2006 Annual Water Resources Program
Susquehanna River Basin Commission

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Section 14.2 of the Susquehanna River Basin Compact (Compact), P.L. 91-575 states that "the Commission will annually adopt a water resources program, based upon the comprehensive plan, consisting of the projects and facilities which the Commission proposes to be undertaken by the Commission and by other authorized governmental and private agencies, organizations, and persons during the ensuing six years or such other reasonably foreseeable period as the Commission may determine." Beyond this Compact requirement, there is a need to set forth in one concise document a listing of the programs, projects, and legislative initiatives that will help meet the current problems and challenges of water resources management in the Susquehanna River Basin. The following programs/projects of the Susquehanna River Basin Commission (SRBC) and other water resource management agencies will constitute the Water Resources Program of the SRBC for 2006 to meet the water resources needs set forth in the Comprehensive Plan. These needs are:

1. Coordination
2. Reduce Flood Damages and Provide Effective Disaster Recovery
3. Improve Water Quality
4. Mitigate Drought Impacts
5. Ensure Adequate Water Supply
6. Promote Economic Development
7. Protect and/or Restore Aquatic Ecosystems
8. Restore Migratory Fish
9. Manage Sediment
10. Preserve Cultural and Historical Heritage
11. Enhance Recreation
12. Facilitate Data Management and Use

WATER RESOURCE NEED NO. 1 – COORDINATION

Coordinate the planning and management of the water resources of the basin in accordance with the requirements of the Compact and the Comprehensive Plan, communicate with and listen to the concerns of the water use stakeholders and their elected representatives, educate the public about the water resources of the basin, and garner adequate financial resources to support both SRBC and other agency programs and projects for management of the basin's water resources.

A. SRBC

1. **General Coordination**: Coordinate the water resource management efforts of state and federal agencies, local governments, and private interests. Actions will include: (1) coordinating impaired waterbody listings and source water protection activities; (2) active participation in Pennsylvania's Water Resources Planning Act 220 implementation; (3) exploring development of cooperative memorandum of understanding agreements with Maryland and New York to promote efficient use of resources and provide consistency in regulatory procedures and programs; and (4) seeking guidance from SRBC advisory committees on a range of water management issues.

2. **Legislative Liaison**: Inform federal and state legislators of the activities, plans, and programs of the SRBC and continue working with the Susquehanna River Basin Congressional Task Force, the Susquehanna Caucus in the Pennsylvania General Assembly, and interested legislators in Maryland and New York. See Attachment 1 for a list of federal and state legislative initiatives that the SRBC supports.

3. **Promote Interstate Comity and Resolution of Conflicts**: Continue the SRBC's general Compact purpose of promoting interstate comity and resolution of conflicts, with particular focus on oversight of out-of-basin diversions from the Conowingo Pool, an interstate waterbody, and on efforts to resolve issues surrounding the diversion of water from Deer Creek by the City of Aberdeen.

4. **Planning (SRBC Documents)**: Continue work on the following planning efforts: Comprehensive Plan (seek resources to update), Water Resources Program (revise and update), internal strategic plans (implement divisional plans), the SRBC's Groundwater Management Plan for the basin (implement as appropriate), and the Conowingo Pool Management Plan (complete public review and finalize).

5. **Public Information and Education**: Continue to disseminate information through the *Guardian* newsletter, fact sheets and other publications, press releases, the website, and through workshops and the Speakers' Bureau. Continue assisting watershed and other nonprofit organizations, managing the Streamside Cleanup Program, expanding the Susquehanna Shad School program to educate school students on the basin's migratory fish restoration program, and promoting water conservation through the pilot leak detection project.

B. Federal Programs and Projects

1. **Environmental Protection Agency (EPA)**: Continue to update monitoring strategy. Actively participate in and contribute to a select set of Chesapeake Bay Program committees. Explore the possibility of developing a multi-jurisdictional partnership for the protection of source water, similar to the Potomac Drinking Water Protection Partnership and the Schuylkill Action Network.

2. **National Park Service (NPS)**: Continue to: (1) coordinate among "service providers" for Chesapeake Bay Watershed Management technical assistance; (2) work with the Alliance for the Chesapeake Bay to convene a Watershed Rally for Chesapeake Bay watershed organizations (summer 2006); (3) develop a Chesapeake Bay Watershed Management Technical Assistance Program website; and (4) assist Pennsylvania Department of Environmental Quality in conducting Watershed Academies for local officials.

3. **National Weather Service (NWS)**: Provide program management for the Susquehanna Flood Forecasting and Warning System (SFFWS). Coordinate with the SRBC, U.S. Geological Survey, other federal and state partners, local EMAs, and media outlets. Provide education and outreach to promote flood loss reduction.

4. **Office of Surface Mining (OSM)**: Continue to support the objectives of the SRBC by participating in meetings and providing technical and program support in partnership with federal/state of Pennsylvania/local government and watershed groups in which mine drainage and abandoned mine land reclamation issues are of concern.

5. **U.S. Army Corps of Engineers (USACE)**: Continue to partner with local governments, agencies, and stakeholders to initiate and execute investigations and projects within USACE authorities and jurisdiction. Continue membership and responsibilities on SRBC, CBP, and other such groups.

6. **U.S. Fish and Wildlife Service (USFWS)**: Promote northeast regional water supply and demand analysis and alternatives to meet needs and manage growth. Coordinate with state governments to work towards adoption of "smart-growth" land use planning techniques.

7. **U.S. Geological Survey (USGS)**: Participate in technical advisory groups of other federal and state agencies. Actively work on parts of the State Water Plan update and provide technical assistance as needed. Manage and operate networks of stream gages and groundwater level recorders, serving data real time on the web and maintain historical records.

8. **Summary of Federal Actions**: See Attachment 2 for a tabular summary of all federal agency input.

C. State Programs and Projects

1. **New York**:

2. **Pennsylvania**: Pennsylvania priorities include:

   a. Continuing the implementation of the Water Resources Planning Act (Act 220 of 2002) with emphasis on the update of the State Water Plan and coordination of that planning effort with the SRBC's activities such as registration, planning, water budget development, water conservation, and technical assistance to communities.

   b. Continuing the Pennsylvania Rivers Conservation Program to encourage local watershed groups to develop "Watershed Conservation Plans."

   c. Supporting riverfront development along the Lackawanna River in Scranton and vicinity to spur economic development and attract people back to the banks of the Lackawanna River.

3. **Maryland**:

WATER RESOURCE NEED NO. 2 – REDUCE FLOOD DAMAGES AND PROVIDE EFFECTIVE DISASTER RECOVERY

Prevent the loss of life and significantly reduce future damages from floods within the basin through an integrated system of structural and nonstructural flood damage reduction measures. Provide a comprehensive and effective program for disaster recovery efforts following major floods.

A. SRBC

1. **Flood Forecasting and Warning System**: Enhance the effectiveness of the Susquehanna System by coordinating the Interagency Committee's efforts, seeking adequate federal appropriations, implementing a multi-year comprehensive flood outreach and education media campaign, assisting local governments with training and products to prevent loss of life and, in cooperation with the NWS, holding regional users' conferences. Participate in related local projects including the Wyoming Valley flood mitigation project. Maintain and update the system website. Serve as a liaison between the NWS and local flood managers to gather ideas and incorporate local input into the improvement of flood forecasts and warnings through partnerships related to Advanced Hydrologic Prediction Services (AHPS).

2. **Flood Management**: Help reduce flood damages by coordinating information with local interests on successful flood-related programs and by providing technical assistance and outreach to include: (1) training on the use of flood inundation maps; (2) assistance in developing local

flood alert systems; and (3) information on flood plain planning and management techniques. Support radar velocity technology as an additional cost-effective method of stream gaging.

B. Federal Programs and Projects

1. **EPA**: Increase in outreach efforts to volunteer groups and public water supplies.

2. **NPS**: Recommend measures for flood plain protection and riparian buffer development in Deer Creek Watershed Restoration Action Strategy.

3. **NWS**: Provide flood forecast and warning services and, in cooperation with SFFWS partners, enhance the flood forecast services. Collect and disseminate hydromet information.

   Future Actions: In cooperation with SFFWS partners, develop sustainable, high-resolution observational network. Develop gridded data network over Susquehanna watershed. Provide high-resolution flash flood forecasts. In cooperation with partners, develop new forecast points and flood forecast maps for priority damage locations in the basin.

4. **USACE**: Complete flood damage reduction projects for the Wyoming Valley (levee raising), Bloomsburg, and the Lackawanna River at Olyphant, Scranton (Plot and Green Ridge), and Dickson City, Pennsylvania. Continue implementation of Section 205 Continuing Authority flood damage reduction projects in Lycoming County (Lycoming Creek), Wilkes-Barre (Solomon Creek), Cumberland County (Cedar Run), Susquehanna Township, and Throop, Pennsylvania.

   Continue management and maintenance of dams and reservoirs to serve flood control purpose. Continue support of FEMA in disaster recovery efforts.

5. **USGS**: Work with NWS to collect data needed to predict floods and to improve flood prediction capabilities. Record flood high water marks and relate to velocities, and determine recurrence intervals. Work with FEMA and PEMA on flood inundation activities. Develop regional regression equations to compute flood-flow statistics.

6. **Summary of Federal Actions**: See Attachment 2 for a tabular summary of all federal agency input.

C. State Programs and Projects

1. **New York**:

2. **Pennsylvania**: Lycoming County is cooperating with the USACE and the Commonwealth of Pennsylvania Department of Environmental Protection (PADEP) in the completion of a feasibility study of alternatives to deal with flooding on 5,000 acres of industrial, commercial, and residential land in the lower portion of the Lycoming Creek watershed. See B3 above.

3. **Maryland**:

WATER RESOURCE NEED NO. 3 – IMPROVE WATER QUALITY

Control water pollution and excess nutrient runoff sufficiently to maintain and establish water quality capable of supporting multiple purpose uses for public water supply, recreation, fish, and wildlife, agriculture, industry, energy production and other uses. Protection also will be given to the receiving waters of the Chesapeake Bay.

