

PENNSYLVANIA NONPOINT SOURCE PROGRAM
FY2004 PROJECT SUMMARY

Base Program/District Staff

Project Title: Conservation District Mining Program

Project Number: 2401

Budget: \$ 125,000

Lead Agency: Western Pennsylvania Coalition for Abandoned Mine Reclamation (WPCAMR)

Location: Western Pennsylvania bituminous coal region

Point of Contact: Garry Price, DEP or Bruce Golden, Regional Coordinator, Western Pennsylvania Coalition for Abandoned Mine Reclamation

The purpose of the WPCAMR is to promote and facilitate the reclamation and remediation of abandoned mine drainage (AMD) in western Pennsylvania. Through this project the Regional Coordinator will continue to develop an education program, coordinate AMD remediation activities, generate local support for remediation efforts, and assist watershed associations and conservation districts in the development of watershed management plans and in securing funding for AMD remediation. The Watershed Coordinator will continue to assist with the development and implementation of funded projects.

Project Title: Conservation District Mining Program

Project Number: 2402

Budget: \$ 117,112

Lead Agency: Eastern Pennsylvania Coalition for Abandoned Mine Reclamation (EPCAMR)

Location: Anthracite and northern bituminous regions of Pennsylvania

Point of Contact: Garry Price, DEP or Robert Hughes, Eastern Pennsylvania Coalition for Abandoned Mine Reclamation

EPCAMR was formed to promote and facilitate the reclamation and remediation of land and water adversely affected by past coal mining practices in eastern Pennsylvania. EPCAMR is a complimentary organization to the Western Pennsylvania Coalition. The EPCAMR Regional Coordinator will continue efforts to organize watershed associations, develop an education program, coordinate AMD remediation activities, generate local support for remediation efforts, and assist watershed associations and conservation districts in the development of watershed management plans and in securing funding for AMD remediation. The AMD Watershed Outreach Coordinator, in addition to assisting in these activities, will evaluate and comment on watershed restoration plans, seek funds for long-term maintenance projects and perform biological surveys and water quality testing on streams having acid mine discharge.

Base Program/DEP Staff

Project Title: Nonpoint Source Program-Bureau of Watershed Management/Regional Offices

Project Number: 2403

Budget: \$ 770,910

Lead Agency: Bureau of Watershed Management

Location: DEP Regional Offices/DEP Central Office

Point of Contact: Russell L. Wagner, DEP

This project will strengthen the links between Central Office Program staff and the Regional Offices and to enhance the roles of the DEP Regional Offices in the Nonpoint Source Program. The project will continue funding a total of six work years of effort for NPS activities by regional office staff in each of the six DEP Regional Offices. Any DEP regional NPS efforts above the six work years of effort will be used as part of the state match. A total of 10 work years of effort are to be provided within the Central Office to support the implementation and administration of the Section 319 NPS Implementation Program and the Citizen Volunteer Monitoring Program. The positions supporting these work years of effort include: a conservation program manager, three water pollution biologists, a hydrogeologist, 2 conservation program specialists, an environmental planner 2, a clerk typist and an administrative assistant. This project will require an additional \$ 153,257 in indirect costs.

Base Program

Project Title: Citizen Monitoring Program

Project Number: 2404

Budget: \$ 70,000

Lead Agency: Bureau of Watershed Management

Location: Statewide

Point of Contact: Cheryl Snyder, DEP

The purpose of the Citizens' Volunteer Monitoring Program is to provide the means to address both the needs of the Department and local volunteer groups for support, coordination of environmental efforts, and to create environmental alliances. The program joins overall needs of DEP for citizen gathered data with public participation by establishing cooperative, environmental partnerships. This project will promote citizen monitoring activities by maintaining a Citizens' Volunteer Monitoring database registry, developing guidelines and model "Handshake Agreements" (non-binding, non-obligatory) that clearly detail the expectations of DEP program areas and citizen groups, publication of a Volunteer Monitoring newsletter, implement a statewide "snapshot" report, train and equip 14 lake associations and provide sample analysis through DEP lab and hold various workshops. This project will require an additional \$ 13,916 in indirect costs.

