
APPENDIX F
PUBLIC REVIEW COMMENTS AND RESPONSES

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PUBLIC REVIEW COMMENTS AND RESPONSES

Appendix F presents a summary of public review comments on the June 2004 draft Groundwater Management Plan and responses to the comments. The review of the plan was conducted during a 90-day period that began on June 9, 2004. Three public workshops were held in July 2004 to present the draft plan and provide the opportunity for approximately 175 attendees to make oral comments. A record of all comments from the workshops was made. More formal written comments (by letter and/or e-mail) were also received by the Commission from 21 interested parties during the review period. Over 400 comments were received from the workshops and written submittals.

All comments were reviewed and addressed. The final plan has incorporated additional or revised information, as needed, to reflect changes in response to the comments. The review comments were organized by major topics for effective presentation in this appendix and a response is provided for each topic. Also noted for the written review comments is the list of interested parties who provided input on each major topic. A concerted effort was made to include representative and significant comments while accounting for numerous similarities in input received from multiple sources at workshops or in written form.

The list of interested parties that provided written comments is provided below. Acronyms or shortened names are noted and were used in the topic-by-topic responses which follow.

1. EPA = Environmental Protection Agency
2. PADEP = PA Department of Environmental Protection (3 offices provided comments)
3. PAFBC = PA Fish and Boat Commission
4. MDE = MD Department of the Environment (2 offices provided comments)
5. DCDWA = Delaware County, NY Department of Watershed Affairs
6. CCPC = Centre County, PA Planning Commission
7. SCWA and CTWA = State College, PA and College Township, PA Water Authorities (provided consolidated set of comments)
8. YCPC = York County, PA Planning Commission
9. STCRPDB = Southern Tier, NY Central Regional Planning and Development Board (2 sets of comments provided)
10. PCBI = Pennsylvania Chamber of Business and Industry
11. P&G = Procter and Gamble
12. Exelon = Exelon Corp.
13. PAGWA = Pennsylvania Ground Water Association
14. PAACA = Pennsylvania Aggregate and Concrete Association
15. SCCTU = Spring Creek, PA Chapter of Trout Unlimited
16. SCWC = Spring Creek, PA Watershed Community
17. Parizek = Richard R. Parizek and Associates
18. ARM = ARM Group, Inc.
19. Giddings = Todd Giddings and Associates
20. Converse = Converse Consultants
21. PSU = Pennsylvania State University

TOPIC 1: SCOPE OF THE PLAN

A. Workshop Comments. The document does not present a plan since it does not include a collection of data with specific recommendations. The recommendations that are in the draft plan are generic

and should be specific to the Susquehanna Basin. The draft plan is more a statement of policies and guidelines rather than a real plan.

- B. Written Comments.** The draft plan is more of a policy statement and provides no goals, objectives or means to measure accomplishments. The Commission should focus on a few key items over which it has control, and can make a positive and substantial impact, with actions prioritized to do this. Emphasis should be placed on the need to balance groundwater management, through preservation and/or sustainable use of the resource as a long term goal, with economic growth and public needs. Conjunctive use management of groundwater and surface water merits greater consideration and promotion. More extensive data gathering efforts are required prior to finalizing the plan.

Sources of comments: PADEP, MDE, PCBI, P&G, Exelon, PAACA, ARM, PSU.

- C. Response.** The scope of the plan was purposely set to be a framework that will guide the Commission and other responsible entities in effectively managing groundwater resources in the basin. Major problems, all of which are applicable to the Susquehanna Basin and 39 proactive recommended actions to address them were developed. Although broad based, the plan goes well beyond policy statements and identifies issues, problems, actions, roles, responsibilities, priorities and schedules. There are a number of actions that can be taken in the near term. Twelve continuing actions are identified in Section 6.2 and are defined to be those actions that should be initiated and/or implemented relatively easily and quickly under existing programs, although full implementation of some initiated actions may take years. The remaining actions are defined to be short-term (initiate within two years) or long-term (two to five years) and will require implementation measures such as development of new guidelines or regulations, provision of adequate resources, and interagency coordination. The discussion of goals and objectives has been expanded in Section 1.1 to be more complete. A means to measure and assess accomplishments is discussed in Section 3.5 and calls for an annual progress report.

Additional emphasis has been placed on the need to balance environmental needs, related to preservation of groundwater resources, with sustainable use of the resource to foster economic growth and meet public needs. See Sections 1.1 and 9. In a related matter, discussion of conjunctive water use management has been added in Section 1.6.3, and is part of a new recommendation discussed in Section 3.2.