A. SRBC

1. **Water Quality Assessments**: (1) Conduct assessments of interstate stream water quality and issue annual reports; (2) conduct annual biological assessments for large rivers; (3) complete Year-1 assessments for the Lower Susquehanna Subbasin and begin Year-2 assessment in 2007; (4) begin Year-1 assessment for Chemung Subbasin in 2006; (5) begin Year-1 assessment for the Upper Susquehanna Subbasin in 2007 and the Middle Susquehanna Subbasin in 2008; (6) complete the Year-2 assessments for Morgan Run (West Branch Subbasin); and (7) begin the Year-2 assessment for Morrison Cove (Juniata Subbasin) in 2006. Enter water quality assessments into the EPA Assessment Database and assist member jurisdictions with developing water quality management strategies. Assist Pennsylvania with its Instream Comprehensive Evaluation Program and with collection of water quality samples for abandoned mine drainage total maximum daily load (TMDL) development. Participate in World Water Monitoring Day.

2. **Chesapeake Bay Program**: Collect data and maintain a database for calculating annual loads, analyzing trends, and assisting bay partners to develop strategies for water quality management in the Susquehanna basin. Implement expanded sediment and nutrient monitoring in support of tributary strategies and provide annual reports on trends. Participate in the Bay Program's subcommittees, work groups, and Pennsylvania Tributary Strategy Steering Committee. Perform other tributary strategy coordination activities.

B. Federal Programs and Projects

1. **EPA**: Increase bacteria monitoring. Ensure timely sharing of assessment information on interstate waters to integrated reporting assessments (305b and 303d). Continue to coordinate impaired waterbody listings, develop TMDLs, and continue source water protection activities. Coordinate work by Pennsylvania, New York, USGS, and EPA to maintain existing monitoring stations and expand implementation of the Chesapeake Bay Nontidal Water Quality Monitoring Network within the Susquehanna River Basin.

2. **NPS**: Identify and address impairments to water quality in conjunction with the Deer Creek Watershed Restoration Action Strategy. The Delaware–Lehigh National Heritage Corridor & Lackawanna Valley National Heritage Area, in partnership with the Susquehanna Greenway Partnership, will identify and improve riparian buffers along the Susquehanna River in Luzerne and Lackawanna Counties.

3. **NWS**: Issues daily flow forecasts (currently Susquehanna River at Harrisburg) and provides water information as necessary in conjunction with hazardous spills.

4. **OSM**: Provide technical and financial assistance to PADEP and individual watershed groups for the remediation of the impacts of mine drainage and abandoned mine lands in the basin. Conduct periodic monitoring of the performance of mine drainage treatment systems constructed in West Branch tributaries. Maintain a geographic information system (GIS) database of all mine

drainage treatment projects in Pennsylvania. Partner with PADEP in its efforts to clean up the West Branch of the Susquehanna River.

5. **USACE**: Seek and execute acid mine drainage (AMD) solutions, including continuing construction of the Dents Run (Section 206) project and investigations at Upper Tioga (206) and the Southern Anthracite Region (GI), Pennsylvania. These projects will also help restore aquatic ecosystems (see Water Resource Need No. 7).

6. **USFWS**: Continue FWS habitat enhancement efforts and continue to perform sediment and nutrient monitoring at key locations in the river basin. Perform water quality trend analyses to support Chesapeake Bay tributary strategies developed by SRBC's member states. Support fishery restoration programs using SRBC's subbasin water quality assessments. Restore and protect stream channels, riparian areas, and adjacent wetlands to reduce sediment and nutrient inputs. Coordinate and pursue abandoned mine remediation strategy in the West Branch of the Susquehanna.

7. **USGS**: Collect and provide water quality data to local, state, and federal agencies. Conduct studies to improve the understanding of fate and transport of contaminants. Analyze trends in water quality data Chesapeake Bay basinwide. Conduct studies to evaluate the effectiveness of land management treatments to mitigate agricultural and abandoned mine drainage impacts. Coordinate these efforts with local, state, and federal partners.

8. **Summary of Federal Actions**: See Attachment 2 for a tabular summary of all federal agency input.

C. State Programs and Projects

1. **New York**: In April 2001, the New York State Department of Environmental Conservation released the *Draft Watershed Restoration and Protection Action Strategy, Susquehanna and Chemung River Basins.* The strategy recommended actions to restore impaired waterways and riparian areas. Various partners are now working toward common goals that reflect a commitment to restore and protect water quality and natural resources in the Susquehanna basin.

2. **Pennsylvania**:

3. **New York and Pennsylvania**: The Upper Susquehanna Coalition has received an EPA grant to create ephemeral wetlands within the Upper Susquehanna and Chemung Subbasins. The wetlands are being constructed to provide habitat, increase flood storage, and encourage groundwater recharge at the local watershed scale.

4. **Maryland**:

WATER RESOURCE NEED NO. 4 – MITIGATE DROUGHT IMPACTS

Mitigate the adverse impacts of drought conditions on water users and the environment.

A. SRBC

1. **Drought Coordination**: Monitor emerging drought conditions and, as needed, activate the Interagency Drought Coordinating Committee, implement the basinwide Drought Coordination

Plan, and, as needed, update the plan. Initiate several strategies to educate and inform the public on water conservation and promote awareness of water system losses.

B. Federal Programs and Projects

1. **NWS**: Issue precipitation departures from normal for county-wide areas (monthly, seasonal, annual – MARFC) and drought statements as necessary (WFOs). NOAA/NCDC coordinates U.S. Drought Monitor, an interagency drought monitoring tool issued weekly. Issue drought/low flow forecasts based on enhanced gridded data (future).

2. **OSM**: Support PADEP's efforts to promote the use of underground mine pools as alternative industrial water supplies, thereby reducing demand on ground and surface water.

3. **USACE**: Continue to execute and manage release scenarios under drought conditions at USACE reservoirs.

4. **USFWS**: Continue involvement in Conowingo Pool Management Plan (migratory fish flow needs).

5. **USGS**: Maintain drought monitoring website and supporting data-collection activities. Develop methodology to evaluate ecological flows and impacts on aquatic communities. Develop regional regression equations to compute low flow statistics.

6. **Summary of Federal Actions**: See Attachment 2 for a tabular summary of all federal agency input.

C. State Programs and Projects (text subject to state input)

1. **New York**:

2. **Pennsylvania**:

3. **Maryland**:

WATER RESOURCE NEED NO. 5 – ENSURE ADEQUATE WATER SUPPLY
Ensure an adequate supply of water for all users, including instream users and the Chesapeake Bay.

A. SRBC

1. **Surface and Groundwater Management**: Continue to monitor and report on hydrologic conditions within the basin, and coordinate management of floods and droughts according to approved plans. Begin implementing some of the more than 30 recommendations of the newly adopted "Groundwater Management Plan for the Susquehanna River Basin." Initiate a water availability study in the Deer Creek Watershed in Maryland and Pennsylvania. Continue leadership role in developing, operating, and management recommendations for the water resources of the Conowingo Pool. Pursue funding opportunities to conduct a three-phase Critical Aquifer Recharge Areas project and to study groundwater and surface water interaction in Morrison Cove and other potentially stressed areas. Provide outreach and education to various audiences for the critical recharge area designations. Promote agricultural water conservation

through a series of demonstration projects covering three broad areas: (1) irrigation water use; (2) livestock water use; and (3) farm pond creation. Substantially complete the comprehensive water availability study for the Deer Creek watershed.

2. **Regulatory Program**: Continue reviewing proposed large surface and groundwater withdrawals, consumptive water uses, and applications for emergency withdrawals/uses. Issue Emergency Certificates and carry out compliance and enforcement activities. In consultation with the SRBC's Water Resources Management Advisory Committee (WRMAC), complete comprehensive overhaul of SRBC project review regulations. Move toward consultation with various stakeholder groups in 2006, with objective of producing proposed and final regulations.

3. **Source Water Protection/Early Warning System**: Provide assistance to municipalities to protect source waters for potable water supply, and seek funds and partners to expand the current EWS project to other areas of the basin.

4. **Low Flow Management**: Pursue prime recommendation of recently completed Agricultural Consumptive Use Study to provide the 15.7 million gallons per day (mgd) of water necessary to offset agricultural consumptive water use in the Pennsylvania portion of the basin. Focus search for sources on storage opportunities at abandoned or unused mines, and publicly or privately owned reservoirs and lakes. Complete arrangements with New York State to make available non-federal share of funds appropriated by legislature for Whitney Point Environmental Restoration Project and seek federal appropriation for remaining funding. Continue to explore possibility of more frequent water releases from USACE's Cowanesque and Curwensville projects where the SRBC owns storage. Pursue funding to study biological and physical impacts of low flows. Monitor low flow conditions to insure compliance with consumptive use regulation and, as appropriate, direct releases of water from storage.

B. Federal Programs and Projects

1. **EPA**: Develop a strategy to implement source water protection activities throughout the basin that would include: (1) using the source water assessments to identify protection priorities; (2) educating stakeholders about priorities and protections methods; and (3) forming regional source water protection workgroups that would coordinate activities with other agencies and programs, and provide technical assistance.

2. **NPS**: Participate in the Deer Creek Water Needs Study and facilitate integration of study results in ongoing management of the Deer Creek watershed.

3. **NWS**: Issue AHPS long-term (30-day) probability forecasts for river locations within the basin. Issue long-term inflow forecasts for area reservoirs (future).

4. **OSM**: Support PADEP's efforts to promote the use of underground mine pools as alternative public, commercial, and industrial water supplies, thereby reducing demand on ground and surface water. Provide technical and financial assistance in the remediation of mine drainage impacts on local public water supplies.

5. **USACE**: Investigate low flow operational plan modifications at Curwensville and Cowanesque Lakes, if feasible. Use Section 22 program to investigate regional and local water supply needs, funds permitting.

6. **USFWS**: Promote northeast regional water supply and demand analysis and alternatives to meet needs and manage growth. Continue involvement in Conowingo Pool Management Plan (migratory fish flow needs).

7. **USGS**: Provide tools to water managers to determine water availability. Make data available for use with the State Water Plan. Continue to conduct and refine recharge and water budget analysis methodology. Evaluate water availability within state holdings.

