WORKING DOCUMENT FOR UPDATING THE STATE WATER PLAN
June 2, 2004
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VOLUME I

THE PENNSYLVANNIA STATE WATER PLAN- -2008

Chapter 1 -- Executive Summary
- **Discussion of Statewide issues**

Chapter 2 -- A Vision for the Future
Chapter 3 – Goals, Objectives, Procedures
Chapter 4 -- Major Recommendations
- **Regulations, policies, guidelines**

Chapter 5 -- Regional Plan Component Integration

VOLUME II

DEFINITIONS, PRINCIPLES, POLICIES AND GUIDELINES FOR PREPARING AND AMENDING THE STATE WATER PLAN AND ITS SIX REGIONAL COMPONENTS

Introduction

Chapter 1 -- The Pennsylvania State Water Planning Process

- History and Background
- Pennsylvania Water Law and Water Rights
- Act 220 Summary
- Regional Committees
- Statewide Committee
- Compact Basin Commission participation
- Public Participation)

Note: Interagency Coordination necessary

Chapter 2 -- State and Regional Water Plan Considerations

Note: Narrative of how these issues were addressed

- The interconnections and relationships between groundwater and surface water as components of a single hydrologic resource.
- Regional water resource needs, objectives and priorities as identified and evaluated by the regional committee.
- Federal, state and interstate water resources policies, plans, objectives and priorities, including those identified in statutes, regulations, compacts, interstate agreements or comprehensive plans adopted by federal and state agencies and compact basin commissions.
- The needs and priorities reflected in county, municipal, and multi-municipal comprehensive plans and zoning ordinances.
- The water quantity and quality necessary to support reasonable and beneficial uses.
- A balancing and encouragement of multiple uses of water resources, recognizing that all water resources of the Commonwealth are capable of serving multiple uses and human needs, including multiple uses of water resources for reasonable and beneficial uses.
- The distinctions between short-term and long-term conditions, impacts, needs and solutions to ensure appropriate and cost-effective responses to water resources issues.
- The benefits and costs and social and environmental impacts of alternative policies, programs, projects and actions.
- Application of the principle of equal and uniform treatment of all water users that are similarly situated and all users of related facilities, without regard to established political boundaries.

Chapter 3 -- Balancing of Considerations

Note: This will be done after plan is completed. How it was done.

- In approving, recommending and adopting the state water plan, the statewide committee and Secretary shall:
    - Provide for serious and deliberative consideration to regional priorities, objectives and recommendations expressed by regional committees,
    - Reconcile differences or conflicts among regional plans and assure that the regional plans and water plan adequately consider and reflect federal, state, and compact basin commission policies, plans, objectives, and priorities of national, statewide or interstate importance

Chapter 4 – Definitions

- All definitions from Act 220 and the 3R regulations (Registration, Reporting, Recordkeeping)

Chapter 5 – Guidelines and Criteria for Assessments

Normal Conditions – Estimates of yields under normal conditions will be based upon long-term average (mean) conditions of the source.

Drought Conditions – Estimates of yields under drought conditions will be based upon the following hydrologic conditions:

a. Reservoir storage – drought of record or 50-year drought conditions

b. Direct withdrawals – ____ exceedence conditions or ____ duration and _____ frequency conditions

Reasonable Period of Time – The periods of time used for determining safe yields will be:

a. Large Storage – Critical duration of the reservoir or annual recharge associated with ground water resources

b. Direct surface withdrawals – time period representative of the user's storage capacity. Initially, this would be generalized for all users as _(7)_ days.

Rate of Replenishment of Water Sources – Rate at which water is added to stream flow or storage as a result of precipitation, runoff, infiltration, seepage, groundwater flow, pumpage, or other natural or artificial means

Prime Recharge Area – The area contributing water to a water source.

Ground Water Withdrawal Limits – Withdrawal limits will be based upon safe yield of aquifers.

Planning Horizons for Assessing Future Water Use Needs – Future water use needs will be determined for periods of (5)-year increments extending to (25) years into the future

Values of Watercourses – Natural, scenic, historic, aesthetic, recreational, economic, and health and safety benefits derived either directly from, or through a nonwithdrawal use of, water in a watercourse.

