Status Report April 2000



Pennsylvania's Abandoned Mine Reclamation and Well Plugging Program



A MESSAGE FROM THE SECRETARY

For more than 200 years, Pennsylvania has been a leader in mineral extraction. We helped to fuel the Industrial Revolution and two World Wars. But this rich history has come at a price -- approximately a quarter-million acres of abandoned land and hundreds of miles of impacted streams. Acid mine drainage, dangerous highwalls, open mine shafts and subsidence from abandoned mines are just some of the problems we face today. Industrial mineral production and oil and gas exploration have also left their mark on our land and water.

As Pennsylvania begins its fourth century, we continue to be a national leader. The focus now is on environmental protection and restoration. Government, volunteers and the active mining industry are working together to help heal our land and restore our water to ensure the natural beauty of the Commonwealth for generations to come.



The goal of Reclaim PA is to further increase reclamation of our abandoned mineral extraction sites. Since Gov. Ridge announced Reclaim PA in October 1998, we have made great progress by encouraging volunteer involvement and providing incentives for remining, which continues to be the most effective means of reclamation. And since the inception of Reclaim PA, reclamation has steadily increased. In 1997, approximately 4,500 acres were reclaimed through remining operations and government-funded projects. The number of acres reclaimed in 1999 rose to nearly 6,000. Through the further implementation of Reclaim PA program initiatives, the numbers will continue to rise.

With the passage of "Growing Greener" in December 1999, we reached another historic milestone in this effort. The nearly \$650 million it makes available over five years includes funding for abandoned mine and oil and gas well reclamation. In the first year alone, "Growing Greener" grants were awarded to reclaim 795 acres of abandoned mine land and plug 51 abandoned wells. Through reclamation and well-plugging contracts issued by the department and funded by "Growing Greener," even more will be accomplished. The philosophies of Reclaim PA -- partnerships, new technology, expanding financial resources -- are captured in "Growing Greener."

The "Growing Greener" legislation also includes incentives recommended by Reclaim PA and used in Pennsylvania's award-winning Land Recycling Program for even more local and volunteer reclamation. The "Good Samaritan" provisions of the law encourage groups to reclaim abandoned mines and plug oil and gas wells without being permanently tagged with cleanup liability.

This is an exciting time for every Pennsylvanian who truly cares about our environment. Abandoned mine reclamation is a great challenge for us all, but through "Growing Greener" and Reclaim PA, we can make our reclamation goals a reality.

Sincerely,

James M. Seif Secretary

TABLE OF CONTENTS

Executive Summary	1
Introduction	1
Background	
Mission and Program Description	2
Priority Initiatives	
Status	
Program Initiatives	6
Public Education and Outreach	6
Green Remining and Reclamation Technology	
Environmental Good Samaritan Legislation	8
Best Management Practice Permits	9
Government-Financed Construction Contracts	10
Areas Suitable for Remining	11
Remining Permitting Improvements	12
Pennsylvania's Comprehensive Plan for Abandoned Mine Reclamation	13
Consolidated Geographic Information System	
Reclamation Clearinghouse	15
Abandoned and Orphaned Well Plugging Activities	
Financial Incentives for Remining and Adopting Orphaned Wells	
Access to Abandoned Mine Reclamation Trust Fund	
Access to Oil Pollution Act Trust Fund	19
New Funding Sources	
Enhanced Reclamation Contracting Process	
Cost Sharing Programs	
Watershed Restoration and Partnership Act	
Regional Watershed Support Initiative	
Senior Environmental Corps	25
Contacts for More Information	26
DEP Office Directory	27

RECLAIM PA EXECUTIVE SUMMARY

INTRODUCTION

Since Pennsylvania's first significant reclamation efforts in the 1960s, the Commonwealth has led the nation in identifying and addressing abandoned mineral extraction problems that affect public health and safety. Reclaim PA represents a combination of efforts designed to increase abandoned mine reclamation, including public and private participation and encouraging remining by the active industry. The success of Reclaim PA can be found in the reclamation that has been accomplished.

In 1999, there were 336 abandoned mine reclamation projects throughout Pennsylvania, which reclaimed approximately 6,000 acres and improved nearly 200 miles of streams. While government-funded projects accounted for almost 1000 acres of reclamation, the active mining industry was responsible for nearly 5,000 acres – at no cost to the Commonwealth. Due to remining incentives, industry has consistently reclaimed more abandoned mine land in Pennsylvania in recent years than all state and federal programs combined. Additionally, there were 33 orphaned and abandoned oil and gas wells plugged in 1999. The goal of Reclaim PA is to continue to increase Pennsylvania's success in reclaiming its abandoned mineral extraction legacy.

The program objectives of Reclaim PA are strongly supported by Gov. Ridge's Growing Greener initiative. On Dec. 15, 1999, Gov. Ridge signed Growing Greener into law, marking the largest environmental investment in the history of the Commonwealth. Growing Greener invests nearly \$650 million over five years to address Pennsylvania's critical environmental priorities. Included in this initiative is additional funding for abandoned mineral extraction reclamation and watershed restoration. The implementation of Growing Greener significantly advances Pennsylvania's efforts to achieve our reclamation goals.

The funding made possible through Growing Greener, coupled with the initiatives of Reclaim PA, gives Pennsylvania an unprecedented opportunity to reclaim its abandoned mineral extraction legacy. Through partnerships with industry, volunteers and government, Pennsylvania continues to be a leader in environmental restoration and protection.

BACKGROUND

Pennsylvania has a \$15 billion environmental liability, as the result of abandoned operations from more than 200 years of coal, oil, gas and industrial minerals extraction. These massive scars, which affect the Commonwealth's land, water and air, are a result of fueling the 18th century iron industry, the Industrial Revolution and two World Wars. Unfortunately, the focus on the past was on fuel production, and little, if any, consideration was given to the environmental consequences.

Abandoned mineral extraction lands in Pennsylvania constitute a significant public liability. Currently, there are more than 250,000 acres of abandoned surface mines, 2,400 miles of streams polluted with acid mine drainage (AMD) and more than 8,000 orphaned and abandoned oil and gas wells. There are also widespread subsidence problems, hazardous mine openings, mine fires, drainage problems, abandoned structures and impacted water supplies. Pennsylvania's legacy of abandoned mineral extraction lands represents as much as one-third of the total national problem.