8. **Summary of Federal Actions**: See Attachment 2 for a tabular summary of all federal agency input.

C. State Programs and Projects

1. **New York**:

2. **Pennsylvania**:

3. **Maryland**: The City of Aberdeen (City) has taken over ownership and operation of the water intake structure on Deer Creek, and has been using it to supply water to the U.S. Army's Aberdeen Proving Grounds (APG) facility under SRBC Docket No. 20021210, approved in December 2002. The City, faced with perchlorate contamination in its existing well field, has also requested approval to withdraw and divert additional water from Deer Creek to supply its own demands. The Maryland Department of the Environment (MDE) issued a Water Appropriation and Use Permit to the City for a total withdrawal of 4.9 mgd for supply to both APG and the City. The allocation currently is limited to 3.5 mgd until additional emergency backup supply is developed. The SRBC was considering a second approval to withdraw water from Deer Creek for the City's use to meet some level of reasonably foreseeable need consistent with MDE's permit. However, the City violated the conditions of its first SRBC approval to supply water to APG. Consideration of the second approval has, therefore, been placed on hold and a water use availability study will now be performed in the Deer Creek Watershed to assess the possible impacts of a second approval on users who share those waters with the City.

WATER RESOURCE NEED NO. 6 – PROMOTE ECONOMIC DEVELOPMENT

Promote the economic development of the basin under sustainable water resource principles.

A. SRBC

The SRBC will pursue economic development within the context of the programs and projects listed under other needs. For example, the SRBC will continue its commitment to the adequate funding and maintenance of the SFFWS as one very important means of reducing flood damage and minimizing economic displacement. The SRBC will support programs of the member jurisdictions leading to restoration of runs of migratory fish to the basin that will improve the sport fishery. The SRBC will operate a regulatory program for consumptive use of water and withdrawals of water that will seek to minimize conflicts among users who need dependable sources of water for their business and economic activities. The SRBC will develop a low flow management plan that will look for ways to maintain adequate flows for all water users.

B. Federal Programs and Projects

1. **NPS**: Encourage economic viability and resource sustainability of farming and timber harvest through the Deer Creek Watershed Restoration Action Strategy. The Delaware–Lehigh National Heritage Corridor, in partnership with USACE, will continue riverfront reinvestment activities in Wilkes-Barre, Pennsylvania.

2. **OSM**: Support PADEP's efforts to develop uses of underground mine pools and discharges for resource recovery, and to meet commercial and industrial water needs to promote economic development. Removal of AMD from streams also promotes economic development through improvement of the quality of life in adjacent communities.

3. **USACE**: Continue policy of using benefit-to-cost ratios and other National Economic Development considerations in project recommendations.

4. **USFWS**: Promote sustainable, "smart-growth" development techniques in order to protect fish and wildlife habitat and water quality. Work with the SRBC on outreach and education for shad restoration and fish passage.

5. **Summary of Federal Actions**: See Attachment 2 for a tabular summary of all federal agency input.

C. State Programs and Projects

1. **New York**:

2. **Pennsylvania**:

3. **Maryland**:

WATER RESOURCE NEED NO. 7 – PROTECT AND/OR RESTORE AQUATIC ECOSYSTEMS

Take actions to protect and/or restore fish and wildlife habitat including streams and wetlands.

A. SRBC

1. **Watershed Management and Restoration**: Provide technical and organization support to the member jurisdictions and local watershed groups to promote watershed planning, protection, and restoration. Conduct monitoring work to assist with Pennsylvania's Conservation Reserve Enhancement Program and for the Audenreid Tunnel/Catawissa Creek restoration project. Continue development of TMDL studies, with emphasis on the West Branch Subbasin. Complete the work necessary to obtain funding appropriated by the New York State Legislature for the Whitney Point Environmental Restoration Project. Seek congressional funding for the federal portion of the Whitney Point project costs. Work with federal and state officials, and non-governmental organizations such as the Eastern and Western Pennsylvania Coalitions for Abandoned Mine Reclamation, to coordinate an acid mine drainage strategy. Pursue possible acid mine drainage project in cooperation with PADEP, Bureau of Abandoned Mine Reclamation, at Barnes and Tucker abandoned mine site in West Branch that could ultimately provide 7-10 mgd of treated, enhanced flows to Susquehanna River Basin. The SRBC will be

exploring other opportunities with the Bureau of Abandoned Mine Reclamation to obtain enhanced flows from other acid mine drainage treatment sites.

B. Federal Programs and Projects

1. **EPA**: Continue to serve on the Mid-Atlantic Regional Panel on Aquatic Nuisance Species and work to control the spread of aquatic nuisance species in the basin.

2. **NPS**: Address ecological health and sustainability through the Deer Creek Watershed Restoration Action Strategy.

3. **NWS**: Partner with NOS in providing inflow data for Chesapeake Bay estuary model. Improve long-term flow forecasts for basin outlet to use as input for Chesapeake Bay estuary modeling and ecosystem forecasting (with NOS) (future).

4. **OSM**: Continue to provide financial and technical assistance to PADEP and local watershed groups in the remediation of mine drainage impacts on local streams.

5. **USACE**: Execute Whitney Point Lake Section 1135 construction when funding becomes available. Continue to pursue other improvements to aquatic ecosystems through a myriad of authorities available for this primary mission area. Continue the Cooperstown Area Ecosystem Restoration and Catatonk Creek, New York, feasibility studies to restore wetland habitats and improve soil and water conservation practices within the ecologically valuable headwaters of the Susquehanna River Basin and the Chesapeake Bay watershed.

   Complete feasibility study on the Codorus Creek watershed and proceed to design and implementation of the Section 206 and 1135 projects. Continue process to implement Section 206 aquatic ecosystem restoration projects at eight locations in Pennsylvania and two locations in New York.

6. **USFWS**: Provide technical support for stream restoration projects: identification, assessment, prioritization, and implementation. Pursue regional adoption of smart-growth measures. Provide technical assistance in development of watershed and stream management plans that restore native fish populations and support migratory birds. Be proactive in protection of high priority habitats by developing partnerships with landowners for protective instruments. Collaborate with partners to restore early succession wetland habitats for the federally listed bog turtle. Continue to serve on the Mid-Atlantic Regional Panel on ANS, and work to control the spread of aquatic nuisance species in the basin and the Chesapeake Bay. Of particular importance is the potential for the spread of zebra mussel into the Chesapeake Bay.

7. **USGS**: Conduct studies that quantitatively evaluate linkages between physical and chemical characteristics and biological communities. Conduct fish community, fish tissue, and bed-sediment analyses. Collect, analyze, and interpret benthic macroinvertebrate data from streams.

8. **Summary of Federal Actions**: See Attachment 2 for a tabular summary of all federal agency input.

C. State Programs and Projects

1. **New York**:

2. **Pennsylvania**: PADEP's Bureau of Abandoned Mine Reclamation currently has 49 projects in design or construction status in the Susquehanna River Basin. Included are projects in the following watersheds: Bennett Branch of Sinnemahoning Creek, Dents Run, Kettle Creek, Tioga River, and the West Branch headwaters. In addition, the existing Barnes and Tucker acid mind drainage treatment facilities are under consideration for relocation to the West Branch watershed. There are also significant programmatic initiatives underway including: (1) the investigation of using mine pools as a source of low flow augmentation to offset consumptive water use; (2) a Reliant Energy Initiative; (3) technical assistance for priority watersheds; (4) $120,000 in Growing Greener grant funding to assist watershed groups in addressing acid mine drainage and restoring West Branch watersheds; and (5) a West Branch Susquehanna River Task Force whose mission is to restore water resources impacted by abandoned mine lands and mine drainage within the West Branch basin. See Attachment 3 for additional details on these projects and programs.

   The Pennsylvania Rivers Conservation Program is designed to encourage local watershed groups to develop a "Watershed Conservation Plan" to inventory significant resources, identify concerns and threats, and formulate recommendations to conserve, enhance and restore resources. Planning grants are available for this purpose. Once a plan is prepared, the group may become eligible for "Implementation," "Development," and "Acquisition" Grants. A list of the 18 Watershed Conservation Plans from the Susquehanna River Basin that have been added to the Rivers Registry is included as Attachment 4.

3. **Maryland**:

WATER RESOURCE NEED NO. 8 – RESTORE MIGRATORY FISH

Restore native migratory fishes to the Susquehanna River system. Remove obstacles to the movement of migratory and indigenous fishes.

A. SRBC

1. **Fisheries Program**: Continue to participate in the Susquehanna River Migratory Fish Restoration Program and help coordinate restoration efforts in upstream areas of the basin. Also, continue participation in Mid-Atlantic Regional Panel on Aquatic Nuisance Species and work to control and limit the spread of aquatic nuisance species in the Susquehanna River Basin. Coordinate with Pennsylvania on construction of the Sunbury fabridam fish passage. Promote and seek opportunities to conduct additional instream flow studies. Educate the public regarding fish restoration, including the new 5-year program called the "Susquehanna Shad School: Connecting Students and Shad."

B. Federal Programs and Projects

1. **EPA**: Continue coordinated efforts with state and federal agencies to evaluate potential alternative construction methods to remove blockage passes to fish passage.

2. **NPS**: Identify and eliminate fish blockages through the Deer Creek Watershed Restoration Action Strategy.

3. **USACE**: Continue to seek opportunities to remove fish blockages, both physical and chemical, and provide migratory fish passage throughout watershed.

4. **USFWS**: As lead federal agency for migratory fish restoration continue efforts with partners to provide technical support for fish passage restoration to the tributaries of the Susquehanna River. Continue to: (1) chair various SRAFRC committees; (2) work with PA-DCNR and legislators to solve Sunbury funding issue; and (3) support SRBC's "Shad School" project. Partner with Pennsylvania Fish and Boat Commission (PFBC) to help expand "Shad School" into Pennsylvania schools.

5. **USGS**: Evaluate the geomorphic and chemical impacts of dam removals. Collect and evaluate stream habitat data in relation to the support of migratory fish populations.

6. **Summary of Federal Actions**: See Attachment 2 for a tabular summary of all federal agency input.