The Commission recognizes the merits of focusing resources on the most critical items, but strongly believes all recommended actions are important and need to be addressed in the long term view. By assessing each action under a prioritization rating system, focus can be placed on those that are most critical. See Section 6.2 for further discussion of the prioritization of actions.

A purpose of the plan was not to conduct extensive data collection and assessment efforts, but rather outline needs based on existing data gaps as discussed in Sections 4.1 and 4.2. Significantly, several recommended actions relate to improved data collection.

TOPIC 2: WATER QUALITY

- A. Workshop Comments.** The plan should be expanded to more fully discuss water quality. There is a noted lack of water quality components and any in depth discussion of water quality issues and concerns. Water quality needs to be balanced in the plan.
- B. Written Comments.** Discuss and consider nutrient and/or pesticide loading, storm water run off impacts, non-AMD water quality issues, and degradation of groundwater quality by agricultural

practices. Address other agencies that manage water quality. Include actions to protect groundwater from pollution from gas drilling activities. There are serious concerns with restricting use of groundwater in areas upstream of AMD-impacted streams and thereby denying legitimate water use. The prohibition of consumptive use in TMDL-affected watersheds is unnecessarily broad. Consider water quality impacts in approval of projects.

Sources of comments: EPA, CCPC, STCRPDB, PCBI, P&G, Converse.

- C. Response.** The importance of water quality in effective groundwater management is recognized. Discussion has been added to the plan on water quality issues, data, and current programs (e.g., by states); see Section 1.4 and Appendix A of the plan. The role of the Commission is to provide effective coordination since it does not have a primacy in a water quality mission; see Section 4 of the plan for further discussion. Implementation of new or revised actions to address specific groundwater quality issues (e.g., pollution protection from gas drilling activities) is beyond the scope of the plan. The plan proposes possible restricted groundwater use in high quality, non-AMD-impacted areas based on an evaluation of downstream water quality impacts; see Section 2.4. Many types of activities that use water are possible in these watersheds with minimal impact to water quality and existing water uses will be grandfathered. Potential prohibition of consumptive use of groundwater is limited to those areas impacted by AMD and is not meant to broadly apply to other areas with TMDL issues. The plan proposes the Commission review individual consumptive use projects with respect to sustainability recognizing that the loss of water quantity is generally accompanied by a related reduction in water quality.

TOPIC 3: POTENTIAL STRESSED AREAS AND CARA'S

- A. Workshop Comments.** Plan should include standards and guidelines for identifying groundwater stressed areas. Concerned about statement describing State College as a groundwater stressed area. Identification of State College as a groundwater stressed area is a very positive point. Will there be regulatory controls to stop development in identified groundwater stressed areas? Has the Commission considered mapping of recharge areas?
- B. Written Comments.** State College (PA) was identified as a potential groundwater stressed area with no substantive documentation provided. We question both the identification of State College as a potential groundwater stressed area and the criteria used for this assessment. SCTU strongly supports the conclusion that the Spring Creek watershed (State College area) is a potentially groundwater stressed area. More than 43 years of study and personal observations indicate that the sustained yield of carbonate aquifers in Nittany and Penns Valleys (State College area) has not been exceeded. CARA's need to be identified and made available to land use planners. As a recharge and basin headwater area, Delaware County (NY) is targeted for "preservation" for the benefit of downstream communities.

Sources of comments: PADEP, DCDWA, SCWA and CTWA, SCCTU, Parizek.

- C. Response.** Information has been added in Section 2.1 of the plan on the criteria and assessments used to identify potential stressed areas. The Commission will review proposed projects in these areas with a greater degree of scrutiny and may invoke special conditions for any approved projects. Regulatory control of new development will be at the local level. Issues particular to the State College, PA area were thoroughly discussed at meetings requested by local interests and held in October 2004. Protection of groundwater recharge in headwater areas is important for sustaining water supplies and streamflow both locally (e.g., in Delaware County, NY) and in areas further downstream. Critical recharge areas (CARA's) will be identified for locations not included in the

currently identified potentially stressed areas during Commission project reviews, if sufficient information is available, or if/when funding is made available to do this work as a special study for a certain area. CARA results will be made available to interested parties.

TOPIC 4: PRISTINE AREAS

- A. Workshop Comments.** Protecting pristine watersheds sounds like anti-degradation and could be a land use issue. Need to clarify this is not a regulatory action, but land preservation and conservation management. The Commission should not generally prohibit consumptive use in headwater areas, but work out solutions.
- B. Written Comments.** Water preserves suggest that the Commission become involved in a broad land use management program which goes far beyond the purpose of the Compact's protected area program. Water preserves need to be identified and made available to land use planners.