The Pennsylvania Department of Environmental Protection (DEP) has carefully planned expenditures of its limited reclamation funds and has searched for innovative ways to reclaim abandoned mineral extraction sites, also known as "grayfields". Approximately \$950 million in federal and state funds have been spent throughout the past 30 years to address Pennsylvania's abandoned mineral extraction legacy.

DEP has developed an extensive list of remining incentives that are similar to the Land Recycling, or Act 2 "Brownfields", program for abandoned industrial sites. As an alternative to developing new mines in previously unaffected areas, the incentives encourage the remining of abandoned mine lands (AML). The remining of old abandoned mines — using present-day environmental management techniques and controls, such as contemporaneous reclamation, acid mine drainage prediction and other compliance assistance techniques — results in considerable abandoned mine reclamation and pollution abatement at no cost to the Commonwealth. DEP also encourages the adoption of orphaned wells in an effort to return them to productivity.

Even with such an aggressive approach, a large number of sites that negatively impact the environment, as well as public health and safety, will never be reclaimed. There is much more that needs to be done, and it can only be accomplished through partnerships between government, industry and the citizens of Pennsylvania.

MISSION AND PROGRAM DESCRIPTION

The mission Reclaim PA is to maximize reclamation of the Commonwealth's abandoned mineral extraction legacy. This will be accomplished through:

- Increasing public involvement in reclamation activities;
- Developing program initiatives to increase reclamation; and
- Pursuing "green" remining and reclamation technology.

First and foremost, we must increase public participation in reclamation activities. Our public education and outreach efforts will be directed toward explaining to the public the severity of our mineral extraction legacy, effectively communicating our new focus and accomplishments and encouraging partnerships and public participation.

Second, DEP has identified, and is developing, 18 program initiatives that will facilitate increased reclamation activities. These initiatives fall into four categories:

- *Reducing Risk and Cost*: The objective of this category of initiatives is to encourage private and public participation in reclamation activities.
 - ⇒ Environmental Good Samaritan Legislation
 - ⇒ Best Management Practice Permits
 - ⇒ Government-Financed Construction Contracts (GFCC)
 - ⇒ Areas Suitable for Remining Program
 - ⇒ Remining Permitting Improvements
- *Maximizing Environmental Gain*: The purpose of the initiatives in this category is to improve reclamation efficiency through effective information management.
 - ⇒ Pennsylvania's Comprehensive Plan for Abandoned Mine Reclamation (CPAMR)
 - ⇒ Consolidated Geographic Information System (GIS)
 - ⇒ Reclamation Clearinghouse
 - ⇒ Abandoned and Orphaned Well Plugging Activities

- *Providing Market Advantage*: This effort is aimed at increasing reclamation by making remining and orphaned well operation more profitable.
 - ⇒ Financial Incentives for Remining and Adopting Orphaned Wells
- Expanding Available Resources: The objective of this category of initiatives is to maximize program funds by taking a fresh look at funding sources and the mechanisms for spending these funds.
 - ⇒ Access to the Abandoned Mine Reclamation (AMR) Trust Fund
 - ⇒ Access to the Oil Pollution Act (OPA) Trust Fund
 - ⇒ New Funding Sources
 - ⇒ Enhanced Reclamation Contracting Process
 - ⇒ Cost Sharing Programs
 - ⇒ Watershed Restoration and Partnership Act
 - ⇒ Regional Watershed Support Initiative
 - ⇒ Senior Environment Corps

Third, DEP must encourage the development and utilization of "green" remining and reclamation technologies that will increase the effectiveness and reduce the cost of abandoned mine land reclamation and acid mine drainage remediation efforts. These new technologies are important tools in this effort and must be nurtured and supported. They include passive treatment of mine drainage and the use of beneficial byproducts, such as coal ash and dredge materials.

Summaries of the public education and outreach activities, the 18 program initiatives and the "green" remining and reclamation technologies are discussed in greater detail in this report. These initiatives, utilizing progressive technology in conjunction with an energetic public education, outreach and partnering campaign, will significantly increase the rate at which these problems are addressed and will ensure that the Commonwealth is focusing its resources on the most critical problems.

PRIORITY INITIATIVES

Several of the initiatives have been identified as priorities for implementation:

• Environmental Good Samaritan Legislation

This legislation encourages volunteer reclamation and water pollution abatement by limiting civil and environmental liability. DEP will approve sites for coverage under the Act. This legislation was signed into law by Gov. Ridge, along with Growing Greener, on Dec. 15, 1999. Program guidance and an outreach plan are under development.

• Best Management Practice (BMP) Permits

Best Management Practice Permits will encourage the coal industry to remine the hundreds of sites with pre-existing discharges in Pennsylvania, by shifting the monitoring points from the discharges to a downstream site. Pennsylvania's remining history supports this proposal, and adequate safeguards have been developed. The federal Environmental Protection Agency (EPA) and the coal industry are supportive of the concept. BMP Permits will initially be implemented through Consent Orders and Agreements. Initial implementation sites have been identified, and permitting is proceeding. This initiative will generate the largest increase in abandoned mine land reclamation through remining.

• Government-Financed Construction Contracts (GFCC)

This initiative changes the definition of GFCCs to eliminate the 50 percent government-funding requirement, allowing No Cost Contracts to be considered GFCCs and facilitating additional reclamation by the coal industry. This proposal is being implemented through a federal Office of Surface Mining (OSM) Title IV Abandoned Mine Land Program Plan Amendment, which was submitted to OSM on Nov. 19, 1997, and approved on March 26, 1999. This program has the support of both the coal industry and environmental groups. An agreement for the first no-cost GFCC was finalized in October 1999. Since then, seven contracts have been awarded that will reclaim approximately 77 acres. This reclamation is valued at more than \$580,000, but will be accomplished at no cost to the Commonwealth.

