
- PROCEEDINGS -

**COMPREHENSIVE WATER MANAGEMENT PLAN
LOWER SUSQUEHANNA RIVER BASIN
PENNSYLVANIA**

PLANNING FOR OUR FUTURE WATER NEEDS

JANUARY 25, 2001

*WILDWOOD CONFERENCE CENTER
HARRISBURG AREA COMMUNITY COLLEGE
HARRISBURG, PENNSYLVANIA*

Project Partners

*U.S. Army Corps of Engineers
Pennsylvania Department of Environmental Protection
Capital Region Water Board
Susquehanna River Basin Commission*

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*Jenise Shaffer, Intern
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June 8, 2001

CONTENTS

Workshop Attendees	3
Workshop Agenda	6
Introduction	7
What is the Capital Region Water Board?	
Role of the U.S. Army Corps of Engineers, Baltimore District	
Overview of the Project and Workshop Expectations	
GIS Maps of Lower Susquehanna Region	
Is the Study Scope Adequate? (General Session)	9
1. <i>Are There Missing Issues?</i>	9
Verbal and Written Comments	
2. <i>Are There Missing Documents?</i>	14
Verbal and Written Comments	
3. <i>What Are the Local Water-Related Problems? What Water-Related Problems Concern You?</i>	17
Verbal and Written Comments	
4. <i>Are There Missing Players/Participants?</i>	21
Verbal and Written Comments	
5. <i>What Are the Greatest Threats to the Watershed in Your Area Over the Next 25 Years?</i>	23
Verbal and Written Comments	
6. <i>Has Your Area Experienced Any Land Use Changes that Have Affected Water Use, Water Quality or Water Supply?</i>	25
Verbal and Written Comments	
7. <i>Are You Aware of Any Cases Involving Water Shortages or Conflicts of Interest Within the Lower Susquehanna River Basin?</i>	27
Written Comments Only	
Is the Study Scope Adequate? (Agency-Specific Written Comments)	29
Appendices	31
Project Study Map	
Project Fact Sheet, U.S. Army Corps of Engineers	
Plan of Study	
Draft Lower Susquehanna River Basin: Water Use Data Inventory	
Pennsylvania Emergency Management Agency Data	

Workshop Attendees

Planning for Our Future Water Needs

Ms. Korah Abraham	U.S. Department of Agriculture Rural Development
Mr. Bill Achor	Wenger's Feed Mill, Inc.
Ms. Diane Alwine	Hershey Foods Corporation
Ms. Barbara Bachman	Bethlehem Steel Corporation
Mr. Donald Bachman	Borough of Strasburg
Ms. Elizabeth Baker	York County Planning Commission
Mr. Scott Bills	Pennsylvania Game Commission
Mr. Chad Bingaman	City of Harrisburg
Ms. Susan Blessing	City of Harrisburg
Mr. Richard Blouch	Swatara Creek Watershed Association
Mr. John Booser	Pennsylvania Dept. of Environmental Protection
Ms. Jineen Boyle	Pennsylvania Dept. of Environmental Protection
Ms. Stacey Brown	U.S. Army Corps of Engineers
Mr. Paul Bruesch	Guilford Mills, Inc.
Dr. E. Drannon Buskirk	Harrisburg Area Community College
Ms. Millie Cipolloni	Borough of Strasburg
Ms. Susan Cipperly	Planning & Development
Ms. Edwina Coder	Lancaster County Conservation District
Mr. Phil Conlin	Pennsylvania Dept. of Environmental Protection
Ms. Betty Conner	Capital Region Water Board
Mr. Mike Conway	Pennsylvania Dept. of Environmental Protection
Ms. Michele Corbin	Pennsylvania Landscape & Nursery Association
Mr. Eugene Council	Pennsylvania Dept. of Environmental Protection
Mr. C.J. Cowapitski	Carlyle Gray & Associates, Inc.
Ms. Ann Devine	Susquehanna River Basin Commission
Mr. Thomas Embich	Earth Steward Environmental Services
Mr. James Erb	Brook Lawn Farm
Mr. Jerry Fields	PPL Utilities
Mr. Brian Fischbach	Letort Regional Authority
Ms. Donna Fiscus	Susquehanna River Basin Commission
Ms. Dawn Fish	Exelon Nuclear
Mr. Gary Fisher	U.S. Geological Survey
Mr. Herb Flosdorf	Lancaster Environmental Foundation
Mr. Thomas Franklin	Pennsylvania Dept. of Environmental Protection
Mr. William Gast	Pennsylvania Dept. of Environmental Protection
Mr. Andrew Gavin	Susquehanna River Basin Commission
Mr. Ted Gayman	Eichelbergers, Inc.
Mr. Dave Goerman	Newport Borough Water Authority
Ms. Mary Golab	Pennsylvania Dept. of Environmental Protection
Mr. David Gordner	Pennsylvania Dept. of Environmental Protection
Mr. Dan Guers	Borough of Akron
Mr. Ed Haines	McNees, Wallace & Nurick
Ms. Stephanie Harmon	Lebanon County Conservation District
Mr. Mark Hartle	Pennsylvania Fish & Boat Commission

Mr. Ed Hartmann	Heidelberg Township Municipal Authority
Mr. Joseph Hebelka	Pennsylvania Dept. of Environmental Protection
Mr. John Hines	Pennsylvania Dept. of Environmental Protection
Mr. Jeff Hines	The York Water Company
Mr. Gil Hirschel	Susquehanna River Basin Commission
Mr. Todd Hitz	Susquehanna River Basin Commission
Mr. Joseph E. Hoffman	Berks County Conservancy
Mr. Robert Horensky	Pennsylvania Public Utility Commission
Ms. Kathy Horvath	Pennsylvania Dept. of Environmental Protection
Mr. Jay Howes	Pennsylvania House of Representatives
Mr. Mike Hreben	Kleinschmidt Associates
Mr. Steven Huntzinger	CET Engineering Services
Mr. Randall Hurst	Manheim Borough Authority
Mr. William Jackson	The Sun
Ms. Amy Jonas	The Center for Rural Pennsylvania
Ms. Jennifer Kagel	U.S. Fish & Wildlife Service
Mr. Roger Karsnitz	Myerstown Water Authority
Mr. Jeff Kelly	Tri-County Regional Planning Commission
Mr. Neil Kinsey	Pennsylvania Dept. of Community & Economic Dev.
Mr. John Klunk	Codorus Monitoring Network, Inc.
Mr. Michael Knight	Gannett Fleming, Inc.
Ms. Cindy Kucharcik	Tri-County Regional Planning Commission
Ms. Kathy Kunkel	GPU Energy
Mr. David Lapinski	Pennsylvania Dept. of Corrections
Mr. Louis Larson	Shippensburg Borough Authority
Mr. George Lazorchick	Susquehanna River Basin Commission
Mr. Joseph Lee	Pennsylvania Dept. of Environmental Protection
Mr. Daniel Leppo	City of Harrisburg
Ms. Erin Levering	Office of Senator David J. Brightbill
Ms. Patricia Lietman	U.S. Geological Survey
Mr. Joseph Link	City of Harrisburg
Ms. Jo Ellen Litz	Swatara Creek Watershed Association
Mr. Dale Long	U.S. Environmental Protection Agency
Mr. Russell Ludlow	U.S. Geological Survey
Mr. Walter Lyon	Capital Region Water Board
Mr. Jeff Mahood	U.S. Department of Agriculture-NRCS
Rep. Stephen Maitland	Pennsylvania House of Representatives
Mr. Bob Manbeck	PA-American Water Company
Ms. Christine Martin	Pennsylvania Governor's Office
Mr. Herbert Mattern	East Petersburg Borough
Mr. Tom McCarty	Penn State Cooperative Extension
Dr. Samuel McClintock	Penn State Harrisburg
Mr. Vincent McCollum	Cumberland County Conservation District
Mr. Tim McGarvey	United Water of Pennsylvania
Mr. Larry Merrill	U.S. Environmental Protection Agency
Mr. Mark Metzler	Lancaster County Conservation District
Mr. Joseph Miller	Pennsylvania Emergency Management Agency
Rep. Ron Miller	Pennsylvania House of Representatives
Ms. Karen Miller	Pennsylvania Economy League

