EXECUTIVE SUMMARY

Youghiogheny River Conservation Plan
Executive Summary

I. Introduction

Where once the Youghiogheny River roared, it now whispers. Decades ago, the mountainsides echoed with the din of coal mining and shipping operations, and the sky was filled with the smoke and flame of searing coke ovens. The river itself, which carved the valley that helped fuel America's Industrial Revolution, sometimes ran black with the sludge that constantly bled from the mines and beehive ovens. Each rainfall washed soil from the denuded hillsides into the shallow river, choking its aquatic life.

The storm of fire and coal, soot and sweat has since passed from the valley. The trees that were stripped from the hillsides a century ago to feed the industrial hunger have returned, thick and full, to the hillsides. The mines are quiet, with only a few visible scars remaining on the landscape as a reminder. The beehive coke ovens now sit silently, hidden and crumbling, as nature slowly reclaims them.

The coal towns still crouch at the river's edge. Their residents no longer endure the racket of industry, but many still wistfully recall when the black soot on their clothes and the gray smudge of coal smoke in the sky were the colors of money. The river slides quietly through the wooded valley, cleaner and healthier than anytime in a century, but still fighting the lingering effects of pollution.

As the new century approaches, the stillness which overtook the valley when the mines and ovens closed is being shaken once again, but the sounds are more soothing than jarring. The rhythmic clanging of mine conveyors is being replaced by the whir of bicycle tires along the Youghiogheny River Trail; the thunder of beehive coke ovens with the splash of canoeing, rafting, and fishing in the river. As people around the region, state, and country search for a new connection to the outdoors and to their cultural heritage, the green of the forests in the Youghiogheny River Valley is becoming the new color of money.

One of the ultimate goals of the Youghiogheny River Conservation Plan is to nurture the new economy emerging in the valley, by encouraging appropriate development while improving and conserving the recreation and scenic environment that is the area's greatest attraction. By concentrating this development within the coal towns, but keeping it sensitive to their character, valley residents can improve their communities without losing their sense of identity.

Through cooperation, coordination, and hard work, the vision of the valley as an economic engine fueled by environmental and heritage tourism will become a reality. The seeds of its success are already sown and are beginning to flower in towns like Dawson, Whitsett, West Newton, and Boston, and even greater opportunities lie in other villages along the river. Once residents throughout the valley embrace this opportunity, the Youghiogheny River will no longer be whispering…it will be buzzing.

II. Background

The development of the Youghiogheny River Conservation Plan began as a result of the construction of the Youghiogheny River Trail (YRT) by the Regional Trail Corporation (RTC).

As the abandoned rail line was converted to a multi-use recreational trail and its popularity became evident, RTC members recognized the opportunity to revitalize the economy of the lower Youghiogheny River valley through tourism and recreation. RTC realized that more visitors to the many unique historic, recreational, and natural features in the valley meant the potential for more commercial and residential development. However, the natural environment that makes the valley so attractive would have to be conserved.

In order to realize this concept, RTC applied for a grant from the Pennsylvania Department of Conservation and Natural Resources (DCNR) to prepare a River Conservation Plan for the Youghiogheny River from South Connellsville to McKeesport. When the grant was received, RTC established a Steering Committee to guide the project. The Steering Committee, in turn, hired LLR Associates to manage the project and Mackin Engineering Company to gather data conduct analysis, and develop recommendations. The project has been a coordinated effort between RTC, the consultant team, and the public, which was represented by an Advisory Council consisting of approximately 30 interested citizens from within the study area. The Advisory Council was divided into focus groups related to economic development, the environment, recreation, and government.

The DCNR River Conservation planning process has four main components: data collection and analysis, a Preliminary Findings Report, a Draft River Conservation Plan, and a Final River Conservation Plan. The final plan, which is summarized here, presents the data collected, the results of the analysis, and specific recommendations to act on the results. The recommendations, or 'management options', are presented in a matrix which identifies responsible parties and potential funding sources for each.

Public input into the development of management options was critical. This final plan includes input from the public meetings held after each of the earlier drafts were presented, where comments on management options and suggestions for new solutions were encouraged. In some cases, multiple management options have been suggested to address a single issue. Once the plan is approved by DCNR, each management option will automatically be eligible for 50 percent matching funds for implementation.

III. Project Area Characteristics

The Youghiogheny River flows through Somerset, Fayette, Westmoreland, and Allegheny Counties in Pennsylvania. The study corridor for this project began at the dam at South Connellsville and continued to the confluence with the Monongahela River at McKeesport, a total of 46 river miles that includes portions of 27 municipalities in Fayette, Westmoreland, and Allegheny Counties. The boundary of the study corridor, which was set through a coordinated effort of the consultant team, extended to the tops of the ridges on either side of the river valley. In areas where steep slopes did not occur, the corridor was extended up to one mile from the river's edge.

Although the drainage area of the entire Youghiogheny River is approximately 1.1 million acres, the drainage area of the study corridor is only about 278,500 acres, or 435 square miles. The major tributaries within the study corridor are (from south to north) Dunbar Creek, Mounts Creek, Jacobs Creek, and Sewickley Creek.

The elevation of the river drops from 911 feet above sea level at the dam at South Connellsville to 750 feet at McKeesport, an average of 3.5 feet per mile. In comparison, the upper Youghiogheny, from its origin in Maryland to Confluence in Somerset County, Pennsylvania, falls an average of 28 feet per mile. This is reflected in the calmer character of the lower section of the river, which affects the biological community and the types of recreational usage seen in the study corridor.

IV. Resource Data and Conclusions

A. Land Resources

Land use along the river is one of the major considerations of this plan. Land use affects the quality and quantity of water in the river, the economic opportunities that exist within the study corridor, and the quality of life for study corridor residents.

Most of the land within the study corridor is currently undeveloped, as a result of the numerous steep slopes that occur along the river. These slopes are mostly forested, which creates a natural buffer that helps protect the river from excessive runoff and the shoreline from flood damage. The forested condition along the river also creates the impression for river and trail users of an undeveloped, pristine valley, even near major population centers.

Zoning is one of many tools that directs land use within the corridor. Although all but four municipalities within the study corridor have some form of zoning, much of it is loosely enforced and some conflicts exist between the zoning and existing land use. Rectifying these conflicts and using land use regulations to protect and enhance critical locations within the corridor was identified as a major priority in this plan.

Other important items examined under land resources included islands and prime agricultural soils. The more than 15 islands in this section of the Youghiogheny contain over 50 acres of undeveloped property. They are important in terms of controlling river flows and for the wildlife habitat that they provide. It appears that the Commonwealth of Pennsylvania has legal rights to most of the islands in the study corridor.

Because of their value for farming or development, prime agricultural soils were also identified as important resources. Although 2,360 prime agricultural soil acres were mapped within the study corridor, many of these have already been developed. Of the remaining areas, 120 acres are currently being farmed. An additional 500 acres of undeveloped prime agricultural soils which do not lie within floodplains or on steep slopes were marked as sites for potential development.

Another source of development potential is the reuse of abandoned mining and industrial sites, or 'brownfields'. There are more than 12 brownfield locations, totaling over 400 acres, within the study corridor.

Finding the best locations and establishing the appropriate character for new development within the study corridor is one of the most important steps in reviving the economy of the region. While the quiet and charm of the natural environment will attract people, it is the expansion of appropriate commercial and residential development that will contribute most to community development.

B. Water Resources

There are two major issues related to water resources within the study corridor: water quality and water quantity. Although the Youghiogheny has historically been a river damaged by industrial and mining pollution, in the past two decades it has made a substantial comeback. However, the river still faces numerous hazards today, including untreated and undertreated sewage discharges, sediment runoff from development and agriculture along its tributaries, and abandoned mine drainage. It is unclear which of these factors (or which combination) poses the greatest threat to the river because there has been no long-term, comprehensive water quality monitoring. Without this type of scientific data, it is difficult to determine the most effective strategy to improve and maintain water quality.

The other major issue related to water resources is water quantity. The water flow within the lower Youghiogheny River is controlled by the Army Corps of Engineers dam at Confluence. While the Corps currently regulates the water flow from the dam for flood control and low flow augmentation, the Municipal Authority of Westmoreland County has applied to purchase a volume of water equal to 17 million gallons per day from the reservoir above the dam.

The Youghiogheny River is heavily dependent on water-related recreation and already suffers from a lack of water during drier months, so any additional demands on the water supply could have serious implications to area businesses. A lower water level may also compound existing water quality problems by allowing less dilution of pollutants and causing them to be concentrated in the few deeper pools that occur. Higher water temperatures, which would also result from lower water levels, might negatively impact fish and other aquatic organisms as well. It is important that studies be undertaken to identify what constitutes a critical low flow level for this portion of the Youghiogheny River.

C. Biological Resources

The forested tracts of land that cover more than 75 percent of the study corridor land area provide excellent habitat for wildlife, including at least four threatened or endangered species. These forests, which mostly occur on the steep hills along the river, also provide a buffer that protects the river from excessive runoff and helps slow the force of flood waters during storms.

Near the water's edge at the base of many of these hillsides, a change in the vegetation is slowly taking place. An exotic plant species, Japanese knotweed, is replacing the native vegetation that would normally occur in this area. This transition is particularly noticeable downstream of Smithton. The increase in the knotweed growth could be contributing to a water quality problem because it's root system does not extend to the water's edge. This creates an exposed bank that is susceptible to erosion during storm events.

It is important to address this and other habitat issues because the lower Youghiogheny River has one of the most unique fish habitats in Pennsylvania. While coldwater species, such as rainbow trout, are frequently stocked by area sportsmen's clubs, the river also maintains its own breeding populations of popular warmwater gamefish, like the smallmouth bass. The Pennsylvania Fish and Boat Commission has also indicated that both muskellunge and tiger muskellunge may be breeding in this portion of the Youghiogheny. If that is the case, it would be one of the only rivers in Pennsylvania with reproducing populations of those species. The

recreational fishing industry is one of the prime opportunities for economic expansion along the Youghiogheny River.

D. Cultural Resources

The category of cultural resources includes both recreational and historical/archaeological assets. The lower Youghiogheny River corridor is fortunate to have numerous items in both of these areas.

By far the most used recreational resource is the Yough River Trail, which attracts 200,000 to 300,000 people annually. Other major attractions include fishing; boating; and canoeing, which attracts more than 10,000 visitors annually. Even for land-based attractions, the Youghiogheny is a major focus. Of the 26 recreation areas within the study corridor, nearly half have river-related facilities. However, most of the recreation facilities and activities in the study corridor are centered around day use. Although some bed and breakfasts are beginning to locate in areas such as Dawson and West Newton, only the River's Edge Campground in Adelaide generates a significant number of overnight visitors.

Increasing tourism and overnight visits to study corridor communities was identified as major opportunity for the river valley. One method of encouraging this is to capitalize on the many historical sites located in the area. Dating from as early as the prehistoric Monongahela Indians, there are more than 60 historic and archaeological sites recognized by federal, state, and local organizations within the study corridor. This density of sites, combined with plans by the Steel Industry Heritage Corporation to extend their state and federally-designated Rivers of Steel Heritage Area along the Youghiogheny River, provides an ideal opportunity to expand heritage tourism into a major industry within the river valley.

V. Preliminary Management Options

After carefully analyzing the data gathered in the preparation of this report and considering the input of the project manager, Steering Committee, and Advisory Council, Mackin Engineering Company has developed a series of management options. These management options, were grouped into three major issues categories: Resource Conservation, Improving Economic and Social Conditions, and Enhancing the River Experience. These management options are presented in the attached matrix.

The most important management option recommended in this plan is the creation of a Lower Yough River Council (LYRC). The objective of LYRC will be to oversee the implementation of this plan and to make sure that it is kept current over time. While LYRC members will have many responsibilities, the most critical one will be to encourage the continued participation and cooperation of area citizens and government agencies. Without this type of partnership between stakeholders, the elements of this plan can not be carried out. However, if this partnership is formed through LYRC and its members utilize their varied abilities, the Youghiogheny River Valley will see a more livable and prosperous region emerge.

I. INTRODUCTION

A. Project Background

The idea for the Youghiogheny River Conservation Plan began as a direct result of the successful development of the Youghiogheny River Trail (YRT) by the Regional Trails Corporation (RTC). When the 43 mile, abandoned Pittsburgh & Lake Erie Railroad from McKeesport to Connellsville was converted to a multi-use recreational trail, new opportunities and challenges along the river valley began to emerge. A revitalized economy based on heritage tourism; river recreation; and new commercial, industrial, and residential uses within a high quality natural environment became a vision for the future of the Youghiogheny River Valley.

In order to achieve this vision, the non-profit RTC applied for and received a matching grant from the Pennsylvania Department of Conservation and Natural Resources (DCNR) to prepare a River Conservation Plan for the lower 46 miles of the Youghiogheny River Valley. After a series of public meetings to inform citizens in the valley about the study and to obtain local support and input for the study, RTC formed a Steering Committee. Local leaders with expertise in economic development, environmental conservation, recreation, historic resources, and community improvement were selected for this committee, which has been meeting monthly for over a year to guide the planning process.

Early in 1997, the Steering Committee expanded its citizen participation by forming an Advisory Council of approximately 30 people, organized around focus groups of common interests and concerns. The groups included economic development, environment, recreation and government liaison. The Steering Committee members served as chairpersons for the focus groups. Two meetings of the Advisory Council were held during the preparation of this plan. In addition, many members of the focus groups attended the public meetings for the presentation of the Preliminary Findings Report and Draft Youghiogheny River Conservation Plan, where they were also encouraged to provide input.

In January 1997, RTC, with the advice of the Steering Committee, hired a project manager and a consultant to provide the technical assistance to make appropriate community-based decisions during the planning process. The consultant team will also ensure that the final River Conservation Plan will meet the standards required by the DCNR for acceptance and inclusion on the Pennsylvania Rivers Registry.

B. Planning Process

Since February 1997, the Steering Committee, Advisory Council, and consultant team have been working together to prepare the Youghiogheny River Conservation Plan.

The consultant team and Steering Committee began by identifying and collecting all available information about the natural, physical, and cultural resources located within the study corridor. Data collected included a listing of water, land, and biological resource data; existing land use and zoning patterns; transportation and utility networks; and socio-economic and demographic trends. Recreational, historical, archaeological, and government and institutional resource data completed the inventory.

The next step involved an analysis and evaluation of the data to determine its relative importance, and whether the issue represented a problem, a solution to a problem, or an opportunity. The interrelationship of ecological, social, and economic factors for each resource were considered.

From the analysis, a set of issues and conclusions about each resource was made. A list of management options intended to address the issues were developed and presented in a Preliminary Findings Report, and then in a Draft Youghiogheny River Conservation Plan. Two public meetings were held when each of these earlier drafts were presented and each presentation was followed by a 30 day public comment period. Any comments received on these drafts were addressed in this Final Plan. Comment letters are contained in Appendix A.

C. Project Purpose

One of the first tasks the Steering Committee accomplished was to develop a set of goals to guide the planning project. These were as follows:

- Conserve the natural resources of the Youghiogheny River, the YRT, and all of the land contained within the river valley from the top of the slope on both sides of the river.
- Protect and enhance the appearance of the river corridor and the trail experience as a high quality recreational environment with compatible industrial, residential, and commercial uses.
- Improve the well-being of the people and communities located within the valley.
- Encourage river and greenway-related economic development.
- Clean up the pollution and scars of past abuse within the river valley.
- Identify adjacent watershed issues which impact the river corridor.
- Develop the natural and historical resources of the valley for environmental awareness, understanding, and enjoyment by everyone.

While the river and its natural environment were the focus and foundation of this effort, a comprehensive approach to planning implies that the local economy and social needs of the community should be interrelated.

PROJECT AREA CHARACTERISTICS

A. Location

The Youghiogheny River is located in western Maryland and southwestern Pennsylvania. In Pennsylvania, it flows through portions of Somerset, Fayette, Westmoreland, and Allegheny Counties. The Youghiogheny flows northwest into the Monongahela River at McKeesport, and is the major tributary to the Monongahela in Pennsylvania. The river is classified as navigable, with no motor horsepower limit, by the U.S. Army Corps of Engineers (ACOE) from its confluence with the Monongahela River up to river mile 35, just downstream of Dawson. The study corridor for this project extends from the dam at South Connellsville to the Monongahela River at McKeesport (Figure 1).

The boundary of the study area was determined as a result of coordinated efforts between the RTC project manager, LLR Associates, and the project consultant, Mackin Engineering Company. This study corridor covers 46 river miles and includes portions of 27 municipalities in Fayette, Westmoreland, and Allegheny Counties. The width of the study corridor extends approximately one mile on either side of the river or, in areas where steep slopes occur, to the top of the nearest ridge.

B. Size

The drainage area of the entire Youghiogheny River is approximately 1.1 million acres (1,764 square miles). The study corridor, from South Connellsville to its confluence with the Monongahela at McKeesport, is approximately 46 miles long and has a drainage area of approximately 278,508 acres (435.2 square miles).

C. Topography

Most of the river basin within the study corridor is tightly confined by steep, wooded slopes. The highest point on land within the study corridor is approximately 1260 feet, atop the eastern ridge of the river valley just west of Linden Hall. This is approximately 450 feet above the river elevation at that point. The lowest land elevation is approximately 750 feet, at the mouth of the river at McKeesport. The river elevation ranges from 911 feet at the dam at South Connellsville to approximately 750 feet at its mouth, a total gradient of 161 feet.

The portion of the Youghiogheny River within the study corridor drops approximately 3.5 feet per mile within the study corridor. In comparison, the upper Youghiogheny falls about 28 feet per mile from its headwaters in Maryland to the reservoir and dam at Confluence, Pennsylvania. The fact that the river has much less fall within the study corridor has a direct bearing on the character of the river, the types of recreational activities occurring there, and its aquatic habitat.

While the river falls rather gently in this section, there were extremely steep hillsides surrounding it. These slopes have been the major constraint to development within the study corridor. At nearly every location along the river

where steep slopes do not occur, a community has developed. The forest vegetation that now occupies these slopes also supplies the corridor with large amounts of green space and wildlife habitat.

D. Major Tributaries

There are four major tributaries within the study corridor (Figure 2): Dunbar Creek, which enters the Youghiogheny River in Dunbar Township; Mounts Creek, which enters in Connellsville; Jacobs Creek, which enters between South Huntingdon and Lower Tyrone Township and forms the border between Fayette and Westmoreland Counties; and Sewickley Creek, which enters in Sewickley Township (Figure 2) (*see Water Resources Section)*.

E. Corridor Characteristics

1. Land Use

Most of the land within the study corridor is undeveloped steep slopes. Within the study corridor towns, the majority of the land use is residential, with small 'downtown' commercial areas. Connellsville, West Newton, Dawson, and Sutersville have vacant or underused buildings and property within their commercial districts which might allow for infill development and adaptive reuse of standing structures.