Project Title: Statewide NPS Education Office
Project Number: 2405
Budget: \$ 175,000
Lead Agency: Pennsylvania Association of Conservation Districts (PACD)
Location: Statewide
Point of Contact: Fran Koch, DEP or Kathleen Banski, PACD

The project allows the PACD state office to continue statewide education efforts on nonpoint source issues. The intent is to generate a coordinated, unified approach through the county conservation districts to provide information to the public about the Pennsylvania Nonpoint Source Program. PACD develops information packets, brochures, a newsletter and other educational products as requested by the conservation districts and the Nonpoint Source Management Section. PACD also has an Education Subcommittee that provides recommendations.

Project Title: Watershed Education for Pollution Prevention-V
Project Number: 2406
Budget: \$ 100,000
Lead Agency: League of Women Voters of PA-Citizen Education Fund (LWV-CEF)
Location: Statewide
Point of Contact: Fran Koch, DEP

This project continues funding of the League of Women Voters of Pennsylvania Citizen Education Fund to provide money to 10 to 12 community coalitions to undertake public education and alliance building projects focusing on mitigating or preventing pollution in degraded watersheds. An important part of these coalitions is that they must include the municipalities and that each organization receiving a grant must send a representative to the orientation/training workshop. This project will also provide support for the coalitions to complete their projects, to raise public awareness and literacy, and to facilitate action in protecting community water resources. The maximum amount for each project is \$5,000.

Project Title: Regional Geometry Curves in Pennsylvania Physiographic Regions
Project Number: 2407
Budget: \$ 49,085
Lead Agency: US Geologic Survey
Location: Statewide
Point of Contact: Fran Koch, DEP or Kirk White, USGS

A regional curve provides estimated channel dimensions for bankfull discharge. Because many restoration designs have a strong dependence on bankfull dimensions, correctly identifying the bankfull channel is essential to a successful design. Regional curves that incorporate unique runoff characteristics relating to different physiographic provinces are needed to support stream restoration efforts in Pennsylvania. Regional curves will employ the method described by David Rosgen. Once developed, designers can use a regional curve at an ungaged site to support or refute their selection of bankfull discharge within the applicable hydro-physiographic region. This project will require an additional \$ 9,758 in indirect costs.

Project Title: TMDL Watershed Restoration Plans

Project Number: 2408

Budget: \$ 20,000

Lead Agency: Bureau of Watershed Management

Location: Selected Watersheds

HUC Code: Various

State Water Plan Watershed: Yet to be determined

303 (d) Listed: yes

Point of Contact: Steve Lathrop, DEP

This project is an effort to establish a mechanism to provide assistance in developing watershed restoration plans in watersheds where TMDLs have been developed. This effort will involve various local watershed associations identified in specific watersheds where TMDLs have been developed. The goal is to have local stakeholder support and input in the development of the restoration plan for the watershed which will meet the goal of addressing the TMDL and its intended reductions of the nonpoint source pollutant to be addressed. In addition to involvement of local stakeholders, there will be technical support provided through yet unselected vendors to interact with the local stakeholders to write the specific restoration plan and yet unselected vendors to provide technical support including estimated costs for best management practices selected by the local stakeholders and associated pollution reductions expected as a result of implementation of the best management practices. This project will require an additional \$ 3,976 in indirect costs.

Project Title: Development of an AMD Watershed Assessment Procedure

Project Number: 2409A

Budget: \$ 42,277

Lead Agency: Penn State University

Location: Statewide

Point of Contact: Garry Price, DEP; Barry Evans, Penn State Institutes of the Environment

This project will involve the development of a link between the AVGWLF and WRAM models. The models use parameters of flow volume and acidity, alkalinity, iron and manganese concentrations to conceptually size and cost passive treatment systems for AMD discharges within a watershed. The user can then select one or more ample points for treatment consideration and view the resulting downstream water quality changes. The total cost to construct, operate and maintain the selected treatment systems within the watershed are also summarized over the specified prediction period. This process allows conceptual allocation of restoration funds to have the greatest water quality benefits within a given watershed. This project will require an additional \$ 8,405 in indirect costs.

