth as extensions and infill of existing centers, along connecting roadways and at sites serviced by both rail and highway. This is

particularly important regarding commercial growth. Examples of centers to be consolidated are contiguous urbanized sections of Stroud-Stroudsburg-East Stroudsburg-Smithfield and Mount Pocono-Coolbaugh. Tannersville, Brodheadsville, and Blakeslee are other centers for development. Principal corridors are lands along Routes 209, Business 209, 611, 940, and 447, which also are locations where water and sewer utilities can be expanded. A major new economic development area is in Mt. Pocono-Coolbaugh at the triangle formed by I-380 and Routes 611 and 940.

To avert sprawl, the Plan encourages municipalities and residential developers to achieve 30% of anticipated residential growth at town-style densities averaging 5.5 units per acre. These would be extensions or infills of centers, villages, or hamlets. In rural and transitional areas, the Plan proposes accommodating an additional 30% of housing demand at average densities of 2 units per acre. The remaining 40% would occur at a lower density, approximately 1 unit per 1.4 acres, as has been the current trend. New commercial and industrial projects to locate outside the centers are directed toward concentrated corridor sites of 20-50 acres to avoid extending commercial strip development that already mars the County's roads and viewsheds.

The transportation challenge for the County and PennDOT together is to create a countywide systems plan for transportation (including transit, rail, and new bicycle and pedestrian opportunities) that supports the centers and corridors concept. The Plan calls for municipal and county efforts to consolidate, interconnect, and expand existing water and sewer systems and to link new residential development to those systems. Close cooperation with the Department of Environmental Protection (DEP) on environmentally sound, watershed-wide waste disposal strategies is essential, as with the Department of Conservation and Natural Resources (DCNR) on open space planning. The Plan also incorporates recommendations from existing storm water, solid waste, and wellhead and water supply plans.

The Plan calls for funds created by the May 1998 referendum to be used to secure additional open space. Many additional acres can be protected through easements or outright purchase. A great deal of additional space can also be gained through county-financed municipal open space plans. Upgrading the Image of the Pocono Mountains through roadscape enhancement and restoration is another component of the Plan. It demands close liaison with PennDOT to enforce existing billboard restrictions and work with municipalities to create site plan review requirements for new commercial projects and more environmentally sensitive standards for signage. The Plan endorses efforts of the County Arts Council to foster community cohesion, personal creativity, and a

sophisticated image through creation of one or more multi-purpose cultural centers. The Plan also identifies ways to improve land use legislation at the municipal and state levels.

Particularly important is Monroe County's commitment to implement the Plan through direct action with state agencies such as PennDOT, DEP and the Department of Conservation and Natural Resources (DCNR), to bring their resources to bear on County issues. It is also important that the County provide incentives for municipalities to take appropriate action through financial and technical assistance. These include open-space funding, assistance in obtaining grants, and making the County's extensive Geographic Information System (GIS) available to the municipalities as an aid to information gathering and decision making.

Monroe County Agricultural Land Preservation Program

Since its inception in 1990, the Agricultural Land Preservation Board has preserved over 60 farms and approximately 5,000 acres of agricultural land in Monroe County. Preservation is accomplished through the purchase of perpetual conservation easements. An agricultural conservation easement is an agreement which is made between a landowner and a government agency that conveys the development rights to the easement holder. It is the purpose of this program to protect and promote continued productive agricultural use on viable agricultural lands. Funding for this program is provided by both the Pennsylvania Department of Agriculture's Bureau of Farmland Preservation and the Monroe County Open Space Bond (Monroe Planning Commission).

Monroe County Conservation District

A Conservation District is a legal subdivision of state government, responsible for conservation work within its boundaries. Decisions about conservation issues are made at the local level by citizens who understand and want to protect and improve their local environment. Pennsylvania has 66 Conservation Districts, one in each county except Philadelphia. Each district is governed by a board of volunteer directors appointed by their local governing bodies, such as county commissioners. Conservation districts provide the departments of Environmental Protection (DEP), Agriculture (PDA) and Conservation and Natural Resources (DCNR) a way to implement a wide variety of environmental programs that best serve the agricultural, suburban and urban interests of their counties.

