Testimony
of
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on
"Act 220 Water Resources Planning Act and the State Water Plan"
before the
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INTRODUCTION

Chairman Adolph, Chairman George and members of the Committee, thank you for the opportunity to appear before you today to discuss the very important and timely topic of Pennsylvania's State Water Planning efforts as required by the Water Resources Planning Act.

Pennsylvania is truly fortunate to be blessed with an abundance of water. Pennsylvania:

- Receives an annual average of 42 inches of rain a year;
- Has over 86,000 stream miles, 4,000 lakes and 120 miles of shoreline;
- Has an estimated 80 trillion gallons of groundwater;
- Has a "toe-hold" on 20 percent of the worlds fresh surface water supply as part of the Great Lakes System;
- Shares its waters with 15 other states, or approximately 40 percent of the nation's population;
- Has a large percentage of our12 million residents on public drinking water supplies; and
- Is a member of more interstate organizations dealing with water than any other state in the nation.

In addition, according to the U.S. Environmental Protection Agency (EPA), $276.8 billion is needed nationally over the next 20 years to ensure safe drinking water and $182 billion is needed for wastewater infrastructure. The infrastructure financing in Pennsylvania was identified at close to $11 billion and $7.2 billion over the next 20 years. Worldwide, 1.2 billion people drink unclean water, and by 2025, 2.7 billion people on the face of the planet with not have access to water.

For Pennsylvanians to sustain our water resources, to maintain our natural environment, to boost our economy, and to enhance our recreational opportunities, we must plan not only for today but also for our future. The Water Resources Planning Act and the development of the State Water Plan create a platform for our efforts.

This hearing is timely given the state is currently in drought watch. Pennsylvania is subject to periodic droughts that affect our ability to meet all or part of our water resource needs. At some time during eight of the last 10 years, Pennsylvanians have had to either voluntarily reduce water use because of drought conditions, or have had water use restrictions imposed through a drought emergency declaration. Droughts can have varying effects, depending on their timing, severity, duration and location. Some droughts may have their greatest impact on agriculture, while others may impact water supply or other water use activities such as recreation. Most droughts directly affect our aquatic resources. The State Water Plan will not help us predict when droughts will occur, nor will it prevent them; but it will be a means to help individuals, water suppliers and other water users prepare for and manage drought conditions so that their affect on our lifestyles and the economy can be minimized.

HISTORY AND PLANNING FOR PENNSYLVANIA'S FUTURE

Over 100 years ago, Pennsylvania enacted its first piece of water legislation, the Purity of Waters Act of 1905, which sought to fight outbreaks of typhoid and cholera throughout the state. From 1913 to 1917 the state conducted its first water resources inventory of the Commonwealth's waters. Yet, the *Common Law* has been the primary system for water law dating back to the 1800s. Under this system the allocation of water rights are uncertain because new litigation can set new precedents.

In 1939, Pennsylvania enacted the Water Rights Act of 1939, which regulates the withdrawal of surface water by public water suppliers, only a small percentage of water users. The Water Rights Act is Pennsylvania's primary water resource permitting act. Additionally, the Susquehanna and the Delaware River Basin commissions have helped to create safety nets in managing the commonwealth water resources through their regulatory programs. Other commissions, such as those for the Potomac, Ohio and Great Lakes, have helped to keep us coordinated with boarder interstate water management issue. Act 220 of 2002 serves as a platform and helps to organize these existing efforts and to fill the data gaps for planning purposes.

Although we had the tools in place, there has been no guarantee of water rights, no resolution for competing water uses throughout the Commonwealth, no provisions for the increased per capita demand for water, no provisions for conservation of water during non-drought conditions, and no provision for resolving conflicts during droughts.

In 1999, the Department of Environmental Protection (DEP) was engaged with efforts to protect the Great Lakes from diversions. This effort, coupled with the concerns related to continued droughts, began an analysis of the needs of legislation to develop a new state water plan. In 2001, the department conducted a series of Water Forums to gage the public's interest in water resources. Fifteen successful forums were held, gathering the input of thousands of Pennsylvanians. Here is what Pennsylvanians told us:

- We need good solid data to make effective decisions.
- We need to update the State Water Plan.
- We need more in-depth planning on a watershed basis for present and future water shortages.
- We need a more effective balanced use of water.