• Pennsylvania's Comprehensive Plan for Abandoned Mine Reclamation (CPAMR)

The CPAMR is an overall guidance tool for planning reclamation activities. It was prepared by DEP's Bureau of Abandoned Mine Reclamation in June of 1997 and was updated in June 1998. This initiative focuses on identifying all pollution sources in a watershed, developing a watershed rehabilitation plan focused on partnerships and implementing the most beneficial projects first. DEP is working with other abandoned mine land funding agencies (e.g., EPA and OSM) and local watershed organizations to get the CPAMR accepted as the guiding document for managing and coordinating reclamation activities. DEP has developed a Model Watershed Restoration Plan Outline that is acceptable to all involved groups.

• Consolidated Geographic Information System/Reclamation Clearinghouse

In conjunction with the DEP Pennsylvania Environmental Navigator Network System (PENN) Project, DEP's Office of Mineral Resources Management is developing a Consolidated Geographic Information System and an Internet-based Reclamation Clearinghouse. The Consolidated Geographic Information System will be a publicly accessible mapping system that tracks all reclamation accomplishments, mine drainage discharges and mining activities in Pennsylvania. The Reclamation Clearinghouse will be an Internet repository of reclamation and remediation information used for preparing permit applications, mining plans and reclamation project proposals. These two initiatives will greatly enhance DEP's information management capabilities, as well as public access to the data.

Access to the Federal Abandoned Mine Reclamation Trust Fund

The federal Abandoned Mine Reclamation Fund has a \$1.4 billion balance, and collection to the fund is set to expire in 2004. In recent years, Pennsylvania has received approximately \$23 million annually from this fund, which accounts for the majority of reclamation funding in the Commonwealth. Together with the other coal-producing states, Pennsylvania is endorsing a management plan that would provide a framework for appropriating the balance and using incoming funds. A concerted effort, led by Pennsylvania, the Interstate Mining Compact Commission and the National Association of Abandoned Mine Land Programs, is necessary to accomplish this.

Watershed Restoration and Partnership Act/Regional Watershed Support Initiative

These programs will support the formation of watershed organizations and facilitate local input to development of watershed rehabilitation plans and other reclamation activities. They also establish a framework to obtain public input to mine reclamation and drainage project selection. The Watershed Restoration and Partnership Act was reintroduced as House Bill 867 on March 10, 1999, and DEP has developed a draft implementation plan. DEP's Bureau of Mining and Reclamation provided \$50,000 each to the Eastern and Western Pennsylvania Coalitions for Abandoned Mine Reclamation to implement the Regional Watershed Support Initiative in 1999. The funds were used to support the

development of watershed groups whose primary focus is reclaiming abandoned mine lands and abating acid mine drainage.

STATUS

On Oct. 23, 1998, Gov. Ridge publicly announced Reclaim PA. This announcement was followed in November 1998 by three ceremonies throughout the Commonwealth to acknowledge specific reclamation activities and to generate public support for Reclaim PA. Also in November 1998, the Reclaim PA webpage was established on the DEP website. In October 1999, DEP held two events to commemorate the one-year anniversary of Reclaim PA, awarding an AMD abatement watershed grant and signing an agreement for the first GFCC. The implementation of the other program initiatives is proceeding, and the status of each is discussed in greater detail throughout this report.

PUBLIC EDUCATION AND OUTREACH

PURPOSE: To develop public trust through effective outreach.

Summary: The goals of the public education and outreach effort are:

■ To explain to the public the severity of our mineral extraction legacy;

■ To effectively communicate our new focus and accomplishments; and

■ To encourage partnering and public participation.

Stakeholders: General public, educational institutions, the Eastern and Western Pennsylvania

Coalitions for Abandoned Mine Reclamation, local government agencies, watershed

and environmental groups and civic associations.

Benefit: An educated and supportive public.

Cost: Costs are varied, based on individual proposals. Significant staff resources are

needed.

Status: Specific activities have been developed and implemented:

■ A Reclaim PA website

■ A Reclaim PA slide show presentation

■ Photographic displays showing completed reclamation case studies

■ Fact sheets and promotional items

■ The abandoned mine land program summary report, *Healing the Land and Water*

■ Governor's program announcement and one-year anniversary activities

Input regarding the Reclaim PA program has been obtained from numerous groups and organizations. New program developments are continuously disseminated to the public.

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GREEN REMINING AND RECLAMATION TECHNOLOGY

PURPOSE: To provide an update of the current technology for remining, reclamation and

acid mine drainage abatement.

Summary: As a result of its extensive mining history, Pennsylvania has the monumental task of

restoring its land and water to a condition that will encourage people and businesses to relocate to the Commonwealth, while also improving the quality of life for current residents. Through current remining and reclamation practices, Pennsylvania has begun to heal the scars of the past and has experienced a net environmental gain in recent years. As technology continues to advance, Pennsylvania must continue to meet its environmental protection and improvement obligations to its citizens. Green technology refers to new and enhanced technologies that advance reclamation

and acid mine drainage remediation efforts.

Stakeholders: All Pennsylvania residents and businesses.

Benefit: Continued land reclamation and water quality improvements throughout the areas

where minerals have been extracted.

Cost: Millions of dollars continue to be spent annually through existing abandoned mine

land programs and research projects aimed at advancing effective technology.

Status: The rate at which new technology develops is greatly tied to government's

commitment to research and the economic state of the industries involved in

mineral extraction.

Six strategies have been identified:

Pre-mining prediction of post-mining water quality

■ Passive acid mine drainage treatment

■ Use of biosolids, alkaline coal ash and dredge material in reclamation

■ Toby Creek limestone treatment plant

■ Earth Conservancy activities

■ Bark Camp Mine Reclamation Laboratory

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ENVIRONMENTAL GOOD SAMARITAN LEGISLATION

PURPOSE: To protect landowners, watershed groups or individuals who volunteer to do

reclamation or water pollution remediation from civil and environmental

liability

Summary: The Environmental Good Samaritan legislative initiative is designed to encourage

volunteer reclamation and water pollution abatement by limiting civil and environmental liability. The legislation grants civil and environmental relief to landowners, persons or watershed groups performing reclamation and other

pollution abatement activities on land and water adversely affected by mining and/or

oil and gas extraction.

Stakeholders: All individuals or groups involved in reclamation of abandoned mineral extraction

sites.

Benefit: Increased involvement of volunteer reclamation and water pollution abatement on

abandoned sites.