Mr. Luc Miron	S. Central Assembly for Effective Governance
Mr. John Mizerak	Pennsylvania Dept. of Community & Economic Dev.
Ms. Marci Mowery	Pennsylvania Audubon
Mr. Richard Nissley	City of Lancaster
Ms. Susan Obleski	Susquehanna River Basin Commission
Mr. Gary Painter	Milton Hershey School
Ms. Joan Pamperien	U.S. Army Corps of Engineers
Mr. Jitu Parekh	Pennsylvania Dept. of Environmental Protection
Mr. Gary Peacock	York County Conservation District
Mr. Rocco Pugliese	Pugliese Associates
Mr. Leon Ressler	Penn State Cooperative Extension
Mr. Frederick Rice	Rice & Hetrick Financial Services
Ms. Margaret Robertson	Pennsylvania Dept. of Environmental Protection
Mr. Jim Roof	Pennsylvania Dept. of Environmental Protection
Mr. Timothy Schaeffer	Pennsylvania Organization for Watersheds & Rivers
Mr. Richard Schmoyer	Planning & Development
Mr. Greg Schrum	Pennsylvania Dept. of Conservation and Natural Res.
Mr. Ivan Sellers	Chester Water Authority
Ms. Jenise Shaffer	Susquehanna River Basin Commission
Mr. Tom Shaul	Pennsylvania Dept. of Environmental Protection
Mr. Toby Shimer	PA-American Water Company
Mr. Richard A. Shoup	Pennsylvania Dept. of Environmental Protection
Mr. Evan Shuster	Pennsylvania Dept. of Environmental Protection
Ms. Jane Smith-Decker	Havens Lake Mgmt. Services
Mr. Michael Steiner	Pennsylvania Dept. of Environmental Protection
Mr. Russell Swanger	Harsco Corporation
Mr. Timothy Swinehart	East Petersburg Borough
Mr. Alan Tamm	Pennsylvania Emergency Management Agency
Mr. Ernest Tarner	Franklin County Conservation District
Mr. Andrew Thompson	Tri-County Regional Planning Commission
Ms. Lindsay Tulloch	U.S. Department of Agriculture-NRCS
Mr. James Turner	Turner & O'Connell
Mr. Ryan Ural	York Water Company
Ms. Kim Van Fleet	Conodoguinet Creek Watershed Association
Mr. Dave Vollero	York County Solid Waste Authority
Mr. Russell Wagner	Pennsylvania Dept. of Environmental Protection
Ms. Andrea Walker	U.S. Army Corps of Engineers
Mr. Jerry Webb	City of Harrisburg
Mr. Fred Wendekier	PA-American Water Company
Mr. Charles Wertz	Lebanon County Conservation District
Mr. James Wheeler	Pennsylvania State Assoc. of Township Supervisors
Ms. Nancy Whipple	Office of Rep. Frank Tulli, Jr.
Mr. Cy Whitson	Gannett Fleming, Inc.
Mr. Tom Wicks	Pennsylvania Emergency Management Agency
Mr. Sheldon Williams	Dillsburg Area Authority
Mr. Jim Williamson	Newport Borough Water Authority
Mr. Wilbur Wolf	Conodoguinet Creek Watershed Association
Mr. Chester Young	Pennsylvania Dept. of Environmental Protection

WORKSHOP AGENDA

Planning for Our Future Water Needs

- 10:00 to 10:10 a.m. Welcome and Introductions
Susan Obleski, Director of Communications
Susquehanna River Basin Commission (SRBC)
- What is the Capital Region Water Board
Betty Conner, Chair, Capital Region Water Board
- 10:10 to 10:25 a.m. Role of the U.S. Army Corps of Engineers, Baltimore District
Andrea Walker, U.S. Army Corps of Engineers, Baltimore District
- 10:25 to 11:05 a.m. Overview of the Project and Workshop Expectations
Walter Lyon, Workshop Facilitator, Capital Region Water Board
- 11:05 to Noon GIS Maps of Lower Susquehanna Region
Gil Hirschel, Environmental Outreach Coordinator, SRBC
- Noon to 1:00 p.m. LUNCH
- 1:00 to 1:45 p.m. Is the Study Scope Adequate? (General Session)
- Are there missing issues?
 - Are there missing documents?
 - What are the local water-related problems? What water-related problems concern YOU?
 - Are there missing players?
- Facilitator: Walter Lyon*
- 1:45 to 2:00 p.m. BREAK
- 2:00 to 2:10 p.m. Why You Should Join the Capital Region Water Board
Toby Shimer, Manager of Eastern Operations, PA-American Water Co.
- 2:10 to 2:50 p.m. Is the Study Scope Adequate? (continuation of General Session)
- 2:50 to 3:00 p.m. Wrap Up. What's Next?
Walter Lyon and Susan Obleski

Introduction

Susan Obleski, Susquehanna River Basin Commission. This is a partnership project being coordinated by the Capital Region Water Board and funded by the U.S. Army Corps of Engineers (USACE) under its Section 22 program and also by the Pennsylvania Department of Environmental Protection. SRBC is serving as the non-federal sponsor and coordinator of the public participation component.

What Is the Capital Region Water Board?

Betty Conner, Chair, Capital Region Water Board. The Capital Region Water Board is a non-profit organization created in 1991 by the Law and Planning Institute. It was created to bring together community water suppliers and others interested in water resources with a goal of providing a forum for discussion—through bi-monthly meetings—and for studying the water resources of this region in order to provide a sound basis for future planning and management. The group has coordinated and partnered on several studies on community water supplies, including the Lebanon County study, the Shippensburg-area study and the Cumberland County study.

The group discusses diverse topics such as: federal safe drinking water recommendations, source water assessments, well head protection, DEP's pollution prevention compliance assistance program, state water planning, out-of-basin diversions, drought reports, private wells, irrigation systems, PUC rate setting process for water and waste water utilities, options and opportunities for regionalization of community water systems and integrated water resources planning.

Role of the U.S. Army Corps of Engineers, Baltimore District

Andrea Walker, Project Coordinator, USACE—Baltimore District. The U.S. Army Corps of Engineers is a federal water resource planning and construction agency, providing flood control, navigation, regulatory emergency response, and technical assistance throughout the world. The Baltimore District covers the drainage basins for the Potomac and Susquehanna Rivers. The Lower Susquehanna River Basin Water Management Study is an investigation being conducted through the Corps' Section 22 program. The study will be comprehensive, going well beyond water quality and quantity issues, including, but not limited to: agriculture, flood protection, fire protection, environmental needs, and a host of other water-related issues.

The study will be conducted in several phases, beginning with this Phase I, which is the scoping effort of a larger plan. There is a clear goal in this project to assess the water resource problems, needs and opportunities of this area and provide recommendations to address them. Public participation is a key element of this study. We are looking for the public, local, municipal, and state governments to help us form the framework that we will use to get to the end. We will have stakeholder input through all of the study phases to allow for public input to shape the future effort of this investigation.

Overview of the Project and Workshop Expectations

Walter Lyon, Workshop Facilitator, Capital Region Water Board. Primarily, the emphasis of this study is to look at the future. The study area is the eight counties of south central Pennsylvania, also known as the Capital Region. There are some other counties that are not within the eight county region, but they also will be consulted.

Why is water important?

1. Drinking water.
2. Wetlands.
3. Agricultural and industrial use.
4. Power generation.
5. Flood and drought management.
6. Scenic values and recreational and sporting opportunities.
7. Enhances and connects to land use.

Why is planning important? Things change. We need to address existing problems and document our needs for the future. The number of requests for out-of-basin diversions including Baltimore is growing. Water and economic development go together. We want to make sure that we're well protected for the future.

The study will be done in two phases. Phase I, which will take about one year, will include studying existing data and reports and developing a plan of study for Phase II.

The Capital Region Water Board's ideas for what Phase II should be about: problems, needs and opportunities, existing conditions, and alternative solutions. Look at alternatives for complex situations and what the impact of those alternatives may be? What are the economics of regionalization? Can we benefit by those? What are some of the regional impacts of some of the solutions that we will be addressing? What do we recommend to the region, to its governance, to its counties, to its municipalities, state government, federal government as to what we should do about water in this region for the future.

GIS Maps of Lower Susquehanna Region

Gil Hirschel, Environmental Outreach Coordinator, Susquehanna River Basin

Commission. Mr. Hirschel led a lengthy discussion on the GIS maps that SRBC generated. Subsequent to this first workshop, the Public Participation subcommittee determined that the issues related to these GIS maps would be better addressed during Phase II of the study. As such, SRBC will be producing a less detailed and location-oriented map for Phase I.

Is the Study Scope Adequate? (General Session)

1. Are there missing issues?

Walter Lyon began the session by listing some of the many issues that have already been identified for the study, including: flood protection; fire protection; ground water; hydropower; infiltration of impervious surfaces; land/water use connections; and monitoring.

Steve Huntzinger, CET Engineering Services and Pennsylvania Water Environment Association. One of the things this study has to address is non-point sources versus point sources, TMDL's versus wasteful discharges. Pennsylvania is a fragmented state with so many municipal boundaries and so many government officials that all of a sudden the unregulated (non-point sources) can't be regulated anymore so we regulate the regulated (point sources). TMDL is going to influence the regulated community much more than the currently non-regulated communities.

Randy Hurst, Borough of Manheim. There are deficiencies in planning, particularly in the area of 537 planning. A lot of small communities that are required to keep after these issues, as related to waste water issues, which directly impact ground water, in many cases, that are willfully deficient, way out of date, and are simply not implementing their 537 plans. That is something that is already a statute, already a requirement that is not being followed and maybe this survey will show where and how serious these deficiencies are in terms of impacting water quality and quantity.

Karen Miller, Pennsylvania Economy League. Move the processes outlined in Task 5 up earlier because it's going to affect what is done under Task 4 and that is to develop links with other planning processes. It would be helpful to make use of existing zoning plans and comprehensive plans now.