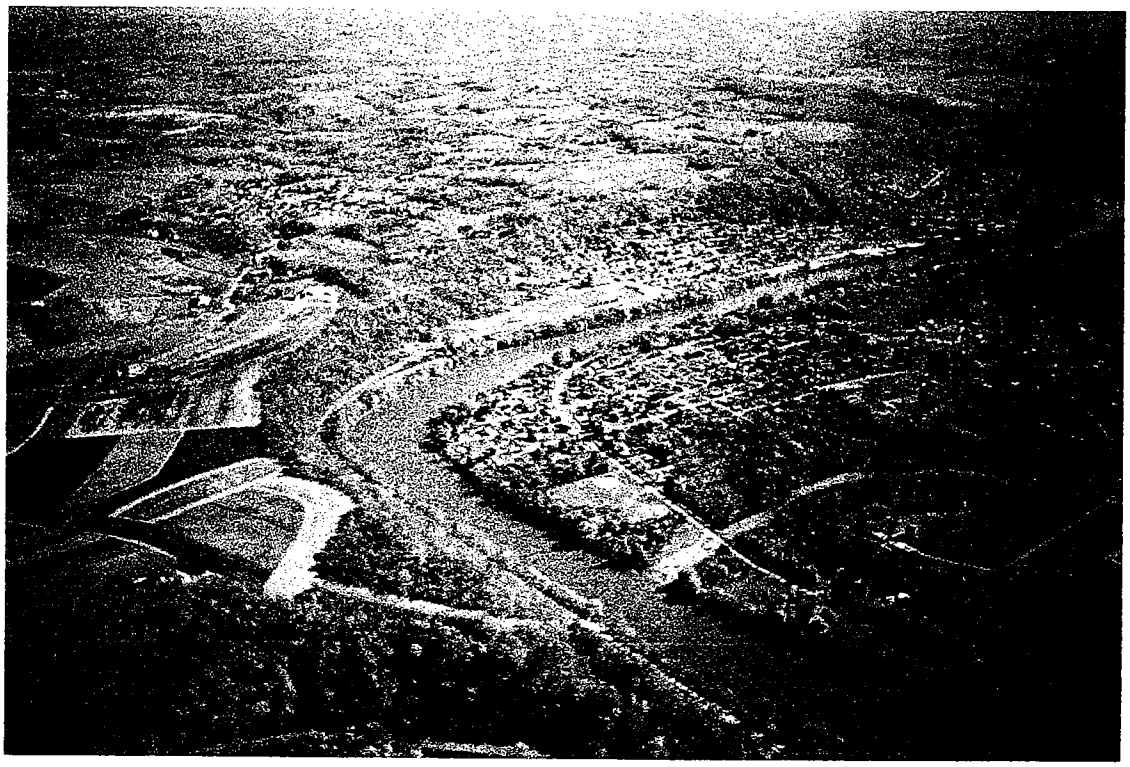
The breakdown of land use by type for the entire corridor is as follows (Figure 3):

Land Use Type	*Acreage*
Residential	3,160
Commercial	196
Industrial	275
Agricultural	1,699
Open Space	21,619
Parks/Cemeteries	569
Brownfields	439

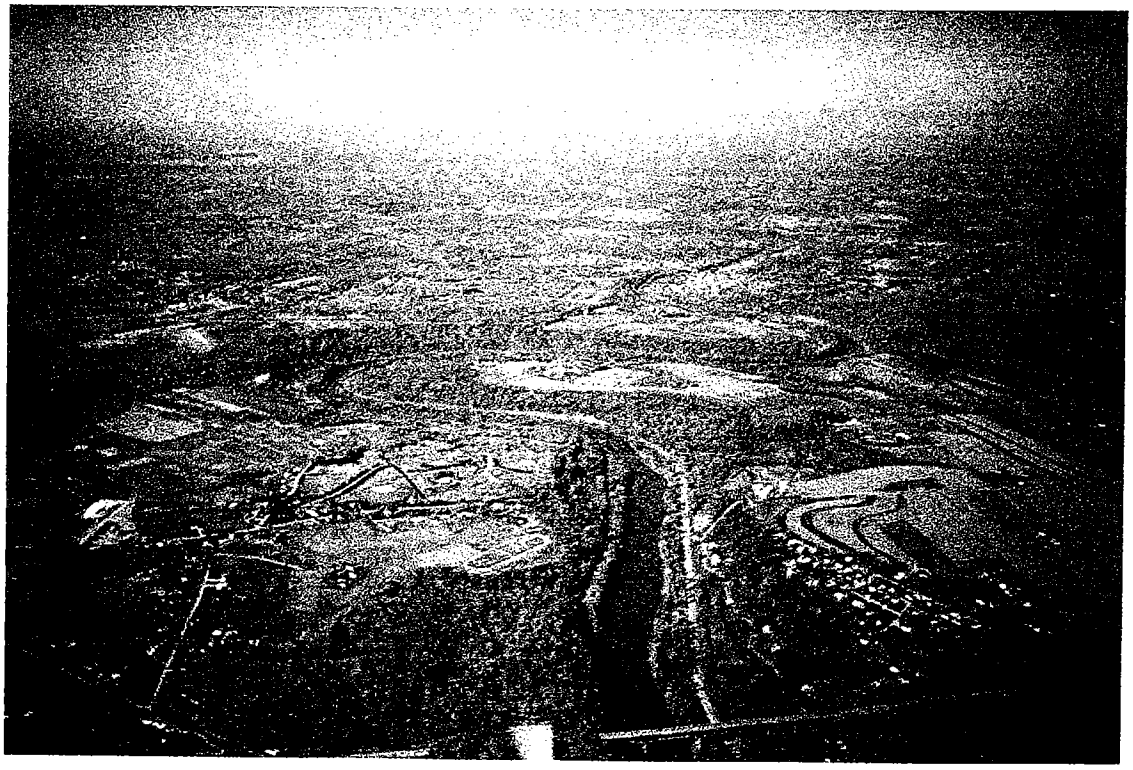
Residential land found within the study corridor consists mostly of single family dwelling units on lots of less than two acres. These residential areas were primarily located in the population centers and in the coal patch towns within the corridor.

Commercial areas in the study corridor were primarily located on the main streets of larger municipalities. However, some independent commercial facilities, such as a campground at Adelaide and a canoe rental at Layton, do exist in areas beyond the town borders.

Industrial land is defined as land containing activities or buildings used for the manufacture of goods. Most of the industrial land within the study corridor is concentrated near McKeesport and Connellsville.



Land Use in Vicinity of West Newton and Collinsburg



Youghiogheny River Downstream of the I-70 Crossing

The brownfield category refers to previously developed areas that were abandoned or underused. Within the corridor, this category includes abandoned mines and mine dumps, former industrial properties, and unregulated trash dumps.

Agricultural land is used for producing, keeping or maintaining plants and animals for sale or lease. The majority of agricultural land within the study corridor is located on the ridges above the river valley.

Park areas were those publicly-owned parcels which have been designated to provide recreational space for public use. This designation differs from open space, which is land or water that is undeveloped or unimproved. Most of the park land within the study corridor is located within major population centers, while open space is the dominant land use category throughout the study corridor.

Open space, residential, industrial, and park land uses were most commonly found immediately adjacent to the river, while commercial and brownfield areas were found away from the river's edge. The active CSX railroad mainline runs along the northeast side of the river and it travels through each land use type from McKeesport to Connellsville.

2. Zoning

The study corridor includes portions of 27 municipalities; 9 in Allegheny County, 7 in Westmoreland County, and 11 in Fayette County. Zoning varies by municipality and by county. All of the municipalities in Allegheny County have adopted individual municipal zoning ordinances, but only three in Westmoreland County and one in Fayette County have done so. In Fayette County, the municipalities that do not have their own zoning ordinances were covered by countywide zoning that acts as a default when the municipality does not have its own ordinance. This is not the case in Westmoreland County, however, where municipalities that have not adopted their own zoning ordinances remain unzoned, with no land use regulations except building permits. A complete list of the municipalities and their zoning ordinance status can be found in Appendix B.

F. Socio-Economic Profile

1. Population Centers

According to the 1990 census, Mackin calculated the approximate population of the study corridor to be 41,790 people. The combined population of the three counties through which the study corridor passes was 1,852,121. Most of the population within the study corridor was concentrated in eight main population centers: Connellsville, Dawson, Perryopolis, Smithton, West Newton, Sutersville, Versailles/Boston, and McKeesport. Rather than being scattered throughout the corridor, the population located outside of these centers tended to be clustered within small coal patch villages along the river.

Census data also indicated that just over 20 percent of the study corridor population was over age 65, which was almost five percentage points higher than the statewide average of 15.4 percent. Much of the older population within the study corridor was concentrated in the coal patch towns. Another 22.5 percent of the study corridor population was under the age of 18, only slightly lower than the Pennsylvania average of 23.5 percent.

Only 6.3 percent of the study corridor population was African-American and other minorities comprise less than 1 percent. Across Pennsylvania, 9.6 percent of the population was African-American at the time of the 1990 census.

The approximate annual household income of study corridor residents was $21,920, which was over $7000 less than the Pennsylvania median income of $29,069. Part of the reason for this discrepancy may be that only 66.9 percent of study corridor residents had attained a high school diploma, as opposed to the statewide average of 74.7 percent. The percentage of study corridor residents who completed at least four years of college (10.3%) was also significantly lower than the Pennsylvania norm (17.9%).

2. Transportation Facilities
    a. Roads

Road transportation to the corridor from the outside areas was relatively good. A 1991 study done by the PA Fish and Boat Commission (PFBC) stated that 73% of river was accessible by road within 300 meters and 41% was accessible by road within 100 meters. However, transportation access between study corridor communities was limited. Aside from the Youghiogheny River Trail, no single route connected the towns along either side of the river. In fact, even using a series of roads was difficult to follow the river from Connellsville to McKeesport.

Segments of four major highways were located just outside the study area. These included PA Route 51, which traveled north/south near the western bank of the river; Rt. 30, which was approximately 10 miles northeast of McKeesport; the Pennsylvania Turnpike (I-76), which had an interchange approximately 15 miles east of West Newton at New Stanton; and Rt. 119, which crossed the Youghiogheny at Connellsville. These four lane highways accessed smaller roads that led to the river communities (Table 1).

I-70 was also located within the corridor and connected two major north-south highways, PA Route 51 and I-76. I-70 had an exit at Smithton which is within 2 miles of the Youghiogheny River. In 1993, the average daily traffic on I-70 near this exit was over 28,000 vehicles (Pennsylvania Department of Transportation [PennDOT], District 12-0, personal communication, July 7,1997).

Major highway access to the study corridor will improve with the completion of the Mon-Fayette Expressway, a limited access highway leading from I-68 in

West Virginia to the City of Pittsburgh. The Mon/Fayette Expressway, which was between I-70 and Rt. 51 will provide new connections with Rt. 119 and I-70, and will have an interchange located near McKeesport. This regional expressway was expected to be completed by 2010.

Table 1 *Study Corridor Roadways and Bridge Locations*

Roadway/Bridge	Municipalities	Location
PA 148	McKeesport/ Boston	McKeesport
Fifteenth Avenue Bridge	McKeesport	McKeesport
PA 48	McKeesport/ Boston	Boston
PA 136	West Newton/ Rostraver	West Newton
I 70	Rostraver/ South Huntington	Rostraver/ South Huntington
PA 981	Smithton/ Rostraver	Smithton/ Rostraver
PA 819 (Dawson Road)	Dunbar/ Dawson	Dunbar/ Dawson
PA 119	Connellsville	Connellsville
PA 711	Connellsville	Connellsville
Layton Bridge	Perry/ Layton	Perry/ Layton
Sutersville Bridge	Elizabeth/ Sewickley	Elizabeth/ Sewickley

The average daily traffic on Route 119 in Connellsville was approximately 18,000 vehicles in 1993 (PennDOT, personal communication, July 7,1997). Average daily traffic in 1996 on Route 148 in McKeesport, at the north end of the study corridor was approximately 20,000 vehicles and it was expected to increase to more than 22,000 vehicles per day by the year 2020 (PennDOT, personal communication, July 7,1997).

b. Rail

Trains were a common sight along the river. The CSX railroad travels and maintains the rails along the northeastern bank of the Youghiogheny throughout the study corridor. These freight trains were making up to 35 trips a day along the river, carrying goods from the east coast to the industries of western Pennsylvania and Ohio (T. Sandefur, CSX, personal communication, July 14, 1997). Freight service is expected to rise to approximately 60 trips a day with a pending merger. In addition to the freight trains, Amtrak's Capitol Limited Service ran through the

corridor twice a day (once eastbound and once westbound) connecting Washington, DC, Pittsburgh, and Chicago. Its only scheduled stop within the study corridor was at Connellsville.

c. Youghiogheny River Trail

Since no roadway travels along the river, the Youghiogheny River Trail, which extended along the entire southwestern bank of the river, had become the major transportation link between study corridor communities and the recreational facilities, such as Cedar Creek Park and the Yough River Park at Connellsville.

d. Public Transportation

The Port Authority Transit system had two bus routes which served the study corridor (Port Authority of Allegheny County [PAT], 1994). They were the McKeesport Local Route #60A with a destination to Walnut Street in McKeesport, and the South Route #58 (the Versailles Express) with a destination to Versailles. Both of these routes ran to and from Pittsburgh daily.

3. Major Sources of Employment

While little information was available on employment sources within the study corridor, four major employers (>10 employees) were identified. These were the Jones Brewery in Smithton, which employed 50 people; CP Industries (formerly the USX Christy Park Works) in McKeesport, which employed 121 people; CSX in Connellsville, which employed approximately 108 people; and Allegheny Power Systems, which employed approximately 101 people (Jones Brewery & CP Industries, personal communication, July 17, 1997; CSX, Connellsville & Allegheny Power Systems, personal communication, January, 1998).

G. Outstanding or Unique Features

1. Coal Patch Housing

The pattern of development along the Youghiogheny River still reflected the past era of King Coal, when mining and coking operations were the major industries in the valley. Although eight major population centers were noted in the study corridor, the remaining population was not dispersed haphazardly, but clustered in the form of coal patch housing. Coal patch housing was a term used for homes that were built by coal companies in the late 1800s and early 1900s for the purpose of housing their mine workers nearby. Because of this practice, the housing patterns along the study corridor were organized in small patches near former coal mine sites in the few flat areas located along the river's edge.

The patch towns usually lacked commercial areas and community facilities, such as schools or churches, leaving only residential land use. The size and style of housing structures were normally uniform in each patch. The size of the patch corresponded to the size of the mine it served. A few examples of coal patch communities in the study corridor were Raineytown, Hulltown, Whitsett, Layton, Banning, Industry, Scott Haven, and Buena Vista.

These coal patch communities, although not supporting large populations, were unique in their formation as communities that lived, worked and raised its families together. Many families of coal patches had lived in these villages for generations. Their residents kept an industrial, hard-working, blue collar character about them that has remained despite the closing of mines (RTC, personal communication, July 7 1997).

2. Visual Character

According to the Federal Highway Administration (1981) a viewshed can be defined as "the surface area visible from a given viewpoint or series of viewpoints, as well as the area from which that viewpoint or series of viewpoints may be seen".

Although much of the study corridor passed through urbanized areas, particularly in the Allegheny and Westmoreland County sections, the impression or viewshed that river travelers received was of a relatively undisturbed, natural river valley. This was due to two factors. The first was that, because so much of the corridor was surrounded by steep, wooded slopes, development had been placed on top of the hillsides, out of the view of the river. In these areas, the forested hillsides were the only visible element of the landscape.

The second factor that gave the impression of an undeveloped corridor was that some of the towns along the river's edge have maintained a strip of forest vegetation in place along the bank. This forest buffer acted as a visual barrier from the river, creating the impression of a wilderness condition even in some of the most populated sections of the study corridor.

III. LAND RESOURCES

A. Geology and Soil Characteristics

1. Geology

The primary rock types of the study corridor were limestone, sandstone, coal, and carbonaceous shale (Pennsylvania Department of Environmental Resources [PA DER], 1980). Along the river's edge, there were unconsolidated deposits of gravel, sand, silt, and clay that typically occupy the floodplains of streams. The area around the Youghiogheny River was formed during the Permian and Pennsylvanian Periods. The geological character of the study corridor was represented by three main groups: the Dunkard Group, the Monongahela Group, and the Conemaugh Group.

A rough outline of the primary geologic formations along the study corridor is as follows (PA DER, 1980):

Connellsville to Dawson	- Monongahela Formation of the Monongahela Group - Casselman Formation of the Conemaugh Group
Dawson to Smithton	- Casselman and Glenshaw Formations of the Conemaugh Group
Smithton to Boston	- Waynesburg Formation of the Dunkard Group - Monongahela Formation of the Monongahela Group
Boston to McKeesport	- Casselman Formation of the Conemaugh Group

The geologic makeup of the study corridor contributed greatly to two major themes along the Youghiogheny River: the coal mining industry, which has dominated the region for most of the past two centuries, and the resultant abandoned mine drainage which continues to degrade the water quality of the river and many of its tributaries.

2. Soil Characteristics

Soils are formed through the interaction of five major factors: climate, plant and animal life, parent material, relief, and time. The degree of influence of each factors differs from place to place. Locally, soil landscape variations occurred as a result of relief, depth, slope and drainage qualities (United States Department of Agriculture [USDA], 1981, 1991, 1992). These variations created soil associations, which, within the study corridor, consisted of two or three major soil types and included a few minor soils (Table 2).

Table 2 *Study Corridor Soils*

County	Soil Association	Characteristics
Fayette	Monongahela-Philo-Atkins	Deep, moderately well to poorly drained soils and poorly drained medium textured nearly level soils, on hilltops, ridges, benches and hillsides.
Fayette	Gilpin-Wharton-Ernest	Moderately deep to deep, well to moderately well-drained, medium textured, nearly level to very steep soils underlain by acid shale and some sandstone bedrock, on uplands.
Fayette	Guernsey-Westmoreland-Clarksburg	Deep, well-drained to moderately well-drained, medium-textured, nearly level to very steep soils underlain by acid shale and some sandstone bedrock; on uplands.
Westmoreland	Philo-Monongahela-Atkins	Deep, moderately well-drained soils and poorly drained medium textured nearly level soils, on hilltops, ridges, benches and hillsides.
Westmoreland	Westmoreland-Guernsey-Clarksburg	Deep to moderately deep, well-drained to poorly drained, medium textured, nearly level to slopping soils on stream terraces and floodplains.
Allegheny	Urban land-Philo-Rainsboro	Deep, moderately well-drained soils and Urban land on floodplains and terraces.
Allegheny	Gilpin-Upshur-Atkins	Moderately deep, well-drained to moderately well-drained soils and Upshur land underlain by red and gray shale on uplands, having deep poorly drained soils on floodplains.

a. Fayette County

According to the USDA (1991) there were three soil associations along the Youghiogheny River in Fayette County. The most common, Monongahela-Philo-Atkins, was located around the municipalities of Perry, Dawson, and Connellsville. The soils of this association formed deep alluvial deposits along the terrace of the Youghiogheny River bed. These soils also had moderate to severe building limitations due to the location of the floodplain.

The Gilpin-Wharton-Ernest soil association was located between the municipalities of Perry and Dawson. This association was widely distributed throughout the county and was not limited to the Youghiogheny River bed. Smooth, rounded hills and irregular or undulating slopes were common with this association. Moderate to severe building limitations existed with the association due to the steep slopes associated with these soils. Springs and wells were common and generally supplied enough water for livestock and households.