Project Title: Modification of AVNPSTool and PRedICT

Project Number: 2409B

Budget: \$ 45,000

Lead Agency: Penn State University

Location: Statewide

Point of Contact: Garry Price, DEP; Barry Evans, Penn State Institutes of the Environment

Under this particular activity, Penn State will develop software links that allow BMP information compiled using AVNPSTool to be utilized in setting parameter values in both the AVGWLF and PRedICT modeling tools. The various input screens (e.g., agricultural, E&S, and stormwater screens) in the current version of AVNPSTool will be re-organized and modified to be more specific with respect to the data analyses, tracking and reporting requirements associated with other nonpoint source-related programs within DEP (e.g., 319 and Tributary Strategy programs). Revisions will also include the addition of an AMD-related input screen, as well as the addition of new base GIS layers such as the USGS 11-digit HUC boundaries and NHD layer, and a composite “mine feature” layer that combines mine-related data prepared by Penn State for DEP . This project will require an additional \$ 8,946 in indirect costs.

Project Title: Keystone Stream Team Database

Project Number: 2410

Budget: \$ 182,455

Lead Agency: Lycoming College

Location: Statewide

Point of Contact: Fran Koch, DEP; Dr. Mel Zimmerman, Lycoming College

The overall goal of this project is to facilitate sharing of information that will ultimately improve all stream restoration efforts in Pennsylvania. The website will provide for the design community to access technical data on stream restoration projects such as reference reach data, regional curves, engineering specs and as-builts. Project includes training/workshops. This project is a partnership pf the Keystone Stream Team, Lycoming College Clean Water Institute, Penn State Center for Dirt and Gravel Road Studies and Canaan Valley Institute.

Project Title: Region 3 EPA/State NPS Annual Meeting

Project Number: 2411

Budget: \$5,000

Lead Agency: Bureau Watershed Management

Location: Statewide

Point of Contact: Fran Koch, DEP; Fred Suffian, EPA

Each year nonpoint source program staff from the six jurisdiction in EPA Region 3 and EPA nonpoint source staff meet to discuss current nonpoint source issues and programs. In spring of 2004, Pennsylvania will host this meeting. Also each year, the meeting is shared with another related program area. For 2004, the source water protection program staff will be invited to join the meeting. The purpose of the funding is to help support the development and costs associated with the meeting.

Project Title: Statewide Lake Water Quality Assessments

Project Number: 2412

Budget: \$ 10,000

Lead Agency: Bureau of Watershed Management

Location: Statewide

Point of Contact: Barbara Lathrop, DEP

DEP will coordinate the assessment of 10 of Pennsylvania's Significant and Important Lakes. The lakes will be sampled to determine trophic status, nutrients, macrophyte coverage and fisheries if no previous data exists). Sampling will be done by DEP or DCNR or the PFBC using DEP's standard lake protocol. The water quality work addressed by this workplan includes the collection of samples and submission to DEP's laboratory for analysis. This project will require an additional \$ 1,988 in indirect costs.

National Monitoring Projects:

Project Title: Villanova Stormwater National Monitoring Program

Project Number: 2413

Budget: \$ 46,110

Lead Agency: Villanova University

Location: Mill Creek, County

HUC Code: 2040205

State Water Plan Watershed: 03G

303(d) Listed: Yes

Point of Contact: Fran Koch, DEP; Dr. Robert Traver, Villanova University

This project is to collect and monitor inflow and outflow non-point source flow and pollutant loadings entering and leaving three urban stormwater Best Management Practices (BMP) located on the Villanova University campus: Infiltration – Porous Concrete Infiltration Demonstration Site; Bioinfiltration Traffic Island; and infiltration Trench. To measure the difference in flow volume and peak for wet weather flows. To develop pollutant Event Mean Concentrations for each storm (entering and exiting). To develop pollutant and flow averages for base flow conditions. This project will join the Section 319 NonPoint Source National Monitoring Program. All data collected will be included in STORET and the National BMP Database.