The Monroe County Conservation Districts administered by a Board of Directors, composed of farm directors, public directors and a County Commissioner. It operates under supervision of the State Conservation Commission of the Pennsylvania DEP. The

Directors serve without pay and are chosen primarily for their interest in soil and water conservation.

The Monroe County Conservation District is involved in the conservation of water and soil resources to help meet the special protection requirements of anti-degradation to the high quality and exceptional value streams and wetlands. The Monroe County Conservation District reviews Erosion and Sediment Control plans for construction projects that require earth disturbance, provides technical assistance on conservation issues to municipal governments, open space committees, watershed associations and private citizens. In Monroe County the Conservation District has a Delegation Agreement with the Pennsylvania Department of Environmental Protection to administer Chapter 102 and 105 of the Pennsylvania Code, Title 25.

Projects that the Conservation District are involved in include, Flood Plain Monitoring, Dirt and Gravel Roads, the County wide Annual Water Quality Study, maintenance on county owned flood control dams, Act 319 Clean and Green, PennDOT Erosion and Sediment Control Program, Resource Conservation and Development Council, CFSA Conservation Review Committee, WETPAC, DCNR Rivers Conservation Plans for the Brodhead Watershed, the Lehigh River Watershed and the Cherry Creek Watershed, Chamber of Commerce Environmental Review Committee, the Lake Wallenpaupack Watershed Management District, the Penn State Cooperative Extension Community Development Advisory Committee for Monroe, Pike and Wayne, the Litter Control and Beautification Committee, the Act 167 Stormwater Management Plan update for the Brodhead Creek and McMichaels Creek watersheds, the Pocono Creek sustainability project, the Paradise Creek Watershed Assessment and Protection Plan Project, the Monroe 2020 executive committee, and Ad Hoc committees when needed.

The success of Conservation District is due in part to its ability to successfully work with local, state and federal agencies and private organizations. It subscribes to sharing efforts with many partnering organizations and agencies from the public and private sectors.

Brodhead Creek & McMichaels Creek Stormwater Management Plan

The Brodhead Creek and McMichaels Creek Watershed Management Plan pursuant to the requirements set forth in Act 167, was completed and adopted on December 6, 2006. The Pocono watershed is included in this plan.

The new model Stormwater Ordinance for the Brodhead Creek and McMichaels Creek watersheds in Monroe County was developed under Act 167 as an update to two plans originally done 10+ years ago. The plan for the McMichaels Creek watershed was a pilot

for stormwater management in the state while the plan developed for the Brodhead Creek watershed was one of the first to incorporate voluntary water quality control elements. The updated Ordinance incorporates the DEP Stormwater Policy and requires designers to pursue nonstructural controls/strategies to achieve water quantity/quality and infiltration goals first, before incorporating structural controls as part of the overall project.

This is the first Model Ordinance in the state to comprehensively incorporate the Department's Stormwater Policy, Smart Growth Initiatives and NPDES Phase II - during and post construction - requirements. By tailoring the new Ordinance to meet the permitting requirements of various levels and branches of government, adoption by municipalities in Monroe County will allow for a streamlined project review process that will lend predictability to the regulated community.

The Delaware River Basin Commission reviewed and approved the Model Stormwater Ordinance for compliance with their proposed "Special Protection Waters" regulations. By adopting the Model Stormwater Ordinance as presented, projects that would normally require DRBC approval will be exempt from the review process.

In addition to the Model Stormwater Ordinance the County has prepared a model Flood Plain Management Ordinance that incorporates the buffer requirements found in the Stormwater Ordinance. The model Flood Plain Management Ordinance has been reviewed and approved by the PA Department of Community and Economic Development for adoption by all municipalities in Monroe County. The Stormwater Ordinance also includes a Consumptive Use Tracking element (Monroe Conservation).