Source of comments: PADEP, PCBI.

- C. Response.** After further consideration, the recommendation calling for the Commission to develop a long term protection program for pristine areas has been dropped. The protection of areas with pristine water quantity and quality is intended to be accomplished by (1) thorough Commission review of all impacts by proposed water use projects and (2) public outreach and education on the high value of pristine areas. The Commission will not be responsible for land use controls or land management which is a local prerogative. Local land use planners should be closely involved in actions to preserve/conservate lands in pristine areas.

TOPIC 5: FUNDING OF GROUNDWATER MANAGEMENT PROGRAMS

- A. Workshop Comments.** Need to specifically state in the plan that funding is paramount. The plan should tell decision-makers how much money is needed to implement the plan. The Commission should recommend funding for the Act 220 Program.
- B. Written Comments.** Apply a major effort to seek long-term sustained funding from state, federal, and other sources.

Source of comment: ARM.

- C. Response.** Long term, sustained funding at all levels is paramount to implementing the actions identified in the management plan and, accordingly, a new recommendation has been added to address this. See Section 3.7 for further discussion. The total implementation cost of all recommended actions is beyond the scope of the plan, but a limited discussion of costs is included in Section 6.3.

TOPIC 6: EFFECTIVE COORDINATION

- A. Workshop Comments.** The Commission should not work in a vacuum – need to ensure coordination with other agencies and ensure coordination with the Act 220 Program. Need to partner with the business community to avoid surprises on environmental protection and regulation.
- B. Written Comments.** The plan does not acknowledge the importance of engaging local communities. Local public perception is that the Commission is only interested in perpetuating its existence and regulatory authority through its fee structure. The plan and any implementing requirements must be

very closely integrated with state level program development (e.g., Act 220). Division of Drinking Water Management (PADEP) offers to take a co-lead on 12 recommendations and work with the Commission to create a workable program.

Sources of comments: PADEP, DCDWA, P&G.

- C. Response.** Several plan recommendations call for enhanced coordination as part of the Commission's Project Review Program, possibly including formal arrangements (e.g. MOU's); see Section 3 of the plan for further discussion. Improved coordination with business and environmental interests will be considered. The Commission is actively involved with Pennsylvania's Act 220 Program and has included the Groundwater Management Plan in coordination and meeting discussions. The importance of engaging local communities is recognized by the Commission and is reflected in Section 3.4, Increased Knowledge About Groundwater as a Resource, which targets local jurisdiction, among other groups, for public outreach and education. The assistance of PADEP's Division of Drinking Water Management will be considered during the implementation phase of identified actions.

TOPIC 7: AGRICULTURAL WATER USE

- A. Workshop Comments.** The whole issue of agricultural impact on water quality and quantity does not show up in the plan. Will the temporary suspension of consumptive use requirements for agriculture be addressed in the plan? How will the Commission bring agriculture into the management picture concerning nonpoint pollution?
- B. Written Comments.** Ag use should be exempt from groundwater restrictions, if not, who will conduct analyses and pay for water use?

Source of comment: DCDWA

- C. Response.** The issue of the quantity of agricultural water use is part of the topic of unknown and unregulated groundwater use discussed in Section 2.5. Water quality impacts are discussed in Section 1.4 and Appendix A. The suspension of consumptive use requirements has been added in Appendix B. The Commission does not have a lead in regulating or managing water quality efforts, including those related to agriculture. The impacts of agricultural water use can be significant and should not be permanently exempted from regulatory control. In the absence of a temporary suspension, the costs for water use applications, including analyses required, would be paid by the water user.

TOPIC 8: MINING

- A. Workshop Comments.** The plan needs more discussion on the issue of finding reliable water sources for municipalities in the lower basin where noncoal mining activities are significant users of groundwater. Are groundwater withdrawals in AMD-impacted areas looked at more critically than those in other areas? Do existing mining regulations achieve what the plan's recommendations for impacts of mining contain?
- B. Written Comments.** If there are major concerns on mining sand and gravel aquifers, recommendations would be welcome. The Groundwater Management Plan should also note the positive contributions of aggregate mining to groundwater management.