Dick Smoyer, Planner. [Follow up on Karen Miller's point.] Look at the county comprehensive plans first. Some of them were prepared over the past decade or so with water resources in mind. Others may not have considered water resources during their development. In some cases, counties have gone beyond the comprehension plan to do functional planning in the area of water supply and wellhead protection. Make sure the project identifies and considers state-level initiatives such as the Pennsylvania Greenways Partnership Commission, which is completing a greenways plan for the Commonwealth. There is potentially a close tie with greenways planning and water resources planning.

Walter Lyon. The following are issues that need to be addressed. Walter Lyon announced the list based on the project scope of study with audience input:

- Fragmentation.
- Water quality.
- Water supply and demand.
- Agricultural and recreation.

- Water infrastructure.
- Water conservation.
- Aquatic life and other wildlife.
- Out-of-basin diversion.
- Related land use issues.
- Social, economic, engineering, ecological, public health, and institutional.

Diane Alwine, Hershey Food Corporation. The study also needs to include reuse of water. In Colorado and areas of California, they are looking a lot more at taking waste water discharge [versus just looking at water conservation], which in many cases is much better than the ambient stream that it's going into, and being able to reuse that water. Industry already tries to do that as much as possible. Reuse is a social acceptability issue, but if there is any work being done in this region to reuse treated water, it should be encouraged.

Mary Golab, Pennsylvania Department of Environmental Protection. When considering the water supply and demand issue, the project should consider the use by personal wells—domestic wells. There are a lot of Pennsylvanians that use domestic wells and there is no database that tracks it so that information is missing out of the water budget.

Kathy Horvath, Pennsylvania Department of Environmental Protection. There is no data for the critically important question, how much water do we have? There is no good handle on the safe yield of the basin's ground water. Can't balance a water budget without knowing how much water is coming into an area.

Wilber Wolf, Conodoguinet Creek Watershed Association. Need to look at the management of storm water run off, particularly in developed areas. Water that runs off directly into the creeks is water that isn't available for ground water recharge, particularly important for the summer months.

Dave Goerman, Newport Borough Water Authority. Drought is an important issue that needs to be addressed in this study. There needs to be good information on historical drought conditions over the past 300 years.

Korah Abraham, U.S. Department of Agriculture, Rural Development. Can look at drought conditions in outlying communities; what happened the last 10, 15, or 20 years; what have been the problems during the drought conditions; and how much water was needed during those periods.

William Gast, Pennsylvania Department of Environmental Protection. DEP has lists going back to at least 1990, maybe even 1985. When drought conditions emerge, DEP contacts water companies and keeps records of when the water companies implemented either voluntary or mandatory restrictions.

Walter Lyon. The study should address spills in some fashion. There are highways with tankers that have a way of falling over or trains that have a way of falling over and spilling very close to intakes of drinking water supplies.

Jo Ellen Litz, Swatara Creek Watershed Association. Sink holes are another issue that should be tracked under this study.

Donald Bachman, Borough of Strasburg. The lack of cooperation among some local municipalities is a problem. Sometimes there are townships that don't want to work with boroughs to address water problems. The borough [Strasburg] was involved in the Lancaster County Wellhead Protection several years ago and did write up some things for the borough that would help the system, but the township did nothing with it.

Ivan Sellers, Chester Water Authority and Martic Township. Any study recommendations will have to be implemented at the local level, not the state because of the way the Commonwealth is designed.

Craig Brooks, Joint Committee on Air and Water Pollution, Pennsylvania General Assembly. The committee has held a series of public hearing on infiltration and inflow during the past year and organized an infiltration task force that met this past fall. The committee is looking for solutions. Sewage treatment systems and the communities and municipalities trying to upgrade their systems are being overtaxed. The committee is looking into revising the standards, trying to find funds for system upgrades, and looking at alternatives to correcting the inflow and infiltration problem. Potentially, a majority of the sewer systems have that problem, and with the increase in different land uses and the problem of sprawl, the problems are occurring at a much greater rate than expected.

Written Comments to Question #1
Are there missing issues?

Yes. Lancaster County quarry operations that discharge 250,000 gallons per day or more to tributaries in our area that could be used possibly for drinking water.

~*Herbert E. Mattern, Public Works, East Petersburg Borough*

Watersheds (land area, recharge, discharge, etc.); streams (fluvial geomorphology); climate; and weather data.

~*Gary Peacock, Watershed Specialist, York County Conservation District*

Cumulative impacts of water withdrawals on downstream areas in terms of fish, wildlife, and consumptive and non-consumptive use. Also incentives or measures to reduce use or conserve water, i.e. water saving devices.

~*Mike Hreben, Fisheries Biologist, Kleinschmidt Associates*

Wetland/Stream encroachment and/or elimination (goes with sprawl and planning/development); alternatives to flow augmentation to alleviate drought (i.e. including mandatory flow restriction devices, or shutting down non-essential water uses); and endangered species protection/threatened spp. And/or spp. Of concern.

~*Jennifer Kagel, Fish Biologist, US Fish & Wildlife Service*

You need to get information from well-drilling companies that have many years of data. Such as Kohl Brothers in Myerstown, Lebanon, County. Recycling liquid manure to useable water as they do in Scandinavia. Water Conservation rebates for fixtures and/or per capita contribution to open space watershed preservation. Must encourage rebuilding soils and encouraging recharge wherever possible in conservation, storm water management, etc. Low flow/use devices. Better technology needed to determine sources of groundwater pollution (on-site human waste vs. animal waste because how you treat the problems are vastly different). Recycling of wastewater and effluent as between City of Lebanon and AES power plant. Connectivity to other basins and global issues such as how the rise in sea level will affect our basin. Balancing economic growth with proper natural resources analysis (require as part of publicly funded economic development authorities).

~*Chuck Wertz, Manager, Lebanon County Conservation District*

Storm water management.

~*Jeff Mahood, Environmental Planning Specialist, USDA-NRCS*

Quarterly water quality monitoring; watershed restoration projects; mining permits-NPDES; AML reclamation projects; potential impacts on surface/ground; and mine tunnel questions and their impacts on water quality and supply.

~*Robert Hughes, Regional Coordinator, Eastern PA Coalition for Abandoned Mine Reclamation*

Private well consumption; fish hatchery impacts—nutrients; and mining impacts-AMD.

~*Jo Ellen Litz, President, Swatara Creek Watershed Association*

A picture of the watershed in 25 years: the demands, safe yields, growth in watersheds that may affect water quality.

~*Unidentified*

Leachate from landfills both past and current operations especially closed, unlined landfills and older lined landfills. Also old underground storage tanks on farms. Underground pipelines (petroleum).

~Kim Van Fleet

I didn't see any mention of sedimentation and sources of sedimentation.

~Richard Blouch, Farmer, Swatara Creek Watershed Association

The underlying foundation for water planning is how much ground and surface water is available, how much is potable and who is using what amount. Will the study look at ground water basins and the safe yield they can produce? Will the study look at all water users, including private and agriculture for their cumulative effects? How will the finished study be used? Will it carry any regulatory/political clout? What do you want the study to achieve?

~Kathy Horvath, Hydrogeologist, DEP

Non-point sources are regulated. Agriculture complies with nutrient management laws, pesticide applicators licenses, etc. AFO's and CAFO's.

~Lindsay Tullouh, District Conservationist, USDA-NRCS

It would be useful, at some time in the process, to have someone describe all of the laws, regulations and agencies that will have jurisdiction over water planning efforts. Some description of how all of those various authorities interact would also be useful.

~David Voller, Engineer/Operational Manager, York County Solid Waste Authority?

The Juniata sub-watershed (Millerstown/Newport area) should be included in the study area both for political and geographic reasons.

~Jim Turner, Tri-County Regional Planning Commission

Just the opposite. I can't see why certain data/topics are included, given the "purpose" of the study. For example, how does radon in groundwater directly influence in basin/out of basin demand?

~Unidentified

Non-point contamination sources/watercourse degradation due to runoff problems; riparian improvement projects.

~Richard Shoup, DEP

Point source-acid mine drainage.

~Scott Bills, Land Management Group Supervisor, Pennsylvania Game Commission

Upper Dauphin County stream water quality, specifically Wiconisco, Powell and Armstrong Creeks that now run muddy, land uses primarily agricultural. Records of malfunctioning septic systems (PaDEP Water Quality Management).

~Jane Smith-Decker, Water Quality Specialist Consultant

2. Are there missing data/documents?

Randy Hurst. The draft project data list doesn't contain sources from EPA, USGS, and STORET data. Also missing are DEP databases from its water quality monitoring network. Another important issue is the quality of the data. Some sources we may see in the 303(d) and the 305(b) reports, may be less than accurate, especially the older data.

Pat Lehman, U.S. Geological Survey. USGS has a number of databases, some fairly dynamic databases that relate to both surface water, ground water and water quality. There is a new website where you can get real-time data and other types of data. The data are checked before they are released.

