Water Resources Plan Template for Completion – Status Report
April 2006

In accordance with Water Resources Planning Act (Act 220 of 2002), staff is undertaking a combined internal/external process in developing the State Water Plan. This plan will be the result of many efforts including the overall development of the Water Resources Planning Program (2006 PRR request). The template is a point of reference to guide the internal focus of the Plan's development. External support will be needed to help complete the tasks described below.

Task #1

Team Leads: Bill Gast, Sue Weaver, Dave Jostenski
Team Members: RBCs, USGS, Identified Staff from: Water Use Planning Division, Operations Monitoring and Training Division and Technical and Financial Assistance Training Division
Subcommittee Coordination: CWPA
Date Due: ***October 2006***

Task #1 of each of the regional components of the State Water Plan involves the following technical components involving inventories, assessments and analyses.

- An inventory of the surface water resources of each region of this commonwealth, including an identification of the boundaries of significant watersheds and an estimate of the safe yield of such sources for withdrawal and nonwithdrawal uses during periods of normal conditions and drought.

- An inventory of the groundwater resources of each region of this commonwealth, including an identification of aquifers and groundwater basins and an assessment of their safe yield, prime recharge areas, recharge capacity, withdrawal limits and relationship to stream base flows.

- An assessment and projection of existing and future nonwithdrawal use needs and the values of watercourses included within this commonwealth or federal wild and scenic river systems.

- An assessment and projection of existing and future withdrawal use demands.

- An identification of potential problems with water availability or conflicts among water uses and users.

- An identification of critical water planning areas comprising any significant hydrologic unit where existing or future demands exceed or threaten to exceed the safe yield of available water resources.

Introduction and Overview of the Components and Relevant Issues

The work accomplished in the Task #1 assignment will provide much of the basis to answer the questions: How much water do we have? How much water do we use? How much water will we need in the future? A key outcome of answering these questions will be to identify, through a high level, statewide water budget screening "critical areas". That is, watersheds or regions that currently or in the future may not have sufficient resources, in quantity and/or quality, to meet withdrawal demands. Issues faced by the State Water Planning Team included:

- The Department did not have a complete set of databases on water withdrawals or discharges to properly identify areas where existing or future demands could exceed resources.
- The Department did not have the computational tools to complete the assessment and analyses work.
- There were misconceptions and concerns among various water use sectors over collecting of withdrawal information.

Subtask 1 – USGS Screening Tool

Since 2003, the United States Geological Survey (USGS) has worked on developing a water budget "screening tool" to help the Department identify where existing and future demands may exceed available resources. No change in the status from the previous report. The tool is essentially complete. Minor "tweaks" are being done by the USGS to enhance its display function. DEP staff have been discussing with USGS as to how the tool should display of warnings at pour points downstream of dams that the dams may affect low flow.

Subtask 2 – Water Use Analysis tool

The Water Use Analysis Tool or "WUAT" is a complementary series of processes that will be used by the Department or others working in the State Water Plan team to estimate current water withdrawal demands for which our registration and reporting process may not represent a complete set of withdrawals for certain sectors and to develop withdrawal demand projections for all sectors. The outcome of the demand projections will be data sets that are input into the USGS Screening Tool to fill in the data "gaps" from registration and reporting and to help identify areas where future demands may exceed resources. The DRBC and USGS entered into an agreement to complete the work by the end of July 2006. The USGS is currently working on tasks associated with agriculture demand projections and public water supply, non-residential demands. The project is currently on schedule.

Subtask 3 – Data management

This subtask frames out the major data management efforts that the Department needed to accomplish between 2005 and 2007and prior to and in conjunction with the budgeting and other computational work. The Department benefited from the availability of temporary clerks hired by the SRBC to assist Department data staff in inputting and processing forms.

Registration backlog- Goal to complete cleanup of registrations by end of December 2005.

No change in the status from the previous report. The processing of backlogged pending registrations is complete. We recognize that there are water users who have not registered.

Reporting Backlog – Since the previous report, the Department has continued to work through the checking and processing of previously submitted 2003 and 2004 annual water supply reports.

Revision of Registration and New Reporting
Goal: Implement new reporting system in January 2006. The Department has 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 submitted a registration were mailed a packet of information on annual reporting requesting reports of water use for 2004 and 2005. Reports are being received.

Digitizing Service boundary Areas
Goal: complete by March 31, 2006. This project involved the obtaining and digitizing of public water supply boundary areas. These digitized maps are an important component of the demand projection work for water budget screening.

As of this report date, the majority of service boundary areas have been digitized. There is a small percentage of areas that were not submitted from predominantly smaller systems. The Department will seek to obtain those maps as opportunities arise.

Population Projections
Goal: Finalize projections by February 2006. The Department had previously 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. The Department 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, the Department completed the projections and is in the final step of reviewing the results before they are used and made available for others' use.