Source of comment: STCRPDB, PAACA

- C. Response.** The discussion of increasing and possibly conflicting groundwater demands in areas of both significant growth and mining activities has been expanded in Section 2.8. Withdrawals in AMD areas are critically reviewed and this has been clarified in Section 2.4 and 2.6 of the plan. The mining recommendations are meant to supplement existing regulations by providing additional analyses (e.g., water budgets). Section 2.8 discusses issues, problems, and recommendations related to groundwater mining and impacts to aquifers. Bedrock quarries present a unique set of both challenges and potential opportunities (i.e., positive contributions). The plan proposes that these be carefully evaluated and an approach to their review be developed.

TOPIC 9: PUBLIC OUTREACH AND EDUCATION

- A. Workshop Comments.** A key role for the Commission is to educate planners, local governments, the agricultural community, etc. Outreach should be relevant and targeted. It is important to keep water resource managers informed through outreach and education with possible use of electronic newsletters and bulletin boards. Consider increased coordination with agencies and organizations doing education and outreach to identify education needs.
- B. Written Comments.** Increase the emphasis on the technical information and assistance that can be provided to local decision-makers. Include more data and information that can be used for local planning efforts by including a reference list of all the water budget, groundwater modeling, and water quality monitoring projects that have been done over the years. Focus specifically on development and sharing of practical tools and implementation techniques for effective groundwater management.

Source of comment: STCRPDB, P&G

- C. Response.** The Commission agrees with the workshop comments and has addressed them in the plan; see Section 3.4. Several of the plan's recommendations in Section 3.4 call for outreach and education actions to include identifying constituencies, assisting local governments, and using a variety of methods. Additional emphasis has been added in Section 3.4 on providing technical information and assistance to local decision-makers. The research effort needed to document all water budgets, modeling, and water quality monitoring done in an area the size of the Susquehanna River Basin is outside of the scope of the plan.

TOPIC 10: REORGANIZATION AND REFORMATTING OF PLAN

- A. Workshop Comments.** The report should be reorganized to reduce redundancies, place emphasis on charts and group like items together. Charts should be placed up front followed by text that supports the charts.
- B. Written Comments.** Start with Table A-1 and reorganize verbiage portion of report. Organization needs improvement and length of document distracts from content.

Source of comment: PADEP, MDE

- C. Response.** The plan has been reorganized by grouping the discussion and recommendations for resource issues and problems, management issues, and support programs in their separate sections (Sections 2, 3, and 4, respectively). Charts and tables are placed immediately after discussion of their purpose and content for clarity and effective understanding. The main portion of the plan has been further reduced in length by placing much of the detailed information on existing conditions and

management principles and tools in appendices. A short summary report has been prepared for general distribution with the full and detailed plan prepared for more limited distribution. A summary of the recommended actions contained in Table E1 (which was Table A1 in the June 2004 draft plan) is included in the first portion of the plan, the Executive Summary. Improved organization of the plan should enhance its content despite the length.

TOPIC 11: STATE COLLEGE, PENNSYLVANIA, AREA ISSUES

- A. Workshop Comments.** Concerned about the strong statement in the draft plan describing State College as a potentially groundwater stressed area and the map identifying stressed areas. Is this identification based on Commission data? Is this map intended to be a complete map? If a community is identified as such by the Commission, and a community disagrees, what's their recourse? Does this mean that Commission's regulatory decisions related will be impacted (i.e., will it be harder to get approvals)? Maybe the Commission should make public notifications when decisions involving these areas are taking place.

What are the limits in these potentially stressed areas...are we talking about safe yields? We need to take into account aquifer storage capacity factors, not just look at drought-year factors, i.e., the 1-in-10-year drought factor.

Some feel the stressed area identification is a positive point, not negative, and unless we work at the municipal levels, we are never going to protect those areas. This information should be kept in the report.

- B. Written Comments.** State College was identified as a potential groundwater stressed area with no substantial documentation provided. The Commission plan portrays that the region's water suppliers are not managing the groundwater supplies in a sustainable manner. We (i.e., certain local jurisdictions) question both the identification of State College as a potential groundwater stressed area and the criteria used for this assessment, and believe the groundwater resource is being managed in a very sustainable manner. More than 43 years of study and personal observations indicate that the sustained yield of carbonate aquifers in Nittany and Penns Valleys has not been exceeded. SCTU (Spring Creek Chapter of Trout Unlimited) strongly supports the conclusion that the Spring Creek watershed is a potentially groundwater stressed area.

Source of comment: CCPC, SCWA, CTWA, SCWC, Parizek, PSU

- C. Response.** The high degree of interest and concern in the State College area resulted in a large number of comments and local interests requested a meeting with Commission staff. On October 18 and 19, 2004, two meetings were held in the State College area. Representatives of the following groups participated in discussions with Commission staff at one or both meetings.