The Guernsey-Westmoreland-Clarksburg soil association was located in a small area of Upper Tyrone Township. This association consisted of soils influenced by limestone and underlain by the Pittsburgh and other coal veins. The landscape consisted of rounded hilltops and a series of benches located along the slopes. The soils of this association accepted fertilizer and had good surface drainage, making them among the best soils for farming in the county. Commercial and residential development was limited due to the soils permeability and the fine textured subsoil.

b. Westmoreland County

In Westmoreland County, opposite Buena Vista, Industry, and Blythedale, the dominant soils were from the Westmoreland-Guernsey-Clarksburg soil association (USDA, 1992). This soil association existed chiefly in areas of rounded hills that had long, smooth, convex slopes, and nearly level to gently sloping benches and fans. It was found at elevations above the Pittsburgh coal seam. The topography and fertility of this soil made this association well suited for farming. Moderate to severe limitations affecting residential and industrial development existed because of the seasonal high water tables and the depth and instability of the bedrock associated with these soils. Limitations affecting on-lot disposal of septic-tank effluent also existed and were generally severe.

In the remaining sections of Westmoreland County within the study corridor, Philo-Monongahela-Atkins soils existed. This association occurred along the larger streams of the county and was level to slightly sloping and often flooded. It contained a fragipan or a hardened layer of soil near the water table. Nearly 75 percent of this soil type was wooded, with the remaining being pasture or cropland.

c. Allegheny County

At the mouth of the river near McKeesport, the Urban land-Philo-Rainsboro was the major soil association (USDA, 1981). The urban land soil consisted of land so altered by earth moving or so obscured by buildings or other structures that the original soil type cannot be identified. It was commonly found on nearly level bottom land adjacent to major streams such as the Youghiogheny. They were underlain by stratified terrace material. Most commonly the association was used for residential, commercial, and major industrial development.

Near the Youghiogheny River in McKeesport the Urban land-Wharton-Gilpin association was present (USDA, 1981). This association was commonly found on the tops of ridges and on long narrow hillsides. The urban land had been cut in some places and used for fill in others. Most of this area was covered with structures.

B. Brownfields

Brownfield sites were tracts of vacant or underused industrial land. They were important to the study corridor because of their potential for redevelopment. However, some brownfield sites contained hazardous waste and may require remediation. Remediation of contaminated brownfields was regulated through the Land Recycling and Environmental Remediation Standards Act (PA Act 2 and Act 4). These were the primary laws establishing the land recycling program and provided standards, procedures, and cleanup liability limits. In addition, Act 2 and Act 4 provided funding for environmental studies and cleanup activities.

Within the study corridor, several brownfields were identified by RTC, including the Overholt Distillery, the Koppers Creosote Plant, the brick yards at Layton, a waste plant site in Reduction, a slag and refuse dump in Vanderbilt, iron smelting furnaces at Furnace Run and Jacobs Creek, and numerous slag piles, gas wells, mines and mine dumps.

C. Prime Agricultural Soils

Prime agricultural soils were areas with a mixture of soil and landscape attributes which were best suited for agricultural purposes. These soils were deep, with good internal drainage, and level or nearly level. The elements which make these soil types ideal for agriculture also make them an excellent soil type for development.

Most of the surrounding counties' prime agricultural soils and agricultural land were outside of the study corridor.

However, roughly 2,360 acres of prime agricultural soils were identified within the corridor. Of these 2,360 acres, only 620 acres were in either the undeveloped or agriculture land use categories. The remaining 1,740 acres were already developed. Many of the undeveloped sites were located along the river, outside of the 100 year floodplain, but with limited access to roads and utilities.

B. Ownership

1. Public

Public parks, both county and municipal, constituted the majority of publicly-owned and publicly accessible property within the study corridor. There were a total of 26 parks within the study corridor, totaling 373.6 acres of public property.

The other major piece of land within the study corridor which was open to the public was the YRT, owned and operated for public use by the RTC, a non-profit organization. The RTC owned a total of 291 acres of property within the study corridor. This property was owned by RTC, but would be turned over to county government in the event that RTC could no longer operate the YRT.

Including the RTC property, a total of approximately 860 acres of property was publicly-held. This was approximately 3 percent of the 27,957 total acres within the study corridor.

2. Private

The 27,097 acres of non-park or trail property within the study corridor was privately held. This constituted approximately 97 percent of the total land within the corridor.

C. Critical Areas

1. Islands

The islands in the Youghiogheny River were dynamic parcels of land that have been part of the river's history. They have been damaged annually by floods, which inevitably affected their habitat and has kept them in a state of continual change. The 1872 Atlas of Fayette County showed at least four islands with designated names: Greggs Island (also known as Jacksons Island) near Adelaide, Hewitt Island near Perryopolis, Rainbow Island near Whitsett, and Layton Island at Layton. On the 1793 Charter of the Borough of Connellsville, the name Mud Island was given for a small island near the current Rt. 119 bridge.

Field reconnaissance indicated that there were more than fifteen islands in the Youghiogheny River from McKeesport to Connellsville, totaling more than 50 acres of land. Many of the islands listed in 1872 were no longer present on the United States Geological Survey (USGS) Maps edited in the 1970s, and new, unnamed islands had emerged. By state law, most of the islands were under the ownership of the Commonwealth of Pennsylvania.

D. Hazard Areas

1. Waste Sites

The most significant hazardous waste area within the study corridor was a Superfund site near the North Buena Vista Historical Site in Elizabeth Township. Locally recognized as the Feori Landfill, this site was 610 acres, with approximately 20 acres of waste material. Superfund sites were regulated under Section 111 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) which established a fund to finance governmental action in investigation and remediation efforts, while seeking reimbursement of such costs from liable parties.

According to Pennsylvania Department of Environmental Protection (PADEP) (personal communication, August 12, 1997), the Feori Landfill was initially permitted for disposal of fly ash. However, hazardous wastes of coal tar decanter sludge and solvent filter media were deposited in violation of the permit. The primary pollutants of concern included volatile organic compounds (primarily benzene), heavy metals (including chrome), and semi-volatile organic compounds from filtering media.

Originally scheduled for emergency removal, conditions were upgraded and there were no scheduled remediation plans as of August, 1997. Research was being conducted at the site in an attempt to identify impacts and management options.

Although no data was available from PADEP and conclusions at this time would be premature, groundwater contamination was not indicated. Similarly, impacts to sediments along an unnamed tributary to the Youghiogheny River were presumed to have occurred, but could not be quantified until further data analysis was completed. The PADEP expected to have preliminary results of this study available in October, 1997 but these have been delayed until early 1998.

The Overholt Distillery, a locally recognized historic structure, may have been contaminated during demolition activities. According to RTC, when originally constructed, the boiler plant facility and its associated steam piping utilized antiquated thermal insulation containing asbestos fibers. Improper removal and disposal techniques when demolishing the boilers may have resulted in soil contamination, although this had not been investigated.

According to reconnaissance reports prepared by SE Technologies, Inc. (1991, 1993), numerous areas of unauthorized trash and debris dumps occurred within the study corridor. There were three sites at Dawson, one in West Newton, and one in Smithton. In addition, 34 smaller piles consisting mainly of building materials were identified at various locations throughout the study corridor by the report (Figure 4).

2. Abandoned Mines

A review of Works Projects Administration, Project # 4438 mapping revealed the locations of approximately 90 numerous abandoned mines and drift/slope openings within or near the study corridor. These mines, and associated shafts and abandoned equipment, represent a serious threat to both public safety and the environment. However, the identification of specific mine locations was not within the scope of this project.

IV. WATER RESOURCES

A. River Characteristics

The aquatic habitat and substrate conditions within the study corridor were divided into four approximate geographic segments. These were: South Connellsville to Dawson, Dawson to Whitsett, Whitsett to West Newton, and West Newton to McKeesport (Figure 5). The differences between river conditions in these areas were a result of changes in substrate (river bottom) makeup, turbidity (water cloudiness), flow rate, and depth of water.

General flow rate and water depth conditions can be quantified by comparing the ratio of riffles, runs, and pools within the river channel. These terms were defined by Mackin as follows:

- Riffle - an area in which water velocity is fast enough to carry small particles in suspension. The stream bottom usually consists of boulder, cobble, gravel, and sand. Due to the swiftness of the water and the disturbance of the air-water interface, this area often contains higher levels of dissolved oxygen and more diverse aquatic life.
- Run - an area in which water velocities may remain high or decrease, but the water depth generally increases. Runs were generally composed of uniform bottoms with little variation in depth or current velocity. Suspended particles, if present in high concentrations, can begin to settle in runs with lower current velocity. Due to a lack of substrate variation and current velocity, runs often represent lesser quality habitat for fish and macroinvertebrates.
- Pool - an area in which current is relatively slow and small particles fall out of suspension and become deposited as silt on the stream bottom. Pools and deposition zones often become predominant on larger streams and rivers. These slower moving waters often have lower levels of dissolved oxygen, higher concentrations of pollutants (if present in the watershed), and lower biological diversity.

In general, the river conditions for each segment of the study corridor were as follows:

- South Connellsville to Dawson - rocky substrate, low turbidity, and relatively fast-moving water with a high riffle/run ratio (1:2) and a low pool/riffle ratio (5:7). Pool depths were from 8 to 10 feet.
- Dawson to Whitsett - rocky substrate with a slight increase in fine sediment, low turbidity, and slightly slower-moving water with a lower riffle/run ratio (1:3) and a higher pool/run ratio (3:2). Pool depths were from 4 to 10 feet.
- Whitsett to West Newton - gravelly substrate with heavy siltation in some areas, low to moderate turbidity, and slower-moving water with a much lower riffle/run ratio (1:10) and a higher pool/riffle ratio (1:1). Pool depths increased to 8 to 12 feet.
- West Newton to McKeesport - sandy substrate with fewer rocks and moderate to heavy siltation, moderate to heavy turbidity, and very slow-moving water with a low riffle/run ratio (1:10) and a high pool/riffle ratio (7:1). Pool depths were from 6 to 15 feet.

Slackwater began to occur on the Youghiogheny River near the Allegheny-Westmoreland County line. Slackwater is the sluggish movement of water caused by the navigational locks and dams located down stream on the Monongahela River.

B. Major Tributaries

There were 22 named tributaries to the Youghiogheny River within the study corridor of this project (PADEP & USGS, 1989) (Table 3). The major tributaries were Dunbar Creek, which enters the Youghiogheny River in Dunbar Township; Mounts Creek, which enters in Connellsville; Jacobs Creek, which enters in Lower Tyrone Township; and Sewickley Creek, which enters in Sewickley Township (Figure 2).

Table 3 - *Study Corridor Tributaries and Associated Drainage Areas*

TRIBUTARY	DRAINAGE AREA (square miles)	TRIBUTARY	DRAINAGE AREA (square miles)
Dunbar Creek	36.90	Washington Run	7.72
Connell Run	3.13	Browneller Run	1.94
Opossum Run	7.16	Jacobs Creek	94.90
Mounts Creek	31.30	Cedar Creek	5.72
Galley Run	3.27	Sewickley Creek	168.00
Hickman Run	2.60	Pollock Run	8.10
Dickerson Run	6.06	Douglass Run	2.70
Smiley Run	2.71	Possum Hollow	2.46
Laurel Run	2.91	Crawford Run	1.96
Furnace Run	3.18	Boston Hollow	1.35
Virgin Run	4.73	Long Run	13.20

C. Wetlands

Wetlands are defined as areas which remain inundated or saturated at a frequency and duration sufficient to support a dominance of hydrophytic (i.e. water-loving) vegetation (Environmental Laboratory, 1987). The presence of steep, wooded slopes within the study corridor generally prohibit wetlands due to rapid drainage with negligible water retention time.

Not including the Youghiogheny River itself, three riverine systems occurred within the study corridor (Figure 4). As the name implies, riverine wetlands were associated with topographic valleys adjacent to stream channels. The movement of surface water into the channels provided the necessary hydrology for these riverine wetlands to develop.

According to data collected by the Southwestern Pennsylvania Regional Planning Commission (SPRPC), there were three wetlands larger than 10 acres within the study corridor. These consisted of a riverine, emergent wetland located near

Versailles and two riverine, scrub shrub wetlands located near Perryopolis. Wetland systems which were less than 10 acres may occur in the study corridor, but an inventory of these was not maintained by SPRPC. A review of National Wetlands Inventory (NWI) maps, which list all wetlands detected from aerial photography, was not included in the scope of this project. Smaller wetland systems within the study corridor would consist primarily of wetlands on valley slopes, typically associated with spring seep discharges.

D. Floodplains

Due to the steep slopes that border most of the Youghiogheny River study corridor, the one hundred and five-hundred year floodplains were generally restricted between narrow regions of the river valley. However, there were low-lying areas at risk for flooding. These were concentrated near tributary valleys and river oxbows.

The largest area of existing development within the one-hundred year floodplain was the residential area of West Newton (Figure 4). A large portion of Dawson also falls within the 100 year floodplain. In addition, two areas of proposed development along the Youghiogheny River Trail occur within the one-hundred year floodplain: McKee's Point Park and the village of Whitsett.

E. Water Quality

Historically, water quality in the Youghiogheny River basin has been sensitive to both natural and man-made sources of pollutants. Located within the Monongahela River basin, the lower section of the Youghiogheny is characteristic of a freestone stream. Freestone streams grow slowly in size, receiving drainage primarily from spring seeps, feeder streams and precipitation. Within the Youghiogheny basin, spring seep inputs originate primarily from sandstone formations. This geological characteristic limits the buffering capacity of freestone streams such as the Youghiogheny River and predisposes them to higher amounts of chemical and biological instability.

The Youghiogheny Basin was recognized for its coal resources as early as 1770 when George Washington wrote "The coal seemed to be of the very best kind..." (Palmer, 1984). During the period between 1860 and 1919, Western Pennsylvania would grow into the world leader in bituminous coal mining and steel production. This mining activity centered around the Mid-Monongahela Valley. The portion of the Youghiogheny River which formed the study corridor was subjected to significant degradation in the form of surface and deep mining, uncontrolled runoff, and coal refuse disposal during that time.

In the 1830's, the Youghiogheny basin witnessed the development of coked coal as fuel for hot air blast furnaces (Palmer, 1984). Over the next sixty years, coking would become one of the premier industries in the Middle Youghiogheny Basin.

The largest coking centers were developed along the Youghiogheny at cities like Connellsville and Star Junction.

1. Point Sources

Point source (piped) discharges of unknown origin were noted by Mackin at several areas along the Youghiogheny River (Figure 4). There was one point source discharge observed between Dawson and Whitsett, two between Whitsett and West Newton, and five between West Newton and McKeesport. The point source between Dawson and Whitsett (at Washington Run), and one of the sources between West Newton and McKeesport (at Coulter) may have been sewage treatment outfalls.

2. Non-point Source Pollution

Non-point source pollution generally includes all sources of pollutants which cannot be traced to identifiable origins, or in the case of mine drainage, to a source which may have several undefined origins. Most often, non-point source pollution results from abandoned mine drainage (AMD), runoff from sites disturbed by development or agriculture, and acid precipitation.

Studies of non-point source pollution in the Youghiogheny River basin have typically focused on the effects of AMD. This was understandable considering that, harmful chemicals from abandoned mines account for the majority of pollution in the Youghiogheny Basin (Frey, 1994). Numerous AMD discharges were observed by Mackin during field investigation (Figure 4). There were six AMD discharges noted between Connellsville and Dawson, three between Whitsett and West Newton, and two between West Newton and McKeesport. Several tributary streams which enter the Youghiogheny River within the study corridor also appeared to contribute AMD pollution.

Based on water quality studies conducted by the Westmoreland Conservation District (1994), PADEP (Frey, 1994), the National Water Quality Assessment Program ([NAWQA], 1997), PFBC (1994), and others, the major non-point source pollution issues affecting the Youghiogheny River within the study corridor were AMD, increased sedimentation from development along its tributaries, and septic system leachates. The effects of non-point source pollution were often realized by the following conditions:

- low pH
- high metals and sulfate content
- increased nutrient levels (nitrates and phosphates)
- high turbidity
- increased sedimentation, sometimes leading to increased flooding
- increases in pathogenic bacteria

Data from the PADEP (1997a) and NAWQA (1997) water quality stations at Sutersville indicated seasonal variations for nitrates, phosphates, and suspended solids. While concentrations were all below state and federal water quality standards, these results could not be applied to the entire study corridor due to the lack of additional sampling locations.

A related report, conducted by the Westmoreland Conservation District (1994), evaluated agricultural non-point source pollution in the Middle Youghiogheny Basin. This study found that nitrate and phosphate concentrations were both below state and federal standards. It also used a weighted factor analysis to assess relative degradation and several sample locations were identified as "high priority" areas. However, since this study focused primarily on tributaries and did not address its entire length, these results also could not be applied to the study corridor.

During a field reconnaissance by Mackin, several cursory indicators of sewage effluent (i.e. suspended flocculates, increased siltation) were noted. These were observed from the Borough of Smithton downstream to McKeesport. Siltation and increased turbidity was especially evident at, and below, the mouth of Jacobs Creek.

3. Monitoring

A number of water quality studies have been conducted along the Youghiogheny River. However, none of the available data was either current, comprehensive, or specific to the study corridor. The most current data was available from PADEP (1997a) and NAWQA (1997) which operate sampling stations at Sutersville (Figure 4). In addition, the Westmoreland Conservation District (1994) indicated that Little Sewickley Creek was a major contributor of mine drainage, sediment runoff, and sewage effluent to the river. This study did not address cumulative water quality within the river itself.

Penn's Corner Resource Conservation and Development Area ([RC&D](1997)), has monitored water quality at 25 locations along the river between Connellsville and Buena Vista. The water quality data they compiled, although not comprehensive for the Youghiogheny River Conservation Plan study corridor, did indicate that levels of iron, sulfates, magnesium, alkalinity, and dissolved solids fail to meet PADEP, Chapter 93 Water Quality Standards at several locations. These areas were concentrated in the southern section of the study corridor near Connellsville, Dawson, and Adelaide.

Penn's Corner was also undertaking a more comprehensive project called Resource Recovery. This program will involve monthly sampling and analysis for field and total metal concentrations at eleven sites along the river. Designed as a longitudinal study to be completed in 1998, monitoring results will allow a more in-depth analysis of seasonal variations in chemical species.

More recently, researchers at Carnegie Mellon University's Department of Civil and Environmental Engineering received a research grant from the US Environmental Protection Agency (EPA) to conduct investigations on the natural amelioration of abandoned mine discharges (D. Dzombak, personal communication, January 5, 1998). Principle investigators, David A. Dzombak and William W. Aljoe, cited the overall goal of this 3 year effort as the "[identification of] hydrological and geochemical factors responsible for improvements over time in the quality of water discharges from abandoned deep mines". To accomplish this goal, approximately 30 discharge sites within the Uniontown-Connellsville area will be evaluated. Sampling will encompass a variety of water chemistry parameters and related environmental-geological features (D. Dzombak, personal communication, January 5, 1998).

Most of the studies of water quality in the river focused on degradation related to sedimentation and AMD. However, during the data collection process, Mackin identified another potentially significant source of pollution - sewage effluent. At least four municipalities within the study corridor were discharging untreated sewage adjacent to the river (Table 4), and an additional four had only septic treatment (all others were served by municipal sewerage) (Figure 5). This creates the potential for serious contamination of the river which could affect swimmers, boaters and water-skiers, as well as fish and wildlife populations.