C. State Programs and Projects

1. **New York**:

2. **Pennsylvania**:

3. **Maryland**:

WATER RESOURCE NEED NO. 9 – MANAGE SEDIMENT

Protect the water and related land resources of the basin through the implementation of both conservation practices that retard runoff, and prevent or reduce soil erosion and other management alternatives to control sediment deposition.

A. SRBC

Continue to cooperate with the USACE and others in the initiation and development of feasibility studies related to sediment management and the development of a basinwide sediment transport model to be used in basinwide sediment management initiatives.

B. Federal Programs and Projects

1. **EPA**: Work with the Chesapeake Bay Program to ensure project implementation reporting is included in overall sediment management and data accounting systems.

2. **NPS**: Address sedimentation with best management practices and sound land use decisions through the Deer Creek Watershed Restoration Action Strategy.

3. **OSM**: Continue to provide financial support to PADEP through the AML fund to reclaim abandoned surface mines in the basin, thereby reducing sediment loads in streams.

4. **USACE**: Identify and garner support for Conestoga River watershed study to result in signing of a feasibility cost-sharing agreement. Investigate, contingent on funding and non-federal partnership, the issue of sediment inflow and removal behind the lower Susquehanna River dams.

5. **USFWS**: Continue to provide technical support in sediment reduction in tributary stream channels. Provide technical assistance in developing watershed level sediment management plans. Develop strategy to restore sediment trapping capacity of Conowingo Dam and upstream dams.

6. **USGS**: Lead efforts in the Chesapeake Bay Program to determine sediment sources and transport. Encourage establishment of additional sediment stations. Collect, analyze, and evaluate data. Develop real-time capabilities of tracking sediment. Develop regional curves for utilization in stream restoration design.

7. **Summary of Federal Actions**: See Attachment 2 for a tabular summary of all federal agency input.

C. State Programs and Projects

1. **New York**:

2. **Pennsylvania**:

3. **Maryland**:

WATER RESOURCE NEED NO. 10 – PRESERVE CULTURAL AND HISTORICAL HERITAGE

Preserve and make more readily available to the public scenic, cultural, and historic amenities that are unique to the Susquehanna River Basin.

A. SRBC

The SRBC is among the partners working to establish a 500-mile long greenway encompassing the water and a 1-mile corridor along both banks of the Susquehanna River in Pennsylvania and the West Branch Susquehanna River. The purpose of the Susquehanna River Greenway is to help protect, value, and enjoy the exceptional resources of the river, creating an interconnected network of trails and natural areas traversing urban, suburban, and rural landscapes. Beginning in 2006, the Susquehanna Greenway Partnership – the entity that has been developing the greenway since 2002 – will transition from a planning group to a non-profit 501(c)3 organization that will implement the greenway plan for the long-term. The SRBC will continue to participate in the process through a Coordinating Committee that will advise the Susquehanna Greenway Partnership.

B. Federal Programs and Projects

1. **USACE**: As part of the National Environmental Policy Act, coordinate all projects with appropriate stakeholders to assure cultural and historical preservation, and seek to add educational amenities about local history and culture.

2. **NPS**: Solicit nominations and designate additional Chesapeake Bay Gateway sites along the Susquehanna River and major tributaries. Identify and preserve cultural and historical values through the Deer Creek Watershed Restoration Action Strategy. The Delaware–Lehigh National Heritage Corridor & Lackawanna Valley National Heritage Area, in partnership with the Susquehanna Greenway Partnership, will continue to implement strategies to preserve cultural and historic heritage resources in Luzerne and Lackawanna Counties.

3. **Summary of Federal Actions**: See Attachment 2 for a tabular summary of all federal agency input.

C. State Programs and Projects

1. **New York**:

2. **Pennsylvania**:

3. **Maryland**:

WATER RESOURCE NEED NO. 11 – ENHANCE RECREATION

Expand and improve water-based recreational opportunities in the basin.

A. SRBC

As in the case of economic development, the SRBC will pursue enhanced recreation in the context of the programs and projects listed under other needs. For example, the Whitney Point Environmental Restoration Project will include enhanced recreational facilities to be maintained by the County of Broome, New York. The continuing effort to restore migratory fish to the basin will open up vast new recreational opportunities.

B. Federal Programs and Projects

1. **NPS**: Provide grants and technical assistance to ensure all current developing water trails in the Chesapeake Bay Gateways Network along the Susquehanna River and major tributaries meet baseline developmental criteria by 2008. Solicit nominations and designate additional Chesapeake Bay Gateway water trails along major tributaries of the Susquehanna River. Continue to implement the Susquehanna River Trail Signage Project and complete other components of the Susquehanna River Trail System. Continue providing consultation level assistance to the Susquehanna River Greenway. Consider requests for technical assistance with community-based river, trail, and greenway projects in the Susquehanna basin. Conserve "recreation habitat" and provide public access through the Deer Creek Watershed Restoration Action Strategy.

   The Delaware–Lehigh National Heritage Corridor & Lackawanna Valley National Heritage Area will continue to implement strategies to link Lackawanna Valley trails with the Delaware and Lehigh trail system along the Susquehanna. The Rivers and Trails Program will continue to work with the Wyoming Valley Wellness Partnership to implement health and wellness strategies using the Wyoming Valley trail system.

2. **OSM**: Continue to provide technical and financial support to PADEP and watershed groups to remediate the impacts of mine drainage in streams, thereby allowing the restoration of fisheries and enhancement of recreational opportunities.

3. **USACE**: Seek to include recreational enhancements in new projects, such as the riverfront development initiatives at the Wyoming Valley Levee Raising Project and at existing projects.

4. **USGS**: Develop and maintain methods to make water quantity and quality data readily available to the public so it can be used for recreational purposes. Compile requests from public for more or different hydrologic data and seek funding to support sustainable requests.

5. **Summary of Federal Actions**: See Attachment 2 for a tabular summary of all federal agency input.

C. State Programs and Projects

1. **New York**:

2. **Pennsylvania**:

3. **Maryland**:

WATER RESOURCE NEED NO. 12 – FACILITATE DATA MANAGEMENT AND USE

Inventory and store relevant water resource management data in a readily retrievable and usable form, as well as promote data sharing among agencies.

A. SRBC

1. **Data Management Improvements**: Continue to analyze the SRBC's data management procedures, and implement a new and improved data management system in phases over the next several years. Continue development of the SRBC's water quality database and enter data into STORET system. Develop an electronic atlas to provide the public with water resources information on the basin.

2. **Geographic Information Systems (GIS) Enhancements**: Advance the development of the GIS program to support watershed and water resource activities. Make spatial data files, standard GIS maps, and mapping assistance available to the public. Increase efforts to provide digital and hard copy mapping assistance to local groups doing watershed planning and remediation.

B. Federal Programs and Projects

1. **EPA**: Closely coordinate with PADEP on data submission dates for 303(d), 305(b), and Chesapeake Bay Program state of the bay/state of the watershed assessment reporting and public communication schedules. Work with PADEP to ensure stream map conversion to national hydrography database goes smoothly. Continue implementation of water quality data reporting through STORET.

2. **NWS**: Provide AHPS standardized and uniform web pages. Provide flood forecast mapping at prototype locations on Juniata and main stem. Customers to be provided easy access to gridded analyses and forecasts of watershed conditions (future).

3. **OSM**: Maintain a GIS database of AMD treatment systems in Pennsylvania and make this database available on an OSM website. Administer a national database of AML problems and projects completed. This database can be accessed through OSM's website at www.OSMRE.gov.

4. **USACE**: Seek continued improvement of databases and data management systems, including sharing of data.

5. **USFWS**: Continue stream and habitat restoration efforts with products provided by the SRBC's GIS mapping capabilities.

6. **USGS**: Promote use of NWIS web for availability of historic and real-time water resources data.

7. **Summary of Federal Actions**: See Attachment 2 for a tabular summary of all federal agency input.

C. State Programs and Projects

1. **New York**:

2. **Pennsylvania**:

3. **Maryland**:

Attachment 1

Legislative Initiatives

The SRBC supports enactment of the following federal and state initiatives:

Federal Initiatives

Appropriations

1. **Restoration of Federal Funding**: $2.5 million in FY-07 for the mid-Atlantic river basin commissions (SRBC, DRBC, and ICPRB), with $1 million allocated to the SRBC for the current expense budget ($800,000), and for state and regional water resource planning assistance activity ($200,000).
2. **Susquehanna River Basin Flood Forecasting and Warning System (Susquehanna System)**: $2 million in FY-07 for the Susquehanna System, which includes $1.5 million for system operations and $0.5 million for needed capital improvements.

Authorizations

3. **WRDA 2005 Authorization**: Provide: (1) for the Division Engineer for the North Atlantic Division USACE to serve ex officio as the U.S. member of the SRBC; and (2) for the USACE to provide the federal government's equitable share of funding for the SRBC.
4. **WRDA 2005 Authorization**: To authorize the Secretary of the Army to execute agreement(s) with the SRBC to provide temporary water supply and conservation storage at federal facilities in the basin.
5. **Section 729 Studies**: Amend the cost-share formula to 75 percent federal, 25 percent non-federal, with up to 100 percent of the non-federal share being in-kind contributions.
6. **Reauthorization of the Abandoned Mine Reclamation Fund**: Reauthorize the fund first established in the federal Surface Mining Conservation and Reclamation Act of 1977.

State Initiatives

Pennsylvania

1. **Implementation of Water Resources Planning Act (Act 220 of 2002)**: Implement provisions of Act 220 and coordinate planning efforts with the SRBC's Comprehensive Plan and other SRBC programs relating to water registration, development of water budgets, water conservation, technical assistance to communities and water management.
2. **Water Well Construction Law**: Enact legislation to establish location and construction standards for water wells, to regulate water-well construction in a manner that will protect groundwater resources, to license water-well contractors, and to provide information on groundwater quantity and quality.
3. **SRBC Funding**: Appropriate $1,232,000, as requested in SRBC budget resolution of June 2005, as Pennsylvania's equitable share of the SRBC's current expense budget for FY-07.

Maryland

1. **SRBC Funding**: Appropriate $318,000, as requested in SRBC budget resolution of June 2005, as Maryland's equitable share of the SRBC's current expense budget for FY-07.