Larry Merrill, U.S. Environmental Protection Agency. STORET is EPA's general water quality information. EPA gets most of its Pennsylvania data from the state and its 305(b) reports. People can also link to EPA's SDWIS (Safe Drinking Water Information System) database, which contains information on all the public water supplies covered by the EPA Region III. People can also look on Pennsylvania's equivalent database PDWIS, which may have more information than EPA's database. Can also Surf Your Watershed on EPA's website www.epa.gov

Jennifer Kagel, U.S. Fish and Wildlife Service. The USF&WS has information available related to fisheries on the Susquehanna.

U.S. Department of Agriculture Official. USDA provides financing for water and sewer systems for rural communities. Planning is important, but we must consider the capacity and economic feasibility of projects. USDA also has loan and grant funds available for small water systems and also sewer systems.

Mark Hartle, Pennsylvania Fish and Boat Commission. The commission's main database is in the process of being converted. It includes data primarily on fish species occurrence and abundance in various Commonwealth waters. Also have lists of regulatory importance. The fisheries database has some water chemistry data. Commission is concerned about the increasing withdrawal of ground water, especially in head water stream areas, and the diminished flows and some streams actually drying up due to water development. The study should look into the permitting process and ground water withdrawals. In the Delaware River Basin, some pumping limits have been set for various sub-basins. In the Susquehanna River Basin, there is a 48-hour pump test required.

Randy Hurst. First, how much road salt is being dumped in this area every winter and its effects. Second, data being collected by municipalities is not getting reported into these state and national databases, for example, municipal waste water plants that do a lot of voluntary testing. This data is collected, but not available in general databases.

Mike Conway, Pennsylvania Department of Environmental Protection. Listing of dams. Dams impound water for drinking, for fire protection, for recreation, hydropower, etc. Right now, we have a list of 26 dams that are considered unsafe in Pennsylvania. DEP does not have

any lists in electronic format of flood protection projects. This information is available largely in paper format.

William Gast. DEP houses the water use data system, which is missing from the draft database list. DEP has a water use data on all types of uses, not just public water supply, such as locations and discharge amounts. DEP also has 50-year municipal population projections.

Written Comments to Question #2
Are there missing data/documents?

Watersheds (land area, recharge, discharge, etc.); streams (fluvial geomorphology); climate; and weather data.

~Gary Peacock, Watershed Specialist, York County Conservation District

Are there any other data available from Chesapeake Bay Program?

~Dale Long, Source Water Protection Team Leader, EPA

What about data from the NPDES program? Is there a central database where this information is stored? Also some hydroelectric facilities record water temperature and dissolved oxygen levels on an hourly basis.

~Mike Hreben, Fisheries Biologist, Kleinschmidt Associates

National Wetlands Inventory maps. By no means all comprehensive. However, they give a good idea as to size/location of wetlands within the basin. Maps are made from aerial photos and may not show smaller wetlands. Accessible through US Fish & Wildlife website, www.fws.gov. Also Fish & Wildlife service does have a Susquehanna River Basin sub-office in Harrisburg. Contact Dick St. Pierre. He may have more sources.

~Jennifer Kagel, Fish Biologist, US Fish & Wildlife Service

Pesticides-National Center for Resource Innovations, Margaret Maizel. Last I knew they were located in Rosslyn, Va., and some of their modeling is used by the Chesapeake Bay Program. Some additional stream mapping needed in Lebanon County, especially Elder's Run and Seglock Run in Southern Lebanon County (Heidel Twp., Conestoga Watershed). Lebanon County Conservation District has mapped subdivision activity over last 10 years and how much of it is prime farmland and farmland of statewide importance.

~Chuck Wertz, Manager, Lebanon County Conservation District

Digital soils data for use in hydrology studies. National Resources Inventory (statistical inventory of land use trends at the National level. Usually accurate at the state level. Less reliable at smaller areas).

~Jeff Mahood, Environmental Planning Specialist, USDA-NRCS

USGS Report-100 Greatest Questions in the anthracite region (water quality). DCNR RCP-Swatara Creek. SRBC Report-Wiconisco Creek.

~Robert Hughes, Regional Coordinator, Eastern PA Coalition for Abandoned Mine Reclamation

Vector contour layers for municipalities to correct impervious surfaces to predict storm water runoff direction. Sink holes that dry up creeks. Mines that could change direction of underground waterflow.

~Jo Ellen Litz, President, Swatara Creek Watershed Association

Perhaps any “Growing Greener” Grants that involve projects affecting streams, water quality, etc. The website for “Growing Greener” lists all the approved projects.

~Unidentified

IN REFERENCE TO A GIS MAP. Impaired reaches are missing data. Should only color the actual impaired stream, not the whole tributary area.

~Unidentified

USDA-NRCS – Soils database digitized soil surveys and interpretive information like flood plains, permeability, infiltration, etc.

~Lindsay Tullouh, District Conservationist, USDA-NRCS

Perry County is currently doing a county-wide water study through Tri-County Planning Committee.

~Jim Turner, Tri-County Regional Planning Commission

IN REFERENCE TO A GIS MAP. Base map does not show locations of wastepaper treatment facilities (source of nutrients, etc.)

~Jane Smith-Decker, Water Quality Specialist Consultant

3. What water related problems exist within your area of jurisdiction?

William Gast. DEP has worked with SRBC and the Fish Commission to develop new and improved techniques for determining stream flows or at least pass by requirements on the public water supply withdrawals in the naturally reproducing trout streams, which are your headwater, first and second water streams. We are moving into an area now where we have found ways to protect stream flows from surface water withdrawals but this forces people to go to the alternative, which is ground water which, in the long run, has a similar impact on the stream flow anyway. DEP is beginning to wrestle with that problem. We will probably have to develop smaller watershed budgets, similar to what they have done in the ground water protected area in southeastern Pennsylvania.

Jeff Hines, York Water Company. The York Water Company serves about 35 municipalities in central York County. The county is growing in leaps and bounds and obviously the source of water is an important issue. The company tracks that for the drinking water supply, knowing that it will have to do something within the next 10 years.

Greg Schrum, Pennsylvania Department of Conservation and Natural Resources. Pa. DCNR is concerned about dealing with water supply use. The reduced capacity of the state-run reservoirs because of sedimentation and the high costs of dealing with that problem. There needs to be some additional funding sources to address this problem. In particular to this study region, there is Lake Marburg at Codorus State Park. Also need to address the process of permitting with regard to the disposal of the dredged materials.

Tom Embich, Earth Steward Environmental Services. Through a sediment project lead by the Susquehanna River Basin Commission, called the Sediment Task Force, we revealed a conundrum. The lower Susquehanna reservoirs, which are the power company dams, are acting as a sediment retention basin and protecting a significant part of the Chesapeake Bay but we also found in the same study that there are a lot of orphan dams out there, old mill ponds, mill dams. The Pennsylvania Fish and Boat Commission has targeted the removal of these dams to reestablish free-flowing waters, and yet they serve as a sediment retention basin and also potentially serve as reservoirs for a number of water companies to draw water. How much to we do in terms of removal of dams for water quality improvement, wildlife improvement, fish and aquatic life improvement and yet retain sufficient capacity and storage?

John Klunk, Codorus Creek Monitoring Network. The region has a very serious point source that has not been adequately dealt with to the point that Codorus Creek, downstream of the P. H. Glatfelter Paper Mill, still does not meet water quality standards for color or temperature and there's a great deal of focus on non-point, which is extremely important, but somehow or other, this situation has fallen through the cracks with our state regulatory agencies.

By 2004, the color problem is supposed to be improved and be very close to meeting water quality standards, but that also comes back to the issue of supply, which was addressed by the gentleman, Mr. Schrum from DCNR, that the lake at Codorus State Park is very much at the mercy of the company. The company owns that water in the lake and is allowed to, by agreement, draw it down as much as 23 feet, if necessary.

P.H. Glatfelter subsequently submitted a letter to Susan Obleski of SRBC in regard to the above comments. The letter from Eric Schwamberger, Regulatory Program Manager, is as follows:

Dear Ms. Obleski:

At the recent Lower Susquehanna Water Resources Study Workshop, brief discussion took place on several items of interest to The P.H. Glatfelter Company. These items included potential long-term decline of water storage capacity within Lake Marburg, and water quality within Codorus Creek downstream of the P.H. Glatfelter Company's Spring Grove Mill. Following are additional comments and information that may be of help in further discussion on these topics.

Lake Marburg Storage Capacity

Lake Marburg was completed in 1966 with construction of a 1690' earthen dam on the West Branch of Codorus Creek, by the P.H. Glatfelter Company (Company). The dam was developed to provide process water for the Company's Spring Grove Mill. Approximately 30 million gallons per day (MGD) is released from Lake Marburg into the West Branch of Codorus Creek.

P.H. Glatfelter draws approximately 13 million MGD from Codorus Creek at Spring Grove. Within Codorus Creek, the company is required by its NPDES permit to maintain a minimum flow past the mill of 13.7 MGD in summer and 10.2 MGD in winter. The withdrawn water is returned to Codorus Creek downstream of the Spring Grove Plant, after treatment at the Mill's wastewater treatment facility.

