

## Delaware Basin Regional Plan Scope of Work (2/2/2005)

The draft scope of work below was developed by using the Regional Component Outline (Nov. 17, 2004) as a starting point. Each plan component required as part of Act 220 and contained in that outline is included in the proposed plan scope. Additional items that appear in bold type have been added. To achieve a better and more logical plan process and plan document, plan components have been regrouped and reordered. Some notes appear in parentheses regarding how different plan components have been or could be addressed by our committee. The italics are those random thoughts that may add to the mix.

Executive Summary (to be developed at the completion of the plan)

*Goals, Objectives and Indicators during the planning process, especially as new ideas are presented by the public and more technical information is received by the committee, the goals, objectives and indicators should be reviewed and if necessary updated.*

Critical Water Resources Management Issues/ Regional Priorities (Issues based on various meetings held in 2004 and the public hearing in 2005) *These priorities may also further define additional plan scope components that are additional to the minimum required under Act 220*

### **Planning Approach under Act 220**

- **Current State Water Plan (based on presentation to committee Dec 13, 2003)**
- **History of Act 220 (based on summary presentation materials distributed at first two meetings)**
- **Formation and organization of the Committee**
- **Public outreach, education, and information efforts- description of ongoing efforts to inform the public of Act 220 and the planning process, to elicit comments from them, and to provide for the statutory public review of the plan.**

### **Existing Water Resources Management in the Delaware Basin**

- **Pennsylvania regulations, laws, and public policy impacting water resources in the Delaware River Basin (based upon water law presentation Feb 18)**
- **Delaware River Basin Commission**
  - **Rules and regulations (based on DRBC presentation Feb 18, 2004)**
  - **Water Resources Plan for the Delaware River Basin**

Regional Resources and Physical Features (to be discussed at future meetings- digital map information is generally available through the PA Spatial Data Access <http://www.pasda.psu.edu/>)

- Basin Orientation
- Climate
- Hydrology
- Topography
- Geology (specifically addressing water resource impacts in karst geology)
- Soils
- Forest Resources
- Wildlife and Aquatic Species/ **PNDI Sites**

Socioeconomic/ **Land Use** Conditions

- Historical Setting/ **water based historic resources**
- Economy and Employment (employment projections are available from different sources, need to discuss the impact of water resources on the economy)
  - **Tourism**
  - **Water based industries**
- Population (based upon census and the various regional planning agencies that perform population projections- consistency of projection methodology is an issue)
  - Historic Population
  - Growth Trends
- Transportation (from regional planning organizations and PennDot)
- **Recreation/ open space resources and other protected open space lands (from PA Spatial Data Access)**
- Land Use

Local Planning

- County Comprehensive Plan Summary (Information provided at the August 13, 2004 and October 14 meeting- may need to follow up with some county planning commissions)
- Regional Municipal Plans (need to discuss- data base of regional planning efforts maintained by DCED and 10,000 Friends of PA)
- Rivers Conservation Plans (need to discuss- summary of rivers conservation plans (River Registry) maintained by DCNR- most plans are online at:  
<http://www.dcnr.state.pa.us/brc/rivers/riversconservation/registry>)

- **Special plans that deal with river and stream corridors such as federal heritage area or state heritage corridor plans, greenway plans, lake management plans, and other special resource plans that specifically address water resources issues.**

#### Water Resource Inventory

- Surface Water Inventory
  - Boundaries of significant watersheds (map of HUC 14 basins)
  - **Inter basin transfers- including possibly smaller transfers caused by the collection of sewage out of one basin into another where it is discharged)**
  - Safe yield for withdrawal uses during normal conditions and drought.
  - Minimum flow required for in-stream uses during normal conditions and drought.
  - Surface water quality
  - **Special protection waters**
  - **TMDL status**
  - **Special fisheries (ie Shad restoration areas etc.)**
- Groundwater Inventory
  - aquifers and groundwater basin
  - safe yield assessments
  - prime recharge areas
  - recharge capacity
  - withdrawal limits
  - relationship to stream base flow
  - ground water quality