New York

1. **SRBC Funding**: Appropriate $300,000, as requested in SRBC budget resolution of June 2005, as New York's equitable share of the SRBC's current expense budget for FY-07.
2. **(NY Legislative Initiatives to be Submitted by Eileen Murphy)**

Attachment 2

Federal Agency Input

WATER RESOURCE NEEDS	SUMMARY OF FEDERAL AGENCY PRIORITIES
1. Coordination. *Coordinate the planning and management of the water resources of the basin; communicate with and listen to the concerns of water use stakeholders, resource managers, and elected officials; educate the public about the water resources of the basin.*	**A. EPA:** 1. Continue to update monitoring strategy. 2. Actively participate in and contribute to a select set of Chesapeake Bay Program committees: Water Quality Steering Committee, Monitoring and Analysis Subcommittee (MASC), MASC's Nontidal Water Quality Monitoring Workgroup and Nutrient Subcommittee's Sediment Workgroup. 3. Explore the possibility of developing a multi-jurisdictional partnership for the protection of source water, similar to the Potomac Drinking Water Protection Partnership and the Schuylkill Action Network. **B. NPS:** 1. Continue coordination among "service providers" for Chesapeake Bay Watershed Management technical assistance. 2. Continue work with the Alliance for the Chesapeake Bay to convene a Watershed Rally for Chesapeake Bay watershed organizations (summer 2006). 3. Continue development of a Chesapeake Bay Watershed Management Technical Assistance Program website. 4. Continue to assist Pennsylvania Department of Environmental Quality in conducting Watershed Academies for local officials. **C. NWS:** 1. Provide program management for the SFFWS. 2. Coordinates with the SRBC, USGS, and other federal and state partners. 3. Do field office coordination with local EMAs, media outlets. 4. Accomplish education and outreach to promote flood loss reduction. **D. OSM:** Continue to support the objectives of the SRBC by participating in meetings with and providing technical and program support in partnership with federal/state of Pennsylvania/local government and watershed groups in which mine drainage and abandoned mine land reclamation issues are of concern. **E. USACE:** 1. Continue to partner with local governments, agencies, and stakeholders to initiate and execute investigations and projects within USACE authorities and jurisdiction. 2. Establish and/or nurture relationships with stakeholders representing aquatic habitat interests. 3. Continue membership/responsibilities on the SRBC, CBP, and other such groups. **F. USFWS:** 1. Promote northeast regional water supply and demand analysis and alternatives to meet needs and manage growth. 2. Coordinate with state governments to work towards adoption of "smart-growth" land use planning techniques.

Federal Agency Input (cont'd)

WATER RESOURCE NEEDS	SUMMARY OF FEDERAL AGENCY PRIORITIES
1. Coordination. (cont'd)	**G. USGS:** 1. Participate in technical advisory groups of other federal and state agencies involved in planning and managing water resources. 2. Actively work on parts of the State Water Plan update. Provide technical assistance as needed. 3. Manage and operate networks of stream gages and groundwater level recorders, serving data real time on the web, and maintain historical records.
2. Reduce flood damages and provide effective disaster recovery. *Prevent the loss of life and significantly reduce future damages from floods through an integrated system of structural and nonstructural flood damage reduction measures. Provide a comprehensive and effective program for disaster recovery efforts following major floods.*	**A. EPA:** Increase in outreach efforts to volunteer groups and public water supplies. **B. NPS:** Recommend measures for flood plain protection and riparian buffer development in Deer Creek Watershed Restoration Action Strategy. **C. NWS:** 1. Provide flood forecast and warning services (MARFC, CTP, BGM, PHI). 2. Collect and disseminate hydromet information (precipitation, river, temperature, snow). 3. In cooperation with SFFWS partners, provides enhanced flood forecast services (flood forecast mapping, short-term probability forecasts, snow information). 4. In cooperation with SFFWS partners, develop sustainable, high-resolution observational network (including stream and rain gages, met., soil moisture, and evaporation sensors). (future) 5. Develop gridded data network over Susquehanna watershed. (future) 6. Provide high-resolution flash flood forecasts. (future) 7. In cooperation with partners, develop new forecast points and flood forecast maps for priority damage locations in the basin. (future) **D. OSM:** Not applicable. **E. USACE:** 1. Complete Wyoming Valley, Bloomsburg, Lower Lycoming (Section 205), Montoursville (205), Solomon Creek, PL84-99 and other flood protection projects in basin. 2. Identify and implement other flood control projects, especially if coupled with environmental restoration opportunities. This includes helping to secure federal and sponsor funding. 3. Continue management and maintenance of dams and reservoirs to serve flood control purpose. 4. Continue support of FEMA. **F. USFWS:** Not applicable. **G. USGS:** 1. Work with NWS to collect data needed to predict floods and to improve flood prediction capabilities, including development of instrumentation technology. 2. Record flood high water marks and relate to velocities, and determine recurrence intervals. 3. Work with FEMA and PEMA on flood inundation activities, including modeling and mapping. 4. Develop regional regression equations to compute flood-flow statistics used in analysis of flood inundation and flood plains for construction of structures.

Federal Agency Input (cont'd)

WATER RESOURCE NEEDS	SUMMARY OF FEDERAL AGENCY PRIORITIES
3. Improve water quality. *Control water pollution sufficiently to maintain and establish water quality capable of supporting multiple purpose uses for public water supply, recreation, fish, and wildlife, agriculture, industry, energy production and other uses. Protection also will be given to the receiving waters of the Chesapeake Bay.*	**A. EPA:** 1. Increase bacteria monitoring. 2. Ensure timely sharing of assessment information on interstate waters to integrated reporting assessments (305b and 303d). 3. Continue to coordinate impaired waterbody listings, develop TMDLs, and continue source water protection activities. 4. Coordinate work by Pennsylvania, New York, USGS and EPA to maintain existing monitoring stations and expand implementation of the Chesapeake Bay Nontidal Water Quality Monitoring Network within the Susquehanna River Basin. **B. NPS:** 1. Identify and address impairments to water quality in conjunction with the Deer Creek Watershed Restoration Action Strategy. 2. The Delaware–Lehigh National Heritage Corridor & Lackawanna Valley National Heritage Area, in partnership with the Susquehanna Greenway Partnership, will identify and improve riparian buffers along the Susquehanna River in Luzerne and Lackawanna Counties. **C. NWS:** Issue daily flow forecasts (currently Susquehanna River at Harrisburg) and provide water information as necessary in conjunction with hazardous spills. **D. OSM:** 1. Continue to provide technical and financial assistance to PADEP and individual watershed groups for the remediation of the impacts of mine drainage and abandoned mine lands in the basin. 2. Conduct periodic monitoring of the performance of mine drainage treatment systems constructed in West Branch tributaries under the Watershed Cooperative Agreement Program and provide this information to project sponsors. 3. Maintain a GIS database of all mine drainage treatment projects in Pennsylvania, including the Susquehanna River Basin. This database is available to all individuals, groups, and agencies for planning and assessment purposes, and project monitoring. 4. Continue to be a partner with PADEP in its efforts to clean up the West Branch of the Susquehanna River. **E. USACE:** 1. Seek and execute acid mind drainage solutions, including continuing construction on the Dents Run (Section 206) project and investigations at Upper Tioga (206) and the Southern Anthracite Region (GI). These projects also help restore aquatic ecosystems (see Water Resource Need No. 7). 2. Support regional sediment management. Seek opportunities to address water quality and related water management issues at watershed and sub-watershed level, engaging multiple stakeholders. **F. USFWS:** 1. Continue FWS habitat enhancement efforts, e.g. riparian buffer restoration, using water quality assessment data developed by the SRBC. 2. Continue to perform sediment and nutrient monitoring at key locations in the river basin and perform water quality trend analyses to support Chesapeake Bay tributary strategies developed by the SRBC's member states.

Federal Agency Input (cont'd)

WATER RESOURCE NEEDS	SUMMARY OF FEDERAL AGENCY PRIORITIES
3. Improve water quality. (cont'd)	3. Support fishery restoration programs using the SRBC's subbasin water quality assessments 4. Restore and protect stream channels, riparian areas, and adjacent wetlands to reduce sediment and nutrient inputs. 5. Coordinate and pursue abandoned mine remediation strategy in the West Branch of the Susquehanna River. **G. USGS:** 1. Collect and provide water quality data to local, state, and federal agencies who manage water resources. 2. Conduct studies to improve the understanding of fate and transport of contaminants under various hydrogeologic settings. 3. Develop methodology and analyze trends in water quality data Chesapeake Bay basinwide. 4. Conduct studies through monitoring and research to evaluate the effectiveness of land management treatments to mitigate agricultural and abandoned mine drainage impacts. 5. Coordinate these efforts with local, state, and federal partners.
4. Mitigate drought impacts. *Mitigate the adverse impacts of drought conditions on water users and the environment.*	**A. EPA:** Not applicable. **B. NPS:** Not applicable. **C. NWS:** 1. Issue precipitation departures from normal for county-wide areas (monthly, seasonal, annual – MARFC). 2. Issue drought statements as necessary (WFOs). 3. NOAA/NCDC coordinates U.S. Drought Monitor, an interagency drought monitoring tool issued weekly. 4. Issue drought/low flow forecasts based on enhanced gridded data (see 2B5 above). (future) **D. OSM:** Continue to support PADEP's efforts to promote the use of underground mine pools as alternative industrial water supplies, thereby reducing demand on ground and surface water. **E. USACE:** Continue to execute and manage release scenarios under drought conditions at USACE reservoirs. Consider drought conditions in the formulation of USACE projects. **F. USFWS:** Continue involvement in Conowingo Pool Management Plan (migratory fish flow needs). **G. USGS:** 1. Maintain drought monitoring website developed jointly with PADEP and maintain supporting data-collection activities. 2. Develop methodology to evaluate ecological flows and impacts on aquatic communities. 3. Develop regional regression equations to compute low flow statistics.
5. Ensure adequate water supply. E*nsure an adequate supply of water for all users, including instream users and the Chesapeake Bay.*	**A. EPA:** Develop a strategy to implement source water protection activities throughout the basin that would include: 1. Using the source water assessments to identify protection priorities; 2. Educating stakeholders about priorities and protections methods; and 3. Forming regional source water protection workgroups that would coordinate activities with other agencies and programs, and provide technical assistance.