Table 4
Wastewater Treatment Systems and Service Areas in the Project Corridor

Township/ Borough	Treatment Type
Perryopolis	municipal
Connellsville	municipal
South Connellsville	municipal
Dawson	none
Dunbar	none
Lower Tyrone	septic
Upper Tyrone	septic
South Huntingdon	septic
North Huntingdon	municipal
Smithton	none
West Newton	municipal
Sewickley	septic
Sutersville	none
Rostraver	municipal
South Versailles	municipal
Elizabeth	municipal
Perry	municipal/septic
Franklin	septic/none
McKeesport	municipal
Versailles*	municipal
Lincoln*	municipal
White Oak*	municipal
Liberty*	municipal
Port Vue*	municipal
Glassport*	municipal
Elizabeth*	municipal
North Versailles*	municipal

** Municipalities completely (or in part) serviced by McKeesport Municipal Authority. These facilities, although in the Youghiogheny watershed, discharge to the Monongahela River.*

F. Water Supply

There were three public water intakes withdrawing surface water from the Youghiogheny River within the study corridor (Table 5). Two of these were located at Connellsville and the third was located at McKeesport (Figure 5).

A reallocation study was being conducted by the ACOE for the Youghiogheny River Lake. The lake dam, controlled by ACOE, regulated the water flow to the Lower Youghiogheny River. Releases were gauged for flood control, low flow

Drainage from Douglass Mine at Sutersville

Foam from Sewage Pollution, North of Sewickley Creek

WATER POLLUTION SOURCES

augmentation, fish and wildlife conservation, and water recreation activities. The Municipal Authority of Westmoreland County (MAWC) applied to ACOE to acquire water supply storage within the reservoir in order to satisfy a May 5, 1983 revision to their PADEP Water Allocation Permit. This revision states that MAWC was required to make releases "not less than the total withdrawal minus 23 million gallons per day from storage upstream of the intake at all times when the flow measured at the U.S. Geological Survey stream gage at Connellsville is less than a critical low flow rate" (ACOE, 1997). However, the term "critical low flow rate" has not been defined by either PADEP or ACOE.

ACOE completed a Water Management and Reallocation Reconnaissance Investigation (ACOE, 1997) on the proposal and recommended an additional study to examine in detail the feasibility of allocating the water to MAWC and what the impacts on the river would be.

The Cedar Brook Golf Course also withdraws water from the river each summer, but they were unable to estimate the exact amount of withdrawals.

Table 5
Municipal Water Authority Withdrawal Summary

Facility	Customers	Connections	Volume* (gal/day)
North Fayette Authority	34,000	13,500	7,300,000
Westmoreland County Authority	220,000	102,000	39,000,000

Source: B. Softcheck, North Fayette Municipal Authority, personal communication, May 5, 1997 and T. Peto, Westmoreland County Municipal Authority, personal communication, May 5, 1997.

V. BIOLOGICAL RESOURCES

A. Wildlife

1. Terrestrial

The forest tracts within the study corridor were home to numerous game species including deer, bear, turkey, and grouse. This forested area provided excellent wildlife habitat for a number of non-game species as well. As indicated by 1996 data from the Audubon Society, over 200 bird species occurred in or near the study corridor. The Pennsylvania Game Commission (PGC) was conducting two wildlife habitat studies along the river, one for the river otter reintroduction program which started in 1994 and another to determine the bobcat population. Both of these studies were centered outside the corridor, but may have extended into the corridor in some areas.

Declines in several types of outdoor recreation have been attributed to black fly populations within the study corridor. Members of the aquatic insect family Simuliidae, black flies are represented by over 100 species in North America

(McCafferty, 1981). Thousands of eggs are deposited on rocky stream substrates where the larvae and subsequent pupae develop in cocoons. Adults emerge in late spring and throughout the summer months.

Unlike the more familiar mosquito, the female blackflies are biting pests primarily during the daylight hours. As a result of their dependence on water during the early stages of their life cycle, black flies pose a serious health risk primarily in the vicinity of rivers and streams (McCafferty, 1981; Peterson, 1984). With short mouthparts adapted for cutting, bites often result in blood loss, allergic reactions, and in some animals, death can occur (McCafferty, 1981). Certain species of black flies are also responsible for the transmittal of parasites to waterfowl and wild turkeys.

2. Aquatic

Several sportsmen's clubs annually stock trout into this section of the river, although there was debate as to whether the water temperature was cold enough to sustain a trout population. However, a 1994 PFBC management report on the Youghiogheny River indicated that this segment had healthy populations of several warmwater gamefish (Miko & Lorson, 1994). Smallmouth bass were the dominant game species, and the capture rate on these exceeded that of the Allegheny River, a well-known smallmouth fishery. The report also indicated that this portion of the Youghiogheny River might have a reproducing population of muskellunge. This possibility was supported by anecdotal evidence collected from area anglers and local newspaper accounts. This would make the Youghiogheny one of the few rivers in the state to have a reproducing muskellunge population.

One potential threat to the aquatic community in the study corridor was the zebra mussel (*Dreissena polymorpha*). Although not yet identified in the Youghiogheny, these small freshwater mollusks have been found as close as Locks and Dam No. 3 on the Monongahela River in Elizabeth (ACOE, 1997). Although there were only 14 mussels collected at Lock and Dam No. 3, the potential does exist for migration by the free-swimming veligers or larvae into the Youghiogheny River (PADEP, 1997b).

The zebra mussel is a dime-sized, black and white striped mussel that entered Pennsylvania in the ballast of a ship en route from Europe to Lake Erie (PADEP, 1997b). The mussels invaded the Great Lakes, the Hudson River in New York, and the Mississippi Delta in Louisiana, and were spreading throughout the Allegheny and the Ohio Rivers. Problems result when zebra mussels block pipe intakes at public water systems or power plants, as well as when the filter-feeding mussels reduce nutrient levels in water bodies and native species that rely on these nutrients can not sustain themselves.

B. Vegetation

As noted above, much of the study corridor consists of forested areas. These were primarily second-growth, mature, deciduous forests. The dominant tree species along the river's edge was the Eastern sycamore (*Platanus occidentalis*). Other tree species occurring frequently throughout the corridor include wild cherry (*Prunus serotina*), and various elms (*Ulmus spp.*).

In 1892, the first sawmill along the Youghiogheny was opened in Crellin, Maryland. From this initial site, the Youghiogheny River became a thriving timber harvesting region. Although no large timbering operations were observed within the study corridor, many areas upstream on the Youghiogheny and its tributaries contained logging operations.

The dominant herbaceous species along the river banks was Japanese knotweed (*Polygonum cuspidatum*). Japanese knotweed was native to eastern Asia (Seiger, 1997). First introduced to North America in the late 19th century, this species became a serious problem in the eastern U.S. Once established, it forms large stands which displace all native vegetation. These stands have been virtually impossible to eradicate.

The presence of this noxious, invasive plant along the Youghiogheny River may have been contributing to an erosion problem that was observed in several areas downstream of West Newton. It replaced native vegetation on many of the steep, sandy banks in the lower portion of the study corridor. The native species were more water tolerant and tended to grow down to the water's edge, while the knotweed growth tended to stop 3 to 6 feet above the waterline. This left an exposed bank which could be eroded during storm events.

C. PNDI Species

According to the PGC four threatened or endangered terrestrial animal species have been recorded within the study corridor. They were the Least Shrew (*Cryptotis parva*), a small rodent which was listed as Pennsylvania Endangered; the Eastern Woodrat (*Neotoma floridana*), another small rodent which was listed as Pennsylvania Threatened; the Green Salamander (*Aneides aeneus*), an amphibian which was listed as Pennsylvania Threatened; and the Upland Sandpiper (*Bartramia longicauda*), a bird which was listed as Pennsylvania Threatened. The Timber Rattlesnake (*Crotalus horridus*), a Pennsylvania candidate species, also occurs within the study corridor (PFBC,1997). In addition, DCNR Pennsylvania Natural Diversity Index (PNDI) lists 14 species of freshwater mussels and 9 plant species which were of special concern (Pennsylvania Endangered, Threatened, or Rare)(Appendix B).

D. Important Habitats

1. Riparian Forest Buffers

A riparian forest buffer is an area of trees, usually accompanied by a scrub/shrub component and other vegetation, that is adjacent to a body of water. This buffer maintains the integrity of stream channels and shorelines; reduces the impact of

upland sources of pollution by trapping, filtering, and converting sediments, nutrients, and other chemicals; and supplies food, cover, and thermal protection to fish and other wildlife (Siesholtz, 1997). Riparian forest buffers are extremely beneficial in river conservation. In undisturbed ecosystems, riparian buffers protect most rivers and streams in North America, but due to deforestation and urban development, most of these buffers were gone. The removal of riparian buffers results in adverse effects on water quality, wildlife and aquatic habitat, streambank stabilization, and aesthetics of the waterway.

In contrast to many waterways which flow through historically developed areas, much of the Youghiogheny River still maintained a riparian forest buffer. Over 77 percent of the land within the study corridor was categorized as open space and nearly all of the open space adjacent to the river was forested. However, more populated areas along the river did not have the benefit of this buffer.

2. Biological Diversity Area

According to the 1994 Allegheny County Natural Heritage Inventory conducted by Western Pennsylvania Conservancy, Biological Diversity Areas include "natural or human-influenced habitats that harbor one or more occurrences of plants or animals recognized as state or national species of concern, or possess a high diversity of species of plants or animals native to the county, or support a rare or exemplary natural community, including the highest quality and least disturbed examples of relatively common community types."

The Liberty Valley Biological Diversity Area was designated by the Allegheny County Natural Heritage Inventory. The Allegheny Land Trust acquired 260 acres of the area in 1996. The region consists of a forested stream valley which enters the Youghiogheny River in Lincoln Borough.

The Liberty Valley Biological Diversity Area was selected for its lack of man-induced fragmentation and homogeneity of forested land cover. Although the site was not formally studied for biological community composition, it was given the highest significance designation.

VI. CULTURAL RESOURCES

A. Recreation

1. Use

The main recreational activities within the study corridor were fishing, boating, camping, and use of the Youghiogheny River Trail (YRT) for hiking, biking, and horseback riding. Other recreational opportunities along this section of the river included hunting, camping, cross-country skiing, swimming, picnicking, bird watching, sight-seeing, and kayaking. A few local recreational businesses also existed in the corridor catering to the four major recreational industries of fishing, canoeing, camping, and trail use (Figure 6).

The fishing industry attracts thousands of people to the Youghiogheny River each year and more than 20 sportsmen's clubs/associations were identified in municipalities along the river. In the early spring, stocked trout are the premier gamefish, giving way to native smallmouth bass and muskellunge in the summer and fall. Anglers were estimated to spend over a billion dollars each year in the state (Palmer, 1984).

The canoeing industry in the study corridor provided several opportunities for the recreational boater. Hazelbakers, the largest facility, averaged approximately 5,000 canoe rentals between May and October each year (Hazelbakers, personal communication, August, 1997). According to RTC, a smaller outfitter, Hixon Bait and Canoe Rental, was located in Smithton. Rafting trips were also offered for senior citizens through Wilderness Voyagers. During the busiest months of July and August, approximately 500 people take canoe trips each weekend and 100 to 200 trips were recorded during the weekdays (Hazelbakers, personal communication, August, 1997).

Camping along this section of the river is centered around River's Edge Family Campground located in Adelaide. This campground was the only facility that offered full electric hookups for motorized campers. River's Edge also had tent sites and recreational activities such as a heated pool, playground, picnicking facilities, badminton, volleyball, and access to the YRT. Cedar Creek Park located in Rostraver also allowed for overnight tent camping, but only for organized groups.

The Youghiogheny River Trail generated the most recreational use within the corridor. During 1996 the YRT drew just over 200,000 people, and in 1997 more than 300,000 users were expected (RTC, personal communication, August, 1997). In 1997, 28 miles of trail had been completed between Connellsville and McKeesport, with the remaining 15 miles expected to be complete by the fall of 1998.

Most of the recreational activity within the corridor consisted of day use centered around the river. Only three of the recreational facilities located within the corridor had areas for overnight camping, and two bed and breakfasts in Dawson provided the only other overnight accommodations within the corridor.

2. Facilities

a. Type

Most of the recreational facilities within the study corridor were river-based. Of the 26 municipal or county parks within the corridor, nearly half have river-related facilities such as boat launches or fishing areas, and

there were three canoe rental facilities identified in the study corridor (Appendix B).

About half of the parks also had access to the YRT. Additional access points may develop once the YRT is completed from Connellsville to McKeesport (Figure 6).

In 1997, the City of McKeesport completed a plan for their McKee's Point Park, a multi-recreational park to be located on an approximately 16 acre parcel at the confluence of the Monongahela and Youghiogheny Rivers. A 216 slip marina was opened in the Spring of 1997 and additional plans included banquet facilities, a large boat landing, restaurants, and hotels.

In addition to McKee's Point Park, the City of McKeesport and Versailles Borough applied for funding from DCNR to develop a Master Site Plan for a Youghiogheny Linear Park, extending from McKee's Point Park to an approximately 16 acre riverfront parcel located in Versailles Borough. The intent of this plan will be to connect public lands located along the Youghiogheny River, unite public entities existing along the river, discourage fragmented and inappropriate development and usage, and rehabilitate abandoned industrial areas to a natural condition. The plan will include recommendations for the placement of ballfields, forest buffers, a kayak club, a trail, lighting, and parking facilities along the riverfront. The goals of this project include the identification and evaluation of significant natural resources, the identification of significant man-made resources, the evaluation of community recreation needs and site location options, and the development of a comprehensive river frontage recreation plan. The City of McKeesport and Versailles Borough are currently pursuing citizen participation through the formation of a Study Committee.

In addition to the activities mentioned above, golfing plays an important role in the local recreational scene. Courses include the Youghiogheny Country Club and Butler's Golf Course in Elizabeth Township, Allegheny County; Linden Hall in Lower Tyrone Township, Fayette County; and Willowbrook and Cedarbrook in Rostraver Township, Westmoreland County.

B. Archaeological/Historical

Archaeologists estimate that ten thousand years ago people first settled along the Youghiogheny River (Palmer, 1984). The river was not located on a map, until 1737, when a wave of expeditions and explorations came through the area. On maps made after the first exploration by Europeans, the river's name changed continuously in spelling.

This was a direct result of the ambiguous meaning of its Indian name and European difficulty in understanding the Indian tongue. The exact meaning of *youghiogheny* is still a mystery, but historians interpreting the different Indian dialects of the basin have come to such translations as "a stream flowing in a contrary direction," or "in a roundabout course" or "rough or dare-devil stream" (Palmer, 1984).

The area along the Youghiogheny River was the domain of Indians as much as one thousand years ago, when it was a fringe territory for several different tribes. The Monongahela Indians lived along the Youghiogheny River, but disappeared inexplicably before white settlers entered the area.

There have been Indian archaeological sites identified throughout the study corridor. The Pennsylvania Historical and Museum Commission (PHMC) has documented Monongahela Indian sites at Whitsett, and markings for Indian mounds can be seen on the Atlas of Allegheny County from 1876.

According to Palmer (1984), the French were the first Europeans to explore the area with La Salle staking claim to the region surrounding the Youghiogheny River in 1682. The British disputed France's ownership when they claimed the land west of the Allegheny Mountains from the Iroquois Indians in the Lancaster Treaty of 1744. These conflicting land claims for the Ohio River Valley came to a peak in 1754 with the onset of the French and Indian War.

The French and Indian War attracted many noted military men to the river valley. Among the famous men to cross the Youghiogheny were George Washington of the Virginia Colonial militia and General Edward Braddock, commander of all British forces in America.

Washington traveled along the Youghiogheny River at age 21 while on a mission to deliver a message to the French forces at Fort LeBoeuf (in what is now northwestern Pennsylvania). He returned a number of times on military missions. While in the area, Washington saw the potential for trade and development along the river, writing that "[t]he Youghiogheny... may be made navigable - and this... would open a very important door to the trade of that country" (Palmer, 1984).

During his travels, Washington met with one of the most renowned Indian leaders of the time, the Seneca chief, Queen Alliquippa, who lived along the Youghiogheny River (Hilliard, 1996). She was instrumental in aiding the British in their conquests through her command of the local area and skill in diplomacy. She had the respect of both the Europeans and the Iroquois, and possessed an unwavering loyalty to the British forces.

General Braddock's military campaign, which took him through the Youghiogheny Valley, ended in the most notable battle in western Pennsylvania history. He was sent to take Fort Duquesne, at the forks of the Ohio River (currently Pittsburgh), from the French and Indians. In 1755, he traveled toward Fort Duquesne via the Nemacolin route (which was later renamed Braddock Road), crossing the Youghiogheny at Connellsville en route (Palmer, 1984). At the mouth of Turtle Creek, however, his troops were ambushed by the French and Indians. Not only did they lose the battle, but Braddock received a mortal wound and died on the return trip to Cumberland.

Once military actions ended in western Pennsylvania, industries quickly took hold. Coal and coke production marked the mid to late 1800's along the Youghiogheny. The entire area was rich in coal from the Pittsburgh coal seam, which was mined and burned in beehive ovens to convert to coke. Coke ovens were built throughout the river valley. One prominent figure in this industry was Henry Clay Frick, who later became a business associate of Andrew Carnegie.

Two navigation dams were built in the mid-1800's below West Newton that realized George Washington's concept of trade and travel on the river (Palmer, 1984). Beginning in the 1830's, coke was floated by barge down the Youghiogheny and Monongahela Rivers to Pittsburgh. The coke industry along the Youghiogheny faded in the late 1920's, leaving a scattering of ovens in the landscape and a network of abandoned mines under and along the river.