Cost: Minimal staff resources to develop forms and procedures and review project

submittals.

Status: Original legislation (House Bill 2611) was introduced on May 11, 1998. No action

was taken during the legislative session. Present draft legislation (House Bill 868) was reintroduced on March 10, 1999, and signed into law along with Growing Greener on Dec. 15, 1999. Program guidance and an outreach plan are being

developed.

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BEST MANAGEMENT PRACTICE PERMITS

PURPOSE: To develop a watershed approach to water quality improvement through

remining

Summary: This initiative involves operator liability for pre-existing discharges encountered

during remining operations. Current Subchapters F and G regulations of the Commonwealth's coal mining regulations require establishing numerical baselines for pre-existing discharge quality and extensive monitoring to determine any changes during and after mining. Operators assume perpetual liability for treatment of any pollution increase in the discharge related to quality or quantity during remining. This potential liability has inhibited the willingness of operators to remine sites with pre-existing discharges, even though the coal industry has a strong track

record of remining without negative discharge impacts.

This proposal will provide an option to the Subchapters F and G discharge numerical baseline and operator monitoring requirements with a series of Best Management Practices (BMP) that must be incorporated into remining operations with pre-

existing discharges.

Stakeholders: EPA, OSM, coal industry, Pennsylvania Coal Association and other industry groups,

watershed and environmental groups.

Benefit: Additional remining and acid mine drainage remediation on areas previously

affected by mining.

Cost: None, other than moderate staff resources to further develop and implement the

program.

Status: DEP briefed the Mining and Reclamation Advisory Board on this proposal on May

20, 1998, and received preliminary approval from EPA to implement the proposal on a trial basis for a maximum of eight remining sites. DEP's Bureau of District Mining Operations has selected eight sites to implement this initiative on a trial basis

through Consent Orders and Agreements.

In January 2000, EPA Region III accepted a BMP Pilot Project into its Project XL development phase, which was created to encourage innovative environmental strategies and to foster excellence in environmental protection. The project will be applied at eight remining operations throughout Pennsylvania. DEP is working with

EPA and other stakeholders to develop a Final Project Agreement.

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GOVERNMENT-FINANCED CONSTRUCTION CONTRACTS

PURPOSE: To make it easier to perform abandoned mine land reclamation at minimal or

no government cost

Summary: A Government-Financed Construction Contract (GFCC) is a federally or state-

funded abandoned mine reclamation contract between DEP and any eligible person, involving the incidental and necessary removal of coal while reclaiming an

abandoned mine area. Previously, GFCCs had to contain at least 50 percent government funding. This initiative eliminates the 50 percent government-funding

requirement in order for no-cost contracts to qualify as GFCCs.

Stakeholders: Coal industry, Pennsylvania Coal Association and other industry groups, property

owners and OSM.

Benefit: An estimated 500-1,000 acres of additional abandoned mine reclamation performed

by the industry each year through GFCCs involving:

■ Abandoned mine reclamation with excess active spoil;

■ Coal refuse pile reclamation; and

■ Incidental coal removal on abandoned mine land reclamation projects.

Cost: None, other than minimal staff resources to modify procedures and forms.

Status: This proposal was submitted to OSM on Nov. 19, 1997, in the form of a request for

a Title IV Program Amendment. DEP responded to OSM's comments on July 7, 1998, Oct. 8, 1998, Oct. 13, 1998, and March 2, 1999. DEP received final approval from OSM with an effective date of March 26, 1999, for implementation of the GFCC program. The first agreement under the revised GFCC program was signed in October. Since then, DEP has awarded seven contracts, which will reclaim 77.6

acres. The reclamation is valued at more than \$582,000.

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AREAS SUITABLE FOR REMINING

PURPOSE: To provide technical permit information and increased financial benefits for

the remining of designated sites.

Summary: Remining is a valuable tool for Pennsylvania to reclaim its abandoned mine legacy.

DEP is developing an Areas Suitable for Remining Program to facilitate and expand remining, through increased exchange of technical information and increased financial benefits to mine operators. As part of the process to designate an area suitable for remining, DEP's technical study and report provides the technical information that is required in a permit application. These benefits for an operator exceed those funded by the Remine Operator Assistance Program (ROAP). Priority for departmental spending in other remining programs is given to areas designated

suitable for remining.

Stakeholders: Eastern and Western Coalitions for Abandoned Mine Reclamation, OSM, watershed

and environmental groups, property owners, coal industry, Pennsylvania Coal

Association and other industry groups.

Benefit: Additional coal production and reclamation at minimal cost to the Commonwealth.

Cost: Moderate staff resources are needed to implement the program.

Status: The program framework is under development, and statutory authorization has been

established. Procedures and program forms have been drafted. Revised regulations could provide additional permitting incentives and increased ROAP benefits for a

site already designated as suitable for remining.

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REMINING PERMITTING IMPROVEMENTS

PURPOSE: To increase remining by reducing permitting costs and paperwork

Summary: Most of the abandoned mines that have been remined throughout Pennsylvania's

mining history were permitted and remined because they were economically viable business ventures. Today, too many of the remaining remine sites are only marginally viable economic ventures. To advance remining on these sites, DEP must develop permitting incentives that turn a marginal business venture into a

viable one. Ideas that have been proposed to address this situation are:

■ To identify the practices common on most remining sites and develop standard plans acceptable to DEP for use in place of site-specific designs; and

To proceed with implementation of existing policy to allow more flexibility in

adding remining acres to existing permits.

Stakeholders: Coal industry, Pennsylvania Coal Association and other industry groups, OSM,

property owners and PA Department of Conservation and Natural Resources.

Benefit: Increased remining and reclamation of previously affected areas at no cost to the

Commonwealth.

Cost: None, other than minimal staff resources to modify procedures and forms.

Status: Final Technical Guidance Document for the addition of previously affected areas to

existing permits was effective April 7, 1998.