Project Title: Riparian Forest Buffer Monitoring Program

Project Number: 2414

Budget: \$ 68,539

Lead Agency: Stroud Water Research Center

Location: Brandywine Creek Watershed, Chester County

HUC Code: 2040205

State Water Plan Watershed: 03H

303(d) Listed: Yes

Point of Contact: Carl Rohr, DEP; J. Denis Newbold, Stroud Water Research Center

Riparian forest buffers are increasingly recommended and advocated as a management practice that can both improve stream habitat and reduce the surface and subsurface transport of agricultural nonpoint source pollutants to streams. Although studies that quantify these reductions have been made in coastal plain watersheds, similar data are not available for upland regions. This project will continue to monitor, evaluate, and document the benefits of an experimental riparian reforestation in an agricultural watershed beyond the initial five year period after riparian forest buffer establishment.

Project Title: Swatara Creek National Monitoring Program
Project Number: 2415
Budget: \$ 138,317
Lead Agency: Schuylkill County Conservation District
Location: Swatara Creek, Schuylkill County
HUC Code: 2050305
State Water Plan Watershed: 07D
303(d) Listed: Yes
Point of Contact: Jane Earle, DEP; Dan Koury, DEP; Ryan Koch, Schuylkill County Conservation District

This is the only National Monitoring Project in the country involving abandoned mine drainage (AMD) discharges. The objectives of this project are to evaluate the long-term performance of innovative passive treatment systems for neutralizing acidity and removing iron and aluminum and the long term effects on the water quality of streams in the upper Swatara Creek watershed. The 319 funding commitments are to continue long term funding for this site for the FY 2004.

Implementation Program/Abandoned Mine Drainage

Project Title: Limestone Drain System – Reevesdale South Dip Tunnel
Project Number: 2416
Budget: \$ 226,156
Lead Agency: Schuylkill Headwaters Association, Inc.
Location: Wabash Creek
HUC Code: 2040106
State Water Plan Watershed: 3A
303(d) Listed: Yes
Point of Contact: Jane Earle, DEP; Dan Koury, DEP; Bill Reichert, Schuylkill Headwaters Association

The proposed project will implement a passive treatment system consisting of a flushable, oxic limestone drain (OLD) followed by an aerobic wetland basin to neutralize acidity and reduce metal loadings from the discharge. Underdrain networks and outflow pipes within the OLD will allow flushing of the accumulated metals from the limestone bed to the wetland where final oxidation, precipitation and settling will occur. Flow data reveals the discharge ranges from 19 to 1,060 gal/min with an average of 393 gal/min.

Project Title: Audenreid Mine Tunnel Discharge

Project Number: 2417

Budget: \$ 1,419,910

Lead Agency: Schuylkill County Conservation District (Sponsor)
Catawissa Creek Watershed Association (Applicant)

Location: Catawissa Creek, Schuylkill County

HUC Code: 2050107

State Water Plan Watershed: 5E

303(d) Listed: Yes

Point of Contact: Jane Earle, DEP; Dan Koury, DEP; Ed Wytovich, Catawissa Creek Watershed Assoc.

The Audenreid Mine Tunnel Discharge is the largest abandoned mine discharge within the Catawissa Creek watershed. Monitoring has shown the average discharge to be 8,478 gal/min. The development of a treatment system to treat the Audenreid Tunnel discharge would effectively reduce the amount of pollution loading to the entire Catawissa Creek since this discharge makes up such a large portion of the pollution load (estimated at 84%) to the creek. The large volume of the discharge and the presence of aluminum make treating this discharge with conventional passive treatment systems prohibitive. Therefore an innovative treatment system and design is proposed. The discharge will be diverted into a series of concrete treatment cells filled with limestone, then into a large settling pond to receive the aluminum precipitate. Wetlands would provide final polishing before the water is returned to the creek.