In addition to the prehistoric sites noted earlier, ten structures within the study corridor have been listed on the National Register of Historic Places and twelve additional structures had been determined eligible (Figure 6). In some communities additional structures and sites have been identified as significant by local historical societies. The following tables show the recognized historic sites within the corridor:

Table 6
National Register of Historic Places

Municipality	County	Historic Site Name	Historic Designation
McKeesport	Allegheny	Bollas Property	Eligible
McKeesport	Allegheny	Duffy Property	Eligible
McKeesport	Allegheny	Jefferson Property	Eligible
McKeesport	Allegheny	McKeesport Water Filtration Plant	Eligible
McKeesport	Allegheny	Reganick Property	Eligible
McKeesport	Allegheny	Spinosi Property	Eligible
McKeesport	Allegheny	Jerome Street Bridge	Registered
West Newton	Westmoreland	Billy House	Eligible
West Newton	Westmoreland	First Methodist Church	Eligible
West Newton	Westmoreland	Schiftic Property	Eligible
West Newton	Westmoreland	Plumer House	Registered
Connellsville	Fayette	Fairmont, Morgantown, Pgh RR	Eligible
Dawson	Fayette	Dawson Historic District	Registered
Connellsville	Fayette	Carnegie Free Library	Registered
Connellsville	Fayette	Connellsville Armory	Registered
Connellsville	Fayette	Connellsville Post Office	Registered
Connellsville	Fayette	Pgh & Lake Erie RR	Registered
Dawson	Fayette	Cochran Memorial United Methodist Church	Registered
Perry	Fayette	Alliance Furnace/Iron Works	Registered
Perry	Fayette	Layton Bridge	Registered
Perry	Fayette	Whitsett Historic District	Registered
Perryopolis	Fayette	Youghiogheny Bank	Registered
Perryopolis	Fayette	Quaker Graveyard Building	Registered
Perryopolis	Fayette	Karolcik Building	Registered
Perryopolis	Fayette	St. Nicholas Byzantine Catholic Church	Registered

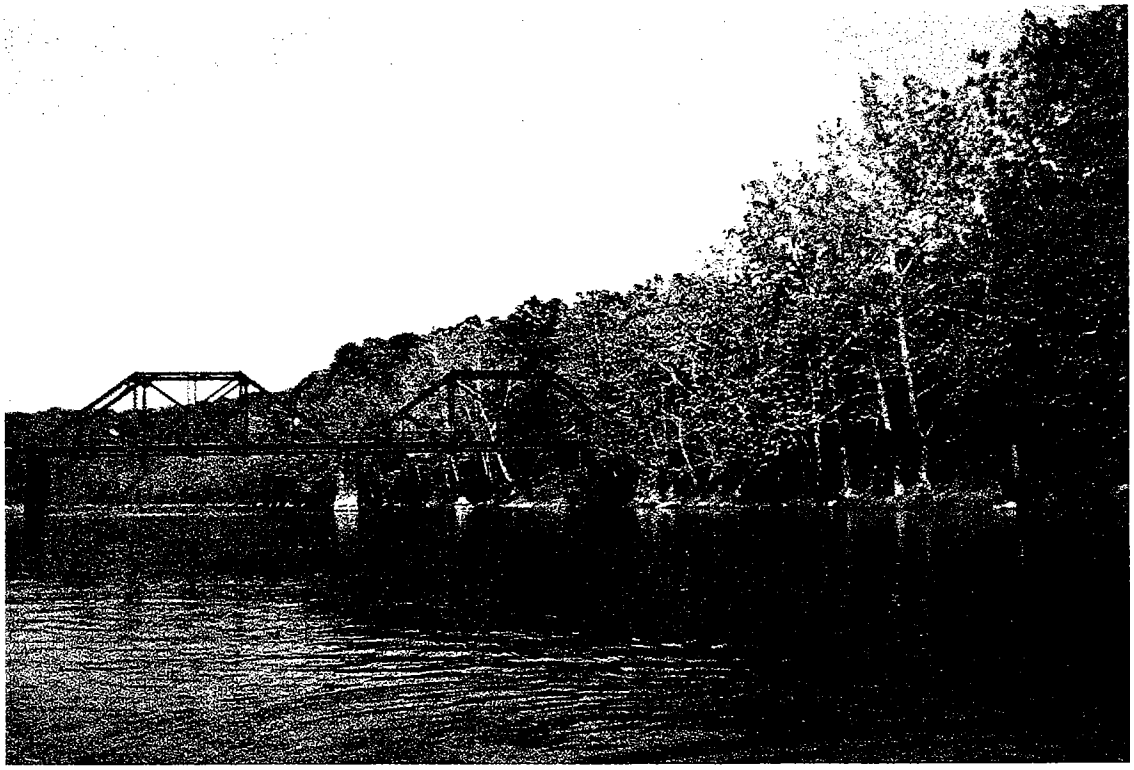
TABLE 7 *Locally Recognized Historic Sites*

Municipality	County	Name	Recognized by:
Connellsville	Fayette	P & LE Former Yard Office	CAHS
Dunbar Twp	Fayette	West Youghiogheny River Bridge	CAHS
Dunbar Twp	Fayette	Whistle Blowing Stone	CAHS
Dunbar Twp	Fayette	Coke Ovens	CAHS
Dunbar Twp	Fayette	Youghiogheny River Northern RR Bridge	CAHS
Upper Tyrone	Fayette	Overholt Distillery	TTHS
Dunbar Twp	Fayette	Coke Ovens	TTHS
Dunbar Twp	Fayette	Wooden Survey Station Marker	TTHS
Dunbar Twp	Fayette	Suspension Bridge & Storage Facility	TTHS
Dawson	Fayette	Dawson	TTHS
Dawson	Fayette	Dickerson Run Yard	TTHS
Franklin	Fayette	Corrado #2 Mine	TTHS
Perry	Fayette	Kier Brick Works	PAHS
Perry	Fayette	Foot Bridge/Swimming Hole	PAHS
Perry	Fayette	Layton	PAHS
Perry	Fayette	Layton Tunnel	PAHS
Perry	Fayette	Layton Bridge	PAHS
Perry	Fayette	Whitsett	WCCCS
Perry	Fayette	Whitsett Home	WCCCS
Perry	Fayette	Banning #2 Mine	WCCCS
Perry	Fayette	Coal Cleaning Plant for Banning #1	PAHS
Rostraver	Westmoreland	Darr Mine	WNHS
Rostraver	Westmoreland	Van Meter Company Store	WNHS/RAHS
Smithton	Westmoreland	Stoney's Brewery	WNHS
Rostraver	Westmoreland	Pumping Station for Reduction	WNHS
Rostraver	Westmoreland	Banning #4 Mine	WNHS
Rostraver	Westmoreland	Combine Railroad Car	WNHS
West Newton	Westmoreland	West Newton Cemetery	WNHS
West Newton	Westmoreland	St. Paul AME Church	WNHS
West Newton	Westmoreland	Agway Building	WNHS
Rostraver	Westmoreland	Whistle Blowing Stones	RAHS
Elizabeth	Allegheny	Valley Dairy Food Mart	ETHS
Elizabeth	Allegheny	Red Falls	ETHS
Elizabeth	Allegheny	Old School Building	ETHS
Elizabeth	Allegheny	Old Dravo Cemetery	ETHS
Boston	Allegheny	Boston Methodist Church	ETHS
Elizabeth	Allegheny	Boston Bridge	ETHS

Key to Local Historical Societies

Acronym	Name	County
CAHS	Connellsville Area Historical Society	Fayette
TTHS	Tri-Town Historical Society	Fayette
WCCCS	Whitsett Community Civic Center Society	Fayette
PAHS	Perryopolis Area Historical Society	Fayette
WNHS	West Newton Historical Society	Westmoreland
RAHS	Rostraver Area Historical Society	Westmoreland
ETHS	Elizabeth Township Historical Society	Allegheny
MHC	McKeesport Heritage Center	Allegheny

Overholt Distillery at Broadford



Railroad Bridge Downstream of Connellsville

HISTORIC STRUCTURES WITHIN THE STUDY CORRIDOR

Very few of the historic and cultural sites within the study corridor could be seen from the river, particularly during the summer months when the foliage was heaviest. Boaters and rafters traveling down the Youghiogheny River were most likely to notice the historic bridges along the way. These included a suspension bridge in Dunbar Township near the Overholt Distillery, the Youghiogheny River Northern Railroad Bridge in Dunbar Township, an auto bridge in Layton that was converted from a former railroad bridge, and auto bridges in Boston, McKeesport, and Dunbar Township.

Aside from the bridges, the sites most visible from the river were the defunct Overholt Distillery in Upper Tyrone Township, the smokestack of which could be seen from a distance, and the Jones Brewery, an active business located on the bank of the Youghiogheny in Smithton. The brewery was recognized as historic by the West Newton Historical Society for its cultural value and relationship to the river.

Another historic site visible from the river was the water filtration plant in McKeesport, which was determined eligible for the National Register. It is a round, stone building that could easily be seen from the river near the Fifteenth Street Bridge.

Most of the remaining coke ovens along the river were located in Fayette County. Some could be seen on the hillsides along the river between Connellsville and Dawson, but they were most easily observed during winter months. The historic brick kilns of the Kier Brick Works in Perry Township could also be seen, on the hillside just south of Perryopolis. Another locally recognized historic brick works, the Layton Brick Works, was located along the CSX Railroad, just north of the Layton Bridge.

ISSUES, CONCERNS, CONSTRAINTS, AND OPPORTUNITIES

VII. ISSUES, CONCERNS, CONSTRAINTS, AND OPPORTUNITIES

A. Project Characteristics

1. Demographics

The study corridor was lightly populated, with most of the people concentrated near McKeesport and Connellsville. However, nearly 2 million people, about 17 percent of the entire population of Pennsylvania, lived within the three counties touched by the corridor. This large concentration of potential visitors enjoyed good highway access to the corridor vicinity, but lacked connecting routes within the corridor.

There was a lower percentage of high school and college graduates within the study corridor than throughout the state. This situation, combined with a lack of major employers, helped lead to study corridor residents earning $7000 less per year than the state average. Within a corridor that had only three employers with more than 100 employees and little vacant land suitable for large scale development, this situation was expected to continue or worsen over time without a successful economic development initiative.

Summary:

- Nearly 2 million people lived in Allegheny, Westmoreland, and Fayette counties, within a one hour drive of the study corridor.
- Study corridor residents tended to be less educated and poorer than the statewide average.
- With a lack of major employers, a successful economic development initiative was needed.

2. Zoning

Although zoning ordinances had been established and applied to the majority of the municipalities within the study corridor (4 municipalities do not have any form of land use zoning), not all existing land uses coincided with what has been zoned. Nineteen municipalities within the study corridor had at least one area in conflict with the general intent of its existing zoning. In addition, many of the municipalities that contain brownfield locations have not adapted their zoning regulations to encourage reuse of these sites.

The following items contain examples of areas where existing zoning conflicts with existing or proposed land uses:

- White Oak Borough - land west of Versailles, across the river from Greenock, was zoned industrial, but was open space. This area was too steeply sloped for industrial development.
- Perry Township - land adjacent to river (west side, across from Layton) was zoned industrial but was open space. This area was too steeply sloped for industrial development.

- Elizabeth Township - land across the river from South Versailles was zoned Residential, but was open space. This area was too steeply sloped for development.

These conflicts should be addressed because they did not allow the existing zoning ordinance to be enforced evenly. They also created opportunities for incompatible land uses to arise on adjacent parcels. Lastly, they did not make the best use of existing resources by clustering similar land uses and matching future land uses with existing environmental conditions.

Summary:

- More than half of the municipalities within the study corridor had zoning/land use conflicts.
- These conflicts made existing ordinances difficult to enforce and did not allow for orderly development and sensible use of available land.

B. Land Resources

1. Development Opportunities

It appeared that the primary development opportunities were for reuse of brownfield sites, infill development or adaptive reuse within the small towns, and new development in areas perched above the steep slopes and floodplains.

Encouraging the expansion of small, recreation-based businesses within the study corridor communities and developing upscale housing near the river to take advantage of the scenic qualities of the valley were two possible strategies identified to help alleviate the economic decline of the area. The addition of service and construction jobs from these two strategies will aid study corridor residents by creating opportunities that do not necessarily require advanced education or training. In addition, study corridor municipalities would receive increased tax revenue from these strategies.

One important element of this type of recreation/tourism-based economic revitalization plan was ensuring that the new development was in keeping with the natural, cultural, and historic themes which could make the valley a travel destination. Development of large-scale, 'mall-type' shopping areas tends to detract from the very elements that visitors and residents find attractive. These developments also tend to funnel money away from the municipalities in which they are located by housing nationwide or regional chain stores. While many job opportunities are provided, in most cases little money is returned to the community, except by way of property tax revenue.

The towns within the study corridor presented numerous opportunities for developing business while maintaining a local flavor. Many of the riverside towns such as West Newton, Smithton, and Sutersville had abandoned or

underutilized commercial structures in their downtown areas which could be refurbished. One large advantage of reusing these buildings was that transportation, parking, and utility access already existed there.

There were also opportunities for new construction within the study corridor. There were numerous brownfield sites scattered throughout the corridor, for which state funding for investigation and cleanup was available. This funding could make them viable development property.

While most of these consisted of abandoned mines and mine dumps, one of the more unique brownfields was the abandoned Overholt Distillery at Broadford. The interesting architecture and proximity to the river of this site made it an excellent possibility for adaptive reuse as a 'destination' shopping center or restaurant.

Other possible new development sites were those mapped as prime agricultural soils. More than 500 acres of prime agricultural soils which were not developed or being actively farmed, were identified by Mackin as potential development sites (Figure 7). These locations, identified from SPRPC mapping, were located outside of the 100 year floodplain and away from steep slopes. However, no analysis was conducted on utility or road service to these locations.

Approximate Acres	Location
30	Coulter at river
36	Coulter
20	Near Coulter (opposite side of river)
70	Superfund site (north of Buena Vista)
6	RTC land at Dravo Cemetery
68	Above Industry
<56	Jacobs Creek (in-fill development, incl. exist. town)
<36	Whitsett (in-fill development, incl. exist. town area)
67	Fuller (north of Perryopolis)
<12	Layton (in-fill development, incl. exist. town area)
20	Between Dawson and Laurel Run
(5) 5-10	Scattered sites at Dickerson Run
27	Adelaide
18	Crossland (north of Connellsville)
45	North of Connellsville

Summary:

- Numerous areas for development existed within the corridor, including downtown infill; brownfield sites; and unfarmed, undeveloped prime agricultural soils.

- New development should be in keeping with the natural, cultural, and historic themes which could make the valley a travel destination.

2. Land Ownership

Almost 97 percent of the total land acreage within the study corridor was under private ownership. Therefore, riverfront development and subsequent community integration projects will be heavily dependent upon landowner involvement and cooperation.

3. Waste Sites

According to reconnaissance reports prepared by SE Technologies, Inc. (1991, 1993) a total of 39 unauthorized trash and debris dumping sites existed within the study corridor. The majority of these sites were small piles of building materials and household trash. Although the potential for hazardous wastes to occur at these sites was low, they did represent public safety hazards. An even greater concern was the impact that these sites had on the visual quality of the study corridor.

4. Islands

There were more than fifteen islands, totaling over 50 acres, within the study corridor that were owned by the Commonwealth of Pennsylvania. The Youghiogheny River islands were home to various plant species and have been temporarily used by boaters, anglers, and an assortment of wildlife. Maintenance of these islands is important, particularly after flooding as debris and solid waste degrades their natural environment.

5. Agricultural Lands

A total of 1,699 acres of agricultural property was identified within the study corridor. With the decreasing amount of agricultural land available throughout the state, the need to manage for crop production becomes more important. Most of the area's prime agricultural soils are outside of the study corridor, but roughly 2,360 acres of prime agricultural soils were identified within the corridor. Many of these have already been covered by development.

Of these 2,360, approximately 120 acres were identified as agricultural land. The following were locations of prime agricultural soils being farmed:

Approximate Acres	Location
13	West Newton
9	Perryopolis
33	North of Dawson
48	North of Hulltown (Dawson)
17	Above Adelaide

Protecting prime agricultural soils which were actively farmed and preserving farmland were identified as important issues by both DCNR and the Westmoreland Conservation District.

C. Water Resources

1. Water Quality

The largest impact on the water quality of the Youghiogheny River within the study corridor was from abandoned coal mine drainage, mostly from surrounding tributaries (Frey, 1994). The constituents of this drainage (primarily the oxidation of iron pyrite) were responsible for high levels of trace metals, sulfates, dissolved solids, and acidity (PADEP, 1997a).

In 1967 the Land & Water Conservation and Reclamation fund was established with the goal of preventing, controlling and eliminating stream pollutants from abandoned mines. This and further efforts like the Youghiogheny River Basin Mine Drainage Pollution Abatement Project, completed in 1971, led to the identification and management of several hundred sources of mine drainage (PADER, 1971). Although several tributaries to the Youghiogheny exhibited a net acidity, a PADEP Water Quality Assessment Report indicated that the main stem was net alkaline and contained decreased concentrations of iron (Frey, 1994).

Past and present resource extraction was identified as a major problem however. Fish kills due to cyclical mine discharges, still periodically occur within the watershed (R. Lorson, PFBC, personal communication, July, 1997). Sewickley Creek, a major tributary to the Lower Yough, remains one of the primary AMD contributors. However, the overall outlook for the watershed remains good, with the entire Yough once again supporting healthy fish populations (Miko & Lorson, 1994).

Due to the information on untreated discharges, the amount and degree of sewage effluent was a major concern, but there was no way to assess the impact of these discharges. Although PADEP requires all municipalities to develop an official sewage plan to account for their present and future needs, many have not had the financial means of implementing these plans. Water quality monitoring would help to identify the quantity and degree of pollutants, and to focus cleanup efforts where needed most.

There was a lack of water quality data that was specific to the study corridor and covered the full range of major pollution sources. The NAWQA data from Sutersville indicated that there may be significant seasonal variations in iron and sulfates (both associated with abandoned mine drainage) and suspended solids (associated with agricultural runoff and sewage effluent) (USGS, 1997). Similarly, data from Penn's Corner RC&D Area (1997) indicated elevated levels

of iron, sulfates, magnesium, and low alkalinity at several sampling locations. However, analysis of these two data sources relative to the study corridor could not be conducted because of their sample locations, incomplete data sets, or seasonal and year class sampling differences.

Sewage effluent was also a major concern, but because no organization sampled for sewage-indicator parameters, there was no way to assess the impact of these discharges. At a minimum, municipalities should be brought into compliance with existing state and federal regulations, but a more comprehensive study of the river's water quality is necessary to make informed decisions on cleanup projects.

There were two programs that could help interested parties create, maintain, and manage volunteer monitoring groups. The Citizens' Volunteer Monitoring Program, sponsored by PADEP, provided information on both surface water and groundwater sampling. The second organization, the Alliance for Aquatic Resource Monitoring (ALLARM), was a grass roots organization that maintained a water quality database and provided technical support for monitoring groups.

Many other volunteer watershed organizations were located along the tributaries such as the Sewickley Creek Water Association. These types of organizations spend a great deal of time and interest in researching and maintaining their watersheds.

Management of a water quality monitoring program within the Youghiogheny River study corridor must consider the vast difference between the size of the northeastern and southwestern watersheds.

The northeastern watershed was much more expansive (330.4 square miles), extending approximately 10 miles from the river in most areas. This portion of the watershed consisted of 36 tributaries, two of which were the largest in the corridor, Jacobs Creek and Sewickley Creek. Due to the larger drainage area, a higher number of municipalities occurred within this portion. This indicated a greater number of potential point and non-point sources of pollution.

In contrast, the southwestern watershed was contained within a fairly narrow area (7 miles from the river at its widest point) due to a ridge that extended the length of the corridor. Although this portion of the watershed contained approximately 29 tributaries, the drainage area was much smaller in comparison (75.7 square miles). Patterns of development and land use were similar to those in the northeastern watershed, but the reduction in watershed size corresponded with a decrease in potential pollutant sources.

Summary:

- The three major sources of pollution in the study corridor appeared to be AMD, sedimentation from development and agriculture, and sewage untreated or undertreated sewage discharges.
- Although the effects of resource extraction have decreased significantly since the early 1900s and overall trends in water quality were positive, the Youghiogheny River remained highly sensitive to man-induced inputs.
- Due to land uses and topographical differences, water quality improvements in the northeastern watershed may be logistically more difficult to implement and manage.
- Given the existing water quality data, there was no way to determine the effects of sewage discharges within the study corridor, but several municipalities needed to implement sewage treatment plans and associated effluent monitoring programs.
- There was a need for comprehensive, longitudinal water quality monitoring programs that addresses the three major pollution sources within the study corridor.

2. Water Quantity

Any water reallocation from the Youghiogheny River Lake had the potential to have a significant negative impact on the study corridor. The Youghiogheny River is heavily dependent on water-related recreation and already suffers from a lack of water during drier months, so any additional demands on the water supply could have serious implications to area businesses. A lower water level may also compound existing water quality problems by allowing less dilution of pollutants and causing them to be concentrated in the few deeper pools that occur. Higher water temperatures, which would also result from lower water levels, might negatively impact fish and other aquatic organisms as well.

However, the ACOE was still in a preliminary stage of study. Perhaps the most important issue related to the study corridor is that studies be undertaken to identify what constitutes a 'critical low flow level' for this portion of the Youghiogheny River. Because this specific language was contained in MAWC's permit from PADEP, but had not been scientifically identified, water allocations based on this will be left open to subjectivity.

The stakeholders in the lower Youghiogheny River basin should make their opinions known during the feasibility study process and become as actively involved in the study as possible.