No information is currently available on sedimentation rates within Lake Marburg. In general, it might be expected that with the advent of minimum tillage agricultural practices, and greater awareness of sediment and water quality issues associated with activities such as road and housing construction, sediment imports into Lake Marburg have likely declined dramatically since construction. However, the ability of Lake Marburg to continue successfully serving the needs of local user's including P.H. Glatfelter, is of interest to the P.H. Glatfelter Company.

Codorus Creek Color

The water used by the mill's industrial processes receive primary and secondary wastewater treatment before release to the Codorus Creek. The facility also provides tertiary treatment for wastewater from the municipality of Spring Grove.

The effluent is discolored from tannins and lignins removed from wood during the pulping process. Although these compounds are not toxic, Codorus Creek immediately downstream of the discharge point has color levels of about 110 platinum cobalt units (PCUs). Color levels are below 50 PCUs as Codorus Creek passes through York.

In the past ten years the P.H. Glatfelter Company has spent \$170 million to improve water quality within Codorus Creek, with effluent color cut in half. According to the EPA, only two of 31 bleached kraft pulp mills in the US discharge lower levels of color.

P.H. Glatfelter is currently beginning the New Century Project at the Spring Grove Mill, with an investment of \$30 million, including an oxygen delignification system for the hardwood pulping process which, when complete, will cut effluent color in half again. In line with the current wastewater discharge permit, issued in October 2000, the Company is committed to achieving an in-stream color standard of 75 PCUs by 2004.

Codorus Creek Temperature

Withdrawal of water from Lake Marburg into the West Branch of Codorus Creek occurs at depth within the lake. As a result of the cooler water withdrawn from depth, the West Branch between Lake Marburg and Oil Creek has lower summer temperatures than would naturally occur. This has allowed the creation of a trout fishery within the stream, which currently has attained the status of being a Class V trout fishery.

Downstream of the Spring Grove Mill water temperatures are elevated, but within permitted levels. P.H. Glatfelter is currently conducting an extensive 316(a) thermal variance study to determine whether there are any detrimental effects of the temperature regime to the warm water fishery below the Spring Grove Mill.

Should your organization desire any further information on The P.H. Glatfelter Company's relationship with Codorus Creek, please do not hesitate to contact me.

Sincerely,

Eric C. Schwamberger
Regulatory Program Manager – Water & Remediation
P.H. Glatfelter Company

Written Comments to Question #3 **What water related problems exist within your area of jurisdiction?**

Water quality and quantity, groundwater recharge/discharge, and lack of storm water management and floodplain management.

~Gary Peacock, Watershed Specialist, York County Conservation District

Environmental concerns of septic systems vs. discharge of new WWTPs.

~Dale Long, Source Water Protection Team Leader. EPA

Elimination, alteration, and encroachment of wetlands and headwater streams, due to development and sprawl, etc., especially elimination of habitat that is of exceptional value to endangered and threatened species and those species of concern.

~Jennifer Kagel, Fish Biologist, US Fish & Wildlife Service

Maintaining flows in the Quittapahilla and Tulpehocken. Also water temperature issues (thermal loading).

~Chuck Wertz, Manager, Lebanon County Conservation District

Agricultural runoff and leaching. Urban storm water and loss of ground water recharge. Flood damages to residential/commercial properties. Need for riparian forests and wetland restoration. Remediation of abandoned mine drainage.

~Jeff Mahood, Environmental Planning Specialist, USDA-NRCS

Acid mine drainage, combined sewer overflows, raw sewage, coal silt, desilting basins access to potentially good water supply reservoirs upstream of AML pits.

~Robert Hughes, Regional Coordinator, Eastern PA Coalition for Abandoned Mine Reclamation

CAFO's, water bottlers, storm water runoff, and sediment load.

~Jo Ellen Litz, President, Swatara Creek Watershed Association

Dealing with reservoir sedimentation and reduction of storage capacity will require a major funding source since the solution is very expensive.

~Greg Schrum, DCNR State Parks

Consumptive use. Industries and golf courses pay a "fee" to SRBC to allow release of water somewhere upstream. This doesn't help local streams at all. Each county should collect these fees to build reserves to release as needed.

~Unidentified

Non-point sources of sedimentation, agricultural nutrient pollution of streams, acid mine drainage, and stream bank protection.

~Richard Blouch, Farmer, Swatara Creek Watershed Association

West Branch/Main stem of Codorus Creek does not meet water quality standards for color or temperature downstream of P.H. Glatfelter Paper Mill cooling and industrial wastewater discharges.

~John Klunk, Coordinator, Codorus Monitoring Network Inc.

Sprawl and increasing impervious areas. Protection of native trout streams. Buffers.

~Lindsay Tullouh, District Conservationist, USDA-NRCS

Water supply and water quality issues and source protection.

~Richard Shoup, DEP

Acid mine drainage (Stony Creek, Bear Creek, and Wiconisco Creek).

~Scott Bills, Land Management Group Supervisor, Pennsylvania Game Commission

Does the project also include storm water management and separating combined systems?

~Korah Abraham, Project Division, USDA Rural Development

See response to question #1. There is no evidence of watershed protection or monitoring in the Lower Wiconisco Creek Watershed.

~Jane Smith-Decker, Water Quality Specialist Consultant

4. Are there missing players/participants?

Tom Embich. USDA-NRCS Farm Service Agency.

Lindsey Tulloch, NRCS. More agricultural interests need to participate in projects like this, including extension services and soil conservation districts.

Leon Ressler. The Susquehanna River Basin Commission should reactive its Agricultural Water Use Advisory Committee.

Written Comments to Question #4 Are there missing players/participants?

Quarry operations.

~Herbert Mattern, Public Works, East Petersburg Borough

Sewage enforcement officers and local officials are an important field presence. We need to train them to make wise decisions.

~Dale Long, Source Water Protection Team Leader, EPA

Hydroelectric companies and special interest groups such as Trout Unlimited and Ducks Unlimited.

~Mike Hreben, Fisheries Biologist, Kleinschmidt Associates

PennDOT, Audubon, Pennsylvania Game Commission, Federation of Fly Fishers, Trout Unlimited, County Conservation Districts (in the 8+ Counties)

~Jennifer Kagel, Fish Biologist, US Fish & Wildlife Service

Power companies and economic players.

~Chuck Wertz, Manager, Lebanon County Conservation District

SCWA, SCRA, NSCWA, TVWA, WCRA, watershed organizations, conservation districts, DEP Pottsville District mining office, and DEP Wilkes-Barre Region Bureau of Abandoned Mine Reclamation.

~Robert Hughes, Regional Coordinator, Eastern PA Coalition for Abandoned Mine Reclamation

Environmental groups, farmers, and County Commissioners Association of Pennsylvania

~Jo Ellen Litz, President, Swatara Creek Watershed Association

“Pennsylvania Fire and Emergency Services Institute” Phone: 1-800-FIRELINE. Located on State Street, Harrisburg, John Brenner, Executive Director (non-profit group works for all volunteer and paid fire/rescue departments in Pennsylvania).

~Unidentified

Legislators

~Kathy Horvath, Hydrogeologist, DEP

Agriculture and agricultural agencies (CES, NCRS, SCD's, Pennsylvania Dept. of Agriculture, FSA, Farm Bureau, Commodity Groups)

~Lindsay Tullouh, District Conservationist, USDA-NRCS

Small watershed associations

~Richard Shoup, DEP

Dauphin County Conservation District, Millersburg Borough Area Authority

~Jane Smith-Decker, Water Quality Specialist Consultant

Additional suggestions. Other suggested names and organizations were submitted via e-mail after the workshop. They included names and organizations already contacted by SRBC.

5. What are the greatest threats to the watershed in your area over the next 25 years?

Wilbur Wolf. Significant development in the eastern end of the county [Cumberland] and continued development west of Carlisle. Concerned about the loss of recharge area in the Conodoguinet Creek Watershed due to the development.

William Gast. Not necessarily a threat, but we shouldn't overlook the trend toward independent power producers when projecting water use.

Jo Ellen Litz. Invasive species, like zebra mussels.

Written Comments to Question #5

What are the greatest threats to the watershed in your area over the next 25 years?

Drought conditions.

~Herbert Mattern, Public Works, East Petersburg Borough

Population, air pollution, transportation, and non-point source pollution.

~Gary Peacock, Watershed Specialist, York County Conservation District

Sprawl.

~Dale Long, Source Water Protection Team Leader, EPA

Continued residential development. Continued intensive agricultural methods without buffers or proper precautions for runoff or livestock barriers. Storm water runoff.

~Mike Hreben, Fisheries Biologist, Kleinschmidt Associates

Development and "Water Wars" (Water Rights)

~Jennifer Kagel, Fish Biologist, US Fish & Wildlife Service

Soil health or loss of it as a sponge and carbon sink has great inter-connectedness to water-related problems. Zebra mussels and invasive species. Drought, increased use of water from increased industry and population. Development without regard to sensitivity to water quality, water quantity and storm water issues. Lack of funding for maintenance of things such as agricultural conservation/riparian buffers with fencing.