Centre Regional Planning Agency	Pennsylvania State University
Centre County Planning Commission	Meiser and Earl, Inc.
State College Borough Water Authority	North American Water Systems
Spring Creek Watershed Community	

All significant issues raised in the comments were thoroughly discussed and the Commission's positions explained. The major issue concerned the identification of the State College area as a potentially stressed area and Commission staff discussed its criteria and data used to establish the identification. Section 2.1 of the final plan has been expanded to include the information (on both data and criteria used by the Commission) and site-specific conditions which led to the identification

of several locations in the Susquehanna River Basin, including State College, as potentially stressed areas. One particular criteria that is very important to understand is the use of existing plus additional approved groundwater withdrawal amounts, not just current withdrawals, by the Commission in assessing potentially stressed areas. Thus, the Commission's identification of potentially stressed areas is based on existing withdrawals and approved increases in withdrawal quantities. The plan has been clarified in Section 2.1 to explain the Commission's use of this criteria in assessing an area's problems and issues.

TOPIC 12: PRIORITIES

- A. Workshop Comments.** Seems like the Commission prioritized by feasibility.
- B. Written Comments.** Start with actions the Commission has regulatory control/authority over. Prioritize actions where the Commission can make a positive and substantial impact. Education is critical. Top Priorities: Maintain centralized database for well information and assist communities by utilizing existing source water assessment data.

Source of comment: PADEP, PCBI, STCRPDB

- C. Response.** The prioritization rating system considered four factors as discussed in Section 6.2 of the plan. The feasibility of the recommended actions is part of two of the rating factors in terms of development time, related actions required, technological and staffing requirements, and legal or policy constraints. Therefore, feasibility of the recommended actions was part of the prioritization rating process, but not the sole basis for setting priorities. The Commission's regulatory control/authority is an element considered in three factors (coverage under existing programs, timing and sequencing, and ease/difficulty of implementation). From a broader perspective, the Commission believes the full range of selected actions needs to be addressed and prioritized on an equal basis. Prioritizing by selecting only actions that the Commission can make a positive and substantial impact on limits the scope of the plan. It is believed the prioritization rating system used is a reasonable and balanced approach for assessing all actions.

Education is critical and the related recommended actions are included as either top or high priorities in Table 6.3. Maintaining a centralized database for well information is rated as a high priority, rather than top priority, due to implementation issues with a new program. Assisting communities by utilizing existing data has been changed from a priority to high priority action; see Table 6.3.

TOPIC 13: TECHNICAL EVALUATIONS

A. Workshop Comments.

1. Referencing a groundwater model in recommendation A1 can mean anything; need to describe a "standard" model. How will the model be applied?
2. Could the Commission and PADEP develop uniform procedures for doing water budget analyses? Will Penn State's Living Filter and proposed beneficial re-use project be factored into a water budget?
3. How satisfied is the Commission with the 48-hour pump test and the methodologies and data that come from the 48-hour tests? Are there any changes planned?
4. You need to recognize and clarify the time lag between taking of groundwater and the impacts. How restrictive should the Commission be? When will you hold a user to a lower level?
5. Has the Commission considered doing any kind of mapping to look at how much recharge might be needed for different aquifers – to use as a planning tool to guide future development?

B. Written Comments. The Commission needs to develop standard guidelines for preparing groundwater availability analysis. More work is needed on the evaluation of location, magnitude, and duration of groundwater pumping on surface water flows. When to apply groundwater modeling verses analytical solutions should be well defined.

Source of comment: PADEP, PFBC.

C. Response.

1. A model would use computerized mathematical simulations to predict groundwater flow. A standard model is not envisioned since the choice of the specific code or program to be used will be based on the conditions and technical needs for a particular area. A groundwater model would be used only if other less expensive analytical solutions are not adequate. (responds to third written comment also)
2. During scoping and conduct of future groundwater availability analyses, consideration will be given to developing uniform procedures. Elements such as beneficial reuse projects can be included in the analyses if they would have an impact on study results. (responds to first written comment also)
3. Pump tests required by the Commission have proven to be generally satisfactory and no significant changes are planned. However, staff agrees that in many cases, the 48-hour pumping test is of insufficient duration to allow documentation of the interaction of groundwater withdrawals with surface water bodies. Even so, the more intensive monitoring of surface water bodies required in the Commission's "Pumping Test Guidance" has resulted in many more such interactions being detected. Much more work in this area is needed, but until such time as this information becomes available, staff will interpret most fractured bedrock aquifer flow systems as being predominantly local, with minimal flow lost to regional flow systems. Site-specific data indicating the presence of a quantitatively significant regional flow system will be considered when available. (responds to second written comment also)
4. The issue of time lag between the taking of groundwater and surface water impacts is recognized, but the identification of specific time lags and impacts is difficult to quantify. The Commission will strive to identify this information for proposed projects if conditions, such as large withdrawals near high quality streams, warrant this effort. Restricted groundwater use will be an option available if significant impacts are identified.
5. The Commission can provide available aquifer recharge data and mapping to local jurisdictions for their planning purposes. This information will be limited to the areas where sufficient project related groundwater analyses have been done.