Erosion and Sediment Control

Earth disturbance activities are regulated under Pennsylvania DEP's Chapter 102 regulations. Chapter 102 requires persons proposing or conducting earth disturbance to develop, implement and maintain Erosion and Sediment (E&S) Control Best Management Practices (BMPs) to minimize erosion and the potential for pollution to water resources. In addition, the federal Clean Water Act requires that an earthmover disturbing 5 acres or more over the life of the project obtain a National Pollutant Discharge Elimination System (NPDES) Permit for Stormwater Discharges from Construction Sites. As of December 8, 2002, the permit requirement is expanded under NPDES Phase II to include activities that disturb between 1 and up to 5 acres over the life of the project and have a point source discharge to surface waters. The Conservation District administers both programs in Monroe County, including permit application and plan reviews, site inspections, complaint investigations and technical assistance. The

District strongly recommends pre-application meetings early on during a project's concept plan stage - before detailed plans are developed - in order to determine whether an NPDES permit is required and to expedite the permit and plan review process. Oversight is provided by the Department of Environmental Protection.

Stream and Wetlands Encroachments

The Department of Environmental Protection's (DEP) Chapter 105 (Dam Safety and Waterway Management) rules and regulations address Stream and Wetlands Encroachments that may impact water quality, increase flooding or degrade riparian habitat. Chapter 105 provides for the regulation and supervision of dams, reservoirs, water obstructions and encroachments. Encroachments include stream crossings, (bridges and culverts) structures that project into a stream (docks or dams) or a project that can alter a stream's fluvial morphology (channel, flow, course, streambank, current or cross-section of a stream). The Act assures proper planning, design, construction, maintenance, monitoring and supervision of dams and reservoirs, including preventive measures necessary to provide for adequate safety. Preventing interference with water flow and to protect navigation and to protect the natural resources, environmental rights and values secured by Constitution, and conserve and protect the water quality, natural regime and carrying capacity of watercourses.

Chapter 105 delegates authority for action to Conservation Districts, to administer DEP General Permits, which authorize certain types of work in waterways, including: fish habitat enhancement; small docks & boat ramps; streambank stabilization; intake and outfall structures; utility line or minor road crossings of streams or wetlands. Distinct staff inspects permitted sites, investigate complaints and provide regulatory and permitting assistance. Oversight is provided by the Department of Environmental Protection.

LOCAL GOVERNMENTAL REGULATIONS AFFECTING WATER and LAND USE

Municipalities have primary control over land use decisions through local municipal regulations. The intrinsic character of the land and water interface results in municipalities exerting a major influence on the overall integrity of a watershed's hydrology. This makes local municipalities a primary participant in the management of land and water, since it is at the local level that choices are made as to the type of development that can and will occur. Municipalities are responsible for fulfilling consistency requirements for and the implementation of stormwater ordinances, source water protection, floodplain management, water supply plans, open space and recreation

plans, and infrastructure siting. Zoning, Subdivision and Land Development Ordinances, and building all have a direct impact on the effectiveness of water and land will interaction.

Planning is assuring that land use changes are synchronized with the community vision of their town. Comprehensive plans and their maps provide the basis for official policy regarding growth and determined the character of a community. Local planning considers where existing infrastructure will inevitably generate growth. Infrastructure can be centralized or decentralized. When infrastructure planning conflicts with locally desired land uses undesirable changes occur.

Municipalities Planning Code

Pennsylvania's Municipalities Planning Code (MPC) empowers local governments, individually or jointly, to establish planning agencies, prepare comprehensive plans, and adopt land use ordinances. Land use powers have been constitutionally and statutorily delegated to local governments. The MPC establishes the municipality's comprehensive plan as the official policy guide for decision making about physical development in the community. The MPC provides for the formation of a planning agency to conduct various planning activities and to advise the governing body. It also authorizes local governments to prepare capital improvement programs.