The Water Resource Planning Act was signed into law in December of 2002 to begin establishing a framework to help address the issues we heard from Pennsylvanians. In its broadest sense, the act calls for:

- Update the State Water Plan within 5 years.
- Register and Report Certain Water Withdrawals.
- Identify Critical Water Planning Areas.
- Create Critical Area Resource Plans in watersheds identified as Critical Water Planning Areas.
- Establish a Voluntary Water Conservation Program.

All tasks related to the Water Resource Planning Act are done through an intense engagement process consisting of six regional committees, a statewide committee and a series of working groups or sub-committees. In total, there are 169 appointed people in the process, as many representatives as there are on the department's other advisory committees combined.

WHERE ARE WE TODAY

In March 2003, DEP began to move forward in implementing the Water Resources Planning Act. The Regional Water Committees were established in October 2003 followed by the formation of the Statewide Committee in early 2004. The framework of the planning efforts centers around four tiers. The foundation, or tier one, is the data and analysis. The second tier is the visual aspect of the data coupled with a description of each of the major basins. This will be consolidated into a regional atlas. The third tier will involve a simple message to various sectors related to activities of water uses. Finally, the fourth tier will be the statewide action agenda that will set the stage for activities related to the planning process from 2008 to 2013.

- ***Tier One – The Data:*** The primary task in developing the water plan is the collection, consolidation and analysis of data.

    - ***USGS Screening Tool:*** The foundation of our effort is a statewide water budgeting system. The department contracted with the U.S. Geological Survey (USGS) to develop a statewide water budget "screening tool" to help DEP identify where existing and future demands may exceed available resources. This tool interconnects watersheds down to the 15 square mile scale and will enable the department to predict areas where water supply will not meet current or projected water demands

      The USGS screening tool is being completed and the department will work to integrate the tool with our Streams and Lakes Integrated Management System (SLIMS). SLIMS will provide a GIS platform to view various data sets to help more visually understand the budgeting process. DEP staff will work with the six Regional Water Committees this fall to view outputs of the screening tool to make recommendations on how to make it more "user" friendly.

    - ***Water Use Analysis Tool:*** The Water Use Analysis Tool, or "WUAT," is a complementary process that will be used by the department to estimate current water withdrawal demands and to develop withdrawal demand projections for all sectors. The outcome of the demand projections will be to fill in the data "gaps" from registration and reporting and to help identify areas where future demands may exceed resources. The USGS is currently working on tasks associated with agriculture demand projections and public water supply, non-residential demands.

    - ***Yield Analysis Tool:*** The assessment of the current and future capabilities of public water supply agencies to provide an adequate quantity and quality of water to their service areas will utilize various departmental databases, a GIS application and a custom Access database top provide answers needed for the State Water Plan. The yield analysis tool (YAT) is a GIS Project incorporating four components. The four components are: *Population and Demand Analysis; Run-of-Stream Yield Analysis with Instream Flow Protection; Reservoir Yield Analysis with Instream Flow Protection; and Water Supply Well Analysis with Instream Flow Protection.* The Susquehanna River Basin Commission is contracted to perform this work for the State Water Plan Update.

- ***Registration and Reporting:*** The system is driven by data collected from water uses over 10,000 gallons per day on a 30-day average. Data has been gathered through direct registration of water uses, discharge monitoring reports and other sources of data in the department. An interim registration program began in March 2003. As of March 2006, the department is 85 percent complete in obtaining its target number of registrations.