Summary:

- Water reallocation from the Youghiogheny River Lake could induce significant negative impacts on the river ecosystem and current recreational uses.

- The term 'critical low flow level', specified in MAWC's PADEP permit was not defined.

4. Floodplains

Future development and land use plans should be coordinated with the Federal Emergency Management Agency and the National Flood Insurance Program to determine floodplain and special flood hazard areas within the corridor.

Existing development could utilize emergency flood response resources. The National Weather Service (NWS) operated river forecast points at several locations along the Youghiogheny River. This information was available through recorded messages, the NWS internet site (www.nws.noaa.gov.er.pitt), and National Oceanic and Atmospheric Administration (NOAA) weather radio.

According to RTC, melting ice jams were a common and problematic occurrence on the Youghiogheny, as evidenced in 1993 when fragments obstructed normal flows, causing severe flooding and property loss. Following this event, evacuation procedures were put in place for residents across and downstream of West Newton.

Summary:

- Future development should be coordinated with the Federal Emergency Management Agency and the National Flood Insurance Program to limit floodplain encroachment.
- Existing developments may utilize several sources of emergency response information and local evacuation procedures.

D. Biological Resources

1. Exotic species

Management or eradication of Japanese knotweed had proven difficult, if not impossible, in several other areas of the northeastern United States (Seiger, 1997). One alternate solution to the problem was to allow the knotweed to remain in areas where it occurred along the upper part of steep banks, then plant native plants for erosion control on the lower bank areas.

2. Threatened and Endangered Species

Each of the threatened and endangered species that occurred within the study corridor depended upon either heavily forested areas or water resources to meet their life requisites. These animals were found within this area because each of these resources was abundant along the Youghiogheny River. The same was true of the game and fur-bearing species which lived along the river, although they could also occur in more developed areas. By continuing efforts to maintain and improve water quality, and by protecting forest resources located along the river, the habitat that supported these animals can be preserved.

3. Timbering

In areas with extensive private ownership and timber resources such as those that exist within the study corridor, timbering can be a major economic generator. However, logging operations can also have serious impacts on the river ecosystem. There are numerous management practices and environmental regulations in use that can reduce the effects of logging on the environment. Any timbering operations undertaken within the study corridor, particularly on the steep slopes along the river's edge, will need to be especially sensitive to environmental conditions and potential impacts to the river. With the large amount of forested area within the study corridor, accommodating the timber industry without serious environmental impacts should be possible.

4. Insect pests

Public comments indicated that in many regions throughout the study corridor, black fly populations exceeded mere 'nuisance' proportions. Where the adult flies were prevalent, participation in outdoor activities such as golfing, fishing, hiking, and canoeing declined significantly during the 'black fly season'. Black fly populations can be controlled through regular spraying, but this effort can be costly.

5. Riparian Forested Buffers

Forested buffers which existed along much of the study corridor help improve water quality, but proper maintenance, management, and integration with other river conservation techniques will also be required. Riparian forest buffers alone will not solve water quality problems. There must be an integrated ecosystem approach including sediment and erosion plans, AMD abatement projects and proper land management techniques.

There area several government agencies that can be contacted for further information on maintaining a riparian forest buffer,. The USDA, the US Fish and Wildlife Service, the Natural Resources Conservation Services, and DCNR are a few of these agencies. It is critical to the maintenance and protection of riparian forested buffers that he private landowners along the riverside are provided with extensive knowledge and assistance about the benefits and effects of these systems.

6. Warmwater Fishery

The PFBC has noted that the Youghiogheny River was an excellent warmwater fishery, with reproducing populations of several warmwater gamefish species Miko & Lorson, 1994). Smallmouth bass were the dominant game species inhabiting in the river, but reproducing populations of muskellunge may also occur. The river was stocked by several organizations with trout, a coldwater fish, but the question of whether the trout can exist and reproduce in the warm water of the Youghiogheny remained.

Residential Development with Little Forested Buffer

Residential Development with Forested Buffer

RIPARIAN BUFFER ALONG THE RIVER

Although populations of smallmouth bass were yielding attractive harvest rates, PFBC indicated that the fertility of the waters were responsible for the observed slow growth rates. Habitat for breeding has been described as exceptional, but the limiting factor for growth rate appears to be unstable pH levels throughout the study corridor (Lorson, personal communication, August, 1997). If water quality monitoring was promoted and cleanup projects implemented based on the monitoring results, the Youghiogheny River could become among the best warmwater fisheries in the state.

E. Cultural Resources

1. Recreation

The Youghiogheny River provides a scenic wilderness escape that had the potential to attract a great number of tourists to its recreational resources. Recreation and the Youghiogheny River have gone hand in hand for as long as people have lived along its shores. During the Industrial Revolution, workers of mines and mills would swim in the river on hot summer days (Palmer, 1984). But in the 1950s and early 1960s the river became polluted with abandoned mine drainage, deterring most of the recreation activities.

In the late 1970s recreation activity was restored along the Youghiogheny as a result of public and private cleanup efforts. In 1965, Fayette County citizens groups organized a lobby lead by Samuel Magie of Uniontown for more state mine reclamation (Palmer, 1984). At that time, the citizens believe the Youghiogheny and southwestern Pennsylvania could become one of the best recreation areas in the eastern US.

As a result of the cleanup efforts, the PFBC approved trout to be stocked in the river for the first time, reviving recreational fishing. Since then the recreation industry has exploded in the Youghiogheny River. With the fast water, beautiful scenery, and flourishing gamefish population, the river was a wonderful resource for many outdoor activities, such as fishing (which generates $1.1 billion in the state of PA each year); hunting (which generates $900 million in the state each year), canoeing/rafting (which generates over $4 million at Ohiopyle alone) and trail biking and hiking (which has become the fastest growing profitable industry on the river) (Palmer, 1984).

The availability of a wide variety of recreational resources was one of the greatest strengths of the study corridor. Capitalizing on this strength by encouraging both residents and non-residents to use these resources in greater numbers should be an important outcome of this plan. Completing the YRT will be a large step toward that end by creating a connection with the large population center in Allegheny County. The ultimate completion of the Pittsburgh to Washington, DC trail will also vastly increase recreational usage in this area.

There were four parks located in the study corridor which incorporated both river use and YRT access: Gergley Park in McKeesport, Boston Community Park in Boston, Cedar Creek County Park in Rostraver, and Yough River Park in Connellsville. In addition to various other facilities, each of these parks included an ample amount of parking, river access, trail access, picnic areas, and shade trees. These parks linked the surrounding communities to the river and encouraged visitors to take advantage of the recreational opportunities there. Each of them could be used as a model for the development of future parks along the river.

Additional parks, linked to the YRT through spur trails, represent viable resource and community development projects. Potential projects may include a riverfront camping and recreation area at Layton (just below Hazelbakers) and a county park at Washington's Run.

Another potential area for recreational development is the establishment of boat-in or trail access only, primitive camp sites. These areas could be established at regular intervals along the corridor or within close proximity to unique cultural and natural resources. Camp sites would be rustic and specifically tailored to overnight canoeists and trail riders. Accompanying this network of camp sites would be a river guide book detailing the river characteristics, areas of natural or cultural interest, etc.

Summary:

- A variety of recreational activities exist within the 46 mile study corridor.
- Capitalizing on this strength by encouraging both residents and non-residents to use these resources in greater numbers should be an important outcome of this plan.
- There were four parks which incorporated both river and YRT access.

2. Archaeological/Historical

The areas with the greatest concentration of cultural and historic attractions along the Youghiogheny River from Connellsville to McKeesport were Connellsville, Dawson, Whitsett, West Newton, and McKeesport. These were the areas with the most potential for attracting trail riders or boaters into the area for historic and cultural appreciation.

Access to these areas varied for bikers and boaters. Dawson had the most visibility from the river, but it was on the opposite bank from the YRT, which makes access for trail users more difficult. However, there was an auto bridge that was used to access to Dawson from the trail.

The YRT passed through Whitsett and provided access to its historic district, but the town was not easily visible from the river. West Newton had access to its

historic sites from either bank of the river and the YRT via an auto bridge. Connellsville and McKeesport had boat docking facilities and large public parks which incorporated the YRT near their historic sites, which made access to them more available for both trail and river users.

When linked with recreational and natural resources, the historic resources of the study corridor create what may be the best opportunity to enhance the image and attraction of the area for both residents and visitors. The number of sites and the importance of their role in the context of American history could become an important regional attraction. Through partnerships with local historical societies such as the Connellsville Area Historical Society, which already has plans to develop interpretive areas, study corridor communities could create a heritage tourism niche for this area and incorporate it with larger tourism initiatives.

The Steel Industry Heritage Corporation (SIHC) was developing a larger tourism initiative, *Rivers of Steel*. *Rivers of Steel* is a Commonwealth of Pennsylvania Heritage Area, and one of nine federally-designated heritage areas. This initiative encourages river-based heritage tourism of steel and steel-related industries throughout a seven county region in southwestern Pennsylvania.

Rivers of Steel incorporates historic preservation, cultural conservation, education, economic development, intergovernmental cooperation, and recreational and natural resources into its heritage tourism thematic program. This seven county initiative is composed of five individual, but thematically linked, Regional Journeys. Each journey will explore a specific aspect of steel and steel-related industries, coordinating existing resources into a regional tour program.

The regional journey being developed for Connellsville and the Youghiogheny River Valley is the **Mountains of Fire**. This journey will concentrate on the coal and coke industries, developing such historic attractions as the Meason House in Dunbar Township, the Overholt Distillery Museum in West Overton, the 1907 Darr mine explosion site, and beehive coke ovens which existed throughout the region. In addition, other area resources like the YRT, Coal and Coke Festivals, fiddlers' contests, and Fallingwater will be included, linked, and promoted.

For this journey, and in coordination with a yet to be created Regional Journey Organization, specific signage programs, promotion efforts, and marketing and development plans will be produced. It is incumbent upon local organizations within the journey area to participate in the development of the program, to ensure that the area is representing itself appropriately, and is inclusive of all that there is to offer.

It is within the **Mountains of Fire** journey that the opportunity exists for organizations to implement and develop some of the Management Options put forth in this Youghiogheny River Conservation Plan. The *Rivers of Steel*

initiative will provide a thematic format, a coordinated approach to soliciting visitors, and an additional funding source. Permission to use the **Mountains of Fire** name on development, marketing, and promotional material must be obtained from the SIHC, which is looking for local partners in developing these programs.

Summary:

- The areas with the greatest concentration of cultural and historic resources were Connellsville, Dawson, Whitsett, West Newton, and McKeesport.
- Linking the recreational and natural resources with the cultural resources of the study corridor, would create an opportunity to enhance the image and attraction of the area.
- The *Rivers of Steel* heritage area and **Mountains of Fire** journey could be of considerable value to the project area as a method of preserving and interpreting the region's history.

F. Educational Resources

The Youghiogheny River had unique opportunities for environmental education that did not appear to be utilized to their fullest extent. Of the three counties involved in this river conservation plan (Allegheny, Westmoreland and Fayette) only one has any environmental education programs related to Youghiogheny River.

The Westmoreland Conservation District holds an annual Envirothon for local school districts to participate in. The Envirothon originated in Pennsylvania in the spring of 1979, although the Westmoreland Conservation District began their program in 1986. This program was designed to provide the opportunity for high school students grades 9-12 to compete in various events related to current environmental issues. Westmoreland's Envirothon included topics such as soil conservation, water quality and aquatic life, wildlife habitat and management, and forestry practices. Participation has grown to include half the school districts in the county. The winners of the county program advance to the state and then the federal Envirothon competition. There were approximately 40 teams from across the country in the national competition in 1996. In order to sign up, a school district only has to contact the Conservation District in their area.

The Youghiogheny River holds educational opportunities for people of all ages. It could be utilized as an outdoor environmental classroom or become a topic for an essay contest for school children. It could be a learning experience in fishing techniques for adolescents through adults, or a history lesson detailing the past events that helped to shape our nation. There are many other opportunities for children, adults, and seniors to continue their education, including subjects about history, science, math, English, biology, hobbies, and environmental stewardship.

- The Youghiogheny River valley was filled with a vast quantity of historic, cultural, and environmental resources that have just begun to be rediscovered. The combination of these resources provides an outstanding opportunity to develop educational programs for both children and adults.

MANAGEMENT OPTIONS

VIII. MANAGEMENT OPTIONS

Based on the goals defined by RTC for the Youghiogheny River Conservation Plan, the following set of issues were developed. The management options, which are recommendations for action based on the results of data collection and analysis, were then categorized by the issue(s) to which they responded. The identified issues for the Youghiogheny River study corridor were:

- Resource Conservation
- Improvement of Economic and Social Conditions
- Enhancement of the River Experience

The following sections explain the management options, categorizing them by the issues to which they relate and listing them by the calendar year in which Mackin recommends their implementation be undertaken (Figure 7). Some management options occur in more than one category. A summary of the management options, responsible parties, funding sources, and suggested years of implementation was attached as Appendix C.

Resource Conservation

Create a Lower Youghiogheny River Council (LYRC). [1998]

LYRC would be a single entity consisting of local residents and business people who have a stake in strengthening the economy of the Lower Yough area. LYRC membership could be taken from members of the RTC Focus Groups, plus any other interested parties. *It is critically important that municipal, county, and state government officials from all three counties participate to some extent in this group.* LYRC could even continue to be subdivided into committees representing the focus groups as they now exist, with designated representatives of each group comprising a decision-making Executive Council.

The LYRC would have several duties related to resource conservation. The first of these is to oversee the implementation of this plan, and to update it when necessary to ensure that it stays current as future issues arise. This would include, among other actions, organizing participation in the water reallocation study for the Youghiogheny River Lake, acting as a clearinghouse for data collected through water quality monitoring and environmental inventories recommended below, and completing the necessary agency coordination to ensure other recommendations are carried out. Additional responsibilities may be assigned to LYRC as development within the river corridor increases.

Organize municipalities and other stakeholders within the study corridor to become actively involved in the Army Corps water reallocation study process. [1998]

Reallocation of water from the Youghiogheny River Lake has the potential to induce serious negative effects on the economy and ecology of the river system. Affected communities should voice their opinions during the early stages of the feasibility study. Becoming actively involved during the preliminary stages will ensure the inclusion of public opinion in future planning decisions by PADEP and ACOE.

Another possibility is to develop a Youghiogheny River Commission, drawing upon the same principles outlined within the Susquehanna River Compact. This document addressed concerns and outlined policies regarding diversions of water from the Susquehanna River Basin. The Susquehanna River Compact's primary goal was to conserve and protect the Susquehanna's water resources, with the ultimate goal of preserving availability to the residents within the watershed. To this end, all water diversions and transfers from the basin were discouraged. A similar agreement may be appropriate for the Youghiogheny River.

Develop a water quality monitoring program. **[1998]**
The monitoring should collect data at established locations on a quarterly or monthly basis. Monitoring points should be minimized to save on the time and cost associated with sampling, and should be located at critical points along the river. Mackin has recommended sampling points based on tributary locations and on known or suspected sources of contamination (Figure 7).

A limited, cost effective chemical analysis was suggested by the PFBC in order to determine if there was any chemical impairment to the stream, and to identify potential causes of the impairment. Mackin suggests the parameters listed below in order to determine impacts from the three major pollution sources identified in the study corridor: AMD, sedimentation, and sewage.
Parameters:

- pH
- Acidity
- Total Alkalinity
- Biological Oxygen Demand (Five Day)
- Specific Conductance
- Total Suspended Solids
- Sulfates
- Total Aluminum
- Total Manganese
- Dissolved Iron

Create an "Adopt the Yough" volunteer trash removal program to ensure continued maintenance along the river corridor. **[1998]**
Trash and debris along the river corridor, although not overwhelming, was becoming a significant source of pollution and visual degradation. Programs like the Youghiogheny River Sweep, held annually, need to be expanded and conducted on a monthly basis. One solution was to institute a stewardship program whereby landowners and interested parties could adopt a small section of river and actively manage cleanup efforts within that section.

Emphasize water quality monitoring and improvement, with the future possibility of instituting a catch and release program for warmwater gamefish species or Big Bass regulations. **[1998]**
In a 1994 management report, the PFBC identified the lower Youghiogheny River as having very good potential to support a walleye population and, as a result, started a walleye stocking program in this section of the river. In addition, the PFBC report indicated that the study

corridor (identified by the PFBC as Section 05 of the Youghiogheny River) may contain a reproducing population of muskellunge, which was extremely rare for a Pennsylvania river. The 1994 study also noted that this section of river has an extremely active smallmouth fishery. Capture rates below South Connellsville were approximately twice as high as rates on the upper Allegheny River, which was renowned as a smallmouth fishery.

However, increased stocking of these species alone, will not benefit the fishery due to slow growth rates observed by PFBC (R. Lorson, personal communication, August, 1997). Improvements in water quality, primarily pH levels, must first be addressed in order to maintain a viable, self-sustaining fishery. Annual warmwater gamefish stocking could be increased once water quality improvements are achieved. Focusing local efforts on improving existing water quality could make possible the future implementation of a catch and release program for warmwater species or a Big Bass area.

If implemented, these programs would allow anglers to enjoy an improved resource while perpetuating improvements in water quality. Similar catch and release and Big Bass areas in other areas of Pennsylvania are known for their viable populations and ratios of trophy fish (R. Lorson, personal communication, August, 1997). This will attract more recreational use of the river and additional revenues from resident and out-of-state anglers.

Coordinate with local officials to enforce stormwater management regulations and encourage use of best management practices. [1999]
This recommendation will help to improve water quality in the river by addressing the one of the sources of sedimentation and other pollutant runoff. This will be particularly important in areas where new development is occurring along the northeastern tributaries.

Hire a Code Enforcement Officer and Community Development Specialist to enforce land use regulations and coordinate efforts for development within the river corridor. [1999]
Under a Circuit Rider grant, a Code Enforcement Officer (CEO) could be hired to cover the river corridor. The CEO's responsibility would be to enforce zoning and clean up illegal trash dumping. The Development Specialist would work with local business, recreation, environmental and historic groups to coordinate and promote the goals of this plan. This person could assist in community development by maintaining a clearinghouse of community development information and by assisting individuals or municipalities in applying for funding for community development projects.

Create a land trust to preserve sensitive ecological habitats or historical properties. [1999]
A land trust is a non-profit organization whose primary purpose is the conservation and preservation of open space, park lands or natural areas for public benefit. Although the Allegheny Land Trust already operates within the corridor, their geographic area of concern does not cover the entire area. Creating a land trust specifically to operate within the Youghiogheny River valley would provide a mechanism to acquire the steep slopes along the river for the purpose of maintaining the viewshed, protecting the riparian forest buffers and preserving the open space located along the Youghiogheny River. It would also provide an opportunity to preserve sensitive historic features such as coke ovens, and open them as interpretive areas.

There is a Land Trust Grant Program through DCNR's Keystone Recreation, Park and Conservation Fund that allows for 50% matching funds for the acquisition and management of land trust projects. In order to receive this grant, a land trust organization must be prequalified through DCNR. To prequalify for Keystone Funding, a land trust must fill out a prequalification form, be tax exempt under section 501(c)(3) of the Internal Revenue Code of 1986; be registered with Bureau of Charitable Organizations, PA Department of State; and be in existence for at least 5 consecutive years.