TOPIC 14: BALANCE BETWEEN ECONOMIC DEVELOPMENT AND ENVIRONMENTAL PROTECTION

A. Workshop Comments. The draft plan does not go far enough in putting it all together, including recommendations, policy issues regarding the balance between economic development and environmental protection. Suggest that the draft plan recognize that groundwater is a dynamic resource and that the Commission's purpose in managing groundwater is twofold, i.e., an impacts balancing approach, not one of preserve and protect. Caution against a "1-size fits all" approach. Noted the lack of discussion on conjunctive water use and management (as reflected in recommendation A1).

- B. Written Comments.** Such a balancing requires that the Commission develop a plan and administer regulations that do not promote one type of use over another (such as rules that elevate fish over people, or visa versa). The plan needs to provide for a balancing of the shortfalls to minimize economic dislocation and avoid serious environmental harm.

Source of comment: PCBI

- C. Response.** Additional emphasis has been placed on the need to balance environmental needs, related to preservation of groundwater resources, with sustainable use of the resource to foster economic growth and meet public needs. See Sections 1.1 and 9. Information has been added in Section 1.4 on the economics of groundwater use in the basin and to provide a more balanced view of economic development and environmental protection. Discussion has been added on the subject of conjunctive use in Section 1.6.3, and a recommendation has been added in Section 3.2 dealing with conjunctive use.

TOPIC 15: REGULATORY ISSUES

A. Workshop Comments.

1. Will this plan result in changes to Commission regulations and impact upcoming groundwater withdrawal applications (e.g., Shrewsbury's)?
2. Suggest that local governments perhaps should have water allocation powers. Would the Commission consider delegating any regulatory review responsibilities to the counties? It is nice to know the Commission is looking at the “big picture” and would not want any delegation process to result in the loss of that bigger-picture look.
3. There will be problems/issues if the Commission attempts to adjust approved withdrawal amounts for public water suppliers as referenced in the groundwater mining section of the draft groundwater plan.
4. Will the Commission's Pumping Test Guidelines include enforcement? In the recommendation that references the Pumping Test Guidelines, perhaps the Commission should indicate that there are regulatory requirements backing up the guidelines.
5. Does the Commission have any model well head protection ordinances for municipalities to use? Is the Commission tied into NYSDEC's water well drillers registration program, and has the Commission looked at the data?
6. What are the results of the Commission's registration program (referenced on page 118 of the draft plan)?

B. Written Comments.

1. The regulators and regulated community need standard definitions for stressed areas, critical areas, impact, and significant impact.
2. If other solutions to water supply problems are not forthcoming, consider invoking the Commission's protected area program authority to adjust regulatory standards (such as project review triggers) and focus other actions as necessary to assure a balanced sharing of water among all legitimate users.

Source of comment: PADEP, PCBI

- C. Response.** For A1-A6 comments:

- A1. It is not anticipated that the plan will directly result in changes to Commission regulations, but implementation of the plan's recommended actions over the long term could require some changes in regulations.
- A2. The Commission's mission is based on the authority and responsibility to ensure water resource management from a basinwide perspective, irregardless of political boundaries. Maintaining this "big-picture" view is important and regulatory responsibilities should not be delegated.
- A3. If groundwater availability has or is expected to become a critical issue in a certain area, then the Commission must consider all prudent alternatives. Any action will be carefully considered, particularly if they could impact existing water users, and the public will have the opportunity to comment. It is expected that reductions in approved withdrawals would be rare if they do occur.
- A4. The pumping test guidelines are provided to applicants for information and guidance in preparing project proposals. If an applicant does not meet or exceed the pumping test information required by the Commission, the proposed project will not be approved.
- A5. The Commission does not have model well head ordinances, but can provide technical information upon request. We are aware of NYSDEC's water well drillers registration program, but have not reviewed the data.
- A6. The referenced action calls for a new registration of groundwater uses that exceed 10,000 gpd. This requirement would supplement the current registration level of use exceeding 100,000 gpd. Results of the new registration program will be known only after a period of time following its implementation.