  To streamline our water use registration process, DEP staff has worked with the Delaware River Basin Commission (DRBC) and the Susquehanna River Basin Commission (SRBC) to integrate water use information gathered in the individual programs. In the future, a water user will have to register with one entity and the information will be shared among the agencies. In addition, as required by the act, the department will present proposed regulations (Chapter 110) to the Environmental Quality Board early this summer for consideration. These regulations establish the permanent registration, reporting and record-keeping program. These regulations have streamlined internal DEP reporting between the Water Use and Water Supply programs.

  Beginning in 2006, the department implemented a voluntary interim paper-based and a Web based reporting system as a follow-up to the registrations. Reporting is mandatory for public water suppliers under the department's Chapter 109 Safe Drinking Water Regulations. Reporting will become mandatory for all other sectors subsequent to promulgation of final regulations. All water users who have registered with the department have been mailed a packet of information on annual reporting requesting reports of water use for 2004 and 2005.

- ***Population Projections:*** DEP had drafted municipal, county and statewide population projections based on a regression analysis of federal census figures from 1980, 1990 and 2000. The department received input from county and regional planning agencies on the projections, and met with the Department of Community and Economic Development in comparing and assessing the significance of variations in county figures from DEP figures prior to use in State Water Planning. As a result of this meeting, DEP completed the projections and is in the final step of reviewing the results before they are used and made available for others' use.

- ***Discharge Monitoring Report (DMR) collection:*** To have the most complete budget screening, the department needs to develop a statewide database of discharges. While some existing information on discharges, primarily larger ones, is available in electronic format, the vast majority of discharges is known to DEP through the submission of paper forms or Discharge Monitoring Reports, or DMRs. The SRBC and DRBC are engaged in collecting and inputting five years worth of discharge data into a database for each of their respective basins. In addition, the SRBC is working on collecting DRM data for the Great Lakes Basin.

- ***COLOC project:*** The department's water resource data is cataloged within several database platforms to facilitate water resource planning and drinking water program needs. DEP has set a goal to provide linkages between a drinking water database Pennsylvania Drinking Water Information System (PADWIS) and the Water Use Data System (WUDS) to ensure consistency with locations of withdrawal facilities.

- ***Critical Water Planning Areas:*** As part of the water budget, Critical Water Planning Areas will be identified. Critical Water Planning Areas are areas where water supply will not meet water demand. These areas can be identified through the State Planning Process

or prior to the first version of the plan being completed in 2008. To help to make the identification and designation easier prior to the plan's completion, the Critical Water Planning Area Subcommittee comprised of experts from across the state established two sets of guidelines for the designation of Critical Water Planning Areas and the development of Critical Area Resource Plans. Both are being reviewed by the Regional Committees and the documents will be finalized later this summer.

- ***Tier Two: Regional Components and the Regional Atlas Concept:*** To reflect the diversity of the Commonwealth, the Water Resources Planning Act called for six distinctive regional components to be developed for the Delaware, Upper/Middle Susquehanna, Lower Susquehanna, Potomac, Ohio and Great Lakes basins. Each of the components will address key issues of that basin and reflect priorities as established by each of the regional committees through an open public process. The regional committees have been holding bimonthly to quarterly meetings since October 2003.

  The regional committees are composed of members with diverse backgrounds ranging from agricultural industry representatives to municipal officials and planning and water resource professionals. The first phase of regional committee work focused on cross discipline training of committee members. The committees met with professional planners, conservation district representatives, and members of active watershed groups across the state. This educational phase helped to bring all regional committee members up to date on a variety of water resource issues. Following the educational phase, the regional committees developed priorities and held public meetings and hearings to confirm and further define the regional priorities. Key issues identified by each of the committees include:

  - ***Delaware Regional Water Resource Committee***
    - *Sustainable Use and Water Supply*
    - *Waterway Corridor Management*
    - *Linking Land and Water Resource Management*
    - *Institutional Coordination and Cooperation*
    - *Education and Involvement for Stewardship*

  - ***Upper/Middle Susquehanna Regional Water Resource Committee***
    - *Water Quantity and Conservation through Incentives*
    - *Water Quality Protection*
    - *Conservation Preservation and Protection of balanced uses*
    - *Regional Planning and Land Use*
    - *Opportunities for Economic Development*