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PENNSYLVANIA'S COMPREHENSIVE PLAN FOR ABANDONED MINE RECLAMATION

PURPOSE: To confront abandoned mine lands on a watershed basis

Necessary actions to implement and expand Pennsylvania's Comprehensive Plan for Summary:

> Abandoned Mine Reclamation (CPAMR) are being identified and developed. This planning tool will help DEP and other program agencies maximize the positive effects of reclamation activities by evaluating the impacts on an areal basis. The emphasis is placed on identifying all of the pollution sources and reclamation needs in a watershed and planning the work so that the most beneficial projects are implemented first. Comprehensive planning on a watershed basis should involve all

agencies and interest groups from the onset to facilitate coordination and

cooperation. DEP efforts are being concentrated in conveying the existence of the plan, developing partnerships to maximize the impacts and developing a watershed

rehabilitation plan format that is universally accepted.

Stakeholders: Eastern and Western Pennsylvania Coalitions for Abandoned Mine Reclamation,

> watershed and environmental groups, Natural Resources Conservation Service, OSM, EPA, the Army Corps of Engineers, Pennsylvania Department of

Conservation and Natural Resources, U.S. Geologic Survey and various DEP

bureaus.

Benefit: A comprehensive approach to mineral extraction reclamation that will maximize

beneficial projects.

Cost: Annual funding (amount to be determined) is needed for the Eastern and Western

Pennsylvania Coalitions for Abandoned Mine Reclamation. Significant staff

resources are needed to implement and build support.

Status: The CPAMR was designed and adopted by DEP in June 1997 and updated in June

> 1998. DEP must continue discussions with other government agencies to solicit their support for managing reclamation on an areal basis and also encourage DEP personnel to support local groups in developing Comprehensive Reclamation Plans that consider all pollution sources in the chosen watershed. DEP staff has met with watershed groups to explain the fundamentals of the CPAMR. Efforts to redirect EPA 104(b)(3) watershed grants toward the development of rehabilitation plans

have been successful.

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CONSOLIDATED GEOGRAPHIC INFORMATION SYSTEM

PURPOSE: To develop a publicly accessible mapping system of mining information.

Summary:

As part of DEP's agency-wide Consolidated Geographic Information (GIS) initiative known as the Pennsylvania Environmental Navigator Network Project (PENN Project), the Office Mineral Resources Management is developing a Consolidated Geographic Information System (GIS). The GIS will facilitate implementation of the many initiatives of Reclaim PA, as well as the routine mineral extraction program activities administered by the different bureaus within the Office of Mineral Resources Management.

The primary objectives of the GIS will be to build or develop data coverage:

- To track all reclamation accomplishments occurring within the Commonwealth (including sites reclaimed by DEP or active industry and sites reclaimed by others);
- To include the latest information concerning all abandoned mineral extraction features located in the Commonwealth, which would allow for comprehensive planning to focus reclamation activities to the most appropriate sites;
- To incorporate an inventory of all known mine drainage discharges and incorporate cumulative hydrologic impact assessment concepts. This would facilitate the development of comprehensive watershed rehabilitation, restoration plans and the Areas Suitable for Remining Program.

Stakeholders:

DEP staff and other government agencies, mineral extraction industry, Pennsylvania Coal Association and other industry groups, watershed and environmental groups, private citizens, consultants, educational institutions and the Eastern and Western Pennsylvania Coalitions for Abandoned Mine Reclamation.

Benefit:

The storing of geographic data in an electronic format will allow staff from different programs with access to DEP's local area network to access, view, analyze, update and produce hard copies of any of the information available in the GIS. Outside access will be provided by Pennsylvania Spatial Data Access and through CDs, upon request.

Cost:

Moderate equipment and contract costs are needed. Significant staff resources are necessary.

Status:

The GIS framework has been developed in conjunction with DEP's PENN Project. DEP's Bureaus of Mining and Reclamation, Abandoned Mine Reclamation, Deep Mine Safety and Oil and Gas Management continue to assemble data for use in a consolidated system.

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RECLAMATION CLEARINGHOUSE

PURPOSE: To develop a database of abandoned mine land information

Summary: The Reclamation Clearinghouse is an Internet-based repository of information

concerning reclamation of abandoned mineral extraction sites and acid mine drainage remediation. The format for the Clearinghouse is a website that can be accessed from the existing DEP website. Wherever possible, the website provides direct links to the desired information. When a direct link is not possible, as is the case with older data, the website provides lists of data and instructions on where to find it. The Clearinghouse will also be coordinated with the DEP's GIS framework

and the associated Reclaim PA GIS activities.

The information contained in the Clearinghouse is intended for use by interested parties to facilitate the preparation of permit applications, mining plans and project proposals that will lead to the reclamation of abandoned mineral extraction sites and pollution discharges. Much of the information included in the Clearinghouse presently exists, but the public is unaware of how to access it. The Clearinghouse is available to all parties involved in reclamation activities and should reduce the

amount of time and money required to develop projects.

Stakeholders: Watershed and environmental groups, coal industry, Pennsylvania Coal Association

and other industry groups, educational institutions, county conservation districts and

property owners.

Benefit: The availability of information availability and transfer to stakeholders will be

enhanced, and the cost of developing watershed plans will be reduced.

Cost: Moderate staff resources are needed to further develop and maintain the

Clearinghouse.

Status: The Clearinghouse was unveiled before the Mining and Reclamation Advisory

Board (MRAB) on April 27 and is available to the public through DEP's website

(directLINK "Reclaim PA"). The site will be continually updated as more

information becomes available.

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ABANDONED AND ORPHANED WELL PLUGGING ACTIVITIES

PURPOSE: To use all available resources to plug problem wells

Summary: The Well Plugging Unit of DEP's Bureau of Oil and Gas Management is committed

to plugging abandoned and orphaned oil and gas wells, especially those wells that are causing health, safety or environmental problems. The primary goal of the bureau is to plug wells to eliminate safety hazards and eliminate pollution resulting from uncontrolled discharges, like acid mine drainage, into ground and surface water

from abandoned wells.

There are currently more than 8,000 known abandoned and orphaned wells throughout 25 counties in Western Pennsylvania. Of these, 550 are considered

problem wells, meaning they are known to be causing health, safety or

environmental problems.

The Bureau of Oil and Gas Management is focusing its plugging efforts to accessing alternate sources of funds for well plugging, improving monitoring of plugging contractors, reducing the amount of plugging costs and increasing coordination of plugging activities with other state and federal agencies. The oil and gas industry is

also encouraged to adopt orphan wells and return them to production.