Federal Agency Input (cont'd)

WATER RESOURCE NEEDS	SUMMARY OF FEDERAL AGENCY PRIORITIES
5. Ensure adequate water supply. (cont'd)	**B. NPS:** Participate in the Deer Creek Water Needs Study and facilitate integration of study results in ongoing management of the Deer Creek watershed. **C. NWS:** Issue AHPS long-term (30-day) probability forecasts for river locations within the basin. Issue long-term inflow forecasts for area reservoirs. (future) **D. OSM:** 1. Continue to support PADEP's efforts to promote the use of underground mine pools as alternative public, commercial, and industrial water supplies, thereby reducing demand on ground and surface water. 2. Continue to provide technical and financial assistance in the remediation of mine drainage impacts on local public water supplies. **E. USFWS:** Promote northeast regional water supply and demand analysis and alternatives to meet needs and manage growth. Continue involvement in Conowingo Pool Management Plan (migratory fish flow needs). **F. USACE:** Prudently manage releases during drought at USACE reservoirs. Investigate low flow operational plan modifications at Curwensville and Cowanesque Lakes, if feasible. Use Section 22 program to investigate regional and local water supply needs, funds permitting. **G. USGS:** 1. Provide tools to water managers to determine water availability based on USGS/cooperator stream gages and groundwater network data. Make data available for use with the State Water Plan. 2. Continue to conduct and refine recharge and water budget analysis methodology. 3. Evaluate water availability within state holdings.
6. Promote economic development. *Promote the economic development of the basin under sustainable water resource principles.*	**A. EPA:** Not applicable. **B. NPS:** 1. Encourage economic viability and resource sustainability of farming and timber harvest through the Deer Creek Watershed Restoration Action Strategy. 2. The Delaware–Lehigh National Heritage Corridor, in partnership with ACOE, will continue riverfront reinvestment activities in Wilkes-Barre, Pennsylvania. **C. NWS:** Not applicable. **D. OSM:** Continue to support PADEP's efforts to develop uses of underground mine pools and discharges for resource recovery, and to meet commercial and industrial water needs to promote economic development. Removal of AMD from streams also promotes economic development through improvement of the quality of life in adjacent communities. **E. USACE**: Continue policy of using benefit-to-cost ratios and other National Economic Development considerations in project recommendations. Consider benefits to economy from environmental restoration activities.

Federal Agency Input (cont'd)

WATER RESOURCE NEEDS	SUMMARY OF FEDERAL AGENCY PRIORITIES
6. Promote economic development. (cont'd)	**F. USFWS:** 1. Promote sustainable, "smart-growth" development techniques in order to protect fish and wildlife habitat and water quality. 2. Work with the SRBC on outreach and education for shad restoration and fish passage. **G. USGS:** Not applicable.
7. Protect and/or restore aquatic ecosystems. *Take actions to protect and/or restore fish and wildlife habitat, including wetlands and streams.*	**A. EPA:** Continue to serve on the Mid-Atlantic Regional Panel on Aquatic Nuisance Species and work to control the spread of aquatic nuisance species in the basin. **B. NPS:** Address ecological health and sustainability through the Deer Creek Watershed Restoration Action Strategy. **C. NWS:** Partner with NOS in providing inflow data (Susquehanna and Potomac) for Chesapeake Bay estuary model. Improve long-term flow forecasts (incorporate climate models) for basin outlet, to use as input for Chesapeake Bay estuary modeling and ecosystem forecasting (with NOS). (future) **D. OSM:** Continue to provide financial and technical assistance to PADEP and local watershed groups in the remediation of mine drainage impacts on local streams, thereby improving and restoring aquatic habitat. **E. USACE:** Execute Whitney Point Lake Section 1135 construction when funding becomes available. Continue to pursue other improvements to aquatic ecosystems through myriad authorities available for this primary mission area. Continue the Cooperstown Area Ecosystem Restoration and Catatonk Creek, New York, feasibility studies to restore wetland habitats and improve soil and water conservation practices within the ecologically valuable headwaters of the Susquehanna River Basin and the Chesapeake Bay watershed. Complete feasibility study on the Codorus Creek watershed and proceed to design and implementation of the Section 206 and 1135 projects. Continue process to implement Section 206 aquatic ecosystem restoration projects at the following locations: • Nanticoke Creek, Luzerne County, Pennsylvania • Dents Run, Elk County, Pennsylvania • Eatonbrook Reservoir, Madison County, New York • Loyalsock Creek, Dushore, Pennsylvania • Fall Brook, Lackawanna County, Pennsylvania • Kettle Creek, Clinton County, Pennsylvania • Powderly Creek, Lackawanna County, Pennsylvania • Chenango Lake, Chenango County, New York • Upper Tioga River, Tioga and Bradford Counties, Pennsylvania **F. USFWS:** 1. Provide technical support for stream restoration projects: identification, assessment, prioritization, and implementation. 2. Pursue regional adoption of smart-growth measures. 3. Provide technical assistance in development of watershed and stream management plans that restore native fish populations (fishways and dam removals) and support migratory birds.

Federal Agency Input (cont'd)

WATER RESOURCE NEEDS	SUMMARY OF FEDERAL AGENCY PRIORITIES
7. Protect and/or restore aquatic ecosystems. (cont'd)	4. Proactive protection of high priority habitats by developing partnerships with landowners for conservation easements, deed restrictions, and other protective instruments. 5. Collaborate with partners to restore early succession wetland habitats for the federally listed bog turtle. 6. Continue to serve on the Mid-Atlantic Regional Panel on ANS and work to control the spread of aquatic nuisance species in the basin and the Chesapeake Bay. Of particular importance is the potential for the spread of zebra mussel into the Chesapeake Bay. **G. USGS:** 1. Conduct studies that quantitatively evaluate linkages between physical and chemical characteristics and biological communities to better understand inter-relationships. 2. Conduct fish community, fish tissue, and bed-sediment analyses. 3. Collect, analyze, and interpret benthic macroinvertebrate data from streams.
8. Restore migratory fish. *Restore native migratory fishes to the Susquehanna River system. Remove obstacles to the movement of migratory and indigenous fishes.*	**A. EPA:** Continue coordinated efforts with state and federal agencies to evaluate potential alternative construction methods to remove blockage passes to fish passage. **B. NPS:** Identify and eliminate fish blockages through the Deer Creek Watershed Restoration Action Strategy. **C. NWS:** Not applicable. **D. OSM:** Not applicable. **E. USACE:** Continue to seek opportunities to remove fish blockages, both physical and chemical, throughout watershed. Consider migratory fish passage in all studies and projects. **F. USFWS:** 1. As lead federal agency for migratory fish restoration continue efforts with partners to provide technical support for fish passage restoration to the tributaries of the Susquehanna River (i.e., identification, assessment, prioritization, and implementation). 2. Continue to chair various SRAFRC committees. 3. Continue working with PA-DCNR and legislators to solve Sunbury funding issue. 4. Continue support of the SRBC's "Shad School" project. 5. Partner with PFBC to help expand "Shad School" into Pennsylvania schools. **G. USGS:** 1. Work with aquatic-resource management agencies to evaluate the geomorphic and chemical impacts of dam removals. 2. Collect and evaluate stream habitat data in relation to the support of migratory fish populations.

Federal Agency Input (cont'd)

WATER RESOURCE NEEDS	SUMMARY OF FEDERAL AGENCY PRIORITIES
9. Manage sediment. *Protect both the water and related land resources of the basin through the implementation of both conservation practices that retard runoff and prevent or reduce soil erosion and other management alternatives to control sediment deposition.*	**A. EPA:** Work with the Chesapeake Bay Program to ensure project implementation reporting is included in overall sediment management and data accounting systems. EPA's other priorities for this need are consistent with the SRBC's stated priorities. **B. NPS:** Address sedimentation with best management practices and sound land use decisions through the Deer Creek Watershed Restoration Action Strategy. **C. NWS:** Not applicable. **D. OSM:** Continue to provide financial support to PADEP through the AML fund to reclaim abandoned surface mines in the basin, thereby reducing sediment loads in streams. **E. USACE:** Identify and garner support for Conestoga River watershed study to result in signing of a feasibility cost-sharing agreement. Initiate, contingent on funding and non-federal partnership, a feasibility study of alternatives to maintain the sediment trapping capability of the dams on the lower Susquehanna River and to reduce sediment inflow to the dams. Investigate streambank erosion protection (Section 14) for Loyalsock Township (Loyalsock Creek) and DuPont, (Lidy's Creek), Pennsylvania, and construct a project at the Village of Bainbridge (Newton Creek), New York. **F. USFWS:** 1. Continue to provide technical support in sediment reduction in tributary stream channels through identification, assessment, prioritization, and implementation projects. 2. Provide technical assistance in developing watershed level sediment management plans. 3. Develop strategy to restore sediment trapping capacity of Conowingo Dam and upstream dams. **G. USGS:** 1. Lead efforts in the Chesapeake Bay Program to determine sediment sources and transport. 2. Encourage establishment of additional sediment stations. Collect, analyze, and evaluate data. 3. Develop real-time capabilities of tracking sediment through surrogate continuous measurement of turbidity. 4. Develop regional curves for utilization in stream restoration design.
10. Preserve cultural and historical heritage. *Preserve and make more readily available to the public scenic, cultural, and historic amenities that are unique to the Susquehanna River Basin. .*	**A. EPA:** EPA's priorities for this need are consistent with the SRBC's stated priority. **B. NPS:** 1. Solicit nominations and designate additional Chesapeake Bay Gateway sites along the Susquehanna River and major tributaries. 2. Identify and preserve cultural and historical values through the Deer Creek Watershed Restoration Action Strategy. 3. The Delaware–Lehigh National Heritage Corridor & Lackawanna Valley National Heritage Area, in partnership with the Susquehanna Greenway Partnership, will continue to implement strategies to preserve cultural and historic heritage resources in Luzerne and Lackawanna Counties.