Watershed – The drainage area boundary, of a watercourse, of such size as will provide a statistical hydrologic flow under the duration and frequency identified for drought conditions, generally an area of 15 or more square miles.

Significant Watershed – A watershed.

The quantity of water necessary to support reasonable and beneficial uses will be determined using the following procedures and criteria:

a. Self-supplied domestic water use – (Statewide/regional) average domestic per capita water use, as determined from public water supply data, will be applied to non-public water supplied populations, based upon census tract population data.

b. Municipal/public water supply use – Per capita water use, for a public water supply system, determined from existing service area census tract populations, will be applied to future service area census tract projected populations.

c. Self-supplied commercial water use –

d. Self-supplied industrial water use –

e. Thermo-electric generation water use –

f. Hydroelectric generation water use –

g. Self-supplied agricultural irrigation water use –

h. Self-supplied agricultural livestock water use –

i. Navigation –

j. Recreational –

k. Fish, aquatic and wildlife habitat

- The quality of water necessary to support reasonable and beneficial uses will be determined using the following criteria:
  - For domestic water supply----------
  - For municipal water supply----------
  - For public water supply----------
  - For commercial water supply----------
  - For industrial water supply
  - For energy development and production----------
  - For agricultural water supply----------
  - For navigation----------
  - For instream hydropower production----------
  - For recreation----------
  - For fish and wildlife habitat and the aquatic environment----------

Chapter 6 –Methodologies

- Water budgeting
- Population projections
- Water supply analysis
- Data and Mapping
- Water Quality Standards and Assessment

Chapter 7 -- Policies and Guidelines ensuring public participation in the development or amendment of the State Water Plan

- Each Regional Committee must hold at least one combined public meeting and hearing to solicit comments from interested persons on water resources planning issues related to the preparation of the regional component of the Sate Water Plan.
- All meetings, hearings and public review shall be conducted in accordance with the provisions of 65 PA. C. S. Ch. 7.
- The Department, in conjunction with the statewide and regional committee, shall hold at least one combined public meeting and hearing in each region to solicit input to the drafts of the initial regional plan components to be used in the development or amendment of the State Water Plan
- The Department, in conjunction with the statewide committee, shall make the draft of the State Water Plan available for public review to solicit input on the draft of the State Water Plan or amendments to the State Water Plan.
- Upon adoption of the State Water Plan, the Department shall publish notice of the adoption of amendment of the State Water Plan in the Pennsylvania Bulletin and on the Department's World Wide Web site.

Chapter 8 -- Policies and Guidelines for the identifying critical water planning areas

Critical water planning areas are comprised of significant hydrologic unit where existing or future demands exceed or threaten to exceed the safe yield of available resources.

Chapter 9 -- Policies and Guidelines for developing Critical Area Resource Plans

- Critical area resource plans shall be subject to review and adoption through the same process as a regional plan
- The Regional Committee must establish a critical area advisory committee
- Prior to adoption, the critical area resource plan must submitted to the official planning agency and governing body of each municipality in the designated critical water planning area for review and comment.
- Critical Area Resource Plans must include the following elements:
  - Identification of existing and future reasonable and beneficial uses
  - Water availability evaluation
  - Identification of the quantity of water available for new or increased uses of water in the foreseeable future and an identification of quantities required for future water uses associated with planned projects of developments
  - Assessment of water quality issues that have a direct and substantial effect o water resource availability
  - Consideration of storm water and floodplain management
  - Identification of existing and potential adverse impacts on uses or conflicts among users and identification of alternatives for avoiding or resolving such conflicts

- Identification of practicable supply-side and demand-side alternatives for assuring an adequate supply of water to satisfy existing and future reasonable and beneficial uses.

Chapter 10 -- Priorities and Guidelines for the level of detail appropriate for different areas

Note: Likely written well into the planning effort. Priorities for A, B, C level planning among the regions or watersheds.

- The current or projected future water demands in comparison to the safe yield of available water resources in the area.