DMR collection
Goal: complete DMR's for all basins by fall of 2006. 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.

The Department was informed by the SRBC that the DMR collection for the Susquehanna and Great Lakes basin was to be completed by the end of April 2006. It is our understanding that the DRBC is on schedule to complete the work by the end of August. The Department is currently working on a strategy for obtaining DMR information in both the Ohio and Potomac Basins.

Task #2:

- An 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.

  Lead: Tom Denslinger
  Team Members: Sue Weaver, Dave Jostenski, Jeff Gordon, PUC, Bill Sedlak, PADWIS
  Subcommittee Coordination: CWPA
  Date Due: ***November 2006***

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. Task has been divided into various subtasks, which must be completed by November 2006

Subtask #1 COLOC project-

Goal: The original goal was to complete the project by March 31, 2006. The Department's water resource data is cataloged within several database platforms to facilitate water resource planning and drinking water program needs. The Department 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 assure consistency with locations of withdrawal facilities. The SRBC has agreed to assist the Department on this as part of their State Water Planning work. This project goal will need to be extended beyond March 31 to possibly May 31.

The linkage will also provide a means for the State Water Plan staff to link to source information in PADWIS with source information in WUDS such as yields, pump capacities, permit limitations, etc.

Subtask #2 Yield Analysis Tool

The Yield Analysis tool (YAT) is a GIS Project incorporating four components. The four components are:

1. Population and Demand Analysis
2. Run-of-Stream Yield Analysis with Instream Flow Protection
3. Reservoir Yield Analysis with Instream Flow Protection
4. 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. SRBC has hired the firm of Buchart Horn to do tool development/update from an earlier version of a GIS Tool known as the Water Allocation Decision Support System coded in Arcview 3.2 Avenue script.

The entire YAT development and training was anticipated to be completed by mid-September. Additional work on the Scope of Work has pushed the completion date to mid-October.

Subtask #3 MS ACESS Supply Demand Analysis Module

This subtask is composed of two components. The first is a document that explains the procedures for supply demand analysis and has been completed as of February 28, 2006.

The second component is converting a Supply Demand Analysis Module to integrate with WUDS. The Module formerly required much manual input and external batch processing. The Module will be more fully integrated WUDS so that data is automatically extracted from the WUDS database without user intervention. The anticipated completion date is May 31, 2006. Successful implementation of the tool will depend on clearing the reporting backlog under Task #1 and the deployment and use of YAT to populate the WUDS database.

Task #3 –

- An assessment of floodplain and storm water management problems.

  Lead: Stu Gansell
  Team Members: Barry Newman and the Stormwater Planning and Management Staff
  Subcommittee Coordination: P&I and CWPA
  Date Due: ***February 2006***

  Status as of April 2006. The first draft of the Floodplain and Stromwater management chapter was reviewed by the Policy and Integration subcommittee of the Statewide committee. The P&I Subcommittee provided comments in March. The chapter reviewed existing programs to address stormwater issues in Pennsylvania. Revisions are being drafted at this time and a revised version will be provided to the Regional committees after a second review by the P&I subcommittee.

Task #4

Navigation Needs

Lead: John Booser
Team Members: Andy Zemba, Jim Nagy, PennPorts Staff, Port of Erie, Ports of Pittsburgh, and Philadelphia Staff, USACE Pittsburgh District Staff, and ORBC (Larry Feazel)
Subcommittee Coordination: P&I
Date Due: ***February 2006***

Task #4 of the regional components of the State Water Plan involves an assessment of navigation needs and the means for restoration, development and improvement of transportation by water. It implies consideration of environmental impacts from navigation-related activities.

Status as of April 2006. The first draft of the Navigation chapter was reviewed by the Policy and Integration subcommittee of the Statewide committee. The P&I Subcommittee provided comments in March. The chapter reviewed existing programs to address navigation issues in Pennsylvania. Revisions are being drafted at this time and a revised version will be provided to the Regional committees after a second review by the P&I subcommittee.

Task 4 (Con't) Assessment of Sensitive Areas

Lead: Donovan Houck, Lori Mohr
Team Members: Gary Price, Bill Brown, Tony Shaw, DCNR Staff, and outside agencies
Subcommittee Coordination: P&I, Regional Committees
Date Due: ***February 2006***

Status as of April 2006

An 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; and the habitats of federal and state endangered or threatened species.

This GIS layers have been compiled for the above components in the six watershed planning areas. As a result, each planning area has a map of GIS layers to be integrated into the State Water Plan Regional Atlas. Maps have been created to show managed lands in each basin. Displaying Threatened and Endangered Species data is very sensitive, and we are in the process of manipulating data so that it can be appropriately displayed for public distribution.