With the passage of Acts 67 and 68, which amended the MPC in 2000, counties and municipalities are now empowered to enter cooperative agreements for both development and conservation of resources planning, as well as to designate growth areas and rural resource areas, and target infrastructure to growth areas. Municipally designated growth centers can drive regional water infrastructure to places where growth is desired. Or, regional infrastructure can determine where local governments will face growth.

Pennsylvania Municipalities Planning Code

PA Municipalities Planning Code allows local municipalities land use powers to promote public health, coordinate development, guide the use of land and facilities, and preserve natural resources. The most significant feature of comprehensive planning is its foundation for land use controls. Comprehensive planning can be performed by all municipalities and becomes the basis guide development.

Only general authority to plan for sewer infrastructure is provided. Detailed provisions are not provided for sewage facilities or provide explicit authority to require consistency between municipal, multi-municipal, or county land use plans and ordinances and the sewage facility plans and revisions. Since municipalities are required to plan for every

category of use, under Act 537 they must provide a sewage facilities solution for every parcel. Applications for new sewage facilities are rarely denied based on inconsistency with local sewer plans and land use plans and ordinances.

Municipal Comprehensive Plans

Similar to the county, municipal comprehensive plans are meant to guide development and protect sensitive natural resources and preserve farmland and open space. Municipal comprehensive plans serve to guide local land use policy decisions and inform the subdivision and land development review process. The comprehensive plan considers location, character and timing of future development.

Municipal Authorities Act

Municipal Authorities Act of 2001,(ACT 22) allows the creation of governmental bodies to finance and/or operate specific public works projects without tapping the general taxing powers of the municipality, though the use of revenue bonds. Several types of municipal authorities involve water resources and land use planning.

Sewer authorities are multi-purpose authorities with sewer projects that sell bonds to finance acquisition of existing systems or for construction, extension or improvement of a system. For sewer operating authorities, current revenues come from charges on the users of the system.

Water authorities include multi-purpose authorities with water projects, many of which operate both water and sewer systems An operating water authority issues bonds to purchase existing facilities or to construct, extend or improve a system. The primary source of revenues is user charges based on metered usage. The cost of constructing or extending water supply lines can be funded, completely or partially, by special assessments against abutting property owners. Tapping fees also help fund water system capital costs. Water utilities are also operated directly by municipal governments and by privately owned public utilities under PUC regulation. Because of the costs of complying with federal safe drinking water standards, the state Department of Environmental Protection has a program to assist with consolidating small water systems to make upgrading cost effective.

Recreation authorities are formed to fund and/or operate parks, recreation centers, auditoriums, civic centers, stadiums, convention centers, swimming pools and golf courses.

Solid waste authorities fund and operate sanitary landfills, incinerators, transfer stations, resource recovery projects and solid waste collection systems.

Flood control authorities fund and operate flood control protection systems.

Business district authorities are small authorities that operate within designated business improvement districts within commercial areas, develop a plan for the improvements and administrative services and, with the approval of the municipal governing body, levy assessments to pay their costs.

Community facilities authorities operate the following community facilities: ambulance services, flood control projects, community centers, libraries, markets and museums.

School financing authorities are formed by school districts to finance construction or repair of public school buildings.

Local government facility financing authorities borrow funds for the construction of various types of projects that are leased back to municipal governments to operate.
Nonprofit institution financing authorities issue debt to finance construction projects of nonprofit institutions. They engage in financing hospitals and nursing homes, community colleges and private nonprofit colleges and universities, and miscellaneous nonprofit institutions.

Multipurpose authorities operate and/or finance more than a single category of project. The majority operates two project types, several operate and/or finance three project types, and one authority operates four project types.

Industrial and commercial development authorities may be created by counties, cities, boroughs or townships. They are governed by a board of at least five members appointed by the governing body of the organizing municipality for five-year terms. They finance, construct and lease projects for industrial or commercial development using tax exempt revenue bonds.