  - ***Lower Susquehanna Regional Water Resource Committee***
    - *Water Supply Inventory*
    - *Water Budget for each watershed*
    - *Ensure Water Quality to Protect Designated Uses*
    - *Identify Current and Future Water Needs*
    - *Managing Water Supply vs. Demand: Identify and Assess alternatives to Balance Supply and Demand.*

  - ***Potomac Regional Water Resource Committee***
    - *Inventory of Water Supplies*
    - *Inventory Water Demands*
    - *Balance Supply and Demand through a tiered management Approach*

- *Protection and Preservation of Instream and Groundwater Needs*

- ***Ohio Regional Water Resource Committee***
  - *Monitoring Water Supply through Loss Prevention*
  - *Appropriate Applied Use of Technology for Conservation*
  - *Economic Development to Enhance Growth*
  - *Public Education and Outreach on Water Resources*
  - *Balancing Multi-Purpose Uses*

- ***Great Lakes Regional Water Resource Committee***
  - *Protection of Water Quantity*
  - *Protection of Water Quality*
  - *Land Use Impacts/Sustainable Planning*
  - *Collaboration, Coordination and Cognizant of issues in the Great Lakes Basin*
  - *Effective Communication with the Public*

These regional priorities will be coupled with the various components of the Water Resources Planning Act and will be communicated as much as possible through GIS maps and the design of a statewide atlas with six regional sections. In addition to GIS maps of regional features, the atlas will provide regional statistics, highlight issues that are unique to each region, and recommendations for addressing priority issues identified by the regional committees. This atlas will be placed on a CD for broad distribution as well housed on the DEP Web site for interactive use. Our plan is for draft atlas completion in late summer 2007. The regional committees will showcase issues to be included in the final atlas and collect public comments at a second round of public meetings and hearings throughout the state in the fall of 2007.

Tier Three: Marketing and Engaging the Public "Why Should We Care?": We know a lot about water, yet tend to focus on areas that capture our interests and impact our lifestyles. Many times, we do not consider the fundamental ways water impacts our daily lives and well-being, including the economic health of our Commonwealth. Managing water in the Commonwealth is a difficult task. Our concerns vary from droughts to floods, to guaranteeing water supplies are safe to drink, to maintaining water quality to support aquatic habitat, to ensuring there is clean and abundant water to support current and future economic growth. Water can mean all things to all people. To be certain that there is a message to capture the attention of the varied sectors, the Statewide Water Resource Committee through the Policy Working Group and DEP's Learning to LEAD program, is working on a portion of the water plan that will help market key issues.

The broad activities of interest include:

- *Recreation/Tourism*
- *Preservation*
- *Navigation*
- *Power Production*
- *Mining/Legacy Water Quality*
- *Industrial Uses and Manufacturing*
- *Agriculture*
- *Development*
- *Water Supply and Wastewater Management.*

Themes that will resonate throughout this document include:

- *Stormwater Management*
- *Watershed Approach*
- *Retrofitting Existing Entities*
- *Planning and Zoning Regulations*
- *Water Conservation*
- *Source Water Protection*

Tier Four: Statewide Action Agenda: The most significant sentence in the Water Resources Planning Act states that the Water Plan will be updated every five years. This sets in motion our vision to plan now for 2030. The 2008 State Water Plan will be the benchmark that will include a gap analysis for the state and set the direction of future versions of the plan. As part of the planning process, the Statewide Committee will adopt as part of the plan a series of actions that will lead to future directives for our planning agenda. In doing so, we are creating a system for the better management of our water resources and we will truly lay a foundation for change where change is needed.

CONCLUSION

Integrated water resource management captures what is needed to link our future economic growth, enhancing our recreational activities, protecting our water quality and aquatic habitats, and ensuring we find ways to conserve and protect water supplies for current and future generations of Pennsylvanians. Our efforts to create a water management system through the State Water Plan will help focus our resources for the betterment of both the Commonwealth and the regions we share water with as a whole.

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