Stakeholders: EPA, U.S. Coast Guard, county conservation districts, other state agencies, private

industry and environmental groups.

Benefit: Increased well plugging activities and accomplishments.

Cost: The cost of plugging an abandoned well is generally between \$6,000 and \$22,000

per well with current staff resources.

Implementation is proceeding. A final Technical Guidance Document detailing a Status:

strategic plan for addressing problem abandoned and orphaned oil and gas wells was

issued on April 15, 2000.

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FINANCIAL INCENTIVES FOR REMINING AND ADOPTING ORPHANED WELLS

PURPOSE:

To make remining and adoption of orphan wells more attractive by providing financial incentives for industry

Summary:

Neither the Commonwealth nor the federal government has the resources available to accomplish the massive reclamation effort required in Pennsylvania. In order to accomplish this task, it is imperative that government enlists the assistance of the mining and oil and gas industries. Industry has the equipment, the manpower and the expertise to remediate environmental problems more quickly and at a lower cost than any governmental agency.

Therefore, it is necessary to offer financial incentives to the coal industry to reclaim lands previously affected by mining and to the oil and gas industry to remediate problem oil and gas wells. Without financial incentives, these problems would not likely be addressed, and the Commonwealth would ultimately be responsible for the cost of reclamation or remediation.

Incentives being evaluated for development as proposed legislation:

- Per acre state income tax credit for abandoned mine reclamation through remining; and
- Per well income tax credit for sealing abandoned oil and gas wells.

Stakeholders:

Mining and Reclamation Advisory Board, watershed and environmental groups, OSM, coal and oil and gas industry, Pennsylvania Coal Association and other industry groups, property owners and the Western and Eastern Pennsylvania Coalitions for Abandoned Mine Reclamation.

Benefit:

Reclamation and remediation by private industry and others will increase. The benefits vary by proposal.

Cost:

Costs vary by proposal. However, in each case the benefit of reduced remediation costs to the Commonwealth exceeds the cost in reduced tax revenue. Moderate staff resources are needed to further develop and evaluate proposals.

Status:

Initial proposals have been identified and draft legislation is being developed.

Contact:

Bureau of District Mining Operations

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Donald Barnes

ACCESS TO ABANDONED MINE RECLAMATION TRUST FUND

PURPOSE: To secure increased funding from the federal Abandoned Mine Reclamation

(AMR) Trust Fund

Summary: The federal AMR Trust Fund currently has an unappropriated balance of more than

\$1.4 billion. This money should be made available to the states for abandoned mine reclamation, as provided in the federal Surface Mining Control and Reclamation Act. The management plan prepared by the National Association of Abandoned Mine Land Programs (NAAMLP) and the Interstate Mining Compact Commission (IMCC) is an appropriate mechanism for Congress to adopt to effectively utilize the AMR Trust Fund. Pennsylvania, as well as the other states and Indian tribes, must obtain broad support for the management plan to convince Congress to adopt it.

Stakeholders: OSM, IMCC, states and tribes with abandoned mine programs, Congress,

Pennsylvania Governor's Office.

Benefit: Increased funds to states and tribes with abandoned mine programs, using the more

than \$1.4 billion balance.

Cost: None, other than minimal staff resources to continue efforts to pursue access to the

AMR Trust Fund.

Status: The NAAMLP discussed the AMR Trust Fund management plan with federal House

and Senate staffers in May 1997, and a congressional hearing on the abandoned

mine program was suggested.

West Virginia Governor Cecil Underwood sent letters in September 1997 to the governors of the other coal-producing state encouraging their involvement and suggesting that they write to their individual representatives in Congress. In 1998, a number of letters, resolutions and endorsements in support of greater access to the AMR Trust Fund were sent to Congress and the president.

The 2000 federal budget includes a \$10.5 million increase for state abandoned mine

land program grants.

There are no quick and easy implementation mechanisms for this initiative, and Pennsylvania cannot make it happen alone. The Commonwealth must continue to

build coalitions at the national level with support from state groups.

Contact: Bud Friedrich

Bureau of Abandoned Mine Reclamation

ACCESS TO OIL POLLUTION ACT TRUST FUND

PURPOSE: To secure increased funding from the federal Oil Pollution Act Trust Fund

Summary: The Oil Pollution Act of 1990 set up a framework to prevent oil spills, respond to oil

spills and pay for clean-up. Title I of the act established a billion dollar Oil Spill

Liability Trust Fund to pay for oil removal and uncompensated damages.

The National Pollution Funds Center was established under the U.S. Coast Guard to implement the liability and compensation provisions of the Oil Spill Liability Trust Fund. The National Pollution Funds Center executes programs to accomplish five principal objectives:

To provide funding to permit timely removal actions;

To provide funding to initiate Natural Resource Damage Assessments for oil spill incidents:

■ To compensate claimants who demonstrate that certain damages were caused by oil pollution;

To recover what is owed by parties responsible for oil pollution costs and damages; and

To certify the financial responsibility of vessel owners and operators.

Stakeholders: U.S. Coast Guard, oil companies and environmental groups.

Benefit: Minimize duplicative requirements; leverage Pennsylvania, Coast Guard and EPA

resources; and eliminate barriers to marine transportation due to differing federal

and state requirements.

Cost: There are no addition costs, other than current staff resources to continue program

implementation.

Status: DEP has accessed the Oil Spill Liability Trust Fund four times, totaling more than

\$106,000, for abandoned well plugging activities. DEP is coordinating plugging

activities with EPA to implement facilitation of the program.

Contact: Carl Morgeneier

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NEW FUNDING SOURCES

PURPOSE: To develop new sources to fund reclamation and well plugging projects

Summary:

Pennsylvania's total abandoned mineral extraction legacy is estimated at \$15 billion. The Commonwealth's high priority abandoned mine features in OSM's inventory encompass approximately 1,600 problem areas and carry a current total unfunded reclamation cost of nearly \$1 billion. DEP's intent is to evaluate new sources of funding that are not tax-based to support the reclamation programs and accelerate reclamation activities.