~Chuck Wertz, Manager, Lebanon County Conservation District

Urban development, agricultural runoff/leaching, storm water runoff, loss of riparian forest cover, and loss of wildlife habitat.

~Jeff Mahood, Environmental Planning Specialist, USDA-NRCS

Increased development pressure, urban sprawl, CAFOs, land use changes, transportation issues, health and safety hazards associated with abandoned mine pits (waterfulled), out-of-basin diversions, and small flows.

~Robert Hughes, Regional Coordinator, Eastern PA Coalition for Abandoned Mine Reclamation

Quantity of potable water.

~*Jo Ellen Litz, President, Swatara Creek Watershed Association*

Sprawl and unplanned growth, warehousing and industry and impervious surfaces.

~*Kim Van Fleet*

Highly fluctuating water levels because of storm run off and impervious surfaces.

~*Greg Schrum, DCNR State Parks*

Impervious surface issues (need to filter the “first flush” before it enters the stream) and out-of-basin transfers.

~*Unidentified*

Intensive agriculture developments.

~*Richard Blouch, Farmer, Swatara Creek Watershed Association*

Development, agriculture without manure management and conservation practices, and over mining ground water

~*Kathy Horvath, Hydrogeologist, DEP*

Growing population/loss of natural buffering capacity provided by green space and natural wild lands.

~*John Klunk, Coordinator, Codorus Monitoring Network Inc.*

Sedimentation build-up behind dams and development.

~*Lindsay Tullouh, District Conservationist, USDA-NRCS*

Population growth (cycle: People-resources-technology-environmental impact).

~*Unidentified*

Unrestricted pace of development causing the problem described in response to question #5.

~*Richard Shoup, DEP*

Urban sprawl.

~*Scott Bills, Land Management Group Supervisor, Pennsylvania Game Commission*

Increased development. Expansion of landfill along Rt. 209.

~*Jane Smith-Decker, Water Quality Specialist Consultant*

6. Has your area experienced any land use changes that have affected water use, water quality or water supply?

Tom Embich. Large lot feeding operations, both hog and cattle raising operations. These large feeding operations use tremendous amounts of water. Local governments are facing this trend that's not going to go away.

Walter Lyon. Impervious surfaces, particularly with large industrial centers.

Dave Goerman. Even where developments have grass areas, the subsoil is so compacted that they don't act as recharge areas. Must be careful how areas are built and constructed to avoid soil compaction.

Written Comments to Question #6

Has your area experienced any land use changes that have affected water use, water quality or water supply?

Farming Community Lett area built housing developments. Nitrate/Nitrite problem went away.
~*Herbert Mattern, Public Works, East Petersburg Borough*

Deforestation and defragmentation, loss of farmland, and increasing impermeable surface area.
~*Gary Peacock, Watershed Specialist, York County Conservation District*

Incredible development in eastern Pennsylvania and central Maryland.
~*Dale Long, Source Water Protection Team Leader, EPA*

Increased residential development has placed additional stress on ground-water supplies in localized areas.
~*Mike Hreben, Fisheries Biologist, Kleinschmidt Associates*

Increase in impervious surfaces, the building of more roads equals more development and hence increased sedimentation and run off. Also, loss of riparian areas promotes erosion and bank instability of headwater and tributary streams. Development in floodplain or floodway areas and subsequent floodplain loss, encourages flooding downstream areas (local flushing of water).
~*Jennifer Kagel, Fish Biologist, US Fish & Wildlife Service*

Large industrial expansion along I-81 corridor. Very healthy suburban housing market sale of quarry water in Cornwall to a town in another county.
~*Chuck Wertz, Manager, Lebanon County Conservation District*

Loss of agricultural land to development. More intensive agricultural operations.
~*Jeff Mahood, Environmental Planning Specialist, USDA-NRCS*

Not aware of any problems relevant to abandoned mine lands, except possibly increased storm water run off from reclaimed sites and areas where large pits were backfilled and surface water was returned to the land.

~Robert Hughes, Regional Coordinator, Eastern PA Coalition for Abandoned Mine Reclamation

AES Ironwood power generation and industrial parks.

~Jo Ellen Litz, President, Swatara Creek Watershed Association?

Agricultural run-off creates sedimentation, and impervious area run-off creates water quality issues.

~Unidentified

The conversion of agriculture land to residential and commercial uses.

~Richard Blouch, Farmer, Swatara Creek Watershed Association

Agriculture—nitrates in water. Developers don't really look at water availability.

~Kathy Horvath, Hydrogeologist, DEP

Development, erosion and sedimentation control, and stormwater management. New technologies agriculture has adopted to reduce pesticide use are being challenged from a human consumption/health issue regarding genetically modified organisms.

~Lindsay Tullouh, District Conservationist, USDA-NRCS

Lancaster County. We have lost forests (200 years ago) and the farmland is a major source of pollution.

~Unidentified

Increasing impervious land coverage have increased runoff, which has damaged watercourses and increased siltation.

~Richard Shoup, DEP

Dauphin meadows landfill, timber sales on Upper Dauphin County municipal water supply watershed areas.

~Jane Smith-Decker, Water Quality Specialist Consultant

7. Are you aware of any cases involving water shortages or conflicts of interest within the Lower Susquehanna River Basin?

There was not enough time to discuss this topic verbally at the workshop. The following are the written comments.

Only in Drought Conditions.

~Herbert Mattern, Public Works, East Petersburg Borough

Shortages: Hopewell Township, Windsor Township, York Township, N. Codorus Township, Codorus Township, Springfield Township, Manheim Township, W. Manheim Township, Heidelberg Township.

Conflicts – municipal wells vs. private wells.

~Gary Peacock, Watershed Specialist, York County Conservation District

Suburban/rural development (sprawl) is causing increasing proportional burden on water quantity and quality issues. Agricultural and industrial areas are a proportionally smaller part of the problem than in the past.

~Dale Long, Source Water Protection Team Leader, EPA

Competing uses from both consumptive and non-consumptive users. Some conflicts occur with users such as hydropower vs. recreation (which also go hand in hand in many instances). Existing farms are also forced to compete with new development for water that was previously abundant.

~Mike Hreben, Fisheries Biologist, Kleinschmidt Associates

The subject of flow augmentation has come up and the SRBC has suggested increasing storage in various reservoirs around the basin. The need for flow augmentation has NOT been clearly established, nor other alternatives considered (see pt. #1).

~Jennifer Kagel, Fish Biologist, US Fish & Wildlife Service

Reports of Killinger Creek drying up. Water bottling companies suing to withdraw groundwater in Union Township.

~Chuck Wertz, Manager, Lebanon County Conservation District

Newport water supply (Perry County).

~Jeff Mahood, Environmental Planning Specialist, USDA-NRCS

In 1999, we (Lebanon County) were in the beginning stages of implementing a drought emergency.

~Jo Ellen Litz, President, Swatara Creek Watershed Association

Requests for water releases from reservoirs during times of drought that restrict recreational use of the lake.

~Greg Schrum, DCNR State Parks

Not now, but maybe in 25 years, especially the ground water supplies.

~Unidentified

Conflicts of interest between building of dams and conservers of natural habitat. During the summer of 1999 the Swatara Creek reached very low levels. Lebanon County is dependent on this stream, which raises a concern that there is a very small reserve.

~Richard Blouch, Farmer, Swatara Creek Watershed Association

Dilution from the P.H. Glatfelter-owned Lake Marburg in Codorus State Park often compromises uses by the public use of the state park due to lowered lake levels. By agreement the company can draw the lake down as much as 23 feet.

~John Klunk, Coordinator, Codorus Monitoring Network Inc.

Residents blame agriculture yet agriculture provides the open space/pervious areas.

~Lindsay Tullouh, District Conservationist, USDA-NRCS

Is the Study Scope Adequate? (Agency-Specific Written Comments)

The following are the questions for which written responses were provided.

Have there been any noticeable changes, either positive or negative, in the water quality of the streams within the basin? If so, how have these changes affected sport fishing and aquatic life in those waters? Have you identified the causes of these changes? If so, what are they?

More water quantity, more users, diversions, and sinkhole problems.

~Chuck Wertz, Manager, Lebanon County Conservation District

Public opinion is “fishing was better (most streams) 25 years ago.”

~Gary Peacock, Watershed Specialist, York County Conservation District

What actions would you like to see taken to ensure that the stream quality stays the same or improves during the next 25 years?

Regional planning, faster upgrade process as indicators require it. Better encouragement, use or requirement of alternative ecosystem-sensitive technologies. Large/ugly industrial/manufacturing sites need to be put underground for water quality/quantity purposes not to mention preservation of the landscape.

~Chuck Wertz, Manager, Lebanon County Conservation District

Alternate all acid mine drainage. Aggressive programs to purchase land.

~Scott Bills, Land Management Group Supervisor, Pennsylvania Game Commission

Formation of Watershed Districts/Advisory Committees in the Upper Dauphin area to protect stream water quality.

~Jane Smith-Decker, Water Quality Specialist Consultant

Public Education.