Task 4 (Con't): Water Conservation

Lead: Jeff Dewey with initial assistance from John Hines
Team Members: Eric Thumma or identified OETD staff, Dana Aungst, Jeff Gordon, Dave Jostenski., Brian Swistock
Subcommittee Coordination: CWPA
Date Due: ***February 2006***

Status as of April 2006

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, provide for reuse and recycling of water, increase the supply or storage of water or preserve or increase groundwater recharge and a recommended process for providing appropriate positive recognition of such projects or practices in actions, programs, policies, projects or management activities recommended under paragraph 16.

A water conservation web page is currently under development by DEP staff. This web page will be new to the DEP website, titled Water Conservation Center. This page and subsequent links will serve as the immediate starting point to warehouse Water Conservation information, issues and initiatives and to the entities and industries affiliated with and in search of this information. Currently, some of this information is available on the DEP site, but isn't located in any one particular area making it less intuitive to locate water conservation data. Additionally this will include designating Water Conservation as a keyword in the website drop down menu directing users to this page and simplifying search capabilities.

Additionally, a Water Conservation Lending Library is planned and will be housed within the Environmental Education Center on the 1st Floor of the Rachel Carson Building. Water Conservation information and literature such as Books, Maps, Brochures, DVDs, Manuals, etc can physically reside for public and industry access, especially for information not easily or readily publishable to the Internet. This area can expand as necessary to house information from other states, best practice initiatives, regional water authorities, etc and could possibly be used to house "road show" information for special events, seminars, training functions, etc.

We are also looking for a venue to recognize industry leaders in leading water conservation programs, best reuse practices, emerging technologies, etc in a forum that honors the best ideas and initiatives. Three available considerations are:

The Governor's Award for Environmental Excellence;
The Energy STAR Challenge and;

The American Water Works Association (AWWA) - Partnership for Safe Water
- Director's Award
- Five-Year Director's Award
- Excellence Award

Task #5

Lead: Bill Gast, Sue Weaver, Dave Jostenski
Team Members: Tom Denslinger, Jeff Gordon/Staff, RBCs, USGS
Subcommittee Coordination: CWPA
Date Due: ***April 2007***

Status as of April 2006

Task # 5 involved the following two components.

- An identification of practical alternatives for an adequate supply of water to satisfy existing and future reasonable and beneficial uses, including improved storage, groundwater recharge and surface water/groundwater conjunctive management programs.

- An assessment of both 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 or alternative supplies, conservation measures and management techniques.

This task occurs subsequent to Task #1 that centers on the inventory, assessment and identification of critical area work. Depending on availability of time, resources and other factors, this task could take the form of broad alternatives from literature searches and the statewide level screening results or could be based on detailed analyses of targeted problem areas. The Department will need to continue to discuss this task with the committees and other partners in developing a scope of work. The deadline for completion of this task is April, 2007.

Task #6 & 7

Lead: Lori Mohr
Team Members: Larry Toth, Policy Office Staff, Reg. Counsel Staff (Pam Bishop, Marylou Barton, Michele Moses)
Subcommittee Coordination: P&I
Date Due: March 2006

Status as of April 2006

Task #6 of the State Water Plan involves:

- A review and evaluation of statutes, regulations, policies and institutional arrangements for the development, conservation, distribution and emergency management of water resources; and,

- A review and evaluation of water resources management alternatives and recommended programs, policies, institutional arrangements, projects and other provisions to meet the water resources needs of each region and of this commonwealth.

Task # 7 of the State Water Plan involves:

- Proposed methods of implementing various recommended actions, programs, policies, projects or management activities.

The work associated with Task #6 will provide information for making recommendations necessary in Task #7. Task #6 is a baseline analysis of authorities that exist to manage and regulate water resources in the Commonwealth. To begin this analysis, work is currently focused on the programs that exist within DEP. We are in the process of identifying the programs in the Department that work with statutes, regulations, policies and institutional arrangements for the development, conservation, distribution and emergency management of water resources. At this time, work is underway in the water deputate to identify statutes, regulations, policies, and institutional arrangements and their impact on the Department's programs. As the analysis on these programs progresses, the results are being evaluated for their relevance to and potential impacts to the State Water Plan. Simultaneously, we are beginning to independently review statutes and regulations to determine whether or not they impact our work.

IT Progress:

The requirements for the SLIMS Viewer are currently being drafted by the GIS Team. Once the drafted document has received the initial approval of myself as CIO, the requirements will be shared with a wider user group to ensure that any additional requirements for the first phase of the Viewer are documented. After final requirements approval, development of the software application will begin. All work will be done in close communication with the CIO and identified end users to ensure that the product meets expectations. The first version of the tool for internal DEP users is currently planned for roll-out in late summer of 2006. Further enhancements and upgrades as needed and requested by the users will occur on a regular basis following the initial rollout. Point of Contact: Gail Jackson.