New or expanded state and federal funding sources:

- Growing Greener
- Extension of OSM abandoned mine land fee collections beyond Sept. 30, 2004
- Bond Issue Program for mineral extraction reclamation
- Federal Land and Water Conservation Fund
- Annual General Fund appropriation similar to the Operation Restore Program for bond forfeiture sites
- Mine Stabilization Insurance Fund
- Fly ash for beneficial use

Stakeholders: OSM, Congress, Pennsylvania state legislature, governor's office, general public,

sportsmen's groups, coal industry, Pennsylvania Coal Association and other industry

groups and property owners.

Benefit: The benefits are varied, based on individual proposals. Approximately 100 to 200

acres of additional reclamation could be achieved for each \$1 million made available

through new funding.

Cost: The costs are varied, based on individual proposal. Minimal to moderate staff

resources are needed to further develop the individual proposals.

Status: The passage of Growing Greener has provided an unprecedented boost to

reclamation efforts in Pennsylvania. Funding for abandoned mine reclamation and abandoned well plugging projects are included in the nearly \$650 million over five years made possible through Growing Greener. Other funding sources have been investigated to determine their actual worth and feasibility, and fiscal review of the

proposals is underway.

Contact: Toni Malach

Bureau of Abandoned Mine Reclamation

ENHANCED RECLAMATION CONTRACTING PROCESS

PURPOSE: To improve the contracting process to maximize reclamation with limited funds

Summary:

The intent of this initiative is to enhance DEP's construction contracting processes and find alternative processes to maximize the utilization of current funding sources to reclaim abandoned mineral extraction lands.

Proposed contracting process enhancements and alternatives:

- Issue low priority bond forfeiture projects for competitive bid where engineer's estimate for reclamation cost does not exceed the forfeited bond amount
- Use Service Purchase Contracts to reclaim small sites and as an incentive for contractors to be compensated for reclaiming abandoned mineral extraction sites adjacent to their active construction sites
- Utilize existing mine permit reclamation plans, along with generic plans and specifications, for small bond forfeiture reclamation contracts (under 15 acres) instead of DEP staff-designed reclamation plans
- Award regional on-call contracts for mineral extraction reclamation projects

Stakeholders: Construction contractors, coal industry, Pennsylvania Coal Association and other

industry groups.

Benefit: Enhancing the reclamation contracting process will result in more efficient and rapid

expenditure of contracted reclamation funds.

Cost: There are no additional costs, other than minimal staff resources to develop and

implement these enhancements.

Status: Trial cases for each proposal are being developed.

Contact: John Stefanko

Bureau of Abandoned Mine Reclamation

COST SHARING PROGRAMS

PURPOSE: To provide financial incentives to groups sharing in reclamation work

Summary:

This initiative will encourage reclamation partners (e.g., contractors and property owners) to assist, supplement and accelerate reclamation efforts since existing abandoned mineral resource extraction program expenditures, remining efforts and other reclamation efforts will still leave many abandoned sites unreclaimed. DEP must also continue to increase public awareness of abandoned mineral extraction problems and solutions to increase participation in reclamation activities.

The subsidy program initiative is aimed at property owners, contractors or other interested parties to encourage their participation in reclamation activities and to develop partnerships so that reclamation goals and comprehensive reclamation plans can be defined and implemented.

Proposed programs:

- A scaled per-acre subsidy to property owners, contractors or others to accomplish abandoned mine reclamation:
 - \$3,000/acre for simple grading
 - \$5,000/acre for grading with drainage features, ditches, wetlands and revegetation
- A variable percentage match of funds to property owners, contractors or others to do acid mine drainage remediation:
 - 25 percent for significant high worth projects
 - 50 percent for significant exceptional worth projects

Stakeholders:

Coal industry, property owners, construction industry, Eastern and Western Coalitions for Abandoned Mine Reclamation, watershed and environmental groups, Pennsylvania Coal Association and other industry groups.

Benefit:

Approximately 300 acres of reclamation or a variable number of miles of acid mine drainage impacted stream will be improved for every \$1 million made available.

Cost:

The recommended initial funding level is \$1 million. Minimal staff resources are needed to further develop and implement the program.

Status:

The program concept is developed and is undergoing fiscal review. A framework has been established to implement the program to:

- Identify sources of funding for the subsidy programs;
- Develop program guidelines to implement the subsidy programs;
- Implement the subsidy program in accordance with Pennsylvania's Comprehensive Plan for Abandoned Mine Reclamation.

Contact:

Gary Greenfield Bureau of Abandoned Mine Reclamation 570-826-2371

WATERSHED RESTORATION AND PARTNERSHIP ACT

PURPOSE: To establish a mechanism for DEP to provide funding to volunteer groups for

acid mine drainage remediation

Summary: This legislation, House Bill 867, establishes a program whereby DEP can provide

funding to volunteer organizations for acid mine drainage cleanup efforts. The bill

allows funding for six types of activities:

■ Watershed group start-up costs

■ Watershed surveys

■ Development of watershed restoration plans

■ Implementation of part or all of watershed restoration plan through projects

■ Acid mine drainage demonstration projects using green technologies

■ Matching federal, state or local funding sources

The bill also establishes a seven-member review committee to review funding proposals and make recommendations to DEP regarding proposal funding and

prioritization.

Stakeholders: All volunteer organizations involved with acid mine drainage remediation efforts.

Benefit: Increased involvement by volunteer organizations in acid mine drainage

remediation, expanded partnering opportunities and the establishment of a multi-

interest project review committee.

Cost: No new funding is provided with the legislation. Minimal staff resources are needed

to further develop and implement the program.

Status: Original draft legislation (House Bill 2611) introduced May 11, 1998, but no action

was taken during that legislative session. Present draft legislation (House Bill 867) was reintroduced on March 10, 1999, and no action was taken during that legislative

session.