Project Title: Bear Creek Mine Discharge

Project Number: 2418

Budget: \$ 220,000

Lead Agency: Dauphin County Conservation District

Location: Bear Creek

HUC Code: 2050301

State Water Plan Watershed: 6C

303(d) Listed: Yes

Point of Contact: Garry Price, DEP; Dan Koury, DEP; Andrew McAllister, Dauphin County Conservation District

This project proposes to design and construct sediment ponds to treat the discharges. The passive treatment system will consist of one settling basin directly adjacent to the Lykens Tunnel discharge plus two other basins further downslope. Diversion ditches will be constructed around all three basins to provide for control of site stormwater. Construction of the treatment system will reduce iron, sulfate, magnesium and turbidity. Total iron concentration of the final treatment discharge of the Lykens Tunnel is expected to be between 1 and 2 mg/l. This will result in an approximately 80% reduction in the amount of total iron discharged into Bear Creek from the Lykens Tunnel.

Project Title: Miller Run 1 and 2 AMD Treatment Project

Project Number: 2419

Budget: \$ 98,000

Lead Agency: Huntingdon County Conservation District (sponsor)
Shoup Run Watershed Association (applicant)

Location: Miller Run

HUC Code: 2050303

State Water Plan Watershed: 11D

303(d) Listed: No

Point of Contact: Jane Earle, DEP; Joe Allison, DEP; Gracie Angelo, Shoup Run Watershed Association

This project proposes to provide for design and construction of two small passive treatment systems for the Miller Run 1 and 2 discharges. The proposed treatment systems for the Miller Run discharges would consist of a limestone pond with an associated settling basin.

Construction of the treatment systems at these discharges would have the potential to remove an estimated annual loading of five tons of acidity and one-third ton of aluminum from Miller Run and restore Miller Run from the discharges to the mouth, a length of 1.7 miles.

Project Title: Longs Run Remediation

Project Number: 2420

Budget: \$ 227,619

Lead Agency: Broad Top Township.

Location: Sandy/Longs Run

HUC Code: 2050303

State Water Plan Watershed: 11D

303(d) Listed: Yes

Point of Contact: Jane Earle, DEP; Joe Allison, DEP; Ernest Fuller, Broad Top Township

This project is to cost effectively remediate six discharges and to limestone dose the headwaters to improve water quality. Earlier grants are in the process of treating the remaining discharges. This project consists of six independent systems using a combination of vertical flow wetlands, limestone ponds, anoxic limestone drains and limestone sand dosing. This project, combined with the previously funded projects will complete the restoration of approximately six miles of Longs Run.

Project Title: Limestone Drain Treatment – Pine Forest Discharge

Project Number: 2421

Budget: \$ 538,844

Lead Agency: Schuylkill Headwaters Association

Location: Mill Creek, Schuylkill County

HUC Code: 2040203

State Water Plan Watershed: 3A

303(d) Listed: Yes

Point of Contact: Jane Earle, DEP; Dan Koury, DEP; Bill Reichert, Schuylkill Headwaters Assoc.

The proposed project will implement a passive treatment system consisting of a flushable, anoxic limestone drain (ALD) followed by an aerobic wetland basin to neutralize acidity and reduce metals loadings from the discharge. Underdrain networks and outflow pipes within the ALD will enable flushing of accumulated metals from the limestone bed to the wetland where final oxidation, precipitation and settling of metallic-rich particles will occur. Flow rate of the discharge ranges from 1,180 to 1,580 gal/min with an average flow of 1,360 gal/min.

