

LOWER SUSQUEHANNA REGIONAL WATER RESOURCE COMMITTEE PRIORITIES

The Lower Susquehanna River Basin is divided into two main physiographic regions. The southern part of the Basin lies in the Piedmont region, historically an agricultural area with local concentrations of industry and commerce. This area is experiencing a high rate of population growth and development due to its proximity to Washington, Baltimore and Philadelphia and to several interstate highways. The growth has resulted in increased demand for water for multiple uses, including public water supply, recreation, industry, and commerce.

The northern part of the Lower Susquehanna Basin lies in the Ridge and Valley physiographic region with largely forested hillsides and agricultural valleys, small communities, one large population center in Altoona, and a number of mining areas. The Priorities developed by the Regional Committee reflect the need to plan for sustainable, adequate and available water supplies for human use, economic growth and a balanced ecosystem now and in the future.

- **Water Supply:** In order to provide sustainable water supplies and prevent adverse impacts on the Lower Susquehanna Basin's ecosystems and watersheds, the following priority steps should be taken:

- **Inventory all sources of groundwater and surface water.**

Water Quantity – Calculate total water budget for each watershed

- Evaluate land use impacts on water quantity:
 - Impacts on recharge
 - Stormwater management
 - Diversion of water in and out of watersheds by POTWs and other uses

As the natural forest land cover of the Lower Susquehanna Basin has been, and continues to be, changed by human land uses, the flow of water through the watersheds has changed. Where development has created impervious surfaces, less water is absorbed through the soil to recharge groundwater, and faster discharge of stormwater to streams often results in flooding.

Diversion of water out of a watershed by sewage treatment plants may reduce stream flows and impact the amount of water available to maintain aquatic life and other uses.

- Identify source water characteristics that affect quantity:
 - Geologic formations, soils
 - Seasonal variations

The Lower Susquehanna's main physiographic regions, Ridge & Valley and Piedmont, are characterized by a diverse geology which influences how much water is retained in the groundwater and for how long. Areas in the Basin with limestone geology have particularly abundant water resources. Soil types and seasonal variations also play a role in infiltration.

Water Quality - Ensure quality to protect **availability and designated uses.**

- Prevent and abate pollution from non-point and point sources common to the Lower Susquehanna Basin such as excess nutrients and pesticides from agriculture; nutrients and toxics from urban stormwater runoff and land disposal of wastes; chemicals from hazardous transportation spills; metals and acid from mining activities; and nutrients, pathogens or toxics from sewage treatment or industrial discharges.
 - Ag, mining, land disposal of wastes, spills, stormwater runoff, erosion
 - POTWs and other point sources
 - Improve nutrient/pollutant reduction technology, and alternative treatment options such as precision animal feeding, precision application of fertilizers, waste composting, waste-to-energy projects, and ...*(list others)*
 - Improve water sampling and testing programs and data availability on existing water sources.
- Evaluate land use impacts on water quality *(more text needed here)*

- Identify regional [source] characteristics that affect quality:
 - Geologic vulnerability to pollution is found in the karst and sink hole regions of the Basin.
 - Natural physical & chemical characteristics that affect water quality include high levels of calcium in the limestone areas resulting in hard water; and in areas of coal mining activity metals and acid pollute the waters. Biological habitat can affect water quality when wastes from animals carry cryptosporidium to surface waters.

II **Water Demand: - Identify current and future water needs.**

- Quantify instream flow needs for recreation, aquatic life and wildlife habitat.
- Identify consumptive uses in the Lower Susquehanna Basin such as evaporative cooling for power generation; incorporation into products such as milk, beef, and poultry; and diversions for water supplies outside of the Basin.
- Identify withdrawal uses and non-withdrawal uses. Withdrawal uses include public water supplies, industrial uses, commercial uses, and private domestic wells. Non-withdrawal uses include hydropower, recreation, and maintaining stream flows for aquatic life and other uses.
- Identify uncertainties and assumptions of projected needs and uses
- Assess storage capacity needs
- Determine safe yields and demand fluctuations
- Identify CWPAs and shortfalls

III. **Managing Supply vs. Demand: Identify and Assess alternatives to balance supply and demand**

- Identify and assess alternative potable sources of supply
- Promote water conservation strategies:
 - Reduce water loss in public water systems
 - Improve efficiency of water use by consumers. Promote: Efficient plumbing fixtures, Water-efficient landscaping. Education for conserving water,
- Identify alternative uses for, or re-use of non-potable water
- Promote Source Water Protection and Well Head Protection:
 - Educate and promote the implementation of SWP and WHP Plans
 - Assess and measure the effectiveness of the SWP and WHP Plans
- Coordinate land use planning with water resource planning at regional and local levels. In growth areas, plan for development that will avoid impacts to sensitive water resources areas such as wetlands, flood plains, groundwater recharge areas, forested watersheds, and headwater streams. Plan for development where infrastructure for water, sewers and transportation already exist. Coordinate Act 537 Plans with Water Resources Plans.

- Promote regional and watershed-based water resource planning
- Identify and coordinate institutional and regulatory water agencies & authorities

Edited 7-15-06 and 7-20-06 by Betty Conner

New text is added in blue type.

Revised 3/12/05