~Herbert E. Mattern, Public Works, East Petersburg Borough

Local watershed organizations can promote conservation, education, and stewardship.

~Gary Peacock, Watershed Specialist, York County Conservation District

What or who are the competing water users in your area of jurisdiction? How are they being accommodated and/or regulated?

Other local governments like Elizabethtown Borough now taking water from the Cornwall Quarry. AES power plant taking water from Quitty.

~Chuck Wertz, Manager, Lebanon County Conservation District

Agriculture, recreation, flooding, fish and wildlife, wetlands, etc.

~Jeff Mahood, Environmental Planning Specialist, USDA-NRCS

Municipal water wells vs. private wells. Fisherman vs. industry.

~Gary Peacock, Watershed Specialist, York County Conservation District

What measures do you have in place to accommodate prolonged drought conditions?

Expanded reservoir capacity and recycling of waste effluent.

~Chuck Wertz, Manager, Lebanon County Conservation District

Drought Contingency Plan.

~Herbert Mattern, Public Works, East Petersburg Borough

How is water supply and/or water quality incorporated into planning procedures?

Water quantity and water quality is ALWAYS a consideration when assisting agricultural producers with conservation planning. Water issues are also considered in development of watershed protection or flood damage reduction plans.

~Jeff Mahood, Environmental Planning Specialist, USDA-NRCS

Will be required to consider TMDLs in all aspects of conservation and E&S plans.

~Gary Peacock, Watershed Specialist, York County Conservation District

Are flood protection measures adequate? If yes, do trends indicate that they will continue to be adequate for the next 25+ years? If no, what initiatives are being taken to correct the problem?

No. Need countywide floodplain management like greenways.

~Gary Peacock, Watershed Specialist, York County Conservation District

As the reservoirs fill with sediment, are measures being considered to address the loss in storage capacity? If yes, what and when? If no, why not?

Most dams constructed with USDA-NRCS assistance are designed for 100-year sediment storage without loss of flood storage. Most have been constructed over the past 30 years.

~Jeff Mahood, Environmental Planning Specialist, USDA-NRCS

Is storage capacity sufficient for needs through 2025?

Yes.

~Jeff Mahood, Environmental Planning Specialist, USDA-NRCS

Do you foresee any major facility upgrades necessary for dam safety, increased storage or other reasons?

Local sponsors operate and maintain dams constructed with USDA-NRCS funds. The state DEP monitors/regulates dam safety. NRCS maintains a database of project sponsors usually counties, conservation districts, and watershed associations.

~Jeff Mahood, Environmental Planning Specialist, USDA-NRCS

Please site specific examples and details for known circumstances where lack of flood control has caused serious problems with existing Wastewater Treatment Plants.

Shrewsbury WWTP.

~Gary Peacock, Watershed Specialist, York County Conservation District

APPENDICES

INSERT
COLORED GIS PROJECT STUDY MAP



FACT SHEET

January 25, 2001

**LOWER SUSQUEHANNA RIVER BASIN
WATER MANAGEMENT PLAN
PHASE 1
PENNSYLVANIA**

U.S. Army Corps of Engineers
Baltimore District
P.O. Box 1715
Baltimore, Maryland 21203-1715

Background: The protection of the Susquehanna River watershed has been an area of concern to many stakeholders in South-Central Pennsylvania, including several State-wide and Regional agencies, municipalities, and local citizen groups. It is recognized that the benefits of these initiatives can be optimized if a comprehensive plan is developed which incorporates existing watershed and land use data, as well as information on current and future problems affecting both the water quality and quantity issues of water resources. The Corps of Engineers has been requested to develop a comprehensive water management plan for the Lower Susquehanna River Basin, through the local sponsorship of the Susquehanna River Basin Commission (SRBC).

Status: This planning initiative is being conducted through the Baltimore District, Corps of Engineers, under the Planning Assistance to States Program, as authorized by Section 22 of the Water Resources Development Act of 1974, as amended. The Corps will work in partnership with the Susquehanna River Basic Commission (SRBC), the Capital Region Water Board (CRWB) and the Pennsylvania Department of Environmental Protection (PADEP). The total study cost is \$100,000, with a 50/50 split between Federal and non-Federal funding sources. PADEP and other entities have provided Non-Federal funding.

The purpose of a Comprehensive Water Management Plan is to evaluate and develop a detailed short- and long-term workplan for the execution of projects which address the issues related to water resources. The study will focus on the Lower Susquehanna drainage, which includes all or portions of the following 8 counties in South-Central Pennsylvania: Perry, Dauphin, Lebanon, Cumberland, Franklin, Adams, York and Lancaster, as well as other surrounding counties that contribute to the Lower Susquehanna. The Lower Susquehanna Water Management Plan will be developed in two phases. Phase I of this investigation was initiated in October 2000 and should be completed by Fall 2001. The goal of Phase I is to develop a detailed Plan of Study (POS) for Phase II efforts, through comprehensive documentation and assessment of data and water needs of South-Central Pennsylvania. The Phase I activities will include 1) an inventory of existing watershed data; 2) workshops to exchange information with all stakeholders of this river basin; 3) identification of applicable regulations and land use constraints, and their impact; 4) analytical and technical assessment of collected data and information, and lastly; 5) development of an Implementation Plan, which will define the scope of work for Phase II of the study. Phase II of this project will serve to formalize all major stakeholder agreements, and to finalize the schedule and budget for future implementation of projects selected to insure the protection of this vital watershed in South-Central Pennsylvania.

Progress to-date for this investigation has included initiation of data collection from over 100 data sources and planning for the introductory workshop. This workshop will be held on January 25, 2001 at the Harrisburg Area Community College, Wildwood Conference Center.

For more information regarding this study, contact Ms. Andrea Walker, CENAB-PL-E, (410) 962-3027, or e-mail: andrea.e.walker@usace.army.mil

Home Page <http://www.nab.usace.army.mil>

**PLAN OF STUDY
COMPREHENSIVE WATER MANAGEMENT PLAN
LOWER SUSQUEHANNA RIVER BASIN, PENNSYLVANIA
PHASE I**

- 1. PROJECT TITLE** – Comprehensive Water Management Plan for the Capital Region of Pennsylvania, Phase I
- 2. CUSTOMER POINT OF CONTACT (POC)** – Stuart Gansell, Pennsylvania Department of Environmental Protection, Bureau of Watershed Conservation, Office of Water Management, 16th Floor, Rachel Carson State Office Building, P.O. Box 2063, Harrisburg, PA 17105-2063, Phone: (717) 787-5267, Fax (717) 787-9549, e-mail: Gansell.Stuart@dep.state.pa.us.

George J. Lazorchick, Hydraulic Engineer, Susquehanna River Basin Commission, Water Management, 1721 N. Front Street, Harrisburg, PA 17102, Phone: (717) 238-0425 extension 203, Fax: (717) 238-2436, e-mail: glazorchick@srbc.net

Betty Conner, Chairman, Capitol Region Water Board, 2 East High Street, Lebanon, PA 17042, Phone: (717) 274-3826, e-mail: brconner@msn.com

- 3. BALTIMORE DISTRICT, PLANNING DIVISION POC** – Andrea Walker, Study Leader, Planning and Environmental Services Branch, CENAB-PL-E, P.O. Box 1715, Baltimore, MD 21203-1715, Phone: (410) 962-3027, Fax: (410) 962-4698, e-mail: andrea.e.walker@usace.army.mil

4. PROJECT BACKGROUND AND REQUIREMENTS

Background

The U.S. Army Corps of Engineers has performed several small studies related to drinking water in central Pennsylvania in the past few years. The *Harrisburg Metropolitan Area Regional Water Supply Study*, completed in November 1992, determined if there was an adequate water supply to meet the public's needs through 2030. It found that the large systems were adequate although the smaller systems needed to be studied more closely. Lebanon County was the first County to be studied and has resulted in regionalization of some systems. Shippensburg was completed next and Cumberland County is in the process of being finalized.

The lower Susquehanna River Basin is in danger of losing water by diversion to other basins. There have been many requests for out-of-basin diversions of water, particularly from the City of Baltimore. In addition water quality and quantity concerns exist throughout the watershed.

The Corps is working in partnership with Pennsylvania Department of Environmental Protection (PADEP), the Susquehanna River Basin Commission (SRBC), the Capital Region Water Board (CRWB) to develop a comprehensive water management plan. The study will focus on the Lower Susquehanna drainage which includes all or portions of the following counties: Perry, Dauphin, Lebanon, Cumberland, Franklin, Adams, York, and Lancaster, as well as other surrounding counties that contribute to the Lower Susquehanna. This comprehensive study is needed to document the water needs of South Central Pennsylvania.

Scope of Study

The project will be conducted in two phases, Phase I and Phase II. Phase I will be divided into seven distinct tasks: 1) Data Inventory and Pre-Workshop Planning, 2) Institutional Landscape, 3) Workshops, 4) Analyze Information, 5) Develop Detailed Plan of Study (POS), 6) Develop Implementation Plan, and 7) CRWB Participation. The study calls for public participation on the problems and issues to be addressed to help shape the full scope of the comprehensive plan and public participation on the detailed POS.