For B1 and B2 comments:

- B1. Establishing standard definitions is not practical in view of varying site conditions and the number of agencies with regulatory responsibilities. Each agency must determine and clearly communicate the definitions and/or criteria they apply based on project information and site-specific conditions.
- B2. In the rare event that issues and/or conflicts cannot be resolved, the Commission has the authority to take actions to assure an equitable use of groundwater resources among competing legitimate users. Before taking this step, the Commission will provide available technical information to project proponents for their use in the preparation of project material and in scoping a sound project. Commission staff can attend stakeholder meetings, if requested, to help identify potential solutions to groundwater use problems. If hydrogeological conditions warrant, Commission manpower can be made available, and if funding is provided to the Commission, staff can develop water budget analyses for a local jurisdiction(s).

TOPIC 16: LAND USE PLANNING AND DEVELOPMENT

- A. Workshop Comments.** Suggest that the Commission encourage and assist local groundwater concepts in planning and land use control. How does the Commission plan to address land use decisions and manage growth as referenced on page 54? Suggest that the Commission's plan identify where growth should occur. This plan needs to address the differences in land use requirements among the states, i.e. Maryland land use law is different from Pennsylvania. Suggest getting water addressed in local plan/ordinances via regional plans such as the one developed in northeast Pennsylvania. Do human activity and economic development culminate in an ultimate limit on water? What are the limits?
- B. Written Comments.** Critical aquifer recharge areas and water preserves need to be defined and made available to land use planners. The plan seems to discount the role of local governments who have control over land use decisions. Zoning and subdivision regulations, as well as establishment of

critical environmental areas, are handled at the local level; therefore recommendation C1 (develop regulations and programs to protect groundwater from contamination) should show the states and others (local jurisdictions) as co-leads for implementation.

Source of comment: PADEP, DCDWA

- C. Response.** The Commission does not regulate land use planning, as such, it does not engage in activities that are administered by other entities (i.e. planning commissions, local zoning boards). However, the Commission, through its outreach and education efforts, may make recommendations as to how groundwater resources may be affected by land use activities. When applicable, the Commission also coordinates its activities with other agencies with responsibilities relevant to the issues. The statement on page 54 of the draft plan, the Commission must “effectively manage changing land use and growth” was in error and has been corrected in the final plan. Concerning the limit of groundwater resources to support human activity and development, additional information has been added to Section 2.1 on potential groundwater stressed areas. The identification of CARA's and water preserves will be a long-term effort that will require substantial resources and support of interested parties; information will be made available as the work progresses. Implementation of the initial element of recommendation C1 has been revised to show the states and local jurisdictions as co-leads with the Commission in a support role; see Table 6.1.

TOPIC 17: RELATIONSHIP TO PENNSYLVANIA ACT 220

- A. Workshop Comments.** How does this plan relate to the Act 220 critical areas water planning? Need to ensure coordination. There is an opportunity to actively show how Commission activities fit into Act 220 requirements as a short-term solution, particularly the critical areas planning. The procedures for coming up with critical areas are being developed now to include scale under the Act 220 implementation process. The Commission's scale should not be different from DEP's pending scale.
- B. Written Comments.** We also believe strongly that the plan and any implementing requirements must be very closely integrated with State-level program development, especially in Pennsylvania as actions required to implement the Water Resources Planning Act (Act 220) are formulated. We support maintaining and strengthening this integration as a top priority in the Commission's Groundwater Management Plan. As a member of the Upper/Middle Susquehanna Regional Committee, I believe that your plan will be of great assistance to our committee in developing our regional component of the new State Water Plan under Act 220.

Source of comment: Giddings, P&G

- C. Response.** The Commission is coordinating very closely with PADEP concerning implementation of Act 220 activities, including critical areas planning, procedures, and designations. Funding has been provided by the Commonwealth for the Commission to assist in this effort. Discussion has been added in Section 6.1 explaining that the Commission's Groundwater Management Program is complimentary to and aligned with the state programs. As an example, Pennsylvania is actively pursuing groundwater planning and management improvements under their Act 220 Program. This effort includes water budget analyses which are recognized in this plan as being critical to sound groundwater management in areas of high demand in relation to sustainable water supply.