Project Title: Lower Yellow Creek Phase 1A & 1B System Modifications

Project Number: 2422

Budget: \$ 80,000

Lead Agency: Blacklick Creek Watershed Association

Location: Blacklick Creek

HUC Code: 5010006

State Water Plan Watershed: 18D

303(d) Listed: Yes

Point of Contact: Jane Earle, DEP; Joe Allison, DEP; Robert Eppley, Blacklick Creek Watershed Association

This project involves the reconstruction and modifications to three previously installed passive treatment systems. Modifications will include the addition of sulfate-reducing bacteria, increasing berm heights, and installation of additional piping and valves to allow discharges to be re-directed as appropriate. Major reconstruction will take place on the vertical flow reactor (VFR). Increased water volume has resulted in decreased retention times and less effective treatment of the influent. A coil of perforated pipe will be placed in the bottom of the pond. The influent will be routed through the perforated pipe and forced upward into the sulfate reducing bacteria to effect pre-treatment before flowing into the VFR.

Project Title: Big Run AMD Remediation – Phase II

Project Number: 2423

Budget: \$ 374,219

Lead Agency: Blackleggs Creek Watershed Association

Location: Blackleggs Creek

HUC Code: 5010008

State Water Plan Watershed 18C

303(d) Listed: Yes

Point of Contact: Jane Earle, DEP; George Chakot, DEP; Art Grguric, Blacklegs Creek Watershed Association

This project is for the design and construction of Big Run #7 discharge and the design of Big Run #8 discharge. The maximum design flow rate is 1826 GPM for Big Run #7 and 1439 GPM for Big Run #8. Design system for Big Run #7 is anticipated to be an initial settling pond, a limestone pond, a limestone lined channel and a polishing wetland. Based on several years of collected water quality data, treatment of Big Run #2 and #3 (done under previous grants), and #7 (design and construction this grant) and #8 (design this grant), over six miles of both Big Run and Blackleggs Creek will be improved.

Implementation Program/Agricultural

Project Title: Agricultural BMPs in the Mahantango Watershed

Project Number: 2424

Budget: \$ 67,428

Lead Agency: Schuylkill County Conservation District

Location: Mahantango Creek

HUC Code: 2050301

State Water Plan Watershed: 6C

303(d) Listed: Yes

Point of Contact: Carl Rohr, DEP; Peter Tarby, DEP; Martie Hetherington, Schuylkill County Conservation District

This project is to provide funding for two high priority Chesapeake Bay program livestock farms in the Mahantango Creek watershed. The Chesapeake Bay Program has committed funding to assist each farmer. This grant is to provide additional funding, along with a 20% cost share from each farmer towards the completion of the BMPs. BMPs will include livestock waste facilities and barnyard runoff control.

Project Title: Phase I Restoration – Little Wiconisco Creek
Project Number: 2425
Budget: \$ 110,000
Lead Agency: Dauphin County Conservation District
Location: Little Wiconisco Creek
HUC Code: 2050301
State Water Plan Watershed: 6C
303(d) Listed: Yes
Point of Contact: Carl Rohr, DEP; Mary Golab, DEP; Michael Hubler, Dauphin County Conservation District

This project will purpuses the installation of agricultural BMPs to mitigate the most serious concerns and maximize water quality improvement. Grant funds will be used to cost share the agricultural BMP installation through contracts with prioritized landowners. These contracts will include operation and maintenance responsibilities. If needed, revision/development of the farm conservation plan will be required. A small amount of funding will also be used for riparian plantings and educational outreach.

Project Title: Oil Creek Stream Restoration
Project Number: 2426
Budget: \$ 334,740
Lead Agency: Codorus Creek Watershed Association
Location: Oil Creek
HUC Code: 2050306
State Water Plan Watershed: 7H
303(d) Listed: Yes
Point of Contact: Fran Koch, DEP; Rick Devore, DEP; Jeff Hines, Codorus Creek Watershed Association

Funding is requested to permit, design and construct a 4,300 foot section of Oil Creek. The restoration design will use a natural channel approach. In-stream structures will be incorporated into the design to stabilize streambanks, improve sediment transport and enhance aquatic habitat. A 35 foot wide riparian buffer is also planned.