Purpose of Plan of Study

The purpose of this POS is to define Phase I investigations which will be used to develop a detailed POS for Phase II efforts. It is envisioned that the Phase II effort scope of activities will be wide; pertinent existing information needs to be gathered in order to develop a well-thought out POS. The Phase I effort will focus on gathering pertinent available information (water supply studies, etc.) and conducting a series of meetings and/or workshops. The purpose of the meetings and/or workshops will be to understand the individual participant issues/concerns. Participants could include a wide-variety of individuals, including Federal, state, county water agencies and organizations, local and municipal officials, citizens and/or elected officials. The technical focus of the investigations is focused on all water-related issues.

5. SCOPE AND ACTIVITIES

Task 1: Data Inventory and Pre-Workshop Planning

This task will involve looking at relevant plans, data, problems to be addressed and values to be protected.

Subtask 1: Initiate Public Participation

- Prepare and distribute study initiation newsletter.
 - Organize and coordinate a workshop planning committee
 - Develop a list of questions and topics to be addressed.
 - Compile and develop a master database and an e-mail distribution list of appropriate participants from the study area.
 - Identify a facility and make all necessary arrangements.
 - Draft and mail invitations (and any attachments) and track RSVPs
 - Publicize the workshop by press releases, e-mails, web sites, newsletters, etc.

Subtask 2: Data Inventory and Assessment

- Establish and develop methodology for gathering information.
- Gather available water plans and water-related problems and needs to 2025 (interstate, Federal, state, regional, county, local)
- Gather pertinent information from large water users (greater than 100,000 gallons per day), and regional and state agencies (e.g., DEP, SRBC)
- Assess the quality of the provided information
- Identify the data and planning gaps

Examples of data and reports to be collected include:

- Pennsylvania Drinking Water Information System (PADWIS)
- PaDEP's Division of Water Use Planning
 - Annual Water Supply Reports
 - Consumer Confidence Reports
- SRBC Reports
- Pennsylvania Fish Commission Data

- Section 305B and 303D Reports
- USGS Annual Water Resources Summaries
- Source Water Assessments

Task 1 Product(s):

- A summary of existing information, reports, data.
- Development of a mailing list and public notice

Task 2: Institutional Landscape

Define appropriate processes for study purposes, to include:

- Land use decision processes
- Water supply/water quality decision processes
- Identify regulation issues (e.g., NPDES, TMDLs, Source Water Assessments)

Task 2 Product: Narrative discussion of the above mentioned items.

Task 3: Conduct Workshop

Arrange and conduct an introductory workshop with all appropriate stakeholders to identify the public participation needed and to review and get comments on study plan and scope. The stakeholders should be categorized into two target groups. The two target groups would be:

1. Basin-wide stakeholders. They would include key federal, interstate and state agencies and representatives from basin-wide interest groups, including water works, wastewater, agriculture, environmental, sportsmen, industry, recreation and other water users.
2. Sub-basin and local stakeholders. They would include representatives of local watershed organizations, local chapters of state-wide and national organizations and regional, county and local government offices.

Task 3 Product: One large stakeholders' workshop will serve as an introduction of the project and will give the project sponsor an opportunity to demonstrate the broad comprehensive nature of this project. At this initial workshop, the project sponsor will explain the nature of the project and the type of public participation needed. This workshop will also allow for all participants to network with each other. The stakeholders' workshop would likely take place at an easily accessible and centrally-located facility, potentially following a bi-monthly CRWB meeting.

Activities would include:

- Organize and coordinate a workshop planning committee
- Develop a list of questions and topics to be addressed.
- Compile and develop a master database and an e-mail distribution list of appropriate participants from the eight-county study area.
- Identify a facility and make all necessary arrangements.
- Draft and mail invitations (and any attachments) and track RSVPs
- Publicize the workshop by press releases, e-mails, web sites, newsletters, etc.
- Develop an agenda and identify and assign speakers, facilitators, etc.
- Conduct any follow up activities and provide a summary to the project sponsor and all participants.
- Post information on appropriate websites

Task 4: Analyze Gathered Information from Tasks 1-3

A Technical workgroup, of the CRWB, will be established to perform the following items. This workgroup will be chaired by SRBC (Lazorchick) and include representatives from DEP, CRWB, and COE. The workgroup will:

- Establish water related technical, natural resources, environmental, industrial development, demographic and land-use problems to be addressed.
- Establish important water related policy, legislative, institutional, legislative, financial and other water related management problems to be addressed.
- Summarize the analysis.
- Discuss and analyze the information received in terms of:
 - Adequacy of data
 - Further data and analytical needs for Phase II (based on technical and public workshop information)
 - Alternatives to be considered

Examples of Technical areas to be considered (not inclusive list):

- Flood Protection
- Fire Protection
- Groundwater (use and protection)
 - Underground Storage Tanks
 - Radon (from geologic formations)
 - Wellhead Protection
- Hydropower/Cooling
- Infiltration/Impervious Surface
- Land/Water Use Connection
- Monitoring
- Other Water Suppliers (bottled water)
- Sprawl
- Storage Reserve
- Surface Water Influence/Regulations
- Wastewater - fragmentation
- Water Quality
 - Nonpoint Contamination (nitrate, pesticides, etc.)
 - Maximum Contaminant Levels (MCLs) (Total Coliform Rules)
- Water Supply (Demand/Supply) for municipalities, industries (including mining), energy, agriculture and recreation, water-related infrastructure, water conservation, aquatic life and other living resources, out of basin needs, related land use issues, as well as social, economic, financial, engineering and ecological, public health and scientific, personnel, as well as institutional considerations.

Task 4 Product: Matrix with narrative to identify data gaps and problem areas.

Task 5: Develop Detailed Plan of Study (POS)

- Based upon the analysis conducted in Task 4, develop a detailed POS for the Phase II investigations
- Develop links with other planning processes, such as comprehensive local and county plans, state and Federal agency plans and programs
- Distribute POS to participants in Task 3 for review and comment
- Conduct a workshop for the Statewide Stakeholders and three Regional workshops for the Sub-basin and Local Stakeholders to allow for more detailed input on the POS.
- The county groupings for the three regional workshops might be:
 - Lebanon and Lancaster counties
 - York, Adams and Franklin counties
 - Dauphin, Cumberland and Perry counties
- The stakeholders workshops would likely take place from 9:00 am to noon. Activities would include:
 - Organize and coordinate a workshop planning committee.
 - Identify four mailing lists using the master database developed under Task 3.
 - Identify facilities and make all necessary arrangements.
 - Draft and mail invitations (and any attachments) and track RSVPs.
 - Publicize the workshops by press releases, e-mails, web sites, newsletters, etc.
 - Develop an agenda and identify and assign speakers, facilitators, etc.
 - Conduct any follow up activities and provide a summary to the project sponsor and all participants.
- Revise the POS to adequately address the comments received

Task 5 Product:

- Detailed POS
- Summary of Public workshops

Task 6: Develop an Implementation Plan

- Investigate the various means available to conduct the Phase II investigations
- Develop the appropriate instruments (Work-plan, schedule and budget, Cost-sharing agreements, Memorandums of Agreement, etc.) to initiate the Phase II investigations
- As appropriate conduct negotiations and execute necessary agreements with potential non-Federal sponsors

Task 6 Product: An Implementation Plan

Task 7: CRWB Participation

The CRWB will serve as the coordinating agency for the proposed study. The CRWB has appropriate mechanisms (Bi-monthly meetings), in place, to facilitate cooperation between all stakeholders (Federal, state water-related agencies, industry groups, and other special interest groups/individuals) and can propose water management policies that arise from the study. The CRWB will provide advice, institutional knowledge and a forum for discussion of policy, scope, and water management issues and trading information.

Task 7 Product: Summary of bimonthly meeting discussions.

6. SCHEDULE

It is anticipated that this study will take one year to complete. A preliminary schedule is shown below for completion of each task. Overlap will occur between tasks; tasks do not occur consecutively.

- Initiate Work
- Task 1 – Data Inventory and Pre-Workshop Planning 3 Months
- Task 2 – Institutional Landscape 3 Months
- Task 3 – Conduct Workshops 4 Months
- Task 4 – Analyze Gathered Information 7 Months
- Task 5 – Develop Detailed POS 9 Months
- Task 6 – Develop an Implementation Plan 11 Months
- Task 7 – CRWB Participation 12 Months

7. COSTS

It is estimated that this work effort will cost \$100,000.

8. ASSUMPTIONS

The Corps will collect data from various sources including Federal, state and public databases. The bulk of the data will be acquired from Federal and state agencies, considering there are over 400 municipalities within the study area. The study will identify data gaps and discuss why this is a problem. The study will not change or correct any data.

INSERT
DRAFT LOWER SUSQUEHANNA RIVER BASIN: WATER USE DATA INVENTORY

INSERT

DATA FROM THE PENNSYLVANIA EMERGENCY MANAGEMENT AGENCY

AVAILABLE FROM SRBC IN HARD COPY FORMAT ONLY