#### Current Water Use and Conditions

- Existing non-withdrawal use
  - Water Quality Requirements; Values of Commonwealth Watercourses; Values of Federal Wild and Scenic River System
- Existing withdrawal use (from water user registration information and DRBC docket files) *Need to distinguish between consumptive use versus return flow and the quantity of water withdrawn that is lost prior to use.*
  - Domestic (including various types of water suppliers and bottled water industry)
  - Municipal- *this is really a category of domestic or public*

- Public- *this is confusing and is really the overall all heading for domestic and municipal*
  - Commercial- this is really a category of domestic
  - Industrial –*self supplied also may need to distinguish mineral from manufacturing*
  - Energy Development Production
  - Agriculture
  - **Other self supplied users such as institutions and golf courses**
  - **Self supplied domestic**
- Assessment of floodplain and stormwater management problems
  - Assessment of current navigational use
  - **Current water use problems (based upon the USGS budget screening tool or special groundwater protected area study by DRBC)**

#### Future Water Use

- **Assumptions/ Methodology**
- Future non withdrawal water use needs
  - Instream use-Assessment of the water resources required to serve areas with important or unique natural, scenic, environmental or recreational values of national, regional, local or statewide significance, including:
    - National and state parks
    - Designated wild, scenic and recreational rivers
    - National and state wildlife refuges
    - The habitats of federal and state endangered or threatened species
  - **Future Non-withdrawal use needs of various aquatic based recreation users**
  - Assessment of future navigation needs and channel restoration requirements
- Future Withdrawal use
  - Domestic
  - Municipal
  - Public

- Commercial
- Industrial
- Energy Development Production
- Agriculture
- **Other self supplied users such as institutions and golf courses**
- **Self supplied domestic**

Assessment of Water Resources Use Impacts (based on USGS Budget Screening Tool)

- Potential problems with water availability or conflicts among water uses and users
- Assessment of the ability to meet water supply needs by current water suppliers
- Water quality problems
- **Potential drought vulnerability**

Water Conservation

- **Describe current status of water conservation activities in the basin**
- A process for identifying projects and practices that are being or have been implemented by water users that:
  - Reduce the amount of water withdrawal or consumptive use
  - Improve efficiency in water use
  - **Refine methods for auditing water use and reducing system leakage**
  - Provide for reuse and recycling of water
  - Increase the supply or storage of water or preserve or increase groundwater recharge
  - **Create opportunities to develop innovative technologies for water conservation**

Selection of recommendations

- Practical alternatives for an adequate supply of water to satisfy existing and future reasonable and beneficial uses including:
  - Improved storage
  - Groundwater recharge
  - Surface/groundwater conjunctive management programs
  - **Land use management strategies to enhance recharge and the management of stormwater**
  - **Land conservation practices**
  - **Watershed restoration**

- Structural and nonstructural alternatives to address:
  - Identified water availability problems
  - Adverse impacts on water uses or conflicts between water users, including potential actions to develop additional alternative supplies, conservation measures and management techniques
- Identification of Critical Water Planning Areas
  - Establish priorities and time frame for the development of Critical Water Planning Area Studies
- Policy and Legislative Alternatives
  - Review and evaluate statutes, regulations, policies and institutional arrangements for the development, conservation, distribution and emergency management of water resources

Recommendations- Review and evaluation of water resources management alternatives and recommend appropriate actions, programs, policies, institutional arrangements, projects, management activities, or other provisions to meet the water resources needs in accordance with the goals and objectives of the plan.

#### Implementation

- Proposed methods of implementing various recommended actions, programs, policies, projects, or management activities
- **Assign priority, time frame, and responsible party for each selected recommendation**
- **Development of protocol to review the success of the plan and to trigger revisions and amendments to it to meet changing conditions**