Encourage deficient municipalities to develop a formal sewage treatment plan. [1999]
As mentioned, PADEP requires all municipalities to develop an official sewage plan to account for their present and future needs. The financial means of implementing these plans was often lacking within sparsely populated areas in the study corridor. However, the development of a treatment plan is the first step towards regulatory compliance, and funding is available through grants and reimbursements from PADEP. In addition, municipalities with official plans, as well as private landowners, may be eligible for funds through programs such as the Pennsylvania Infrastructure Investment Authority, or PENNVEST. PENNVEST provides low-cost financing for work on wastewater systems throughout the state.

Implement zoning in all municipalities bordering the river. [1999]
Zoning is the most powerful vehicle for economic revitalization of study corridor communities. It is also the strongest tool with which municipalities can guide and enforce planned land use, development, and conservation along the riverfront. With the proper application of a zoning ordinance, steep slopes wetlands and floodplains can be protected as green space, commercial and residential developments can be accommodated, and abandoned or underused industrial sites can be revitalized. It is important to note that municipalities which institute land use controls throughout the municipality will likely see greater benefit from this regulation than those which only address the areas immediately adjacent to the river.

It is recommended that brownfield sites be zoned "flexible" where possible so as to encourage the reuse and development of vacant industrial land. Flexible zoning is one way to offer a wider range of possibilities for brownfields and their reuse. It also serves to encourage new uses to these sites, which may complement the local goals and initiatives for river conservation.

Other options under this recommendation include:

Create a Special Overlay District for municipalities along the river. [1999]
Municipalities with zoning ordinances should consider creating a river recreation overlay district. The intent should be to encourage economic development and the conservation and preservation of historical and environmental resources. An overlay district would allow certain types of development to occur on lands that have the physical features that can support development, thereby excluding steep slopes, prime agricultural soils, floodplains, slide prone areas, and watercourses. The overlay district concept should be applied to the standards of the primary zoning district of the municipality. Communities that do not have zoning may wish to consider adopting the special overlay district standards as part of an Official Map.

Have municipalities that do not adopt zoning develop an Official Map. *[1999]*
For communities that do not wish to implement zoning, an official map can be used as a basis to designate land for future public use, albeit with less enforceable power than a zoning ordinance. Municipalities wishing to adopt an official map should follow the guidelines prescribed in Article IV of the Pennsylvania Municipalities Planning Code. Developing an official map as a land use technique can enhance this plan through aiding local municipalities in highlighting development opportunities, planning for the overall use of the riverfront, planning for the land acquisitions, and identifying significant cultural and environmental resources for enhancements. Due to the intent of the riverfront overlay district, there would be little liability and enforcement issues normally associated with typical zoning.

Establish Community Growth Boundaries. *[1999]*
Community growth boundaries were a land use tool that may be implemented in communities that do or do not have a zoning ordinance. The concept of an community growth boundary is to allow more intense development to occur in and adjacent to existing populations centers, which would protect the land outside the growth boundaries from development sprawl. The community growth boundary is a line around a population center where development is allowed to occur in a more intense manner than the lands that lie outside of the boundary line. The area inside of the growth boundary is the area where public utility service should be extended and development is allowed to occur at a higher density than the lands outside the boundary. Community growth boundaries encourage the adaptive reuse of existing buildings and infill development. This land use technique attempts to promote community revitalization by encouraging development and redevelopment to occur in existing communities.

Encourage municipalities to adopt prime agricultural land overlays as part of their land planning ordinance. **[1999]**
With a decrease in the amount of available agricultural land throughout the state, the need to manage for sustained agricultural production will become increasingly more important. A method of accomplishing this is to protect agricultural lands which are located on prime agricultural soils, as identified by the NRCS or the county conservation district. Approximately 120 acres of land in the study corridor were identified as having agricultural use on prime agricultural soils. These sites vary from 9 to 40 acres. Before protection measures are enacted, mapped prime agricultural soils should be field verified by a soil scientist due to the excessive amount of past strip mining practices in the corridor.

Implement erosion control measures in areas which have exposed banks, especially downstream of Smithton. **[2000]**
The most effective erosion control measure was to reestablish the riparian buffers which once existed along the Youghiogheny. These habitats, while decreasing the environmental degradation to the stream ecosystem, will require proper maintenance, management, and integration with other conservation techniques. In order to properly manage riparian forest buffers, there were several guidelines or considerations that should be made. Most importantly, riparian buffers will not improve the water quality alone. There must be an integrated ecosystem approach including sediment and erosion plans, pollution abatement projects and proper land

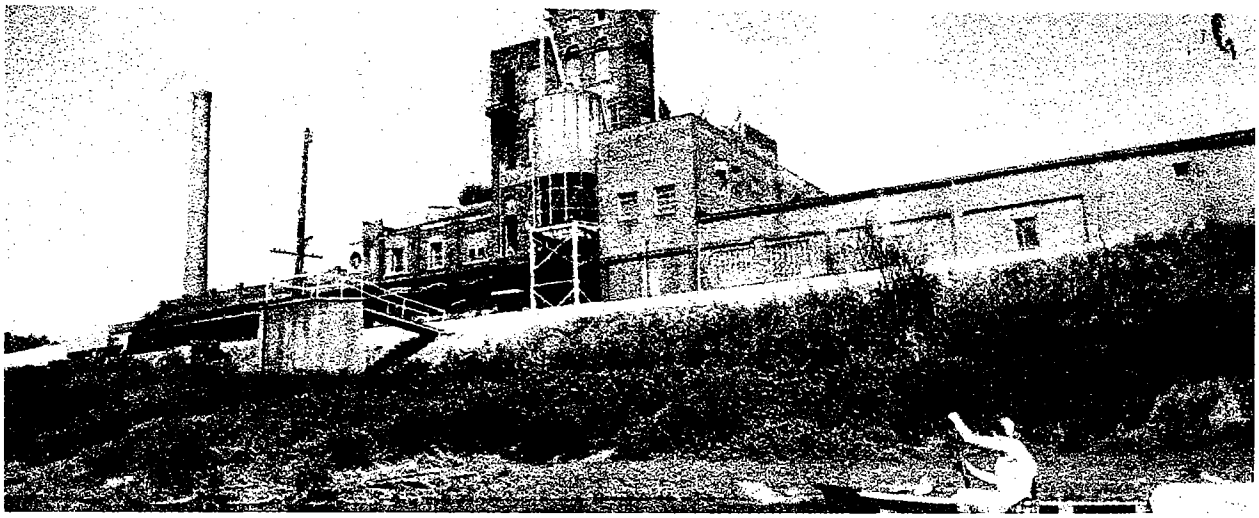
management techniques. Technical assistance and information regarding proper maintenance or reestablishing riparian forest buffers was available from several government agencies including the USDA, the USFWS, the NRCS, and DCNR. Also, PADEP operates the Stream Improvement Program which specifically addresses riparian habitat and streambank erosion.

Maintain and improve the ecological and visual quality of the river corridor by requiring a vegetative barrier along the river's edge. [2000]
The natural, wooded appearance from the river was one of the primary attractions of the Youghiogheny River corridor. That appearance was created by the vegetative buffer which occurs along most of this section of the Youghiogheny. The buffer serves not only as an attractive setting, but to maintain water quality as well. This condition could be further enhanced by ordinances requiring riverfront development to maintain a vegetative buffer along the river. This buffer could allow landowners along the riverfront a view of the river, but present river users with a natural screen, maintaining the appearance of an undeveloped condition. In order to properly maintain a riparian forest buffer, there were several government agencies that can be contacted for further information. The USDA, the USFWS, the DCNR and the local Soil Conservation Service (SCS) were just a few of these agencies.

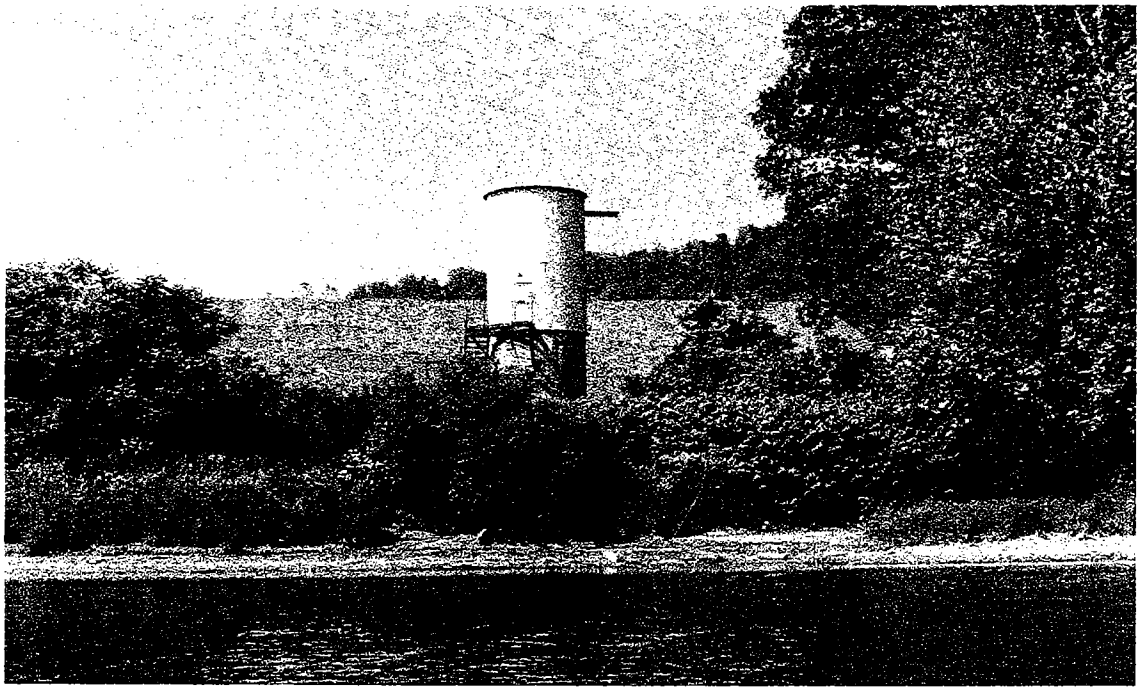
The conservation and preservation of the existing wooded slopes overlooking the river will continue to draw tourists and recreational users to the valley. A further evaluation of the scenic viewshed from the river should also be conducted. This could identify forested areas for conservation and preservation. The plan may allow only limited clearing in some areas with total preservation in other areas.

Develop a plan to identify, quantify and remove mine tailing piles and trash dumps. [2000]
More than 30 unauthorized trash and debris dumping sites were identified within the study corridor. In addition to representing safety and environmental hazards, these areas detract from the visual quality of the region. Determine the eligibility status for having the numerous dumping sites classified as Brownfield Sites under the Land Recycling and Environmental Remediation Standards Act (i.e. Act 2). By having these areas designated as brownfields, funding for environmental studies and cleanups may be obtained from the Industrial Sites Cleanup Fund. If remediation plans were funded and implemented, these areas may represent recreational and economic development opportunities.

Conduct a complete inventory and mapping study of the islands in the river. [2000]
The most current mapping for the Youghiogheny River does not accurately reflect the number and size of the islands that occur there. A complete inventory should be conducted, establishing the size, shape, and vegetative community of each island. The results of this inventory should be added to the Geographic Information Systems (GIS) database created for the River Conservation Plan. In addition, the correct names should be added to Mud Island, Gregg's Island, and Hewitt Island on all official maps.



Jones Brewery in Smithton



Former Banning Mine, South of West Newton

ACTIVE AND ABANDONED INDUSTRIAL SITES ALONG RIVER

Conduct an inventory of brownfields, and identify their redevelopment potential and eligibility status for PA Act 2 (Industrial Site Reuse). [2000]
The study corridor has a number of brownfields which were comprised of large tracts of land adjacent to the river and active rail lines. These brownfields consist mostly of abandoned mining sites, although some, such as the Overholt Distillery at Broadford, were related to other industries. Through PA Act 2 legislation study corridor municipalities may be eligible for grant funding to assess the current environmental condition of these sites, and begin cleanup.

Once a complete inventory of the sites is completed (this River Conservation Plan includes only a preliminary inventory), they should be prioritized based on their redevelopment potential, including road and utility access, and size. Once this prioritization is completed, the individual municipalities or LYRC should apply to the state for funding to assess the sites' environmental condition, and in some cases to begin cleanup work.

Prioritize construction of new sewage treatment facilities, facility upgrades, and sewer line extensions through data obtained from the water quality monitoring program. [2001]
The lack of comprehensive, longitudinal water quality data prohibits any valid analysis on the effects of sewage discharge in the study corridor. The implementation of a water quality monitoring program would enable municipalities to identify both the effects of untreated discharges and the specific locations of sewage outfalls. By establishing direct cause and effect relationships and compliance with the Sewage Facilities Act, requests for funding were more likely to qualify.

Implement a survey of abandoned mines within the study corridor to develop a reclamation strategy. [2002]
Three popular programs involved in reclamation were the Rural Abandoned Mine Program (RAMP), the Landowner Reclamation Program (LRP), and the Surface Mining Control and Reclamation Act of 1977. RAMP is a federal program funded by USDA, NRCS and supported by the Western Pennsylvania Coalition for Abandoned Mine Reclamation (WPCAMR) which is a non-profit, volunteer group that is involved in increasing public awareness, attracting support for abandoned mine projects and obtaining full federal funding for reclamation projects. LRP was a cooperative effort between PADEP and the State Conservation Commission. This program allows interested landowners to take advantage of state funds to reclaim any abandoned mine sites on their property. The Surface Mining Control and Reclamation Act of 1977 is supported by the PADEP Bureau of Abandoned Mine Reclamation (BAMR) and provides for a per ton fee on active coal mine to help pay for clean up. In 1990, the act was amended to allow states to set aside up to 10 percent of their funding to tackle abandoned mine drainage.

Place the river islands under the management of DCNR or the Pennsylvania Game Commission (PGC). [2002]
There were more than 15 islands, totaling over 50 acres, in the Lower Youghiogheny River. In some cases the Commonwealth may already have ownership of the islands, and in other cases, ownership or control of the islands may have to be transferred to the state. If they were brought under state control, the existing habitat on the islands will be protected, greater efforts will be

made to keep them free of trash, and habitat improvement projects may be implemented and funded by the state.

Coordinate with county conservation districts, landowners, and farmers to review and enforce sedimentation and control regulations and techniques. [Ongoing]
This recommendation will help to improve water quality in the river by addressing the one of the sources of sedimentation and other pollutant runoff. This will be particularly important in areas where new development is occurring along the northeastern tributaries.

Investigate methods of controlling Japanese knotweed growth. [Ongoing]
Some success on newly developing communities of knotweed has been demonstrated through manual and chemical controls. Biological controls remain speculative and only very preliminary work has been done. Manual control consists of digging out the rhizomes (root stems which serve in propagation) or cutting the stalks. Research indicates that at least three cuttings were needed during the growing season to offset rhizome production (Seiger & Merchant, 1990 cited in Seiger, 1997). Biocidal chemicals have also proved effective against Japanese knotweed but were often undesirable due to non-selectivity and the potential for water contamination. Only one agent, glyphosphate [N-(phophonomethyl) glycine] (i.e. Rodeo™), has been approved for use near water. Both of these remedies require continued management and were labor intensive, but where populations were small and isolated, they represent the best option.

LYRC should coordinate with DCNR to be aware of new methods of controlling knotweed as they become available.

Improvement of Economic and Social Conditions

Create a Lower Youghiogheny River Council (LYRC). [1998]
LYRC would be a single entity consisting of local residents and business people who have a stake in strengthening the economy of the Lower Yough area. LYRC membership could be taken from members of the RTC Focus Groups, plus any other interested parties. *It is critically important that municipal, county, and state government officials from all three counties participate to some extent in this group.* LYRC could even continue to be subdivided into committees representing the focus groups as they now exist, with designated representatives of each group comprising a decision-making Executive Council.

The LYRC would have several duties that would improve economic and social conditions of the river valley. The first of these is to oversee the implementation of this plan, and to update it when necessary to ensure that it stays current as future issues arise. Specific duties would include, among other actions, writing grant proposals for a community development projects, encouraging study corridor communities to implement zoning ordinances or other land use regulations, coordinating the marketing effort to promote the area, and completing the necessary agency coordination to ensure other recommendations are carried out. Additional responsibilities may be assigned to LYRC as development within the river corridor increases.

Conduct flood awareness seminars. **[1998]**
The National Weather Service sponsors flood awareness seminars for communities located along rivers and streams in western Pennsylvania. Arranging these seminars will help make people in flood-prone communities such as Dawson and West Newton more aware of this problem and alert them of proper procedures in flood emergencies.

Complete Yough River Trail. **[1998]**
The trail already attracts hundreds of thousands of users annually to the region and by completing the Smithton to Liberty and Boston to McKeesport sections, it will provide a more complete route along the river and a connection between river communities.

Develop a Master Site Plan for the Youghiogheny Linear Park at McKeesport. **[1998]**
Develop a plan including recommendations for the placement of ballfields, forest buffers, kayak club, trail alignment, lighting, and parking facilities along the riverfront property.

Promote the Youghiogheny River in fishing, hunting, camping, canoeing, and bicycling magazines. **[1998]**
Promoting the natural beauty and recreation opportunities of the Youghiogheny River valley in regional and national publications will help to bring new visitors to the river corridor. This will, in turn, help to spur new business development in the service sector.

Develop a relationship with the Steel Industry Heritage Corporation and other tourism groups. **[1998]**
The *Rivers of Steel*'s commitment is to encourage feasible methods for linking historical sites. Incorporating SIHC and other tourism groups into the preservation and development of historical sites may provide sources of additional data gathering, promotional support and funding.

Hire a Code Enforcement Officer and Community Development Specialist to enforce land use regulations and coordinate efforts for development within the river corridor. **[1999]**
Under a Circuit Rider grant, a Code Enforcement Officer (CEO) could be hired to cover the river corridor. The CEO's responsibility would be to enforce zoning and clean up illegal trash dumping. The Development Specialist would work with local business, recreation, environmental and historic groups to coordinate and promote the goals of this plan. This person could assist in community development by maintaining a clearinghouse of community development information and by assisting individuals or municipalities in applying for funding for community development projects.

Implement zoning in all municipalities bordering the river. **[1999]**
Zoning is the most powerful vehicle for economic revitalization of study corridor communities. It is also the strongest tool with which municipalities can guide and enforce planned land use, development, and conservation along the riverfront. With the proper application of a zoning ordinance, steep slopes wetlands and floodplains can be protected as green space, commercial and residential developments can be accommodated, and abandoned or underused industrial sites can be revitalized. It is important to note that municipalities which institute land use controls

throughout the municipality will likely see greater benefit from this regulation than those which only address the areas immediately adjacent to the river.

It is recommended that brownfield sites be zoned "flexible" where possible so as to encourage the reuse and development of vacant industrial land. Flexible zoning is one way to offer a wider range of possibilities for brownfields and their reuse. It also serves to encourage new uses to these sites, which may complement the local goals and initiatives for river conservation.

Other options under this recommendation include:

Create a Special Overlay District for municipalities along the river. *[1999]*
Municipalities with zoning ordinances should consider creating a river recreation overlay district. The intent should be to encourage economic development and the conservation and preservation of historical and environmental resources. An overlay district would allow certain types of development to occur on lands that have the physical features that can support development, thereby excluding steep slopes, prime agricultural soils, floodplains, slide prone areas, and watercourses. The overlay district concept should be applied to the standards of the primary zoning district of the municipality. Communities that do not have zoning may wish to consider adopting the special overlay district standards as part of an Official Map.