Federal Agency Input (cont'd)

WATER RESOURCE NEEDS	SUMMARY OF FEDERAL AGENCY PRIORITIES
10. Preserve cultural and historical heritage. (cont'd)	**C. NWS:** Not applicable. **D. OSM:** Not applicable. **E. USACE:** As part of the National Environmental Policy Act, coordinate all projects with appropriate stakeholders to assure cultural and historical preservation. Consider preservation as a project benefit, where appropriate. Where appropriate, seek to add educational amenities, such as trails, signage, and kiosks about local history and culture. **F. USFWS:** Not applicable. **G. USGS:** Not applicable.
11. Enhance recreation. *Expand and improve recreational opportunities in the basin.*	**A. EPA:** EPA's priorities for this need are consistent with the SRBC's stated priorities. **B. NPS:** 1. Continue partnering with water trail management organizations and Commonwealth of Pennsylvania, provide grants and technical assistance to ensure all current developing water trails in the Chesapeake Bay Gateways Network along the Susquehanna River and major tributaries meet baseline developmental criteria by 2008 (427 river miles designated and over $435,000 granted to date). 2. Solicit nominations and designate additional Chesapeake Bay Gateway water trails along major tributaries of the Susquehanna River. 3. Continue partnering with water trail management organizations, Commonwealth of Pennsylvania, and other partners to implement the Susquehanna River Trail Signage Project and complete other components of the Susquehanna River Trail System (Susquehanna River Water Trail – North Branch, Headwaters River Trail Partnership - NYS). 4. Continue providing consultation level assistance to the Susquehanna River Greenway through the Rivers and Trails Program. 5. Consider requests for technical assistance with community-based river, trail, and greenway projects in the Susquehanna basin through the Rivers, Trails and Conservation Assistance Program. 6. Conserve "recreation habitat" and provide public access through the Deer Creek Watershed Restoration Action Strategy. 7. The Delaware–Lehigh National Heritage Corridor & Lackawanna Valley National Heritage Area, in partnership with the Susquehanna Greenway Partnership, will continue to implement strategies to link Lackawanna Valley trails with the Delaware and Lehigh trail system along the Susquehanna. 8. The Rivers and Trails Program, in partnership with the Active Living by Design Program, will continue to work with the Wyoming Valley Wellness Partnership to implement health and wellness strategies using the Wyoming Valley trail system. **C. NWS:** Not applicable. **D. OSM:** Continue to provide technical and financial support to PADEP and watershed groups to remediate the impacts of mine drainage in streams, thereby allowing the restoration of fisheries and enhancement of recreational opportunities, including fishing, boating, and scenic viewing by driving, hiking, and biking.

Federal Agency Input (cont'd)

WATER RESOURCE NEEDS	SUMMARY OF FEDERAL AGENCY PRIORITIES
11. Enhance recreation. (cont'd)	**E. USACE**: Seek to include recreational enhancements in new projects, such as the riverfront development initiatives at the Wyoming Valley Levee Raising Project. Continue to provide and improve recreational activities at existing projects, such as hiker/biker trails, informational kiosks, benches, bird watching, etc. **F. USFWS:** Not applicable. **G. USGS:** 1. Develop and maintain methods to make water quantity and quality data readily available to the public so it can be used for recreational purposes. 2. Compile requests from public for more or different hydrologic data and seek funding to support sustainable requests.
12. Facilitate data management and use. *Inventory and store relevant water resource management data in a readily retrievable and usable form, as well as promote data sharing among agencies.*	**A. EPA:** 1. Closely coordinate with PADEP on data submission dates for 303(d), 305(b) and Chesapeake Bay Program state of the bay/state of the watershed assessment reporting and public communication schedules. 2. Work with PADEP to ensure stream map conversion to national hydrography database goes smoothly. 3. Continue implementation of water quality data reporting through STORET. **B. NPS:** Not applicable. **C. NWS:** 1. Provide AHPS standardized and uniform web pages. 2. Provide flood forecast mapping at prototype locations on Juniata and main stem. 3. Customers to be provided easy access to gridded analyses and forecasts of watershed conditions. (future) **D. OSM:** 1. OSM's Harrisburg office maintains a GIS database of AMD treatment systems in Pennsylvania and has distributed this database to agencies, consultants, individuals, and non-profit groups with interests in cleaning up streams impacted by mine drainage. This database will soon be available on an OSM website. 2. OSM also administers a national database of AML problems, and projects completed to mitigate the environmental and public health and safety impacts. This database can be accessed through OSM's website at www.OSMRE.gov. **E. USACE:** Seek continued improvement of databases and data management systems. Continue to share data and to use and develop GIS. **F. USFWS:** Continue stream and habitat restoration efforts with products provided by the SRBC's GIS mapping capabilities. **G. USGS:** Promote use of NWIS web for availability of historic and real-time water resources data.

Federal Agency Input (cont'd)

WATER RESOURCE NEEDS	SUMMARY OF FEDERAL AGENCY PRIORITIES
13. Other needs. *(Other water resource needs not listed above.)*	**A. NWS:** NOAA/NWWS vision toward broader water resource services over the nation's watersheds will result in new and expanded gridded products for streamflow, drought, low flow, snowpack, flash flood, soil moisture, soil temperature, evaporation analyses, and forecasts. (future) **B. USGS:** Hazards – new USGS initiative.

Attachment 3

Susquehanna River Basin
PADEP Abandoned Mine Drainage Initiatives Update
November 4, 2005

Bennett Branch Sinnemahoning Creek

The Bennett Branch Sinnemahoning Creek and Kettle Creek are the two West Branch Susquehanna River tributaries selected as initial tributary restoration projects under the Governor's PA Wilds initiative. A watershed-wide assessment of acid mine drainage discharges has been completed. An exploratory drilling project is underway on Bennett Branch. Consultant design of an active treatment plant near the village of Hollywood is underway. A second treatment plant is proposed for the Caledonia area. These plants will treat a number of surface and deep mine discharges contaminating Bennett Branch. Twenty-four surface mine sites are being evaluated for surface reclamation and refuse removal. Re-mining may address some of these sites.

Dents Run

A total watershed restoration project is underway in this tributary of Bennett Branch. This effort is the result of a partnership between the PADEP, USACE (Baltimore Office), Pennsylvania Game Commission, PA-DCNR and the Bennett Branch Watershed Association. Construction of Bureau of Abandoned Mine Reclamation and ACOE projects is continuing. The Bureau of Abandoned Mine Reclamation is completing two surface mine reclamation projects with alkaline addition and an alkaline acid mine drainage treatment trench. PADEP funds are also providing local match for ACOE projects. Total pass through amount to Bennett Branch Watershed Association for the local match is $3,028,000. This amount may be increased to cover ACOE shortfalls.

Kettle Creek

A Bureau of Abandoned Mine Reclamation pass-through grant is providing funds to Kettle Creek Watershed Association to complete assessments and finalize a restoration plan. The total grant amount is $384,179. Hedin Environmental is completing this work with oversight provided by Trout Unlimited staff. Restoration of this watershed may include re-mining, as well as reclamation and passive treatment.

Tioga River

The Bureau of Abandoned Mine Reclamation is working with Tioga County Concerned Citizens Committee (TCCCC), Hillside Rod and Gun Club, Moshannon District Mining Office, ACOE, and the SRBC to address acid mine drainage within the watershed. A Hydrologic Unit Plan is being developed and field investigations have begun to inventory the watershed to identify potential projects. The Bureau of Abandoned Mine Reclamation intends to utilize 10 percent Set Aside and Title IV monies for reclamation.

West Branch Headwaters

The Barnes-Watkins Growing Greener project is in construction with the Bureau of Abandoned Mine Reclamation providing full funding to the Cambria County Recreation and Conservation Authority. This $4.8 million project will remove a 17-acre refuse pile located immediately adjacent to the West Branch.

The burning pile is located adjacent to a small village and is a huge source of acid mine drainage pollution loading to the West Branch headwaters. Upon completion of the project, over 30 miles of the West Branch is expected to improve, down to the Curwensville Dam. The expected completion date for this project is December 2006. The Cambria District Mining Office is working with a local watershed group to address a number of smaller discharges in the headwaters using Growing Greener II funding.

BAMR/SRBC/PPL Consumptive Water Use Coordination

The SRBC is interested in using mine pools to provide additional water to the basin under low flow conditions. The Bureau of Abandoned Mine Reclamation, with technical assistance from the Federal Office of Surface Mining, is completing an evaluation of the proposed relocation of the Barnes and Tucker acid mine drainage treatment facilities from the Blacklick Creek watershed to the West Branch watershed. The Bureau of Abandoned Mine Reclamation has proposed this in order to provide a funding source for long-term treatment costs. This action would provide 7–10 mgd of treated water to the West Branch during low flow months. The impacts of relocating this discharge on the mine pool and on Blacklick Creek have been evaluated. Relocation of this discharge to the West Branch headwaters will improve over 30 miles of the West Branch Susquehanna River, down to the Curwensville Dam. This project, along with the Barnes-Watkins project discussed above, will restore a fishery to the Upper West Branch. Negotiations with the SRBC concerning establishment of a trust fund to cover treatment costs are underway. It is anticipated that treatment plant design will begin in January 2006. Evaluations of several discharges in the Blacklick Creek Watershed are also underway. The Bureau of Abandoned Mine Reclamation plans to replace alkalinity that will be lost from Blacklick Creek due to the discharge relocation by constructing a number of semi-active treatment facilities in the upper reaches of the main stem of Blacklick Creek. While there will be a reduction in the quantity of water in the North Branch Blacklick Creek, this will be offset by the establishment of a fishery in the main stem.

In addition to this activity, the Bureau of Abandoned Mine Reclamation has entered into further negotiations with the SRBC and Pennsylvania Power and Light (PPL) concerning the need to find additional mine pool storage of water for low flow discharge to provide replacement for consumptive use in the watershed. Additionally, the City of Baltimore is a potential large water customer who is also interested in entering into consumptive use negotiations. Sampling, flow measurement, and mine pool evaluation is beginning on five different discharges, with another five discharges under consideration. Efforts are underway to locate other mine pools that would meet the requirements for storage and low flow discharge to provide for consumptive use. If this initiative continues as envisioned, several of these mine pools would be drawn down, treated, and discharged during low flow periods and allowed to recharge during high flow periods. Consumptive users would establish a trust fund to pay for treatment costs and the Bureau of Abandoned Mine Reclamation would construct needed treatment facilities. Estimates are that PPL alone may need 15–30 mgd under low flow conditions.