Project Title: Pequea Creek Project – Phase III
Project Number: 2427
Budget: \$ 200,000
Lead Agency: Paradise Sportsmen’s Association
Location: Pequea Creek
HUC Code: 2050306
State Water Plan Watershed: 7K
303 (d) Listed: Yes
Point of Contact: Russell Wagner, DEP; Jineen Boyle, DEP; Dewey Null, Paradise Sportsmen’s Association

This project will involve the design, permitting and implementation of stream bank stabilization, stream bank fencing riparian buffer establishment and fish enhancement structures to remediate an impaired section of the Pequea that was identified in the TMDL plan. There will be 3,775 feet of stream bank stabilization, 5,845 feet of riparian buffer installation and 2,370 of stream bank fencing completed as a result of this project.

Project Title: South Branch Codorus Creek, Phase V Restoration
Project Number: 2428
Budget: \$ 246,490
Lead Agency: Izaak Walton League of America, York Chapter 67
Location: South Branch Codorus Creek, York County
HUC Code: 2050306
State Water Plan Watershed: 7H
303(d) Listed: Yes
Point of Contact: Barbara Lathrop, DEP; Rick Devore, DEP; Tom Kornbau Izaak Walton League

This project will continue stream restoration efforts identified as high priority sites in the South Branch Codorus Creek Watershed Assessment. This project consists of approximately 3,100 feet of stream bank restoration of high priority sites . The project is approximately 2,400 feet of restoration on the South Branch and 700 feet of restoration on Cherry Run. All restoration work will incorporate a natural channel design approach.

Project Title: Lake Luxembourg Implementation

Project Number: 2429

Budget: \$ 97,627

Lead Agency: Bucks County Conservation District

Location: Core Creek

HUC Code: 2040201

State Water Plan Watershed: 2F

303(d) Listed: Yes

Point of Contact: Barbara Lathrop, DEP; Ben Russell, DEP; Gretchen Schatschneider, Bucks County Conservation District

This project will involve addressing nonpoint source problems in the Lake Luxembourg and Core Creek watershed by implementing a variety of watershed-based measures to reduce the annual phosphorus and suspended solid loads entering the lake. Included are a proposed agricultural best management practices and stream stabilization projects in the watershed.

Project Title: Streambank Stabilization Mahantango Creek

Project Number: 2430

Budget: \$ 9,928

Lead Agency: Schuylkill County Conservation District

Location: Mahantango Creek

HUC Code: 2050301

State Water Plan Watershed: 6C

303(d) Listed: Yes

Point of Contact: Russell Wagner, DEP; Peter Tarby, DEP; Ryan Koch, Schuylkill County Conservation District

The goal of this project is to stabilize 800 linear feet of streambank. The project will utilize natural stream channel designs. The project will also establish a riparian buffer along the stream that will be approximately 15-30 feet wide from the streambank utilizing grasses shrubs and trees. The project involves two sites, 350 feet and 450 feet long. By stabilizing the streambank and establishing the riparian buffer, it will significantly reduce the amount of sediment and siltation entering the Mahantango Creek.

Project Title: Retrofit Stormwater BMPs

Project Number: 2431

Budget: \$ 222,501

Lead Agency: County of Adams

Location: Rock Creek

HUC Code: 2070009

State Water Plan Watershed: 13D

303(d) Listed: Yes

Point of Contact: Fran Koch, DEP; Rick Devore, DEP; Richard Schmoyer, Adams County Director of Planning and Development

This project will involve the design and construction of a “retrofit” stormwater management system using appropriate BMP techniques found in the PA Handbooks of Best Management Practices for Developing Areas. The project will take place on the campus of a local community college and will be consistent with recommendations of the Act 167 Stormwater Management Plan for the Monocacy Watershed approved by DEP in 2002.