TOPIC 18: MEASURING PROGRESS UNDER THE PLAN

- A. Workshop Comments.** Need a way to measure/assess accomplishments, such as including goals and objectives. There are no outcomes identified so who will ensure that anything gets carried out? The Commission needs to figure out what to measure and develop models. What will the Commission do about the recommendations in the draft groundwater plan?
- B. Written Comments.** The plan as written provides no goals and objectives nor a way to measure/assess accomplishments. Without objectives and clear measures, it is difficult to measure progress.

Source of comment: PADEP

- C. Response.** Accomplishments will be measured by periodic assessments by the Commission of progress made toward implementation of the recommended actions. An annual progress report will be made to the Commission's Water Resources Management Advisory Committee. In addition issues related to plan implementation will be identified and resolved on an on going basis. A comprehensive review and revision of the plan will be made at intervals not to exceed ten years in order to ensure its continuing relevancy. It is believed the periodic assessments discussed above will help ensure recommended actions are being addressed. If significant issues of plan implementation arise the Commission will take steps to lead or support resolution of the issues.

TOPIC 19: MISCELLANEOUS**A. Workshop Comments.**

1. Is there a trend of increased groundwater use in the basin?
2. Does the Commission have concerns about using 1995 water use data and is this the best available data?
3. The importance of sustainability was mentioned. Regarding the fact that we are dealing with the 13 inches of rain left for management, are we orders of magnitude away to achieving sustainability (supply versus demand)?
4. Under the Intense Growth Areas section, there does not seem to be anything related to conservation (pg 115). Recommend that we strengthen conservation elements.
5. Suggest that the Commission attempt to do cost/benefit analysis to determine which recommendations should be prioritized for implementation. This approach would get the most bang for the buck.

B. Written Comments.

1. We recommend a "Definitions" section be added to the document. Adding a glossary to the plan would enable local elected and appointed officials to better understand the concepts, data, and recommendations.
2. An issue that as not mentioned in the plan was the ever present need for new stream gages as well as the continuation of existing gages.
3. One way to allay concerns about costs to the Commission is to allocate funds to local municipalities who can do projects much more cost-effectively than the Commission.
4. It would be helpful to list the members of WRMAC and the groups or agencies that they represent.

Source of comments: PADEP, DCDWA, EPA

C. Response. For A1 to A5 comments:

- A1. Any trends concerning increasing/decreasing water use are difficult to discern based on the lack of a consistent, uniform approach for any data collected on a basinwide scale. The Commission has been able to make determinations concerning trends in use within particular areas of the basin, and only using data collected as part of its regulatory program. The recommendations in this plan outline potential efforts to initiate a more comprehensive approach to collecting data for trends analysis, and also hopes to develop partnerships with other agencies/groups in order to create a more accurate and reliable database.
- A2. Yes, the Commission does have concerns with using data from 1995, particularly considering growth in certain parts of the basin. It was the best available dataset for comparing groundwater use throughout the basin, especially concerning uniformity/consistency in collection methods. The lack of current data available for this particular type of water use reinforces the importance of implementing the recommendations outlining the need for a comprehensive, basinwide groundwater database, increased groundwater monitoring, water budgets, cumulative impact analysis, etc.
- A3. On a basinwide basis (27,500 square miles) as well as for the major subbasins, demand is far less than supply. However, on a local watershed or groundwater basin basis several areas are nearing sustainability limits, as covered in Section 2.1.
- A4. In Section 2.1 of the final document, the importance of using BMPs (best management practices) in areas of intensive development to minimize loss of recharge is recognized. Although conservation is not explicitly listed as a solution, the referenced BMP guidance developed by the Commission's member jurisdictions details conservation elements, as well as many other BMPs, used for improving stormwater management and increasing groundwater recharge.
- A5. The concept of cost/benefit comparisons is sound, but requires economic analyses which are beyond the scope of this plan. It is believed the four factor priority rating system, discussed in Section 6.2, provides a reasonable basis for deciding which recommended actions are top priority, high priority, or priority.

For B1 to B4 comments:

- B1. Agree. A Glossary of Terms has been added at the end of the main report.
- B2. Agree. Statements were added to Appendix B (USGS information) to emphasize the need for existing and new gages.
- B3. The Commission's lead role for groundwater management actions is based on broad regulatory and water resources responsibilities for the 27,500 square mile Susquehanna Basin which includes hundreds of municipalities. Funding for the Commission's broad based programs is not meant to implement local municipal projects. In addition, local governments do not have the regional water resource regulatory authority required to implement many of the Commission actions.
- B4. Agree. The composition of WRMAC, including agencies represented, has been added to Section 1.3.