Reliant Energy Initiative

In order to comply with the Clean Water Act at its Shawville Power Plant, Reliant Energy must evaluate the need for upgrades to its water intake structures. In lieu of this action, Reliant Energy has proposed providing $475,000 towards a trust fund or towards construction of an active treatment facility in the West Branch Susquehanna Watershed. The proposal will allow Reliant Energy a five-year grace period before the need for intake upgrades would be reevaluated. The Department currently has this proposal under consideration and is evaluating potential discharges where treatment would have an immediate impact on the receiving stream.

DMO Priority Watersheds

The Moshannon, Pottsville and Cambria District Mining Offices have selected a number of priority watersheds within the Susquehanna River drainage area. They include Clearfield Creek, Cold Stream, Beech Creek, Babb Creek, Lower Kettle Creek, Shoups Run, Schrader Creek, Swatara Creek, Mahanoy Creek, Catawissa Creek, Wiconisco Creek, Shamokin Creek, and Loyalsock Creek. The District Mining Offices are providing technical assistance and prioritizing funding to these watersheds.

West Branch Technical Assistance Grant

This Growing Greener-funded grant is providing funds to watershed groups in the West Branch to assist the groups in addressing acid mine drainage and restoring their watersheds. The grant amount is $120,000.

BAMR Active Projects

Including projects discussed above, the Bureau of Abandoned Mine Reclamation currently has 49 projects in design or construction status in the Susquehanna Watershed (see attached list). Development is underway on a number of additional projects, particularly in the Bennett Branch Sinnemahoning Creek and the Tioga River. These projects include backfilling surface mine pits, treating mine drainage, constructing waterlines to replace private supplies impacted by mining, refuse pile removal, and mine pool stabilization.

Task Force/Steering Committee

The Department formed a West Branch Susquehanna River Task Force in 2004, whose mission is to restore water resources impacted by abandoned mine lands and mine drainage within the West Branch Susquehanna River basin, ultimately improving the quality of life for those living in and visiting the watershed. The Task Force developed a “State of the Watershed” report in February 2005. As a result of a West Branch Susquehanna River symposium held in May 2005, a steering committee was formed that is made up of representatives from grass-roots watershed groups within the watershed. The task force and steering committee will meet in November 2005, to better define the groups’ roles and determine the path forward.

PADEP Bureau of Abandoned Mine Reclamation
Susquehanna River Active Project Status
September 28, 2005

Project #	Name	Type	County	Watershed	Status	Contract Amount
AMD 11(2469)101.1	Barnes-Watkins	Ref. Pile Removal	Cambria	W. Br. Susq. R.	Construction	$4,403,833.00
AMD 17(1416)101.2	Hollywood	Active Tmt.	Clearfield	Bennett Br. Sinn.	Design	--
AMD 18(0817)101.1	Fran Contracting	Passive Tmt.	Clinton	W. Br. Susq. R.	Design	--
AMD 18(1122)101.1	Robbins Hollow	Surface rec/tmt.	Clinton	Kettle Creek	Design	--
BF 378-101.1		Surface rec.	Clearfield	W. Br. Susq. R.	Construction	$425,310.00
BF 438-101.1		Passive Tmt.	Centre	Beech Ck.	Construction	$1,042,492.00
BF 442-101.1		Clay mine rec.	Clearfield	Moshannon Ck.	Construction	$103,110.00
BF 490-101.1		Surface rec.	Clearfield	Moshannon Ck.	Construction	$121,578.40
BF 493-101.1		Surface rec.	Clearfield	Moshannon Ck.	Construction	$293,375.50
OSM 11(0826)101.1	Spangler Ath. Field	Stab. Mine pool	Cambria	W. Br. Susq. R.	Contracting	--
OSM 11(1018)101.1	Hollentown NE	Surface rec.	Cambria	Clearfield Ck.	Construction	$548,319.00
OSM 11(4789)101.1	Wyerough Run N	Surface rec.	Cambria	Chest Ck.	Design	--
OSM 14(0883)101.1	Orviston	Surface rec.	Centre	Beech Ck.	Design	--
OSM 14(6818)101.1	Pine Glen SE	Surface rec.	Centre	W. Br. Susq. R.	Contracting	--
OSM 17(0084)101.1	Needful W	Waterline Const.	Clearfield	W. Br. Susq. R.	Construction	$359,900.00
OSM 17(0115)101.1	Sandy Creek #1	Surface rec.	Clearfield	W. Br. Susq. R.	Design	
OSM 17(1395)101.1	Grampian	Surface rec.	Clearfield	W. Br. Susq. R.	Design	
OSM 17(1946)101.1	Drane	Waterline Const.	Clearfield	Moshannon Ck.	Design	--
OSM 17(4454)102.1	BCI Waterline (GA)	Waterline Const.	Clearfield	Clearfield Ck.	Design	--
OSM 17(4537)101.1	Albert L.F. S	Surface rec.	Clearfield	Moshannon Ck.	Design	--
OSM 17(6801)101.1	Grassflat NW	Surface rec.	Clearfield	Clearfield Ck.	Design	--
OSM 17(7086)101.1	Blueball East	Surface rec.	Clearfield	Clearfield Ck.	Design	--
OSM 17(7103)101.1	Ohio School	Surface rec.	Clearfield	Clearfield Ck.	Construction	$373,471.30
OSM 17(7163)101.1	McDowell Mtn. S.	Surface rec.	Clearfield	Clearfield Ck.	Contracting	--

PADEP Bureau of Abandoned Mine Reclamation
Susquehanna River Active Project Status
September 28, 2005

OSM 17(7180)101.1	Goshen South	Surface rec.	Clearfield	Clearfield Ck.	Design	--
OSM 17(7158)101.1	Shawville N	Surface rec.	Clearfield	W. Br. Susq. R.	Construction	$681,767.00
OSM 17(7163)101.1	McDowell Mtn. S	Waterline Const.	Clearfield	W. Br. Susq. R.	Construction	$192,000.00
OSM 24(3894)101.1	Winslow Hill II	Surface rec.	Elk	Dents Run	Construction	$565,636.00
OSM 24(3898)101.1	Porcupine Hill II	Surface rec.	Elk	Dents Run	Design	--
OSM 24(Dents Run)	Dents Run GA	Surface rec./tmt.	Elk	Dents Run	Design	--
OSM 35(1524)	Grassy Island Creek	Surface rec.	Lackawanna	Lackawanna River	Design	--
OSM 35(2078)	Eddy Creek North	Surf. rec/Strm rest.	Lackawanna	Lackawanna River	Design	--
OSM 35(3735)	Greenwood	Surf. rec.	Lackawanna	Lackawanna River	Design	--
OSM 35(3748)	North Golf Course II	Surf. rec.	Lackawanna	Lackawanna River	Design	--
OSM 35(3742)	Grassy Island	Surf. rec.	Lackawanna	Lackawanna River	Design	--
OSM 35(4190)	Interchange 56 South	Surf. rec.	Lackawanna	Lackawanna River	Design	--
OSM 35(2519,2087,2088)	Fall Run, SW Carbondale, Carbon-dale Twp NE	Surf. rec.	Lackawanna	Lackawanna River	Construction	$5,413,233.00
OSM 40(0493)	Hollars Hill South	Surf. rec.	Luzerne	Nescopeck Creek	Design	--
OSM 40(1365)	Hazleton SC West	Surf. rec.	Luzerne	Nescopeck Creek	Design	--
OSM 40(1554)	Hanover Back Road	Surf. rec.	Luzerne	Nanticoke Creek	Design	--
OSM 40(1556)	Hanover Reservoir	Surf. rec.	Luzerne	Nanticoke Creek	Design	--
OSM 40(1372,1374)	Humboldt, SW, Humboldt Far SW	Surf. rec.	Luzerne	Catawissa Creek	Design	--
OSM 40(3725)	Hollars Hill	Surf rec/Strm rest.	Luzerne	Nescopeck Creek	Contracting	--
OSM 40(3734)	West Suscon	Surf. rec.	Luzerne	Lackawanna River	Contracting	--
OSM 40(2138)	Curry Hill/Avondale	Surf. rec.	Luzerne	Susquehanna River	Construction	$3,954,100.28
OSM 54(3042)	Oneida West	Surf. rec.	Schuylkill	Catawissa Creek	Design	--
OSM 54(3046)	Green Mtn. South	Surf. rec.	Schuylkill	Catawissa Creek	Design	--
OSM 54(3727)	North Shepton	Surf. rec.	Schuylkill	Catawissa Creek	Design	--
OSM 54(3649)	Newtown South 2	Surf. rec.	Schuylkill	Swatara Creek	Design	--

Attachment 4

Pennsylvania Rivers Conservation Program

The purpose of this Department of Conservation and Natural Resources program is to encourage local watershed groups to develop a "Watershed Conservation Plan" inventorying significant natural, recreational and cultural resources; identifying concerns and threats; and formulating recommendations to conserve, enhance, and restore resources. Planning grants are available for this purpose. Once a plan is prepared, the group may submit it to DCNR for inclusion on DCNR's "Rivers Registry." If approved for the registry, the group then becomes eligible for "Implementation," "Development," and "Acquisition" Grants. So far, 18 Watershed Conservation Plans from the Susquehanna River Basin have been added to the Rivers Registry. These include:

1. Spring Creek
2. Upper Juniata River
3. Lower Juniata River
4. Susquehanna River (Upper Dauphin County)
5. Upper Codorus Creek
6. Swatara Creek
7. Conestoga River
8. Little Nescopeck Creek
9. Lackawanna River
10. Octoraro Creek
11. Tunkhannock Creek
12. Wiconisco Creek
13. Swatara Creek (both Watershed Conservation and River Corridor Plans)
14. North Branch Susquehanna River
15. Lititz Run
16. LeTort Spring Run
17. Upper West Branch Susquehanna River
18. Lower West Branch Susquehanna River