Project Title: Kemper Park

Project Number: 2432

Budget: \$ 33,000

Lead Agency: American Littoral Society (sponsor)
Delaware Riverkeeper Network (applicant)

Location: Little Neshaminy Creek

HUC Code: 2040201

State Water Plan Watershed: 2F

303(d) Listed: Yes

Point of Contact: Steve Lathrop, DEP; Irwin Lourie, DEP; Maya van Rossum, Delaware River Keeper

This project will include the removal of a small rock dam located on Little Neshaminy Creek and to restore approximately 3000 feet of riparian buffer. This project is the first project to be implemented from the Little Neshaminy Watershed and Assessment Report. It is one of three priority projects identified. An Operation and maintenance plan will also be developed for the township to carry out.

Project Title: White Clay Creek Restoration Project (**REMOVED**)
Project Number: 2433
Budget: \$ 29,000
Lead Agency: Borough of Avondale
Location: White Clay Creek, Chester County
HUC Code: 2040205
State Water Plan Watershed: 03I
Category I: Yes
303(d) Listed: Yes
Point of Contact: Russell Wagner, DEP; Doris Howell, Borough of Avondale

The Borough of Avondale, along with its cooperating partners, will implement a riparian restoration project that will address some of the most severe streambank erosion and riparian buffer degradation in the White Clay Creek watershed. A combination of plantings, bioengineering, and natural channel design to restore approximately 5,600 linear feet of degraded aquatic habitat and eroded streambank. This project was started in an earlier grant. The funds in this grant is to offset those funds that were then needed to revise the flood plain delineation of the stream.

Project Title: Radnor Infiltration Trench
Project Number: 2434
Budget: \$ 39,300
Lead Agency: Villanova University
Location: Mill Creek
HUC Code: 2040205
State Water Plan Watershed: 3G
303(d) Listed: Yes
Point of Contact: Fran Koch, DEP; Steve Burgo, DEP; Dr. Robert Traver, Villanova University

This project will follow phases I & II for the implementation of agricultural best management practices to improve water quality. Thirteen farms have been targeted to receive cost share funds under this grant. Best management practices include: manure storage, barnyard and roof runoff systems, waterways, diversions, stream bank fencing, and contour strips. It is estimated that as a result of these BMPs, nutrient reductions of 250,000 lbs/year of nitrogen, 50,000 lbs/yr of phosphorous, and 265 tons of sediment will be reduced.

Project Title: Brock Creek Watershed Assessment and Restoration
Project Number: 2435
Budget: \$ 65,987
Lead Agency: Lower Makefield Township
Location: Brock Creek, Bucks County
HUC Code: 2040201
State Water Plan Watershed: 02E
Priority I: Yes
303 (d) Listed: No
Point of Contact: Fran Koch, DEP; Terry Fedorchak, Lower Makefield Township

This project will conduct a comprehensive stream corridor evaluation and develop a management plan for Brock Creek watershed. Critical stream reaches and sediment sources will be prioritized so that the most effective stream stabilization and restoration projects can be implemented in the future. A model restoration project will be completed to demonstrate the effectiveness of new and innovative BMPs for streambank stabilization and channel restoration in an urban setting.

Grant Match:

Project Title: Conservation District Fund Allocation Program (Match)
Project Number: N/A
Budget: \$ 2,554,400 (state match)
Lead Agency: Bureau of Water Quality Protection
Location: Statewide
Point of Contact: Russell Wagner, DEP

This program is administered by the State Conservation Commission and is funded from the State General Fund. This money is used to support the continuing activities of conservation districts by partially funding a district manager and one or two district technicians in each county.

Project Title: Growing Greener Watershed Specialists (Match)
Project Number: N/A
Budget: \$ 1,963,467 (state match)
Lead Agency: Bureau of Watershed Conservation
Location: Statewide
Point of Contact: Russell Wagner, DEP

This was a new state program available for the first time in 2000. This program provides grants to conservation districts to hire watershed specialists to help foster and support local watershed groups, educational activities and watershed restoration and protection projects. A total of 63 watershed specialists have been hired. Included in their responsibilities is to provide expert advice to farmers and landowners for conservation practices and work with DEP on projects and proposals funded through the NPS 319 and Growing Greener programs.