Contact: Hobart (Bud) Baker

Bureau of Mining and Reclamation

REGIONAL WATERSHED SUPPORT INITIATIVE

PURPOSE:

To support the development of watershed groups whose primary focus is acid mine drainage abatement and abandoned mine land reclamation

Summary:

The Regional Watershed Support Initiative provides financial support for the formation and activities of watershed groups whose primary focus is acid mine drainage abatement and abandoned mine reclamation. These activities will be accomplished by awarding \$50,000 each to the Eastern and Western Pennsylvania Coalitions for Abandoned Mine Reclamation, who will select and subcontract with volunteer watershed groups. Volunteer groups will be able to use the funds for:

- Legal fees associated with incorporating the watershed group;
- Public meetings and associated facility rental costs;
- Development and distribution of promotional and public information, such as newsletters and fact sheets:
- Support equipment, such as office supplies and computers;
- Collection of baseline data on the impacted streams and abandoned mine features within the designated watershed; and
- Implementation of reclamation and acid mine drainage abatement projects.

Stakeholders:

All individuals or watershed groups involved with acid mine drainage abatement and abandoned mine reclamation

Benefit:

Increased local and volunteer involvement with mine drainage pollution abatement and reclamation activities.

Cost:

The Eastern and Western Pennsylvania Coalitions for Abandoned Mine Reclamation were awarded \$50,000 each in fiscal year 1998-1999 from General Fund appropriations. Both groups were issued another \$50,000 in fiscal year 1999-2000.

Status:

The Eastern and Western Coalitions are actively recruiting watershed groups and expanding funds for existing groups with the money from the General Fund. Summary reports from both groups identifying accomplishments were received in October 1999. The passage of Growing Greener provides a mechanism for the continued funding of this initiative.

Contact:

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SENIOR ENVIRONMENTAL CORPS

PURPOSE: To utilize Pennsylvania's senior citizens' environmental ethic, expertise and

commitment to help achieve reclamation goals

Summary: The Pennsylvania Senior Environment Corps (PaSEC), sponsored by the national

non-profit Environmental Alliance for Senior Involvement (EASI), DEP and the Pennsylvania Department of Aging, offers opportunities to the Commonwealth's senior and retired population to participate in real environmental improvements in their own communities. Individual PaSEC sites are sponsored by area agencies on aging, senior centers, local Retired Senior Volunteer Program (RSVP) chapters or other senior service providers. The PaSEC forms an umbrella providing a valuable resource to augment the Commonwealth's abandoned mine reclamation and well

plugging efforts.

The Abandoned Mine Reclamation Project of the PaSEC established a partnership with the Eastern and Western Pennsylvania Coalitions for Abandoned Mine Reclamation and DEP's Office of Mineral Resources Management to assist in water monitoring, outreach, education and other reclamation support efforts. DEP's Mineral Resources Management staff will support, facilitate and participate in this

partnership.

Stakeholders: PaSEC, the Eastern and Western Coalitions for Abandoned Mine Reclamation, DEP

Office of Mineral Resources Management, watershed and environmental groups.

Benefit: Increased data collection and analysis, information transfer, public education and

outreach, as well as reclamation, well plugging and water pollution abatement.

Cost: Staff resources to facilitate program establishment and financial support (initially

\$40,000) for equipment, volunteer training and computer and printing costs.

Status: Initial planning meetings between PaSEC, EASI, DEP and the Eastern and Western

Coalitions for Abandoned Mine Reclamation were held to generate agreement on the scope of the program, the roles of interested parties and the funding arrangements. The initial contract was executed on Feb. 1, 1999, with a projected completion date

of June 30, 2000.

Contact: Christopher Allen

DEP Public Participation Coordinator

For more information about Reclaim PA, please contact:

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Mineral Resources Management Central Office

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Bureau of Mining and Reclamation

Rachel Carson State Office Building PO Box 8461 Harrisburg, PA 17105-8461 717-787-5103

Bureau of District Mining Operations

District Headquarters

3913 Washington Road McMurray, PA 15317-2532 724-941-7100

Pottsville District Mining Office

5 West Laurel Boulevard Pottsville, PA 17901-2454 570-621-3118

Counties Served: Adams, Berks, Bucks, Carbon, Chester, Columbia, Cumberland, Dauphin, Delaware, Franklin, Juniata, Lackawanna, Lancaster, Lebanon, Lehigh, Luzerne, Mifflin, Monroe, Montgomery, Montour, Northampton, Northumberland, Perry, Philadelphia, Pike, Schuylkill, Snyder, Susquehanna, Union, Wayne, Wyoming and York

Hawk Run District Mining Office

Empire Road, PO Box 209 Hawk Run, PA 16840-0209 814-342-8200

Counties Served: Bradford, Cameron, Centre, Clearfield, Clinton, Lycoming, Potter, Sullivan and Tioga

Knox District Mining Office

White Memorial Building, PO Box 669 Knox, PA 16232-0669 814-797-1191

Counties Served: Butler, Clarion, Crawford, Elk, Erie, Forest, Jefferson, Lawrence, McKean, Mercer, Venango and Warren

Ebensburg District Mining Office

437 South Center Street, PO Box 625 Ebensburg, PA 15931-0625 814-472-1900

Counties Served: Bedford, Blair, Cambria, Fulton, Huntingdon, Indiana and Somerset

Greensburg District Mining Office

Armbrust Building, RR 2, Box 603C Greensburg, PA 15601-0982 724-925-5500

Counties Served: Allegheny, Armstrong, Beaver, Fayette, Greene, Washington and Westmoreland

McMurray District Mining Office

3913 Washington Road McMurray, PA 15317-2532 724-941-7100

Counties Served: All counties with underground bituminous mining and subsidence

Bureau of Abandoned Mine Reclamation

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Rachel Carson State Office Building PO Box 8476 Harrisburg, PA 17105-8476 717-783-2267

Wilkes-Barre District Office

2 Public Square, 5th Floor Wilkes-Barre, PA 18711-0790 570-826-2371

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Counties Served: All bituminous counties

Bureau of Oil and Gas Management

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NOTES

This publication and related environmental information are available electronically via Internet. For more information, visit us through the Pennsylvania homepage at http://www.state.pa.us or visit DEP directly at http://www.dep.state.pa.us (directLINK "Reclaim PA").



www.GreenWorksChannel.org - A web space dedicated to helping you learn how to protect and improve the environment. The site features the largest collection of environmental videos available on the Internet and is produced by the nonprofit Environmental Fund for Pennsylvania, with financial support from the Pennsylvania Department of Environmental Protection, 800 334-3190.