Chapter 11 -- Regulations establishing requirements for the registration, periodic reporting and record keeping of withdrawals

(VOLUMES III-VIII WILL CONSIST OF THE INDIVDIDUAL REGIONAL COMPONENTS TO THE STATE WATER PLAN)

Chapter 1 – Executive Summary and Major Recommendations

Chapter 2 – Goals, Objectives, and Indicators *(These need to be developed by the committees – This is an example.)*

- Goals
  - Water supplies are of adequate quantity and quality to meet short and long term needs
    - Objectives
      - Protect public drinking water supplies from degradation of quality and reduction in yield
    - Indicators
      - Number of source water protection plans being implemented

Chapter 3 -- Regional Priorities *(This is an example of some regional priorities developed by the Potomac Basin Regional Committee.)*

- Inventory Supply
  - Continuous monitor/update

    - Quantity
    - Quality
    - Location
- Inventory Demand
    - How much is being used?
    - What is the future demand?
- Balancing Supply and Demand
    - Water Budgeting
    - Land Use
    - Conservation and Recharge Technology
    - Alternate Uses

Chapter 4 – Public Participation

Chapter 5 – Physical Features and Resources

- Basin Orientation
- Climate
- Hydrology
- Topography
- Geology and Groundwater
- Mineral Resources
- Soils
- Forest Resources
- Wildlife and Aquatic

Chapter 6 – Socio-Economic Features

- Historical Setting
- Economy and Employment
- Population
- Transportation
- Land Use

Chapter 7 – Assessing and Integrating Other Planning Initiatives *(These example are from the Lower Susquehanna Basin)*

- Conodoguinet Creek River Conservation Plan
- Northern Lancaster County Water Budget Study,
- Juniata Watershed Management Plan
- Strategic Comprehensive Plan for the Cocalico Region
- Capital Region Water Board Initiatives

Chapter 8 – Water Resources Inventory

- Surface Water Resources Inventory
    - boundaries of significant watersheds
    - estimate of the safe yield for withdrawal and nonwithdrawal uses during periods of normal conditions and drought.
    - surface water quality
- Ground Water Resources Inventory
    - aquifers and groundwater basin
    - safe yield assessments
    - prime recharge areas
    - recharge capacity,
    - withdrawal limits
    - relationship to stream base flow
    - ground water quality

Chapter 9 – Current and Future Water Use

- Existing and Projected Nonwithdrawal Use Needs
    - Water Quality Requirements Values of Commonwealth Watercourses Values of Federal Wild and Scenic River Systems Existing and projected withdrawal use demands
    - Domestic
    - Municipal
    - Public
    - Commercial
    - Industrial
    - Energy Development Production
    - Agriculture
- 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.
- Flood plain and stormwater management problems. Navigation needs Restoration
    - Development
    - Improvement of transportation by water.

Chapter 10 – Water Conservation, Water Use Efficiency, and Water Reuse

- 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 in Chapter xx "Proposed Methods of Implementing Various Recommended Actions, Programs, Policies, Projects or Management Activities."

Chapter 11 – Potential Water Use Conflicts

- Water Budget Analyses
    - Potential problems with water availability or conflicts among water uses and users.
    - Assessment of the current and future capabilities of public water supply agencies to provide an adequate quantity and quality of water to their service area.
    - Water quality considerations

Chapter 12 -- Critical Water Planning Areas

- Identification and Description of Critical Water Planning Areas

Chapter 13 – Alternatives Review

- 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.
- 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.

Chapter 14 – Statutory and Regulatory Considerations

- Review and evaluate statutes, regulations, policies and institutional arrangements for the development, conservation, distribution and emergency management of water resources.

Chapter 15 – Recommendations and Strategies for Implementation

- Review and evaluation of water resources management alternatives and recommended programs, policies, institutional arrangements, projects and other provisions to meet water resources needs
- Proposed methods of implementing various recommended actions, programs, policies, projects or management activities.

APPENDIX

Glossary of terms

Helpful Web Links
http://www.srbc.net/
http://www.drbc.net/