CRITICAL WATER PLANNING AREA

DESIGNATION CRITERIA

INTRODUCTION

This document is designed to provide the criteria and standards by which regional water resources committees and the Statewide Committee shall review and make recommendations for designation of Critical Water Planning Areas.

Act 220 provides two methods by which a Critical Water Planning Area can be identified--through the planning process as a component of the regional plan, or in advance of the regional plan based upon information developed in (or during) the planning process.

I. Authorization for Designation of Critical Water Planning Areas

Paragraph 3112(A)(6) of Act 220 states that "the State Water Plan and Regional Plans shall include identification of critical water planning areas comprised of significant hydrologic units where existing or future demands exceed or threaten to exceed the safe yield of available resources."

Subsection 3112(D) Designation of Critical Water Planning Areas and Preparation and Approval of Critical Water Resource Plans states that "(1) Critical Water Planning Areas shall be identified as provided under subsection (A)(6). A Regional Committee may, in advance of the formal adoption of a Regional Plan or the State Water Plan and if justified by evidence developed in the planning process, recommend the designation of a critical water planning area. Upon such recommendation, the Statewide Committee and Secretary may designate the area for the development of a critical area resource plan for any watershed or watersheds within a critical water planning area pursuant to this subsection."

II. Criteria and Standards for Identifying Critical Water Planning Areas:

A. **Planning Area Size** – Generally, a significant hydrologic unit of 15 or more square miles.

Paragraph 3112(A)(6) of Act 220 states that critical water planning areas shall be comprised of significant hydrologic units. Because of the limitations on the ability to develop hydrologic statistics on areas smaller than 15 square miles it was agreed that this should be the lower limit of watershed size recommended for consideration as a Critical Water Panning Area. It is recognized that areas

smaller than 15 square miles may be brought forward as areas subtended within a larger hydrologic unit.

A significant hydrologic unit may be comprised of either a surface water or ground water unit.

B. Maximum Time Horizon

- 5 years for recommendations prior to completion of the plan.
- 15 years for recommendations developed in the plan.

Critical water planning areas are predicated on existing or future demands exceeding the safe yield of available resources. Projected future demands should be based on no longer than five-year projections for CWPA's recommended prior to completion of the regional plan. CWPA's identified in the regional planning process should be based on projections extending no more than 15 years into the future.

Considering that the state water plan will be updated every 5 years, and considering the accuracy of projections beyond 15 years, a time horizon longer than 15 years seems inappropriate. Areas recommended prior to completion of the regional plan should be able to demonstrate an immediate problem.

C. Existing and Future Demands

Demands on the water resources occur as both withdrawal and non-withdrawal uses, including water quality considerations. Water budgets are a tool for assessing the adequacy of available water resources and must account for both net withdrawal and return of water.

1. Population Projections

- Should be consistent with State Water Plan projections, or show justification otherwise, based upon local information.

Many withdrawal and non-withdrawal uses are related to population. Therefore projections of such future demands need to be based upon reasonable population projections. Population projections developed as part of the state water plan process should be used; however reasonable local projections can be used if justified.

2. **Withdrawal and Non-Withdrawal Uses**

- Should be consistent with statewide water use statistics for use categories or other reliable information.

Water use calculations should account for existing permit requirements for passby and conservation release flows, where applicable, and should consider seasonality, interruptibility and water quality factors.

Withdrawal use calculations should be based on net water withdrawals. The net withdrawal should account for transfers and consumptive water losses.

Projection methods, including consumptive use coefficients, developed as part of the state water plan process should be used. Reasonable alternative projections, based on industry norms, experts in the field or existing standards, may be used.

Withdrawal and non-withdrawal uses include but are not limited to:

- Public water supply and self-supplied domestic - DEP, in conjunction with others, has developed methods for projecting
- Industrial, mining and commercial - DEP, in conjunction with others, is developing methods for projecting.
- Livestock, irrigation and other agricultural uses - DEP in conjunction with the Pennsylvania Department of Agriculture and others are developing methods for projecting.
- Electrical generation - The Electric Power Generators Association has information on projections.
- Recreation/aesthetic - DCNR, the Pennsylvania Fish and Boat Commission and the Army Corps of Engineers are sources of information.
- Hydropower - EPGA may have information.
- Navigation - ACOE establishes flow targets and operates impoundments to support navigation.
- Aquatic resources - The Pennsylvania Fish and Boat Commission, US Fish and Wildlife and others have various methods for determining in-stream flow needs.

The Delaware River Basin Commission provides references as an appendix to its Integrated Resources Plan policy that are provided as a reference here.

D. **Safe Yield of Available Resources**

To the extent that water quality limits the availability of adequate water supply it should be considered in determining the safe yield of a water source. Conversely, withdrawals should not result in a violation of instream water quality standards.

Net withdrawals, return flows and storage, including both surface and ground water, should be used to derive a complete water budget for the proposed critical area, with the resulting balance determining whether all cumulative withdrawal and non-withdrawal uses, and water quality objectives will be met.

Among the non-withdrawal uses are requirements for instream aquatic resources. For purposes of screening criteria for identifying potential CWPA's, the total cumulative unmitigated net withdrawals should not exceed:

Note: The CWPA Subcommittee is continuing work to develop proposed numeric standards for the following screening criteria. This will include an assessment of the potential impact of these different screening criteria on various scales of watersheds and specific areas known to have potential or existing concerns.

- Class A trout streams (carbonate) (numeric criteria to be established)

- Class A trout streams (noncarbonate) (numeric criteria to be established)

- Every other stream (numeric criteria to be established)
  (*NOTE: whether or not this category should be broken down further, and if so, how, is still under discussion by the CWPA Subcommittee*)

- Other critical uses (for example, but not limited to: threatened/endangered species, public water supply, white water rafting, recreational uses, important regional economic uses, etc. These may result in different flow criteria than the above criteria, and will be judged on a case by case basis. Applicant must provide technical justification for such uses to be considered; no numeric criteria will be established.)

In order for a CWPA designation to be approved, the nomination must demonstrate that total existing or projected demand exceeds available safe yield. The act defines safe yield as the amount of water that can be withdrawn from a water resource over a period of time without impairing the long-term utility of a water resource such as dewatering of an aquifer,

impairing the long-term water quality of a water resource, including a health threat, or causing irreparable or unmitigated impact upon reasonable and beneficial uses of the water resource. The safe yield of a particular water source is primarily to be determined based upon the predictable rate of natural and artificial replenishment of the water source over a reasonable period of time.

NOTE TO REVIEWER – The content of this draft document is still under discussion and development by the CWPA Subcommittee, including several relevant components that are not yet presented within this draft, such as (but not limited to):

- *a potential set of "critical area indicators"*
- *potential inclusion of tools/techniques for addressing critical water problems*
- *storage implications*
- *inter-watershed transfers implications*
- *water quality implications*
- *etc.*

These and other components will continue to be discussed along with the material presented within this draft and addressed by revisions as appropriate in the future.