Redevelopment authorities are organized by cities and counties and have the power to condemn properties in designated blighted areas under eminent domain, to clear the land and resell it to private interests for redevelopment. Any redevelopment proposal must be approved in advance by the local governing body. Each sale of land within a redevelopment area must also be approved by the governing body

Municipal Open Space Plans

Municipal Open Space Plans identify lands permanently and temporarily protected from development and also identifies parcels intended for future protection. Open space lands can be private or public and include parks, golf courses, woodlands, farmlands, and private estates. Permanently protected open space lands are often acquired by municipalities or conservation organizations. In addition, many open space lands are donated to the municipality by the owners; voluntary easements may be negotiated on the properties to protect them from future development.

Land Use Ordinances

Land Use Ordinances help implement the comprehensive plan for the community. Any ordinance or map adopted pursuant to the authority granted in Article IV, V, VI and VII should be the end product of a public planning process that results in establishing goals and objectives of the community. Pennsylvania has no state constitutional provision providing for a referendum that could apply to land use and planning ordinances.

Zoning

Zoning is a land use technique that is used to implement a municipality's comprehensive plan. Zoning regulates the type of use for land parcels, the density of each land use category, and the siting of development. It is the most commonly and extensively used local technique for regulating use of land as a means of accomplishing municipal goals.

Zoning commonly consists of two components: a zoning map and a set of zoning regulations. The zoning map divides a municipality into various land use districts, i.e. residential, commercial, conservation, and industrial. Zoning regulations describe the permissible land uses in each zoning district. For each district, dimensional standards for structures are established, such as the height of buildings, minimum distances (setbacks), and residential population densities.

Floodplain Regulations

Floodplain regulations are commonly found in zoning, subdivision and land development, or special purpose ordinances, as well as building codes that control the type, density and location of uses within the floodplain. The Flood Plain Management Act of 1978, (Act 166) regulates floodplain development, and requires all municipalities to adopt floodplain management regulations. Act 166 of 1978 was designed to promote and enhance the local regulatory role while minimizing that of the Commonwealth. Municipalities can utilize land use ordinances, building codes and single purpose ordinances to regulate activity within the floodplain.

Most municipalities within the Commonwealth have patterned their regulations after federal and state minimum requirements. However, some local governments have regulations that are more stringent than the established state and federal minimums.

Pennsylvania Sewage Facilities Act

The Sewage Facilities Plans (Act 537 Plans) are the first level of planning for municipal wastewater facilities. Each municipality is required to develop and continually update wastewater management plans that address the current and future needs of the municipality (Pennsylvania Sewage Facilities Act (Act 537)). These plans are the technical basis for local decision making.

"Act 537" promotes inter-municipal cooperation; provides for permits for on-lot sewage disposal systems in accordance with uniform standards; and encourages the use of best available technology for on-lot systems. By providing the means to establish local technical competency, Act 537 focuses municipalities to protect the health of their citizens by using their plan to correct on-lot sewage systems, overloaded treatment facilities, and wildcat sewers. Act 537 attempts also to offset the economic difficulties of infrastructure development by encouraging planning on a regional basis, and making available planning grants, technical assistance, and guidance for construction permits. Plans are that include multiple municipalities are strongly encouraged.

Intergovernmental Cooperation Law

Intergovernmental Cooperation Law, Act 177 Authorizes two or more "local governments" to "jointly cooperate in the exercise or in the performance of their respective governmental functions, powers or responsibilities thorough the authorization of ordinance, which must specify the conditions, duration, purpose, manner, and extent of any financing, organizational structure, manner in which property will be acquired, managed, and disposed of, and that the entity created will be empowered to enter into certain employee related contracts. Also, intergovernmental cooperation may be mandated by voters by initiative and referendum.

Local Government Commission

Local Government Commission, 1935 Commission is comprised of five Senators and five House Members, appointed by the President Pro Tempore of the Senate and Speaker of the House, respectively. It is a bi-partisan legislative service agency affording research assistance to the General Assembly, collectively, and to individual legislators as well. Another primary function of the Commission is to propose legislation which will assist local governments to be more effective and efficient in providing services.