Have municipalities that do not adopt zoning develop an Official Map. *[1999]*
For communities that do not wish to implement zoning, an official map can be used as a basis to designate land for future public use, albeit with less enforceable power than a zoning ordinance. Municipalities wishing to adopt an official map should follow the guidelines prescribed in Article IV of the Pennsylvania Municipalities Planning Code. Developing an official map as a land use technique can enhance this plan through aiding local municipalities in highlighting development opportunities, planning for the overall use of the riverfront, planning for the land acquisitions, and identifying significant cultural and environmental resources for enhancements. Due to the intent of the riverfront overlay district, there would be little liability and enforcement issues normally associated with typical zoning.

Establish Community Growth Boundaries. *[1999]*
Community growth boundaries were a land use tool that may be implemented in communities that do or do not have a zoning ordinance. The concept of an community growth boundary is to allow more intense development to occur in and adjacent to existing populations centers, which would protect the land outside the growth boundaries from development sprawl. The community growth boundary is a line around a population center where development is allowed to occur in a more intense manner than the lands that lie outside of the boundary line. The area inside of the growth boundary is the area where public utility service should be extended and development is allowed to occur at a higher density than the lands outside the boundary. Community growth boundaries encourage the adaptive reuse of existing buildings and infill development. This land use technique attempts to promote community revitalization by encouraging development and redevelopment to occur in existing communities.

Schedule a series of 'Yough Talks' - public presentations on various river-related topics. [1999]
These presentations (or field trips or workshops), which should be held on a monthly or bi-monthly basis, and would be conducted by local or regional experts on such topics as citizen water quality monitoring programs, erosion control techniques for landowners and farmers, significance of local historical resources, fishing/hunting opportunities, local craft-making, or fall foliage identification.

Conduct an income survey in all towns within the study corridor to determine eligibility for federal Community Development Block Grant (CDBG) funding. [2000]
This survey would determine which study corridor municipalities, or specific communities or populations within them, have more than 51 percent of their population below the low to moderate income level for that county. This enables the municipality to receive CDBG funding for projects that would benefit those portions of the population below the low to moderate income level.

Conduct an inventory of brownfields, and identify their redevelopment potential and eligibility status under PA Act 2 guidelines (Industrial Site Reuse). [2000]
The study corridor has a number of brownfields which were comprised of large tracts of land adjacent to the river and active rail lines. These brownfields consist mostly of abandoned mining sites, although some, such as the Overholt Distillery at Broadford, were related to other industries. Through PA Act 2 legislation study corridor municipalities may be eligible for grant funding to assess the current environmental condition of these sites, and begin cleanup.

Once a complete inventory of the sites is completed (this River Conservation Plan includes only a preliminary inventory), they should be prioritized based on their redevelopment potential, including road and utility access, and size. Once this prioritization is completed, the individual municipalities or LYRC should apply to the state for funding to assess the sites' environmental condition, and in some cases to begin cleanup work.

Prioritize construction of new sewage treatment facilities, facility upgrades, and sewer line extensions through data obtained from the water quality monitoring program. [2001]
The lack of comprehensive, longitudinal water quality data prohibits any valid analysis on the effects of sewage discharge in the study corridor. The implementation of a water quality monitoring program would enable municipalities to identify both the effects of untreated discharges and the specific locations of sewage outfalls. By establishing direct cause and effect relationships and compliance with the Sewage Facilities Act, requests for funding were more likely to qualify.

Upgrade existing riverfront parks and create direct pedestrian links to the neighboring community. [2001]
As the Youghiogheny River valley increases in popularity as a visitor destination, a need for better river access will exist. Several established parks should be upgraded so that they are safe, clean and provide needed services. Parks located in Blythedale, West Newton, Smithton, and Whitsett had the ability to attract many river enthusiasts, but need improvement.

Sites should include picnic tables, toilets (portable or permanent), water fountains, shade trees, limited parking, and a cement or asphalt boat launching area. These sites should include links to the neighboring business district by pedestrian paths with signing for services and historic interpretation, if applicable. Additionally, if the YRT or spur trail is accessible from the park, signs with clear directions should be posted. Improved parks should be promoted so that citizens of the community and region are aware of the river access.

Plan and build new river access areas. **[2001]**
Mackin recommends building a series of new river access areas (Figure 7). These access areas should be built in existing communities with direct pedestrian links from the river to the town. The boat launches should be created to encourage additional recreational opportunities and associated development. The suggested locations were determined by road access, relationship to population centers and commercial districts, location of existing parks, and the topography of the land.

Access sites may include picnic tables, toilets (portable), water fountains, shade trees, limited parking for boat trailers, in addition to a cement or asphalt launching area. These sites should also include links to the neighboring business district including direct access paths for pedestrians, signing for services and historic interpretation if applicable.

Increasing the number and quality of access areas will make it easier to attract more river users who wish to take advantage of the facilities provided.

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Parks may include picnic tables, toilets (portable), water fountains, shade trees, limited parking, fishing access, and recreation apparatus. These sites should also include links to the neighboring business district including direct access paths for pedestrians, signing for services and historic interpretation, if applicable.

Inventory and survey lands for potential development opportunities. **[2001]**
Many of the prime agricultural soils have already been covered by residential and commercial development within the valley. Over 500 acres exists as prime agricultural soils which were still undeveloped or underdeveloped. These site vary between 5 and 70 acres and were scattered throughout the corridor. Prime agricultural soils were well suited to support development. Although, other limiting factors may exist such as a lack of utilities, no road access, an existing brownfield site, steep slopes, and under ground mines. Each parcel of land should be further investigated on a case by case basis for development potential. These prime agricultural soils

should be field verified by a soil scientist due to the excessive amount of past strip mining practices in the corridor.

Create a Lower Yough Auto Tour. **[2001]**
This tour would highlight 10-20 historic and cultural sites within the **Mountains of Fire** area. It would use new signage, incorporating the **Mountains of Fire** logo, on existing roads and should be designed to bring users into existing commercial districts whenever possible.

Develop spur trails to the Yough River Trail at locations such as Dickerson Run, Dead Man's Hollow (Liberty), Washington's Run, and Dunbar Creek. **[2001]**
Additional spur trails can be useful for several reasons such as attracting additional trail users, linking to other population sources, providing other access to commercial areas from the river, and creating additional access points.

Design a Youghiogheny River Educational package to be used in local schools. **[2003]**
This package could be developed for many grade levels and could deal with such subjects as water quality and its impacts, the food chain within the river, and the history of the area in the larger context of the nation's history. It may also include written essay contests, math competitions, and social study projects.

Create tourist information centers in McKeesport, Connellsville, and Smithton. **[2003]**
The cities of Connellsville and McKeesport were the two largest communities on the Yough and also mark the endpoints of the study corridor, while Smithton sits almost exactly in the middle of the two. Each of these communities had good highway access and were close to other large population centers.

The tourist centers should, at a minimum, consist of a parking area, rest rooms, food and drink vending machines, picnic area, and an information center. The information center in its most basic form could consist simply of a map and display of brochures on local attractions and businesses. However, a more advanced system could include a computerized tourist kiosk, as proposed by the Steel Industry Heritage Corporation for their landing sites. This computerized information kiosk would allow visitors to select a specific destination, or group of destinations, by category (i.e. biking, historic sites, golfing, etc.). The kiosk would then print a customized map of the **Mountains of Fire** Journey, with all of the sites in each selected category.

The tourist centers must be located <u>along the river</u>, near the major road access points in each town. In McKeesport, the center should be near Route 148 or 130; in Smithton, it should be near Route 987; and in Connellsville, it should be near Route 119. The tourist information centers could be new construction or could be created by rehabilitating older buildings.

Two possible locations for centers in rehabilitated buildings would be the 'Round House' near the 15th Street Bridge in McKeesport and the Connellsville Historical Society building located near the north end of the Youghiogheny River Park in Connellsville. A possible site for the Smithton location is on the waterfront at the current terminus of the YRT.

Develop a travel link for tourists to move between study corridor communities, using trails, roads, railroads, and the river. [2008]

Because there is no single transportation source that links all of the study corridor communities on both sides of the river, travel links should be developed to encourage both residents and visitors to move between communities. This could be developed under the auspices of the **Mountains of Fire** Journey, and should create logical links, using all potential transportation methods along the corridor, to significant natural, recreational, historical, and commercial sites. The creation of this linked transportation method will make visitors more aware of the multitude of activities available within the study corridor and encourage more overnight tourism.

Develop the abandoned Overholt Distillery as a 'destination' restaurant or shopping center. [2008]

Architectural features, size, and proximity to the river make this site an attractive opportunity for development. Renovating this site into a unique riverside restaurant or specialty shopping mall would make it an outstanding regional attraction and would highlight the culture and history of the Youghiogheny River valley.

Maintain and improve business and industry currently operating within the study corridor. [Ongoing]

Because there were relatively few businesses operating along this section of the Youghiogheny River, their importance to the area is greatly increased. As a prelude to attracting new businesses to the study corridor, every effort should be made to preserve existing employers.

Preserve existing historical structures within the study corridor and integrate these sites with local communities and recreational activities. [Ongoing]

The quality and diversity of historical sites and structures within the study corridor represents a unique opportunity to link these areas with local communities. Many of these structures were attractive locations for historic interpretive sites, which when linked with community recreation, could capitalize on heritage tourism.

Develop a plan to promote redevelopment of culturally and historically significant structures and buildings. [Ongoing]

Develop a plan to identify community in-fill development sites and the redevelopment and reuse of historically and culturally significant buildings to attract new commercial business and increase tourism within the existing community. These structures could house a commercial business, be of historical significance, and promote other attractions along the river corridor. The Oil Heritage Region in northwestern Pennsylvania has developed a similar concept by helping businesses obtain redevelopment money to renovate historical structures. Additional low interest loans, tax abatement programs, foundation grants and state funds can also be procured to foster start up businesses. Partnerships should be developed with SIHC, Fay-Penn Economic Redevelopment Authority, PHMC, local historical societies and business groups, among others, to identify significant structures and secure funding sources.

Develop the concept of the Mountains of Fire Journey. [Ongoing]
With the resources and businesses already located in the valley and additional room for expansion, it appears that an increased tourist trade would provide a profitable and clean economic base. In order to accomplish this increase and ensure that all river communities see benefits from it, the Youghiogheny River valley should be treated as a single recreation/tourist destination.

The **Mountains of Fire** Journey, part of SIHC's *Rivers of Steel* Heritage Area, is designed to create this impression in the minds of both residents and tourists. This designation, which could be applied similar to the federal Recreation Area designation employed on the Delaware Water Gap in eastern Pennsylvania and the New River in West Virginia, encourages visitors to move throughout the corridor and experience the many natural, recreational, and cultural resources available.

Develop a marketing plan for the Mountains of Fire Journey. [Ongoing]
This plan should advance a unified theme for the river corridor. It should create a greater awareness of the resources of the **Mountains of Fire** Journey for people outside the river corridor, and enhance the enjoyment of those resources for both residents and visitors.

The marketing plan, under the jurisdiction of LYRC, should adopt a simple, but attractive logo that could then be used on all river and recreation related resources throughout the **Mountains of Fire** Journey area. The logo could appear on tourist information materials, in the windows of LYRC member businesses, and most importantly, on signs directing visitors to area activities and resources.

Enhancement of the River Experience
Create a Lower Youghiogheny River Council (LYRC). [1998]
LYRC would be a single entity consisting of local residents and business people who have a stake in strengthening the economy of the Lower Yough area. LYRC membership could be taken from members of the RTC Focus Groups, plus any other interested parties. *It is critically important that municipal, county, and state government officials from all three counties participate to some extent in this group.* LYRC could even continue to be subdivided into committees representing the focus groups as they now exist, with designated representatives of each group comprising a decision-making Executive Council.

The LYRC would have several duties that would enhance the river experience. The first of these is to oversee the implementation of this plan, and to update it when necessary to ensure that it stays current as future issues arise. Specific actions would include, among others, pursuing funding to continue black fly spraying, developing a river guide book, scheduling speakers of r 'Yough Talks', and completing the necessary agency coordination to ensure other recommendations are carried out. Additional responsibilities may be assigned to LYRC as development within the river corridor increases.

Develop a Master Site Plan for the Youghiogheny Linear Park at McKeesport. [1998]
Develop a plan including recommendations for the placement of ballfields, forest buffers, kayak club, trail alignment, lighting, and parking facilities along the riverfront property.

Emphasize water quality monitoring and improvement, with the future possibility of instituting a catch and release program for warmwater gamefish species or Big Bass regulations. [1998]
In a 1994 management report, the PFBC identified the lower Youghiogheny River as having very good potential to support a walleye population and, as a result, started a walleye stocking program in this section of the river. In addition, the PFBC report indicated that the study corridor (identified by the PFBC as Section 05 of the Youghiogheny River) may contain a reproducing population of muskellunge, which was extremely rare for a Pennsylvania river. The 1994 study also noted that this section of river has an extremely active smallmouth fishery. Capture rates below South Connellsville were approximately twice as high as rates on the upper Allegheny River, which was renowned as a smallmouth fishery.

However, increased stocking of these species alone, will not benefit the fishery due to slow growth rates observed by PFBC (R. Lorson, personal communication, August, 1997). Improvements in water quality, primarily pH levels, must first be addressed in order to maintain a viable, self-sustaining fishery. Annual warmwater gamefish stocking could be increased once water quality improvements are achieved. Focusing local efforts on improving existing water quality could make possible the future implementation of a catch and release program for warmwater species or a Big Bass area.

If implemented, these programs would allow anglers to enjoy an improved resource while perpetuating improvements in water quality. Similar catch and release and Big Bass areas in other areas of Pennsylvania are known for their viable populations and ratios of trophy fish (R. Lorson, personal communication, August, 1997). This will attract more recreational use of the river and additional revenues from resident and out-of-state anglers.

Continue insecticide spraying at locations with high densities of black flies. [1998]
The proliferation of black flies in the Youghiogheny River valley was identified through the public participation process as a major deterrent to tourism. Most insect repellents and screens have proven ineffective in areas where black flies were prevalent, significantly limiting certain types of outdoor recreation.

One effective solution has been widespread spraying of insecticides. In addition, research is being conducted on the use of bacterial spores to manage black fly populations. Preliminary studies have been conducted using this biocide in the Susquehanna River. The current data has indicated that these biological agents were effective for controlling black fly populations, particularly within riffle zones.

The spraying of commercial insecticides should be continued in high density areas while concurrently keeping abreast of other forms of treatment such as biological control. If, as in

1997, Fayette County does not contribute the funds necessary to continue the spraying program, another funding source should be identified.

Develop a river guidebook for anglers, canoers, bikers, and other recreational users. [1999]
This guidebook would highlight natural, historical, and recreational areas of interest. Natural features may include the main reaches of riffle/run/pool complexes, river mile indicators along the length of the corridor, and the best locations for viewing wildlife and scenic landscapes. Recreational highlights would include locations which offer prime fishing for a particular species, riverfront parks, camping locations, and access to facilities such as places to purchase lunch, ice, or bait.

The guidebook would also identify locations and access points for cultural and historic sites, which would further complement those opportunities available to visitors along the Youghiogheny River.

Develop boat-in or trail access only, primitive camp sites. [1999]
A potential area for recreational development is the establishment of boat-in or trail access only, primitive camp sites. These areas could be established at regular intervals along the corridor or within close proximity to unique cultural and natural resources. Camp sites would be rustic and specifically tailored to overnight canoeists and trail riders. Accompanying this network of camp sites would be a river guide book detailing the river characteristics and areas of natural or cultural interest, along with a code of conduct which would include requirements such as maintaining a fire circle and packing out trash. This recommendation would address the lack of overnight facilities along the river and would encourage more multiple-day trips to the area.

Hire a Code Enforcement Officer and Community Development Specialist to enforce land use regulations and coordinate efforts for development within the river corridor. [1999]
Under a Circuit Rider grant, a Code Enforcement Officer (CEO) could be hired to cover the river corridor. The CEO's responsibility would be to enforce zoning and clean up illegal trash dumping. The Development Specialist would work with local business, recreation, environmental and historic groups to coordinate and promote the goals of this plan. This person could assist in community development by maintaining a clearinghouse of community development information and by assisting individuals or municipalities in applying for funding for community development projects.

Schedule a series of 'Yough Talks' - public presentations on various river-related topics. [1999]
These presentations (or field trips or workshops), which should be held on a monthly or bi-monthly basis, and would be conducted by local or regional experts on such topics as citizen water quality monitoring programs, erosion control techniques for landowners and farmers, significance of local historical resources, fishing/hunting opportunities, local craft-making, or fall foliage identification.

Maintain and improve the ecological and visual quality of the river corridor by requiring a vegetative barrier along the river's edge. [2000]
The natural, wooded appearance from the river was one of the primary attractions of the Youghiogheny River corridor. That appearance was created by the vegetative buffer which occurs along most of this section of the Youghiogheny. The buffer serves not only as an attractive setting, but to maintain water quality as well. This condition could be further enhanced by ordinances requiring riverfront development to maintain a vegetative buffer along the river. This buffer could allow landowners along the riverfront a view of the river, but present river users with a natural screen, maintaining the appearance of an undeveloped condition. In order to properly maintain a riparian forest buffer, there were several government agencies that can be contacted for further information. The USDA, the USFWS, the DCNR and the local SCS were just a few of these agencies.

The conservation and preservation of the existing wooded slopes overlooking the river will continue to draw tourists and recreational users to the valley. A further evaluation of the scenic viewshed from the river should also be conducted. This could identify forested areas for conservation and preservation. The plan may allow only limited clearing in some areas with total preservation in other areas.

Create an "Adopt the Yough" volunteer trash removal program to ensure continued maintenance along the river corridor. [2000]
Trash along the river corridor, although not overwhelming, was a significant source of pollution and visual degradation. Programs like the Youghiogheny River Sweep, held annually, need to be expanded and conducted on a monthly basis. One solution is to institute a stewardship program whereby landowners and interested parties could adopt a small section of river and actively manage cleanup efforts within that section.

Develop a plan to identify, quantify and remove mine tailing piles and trash dumps. [2000]
More than 30 unauthorized trash and debris dumping sites were identified within the study corridor. In addition to representing safety and environmental hazards, these areas detract from the visual quality of the region. Determine the eligibility status for having the numerous dumping sites classified as Brownfield Sites under the Land Recycling and Environmental Remediation Standards Act (i.e. Act 2). By having these areas designated as brownfields, funding for environmental studies and cleanups may be obtained from the Industrial Sites Cleanup Fund. If remediation plans were funded and implemented, these areas may represent recreational and economic development opportunities.

Conduct an inventory of brownfields, and identify their redevelopment potential and eligibility status for PA Act 2 (Industrial Site Reuse). [2000]
The study corridor has a number of brownfields which were comprised of large tracts of land adjacent to the river and active rail lines. These brownfields consist mostly of abandoned mining sites, although some, such as the Overholt Distillery at Broadford, were related to other industries. Through PA Act 2 legislation study corridor municipalities may be eligible for grant funding to assess the current environmental condition of these sites, and begin cleanup.

Once a complete inventory of the sites is completed (this River Conservation Plan includes only a preliminary inventory), they should be prioritized based on their redevelopment potential, including road and utility access, and size. Once this prioritization is completed, the individual municipalities or LYRC should apply to the state for funding to assess the sites' environmental condition, and in some cases to begin cleanup work.

Upgrade existing riverfront parks and create direct pedestrian links to the neighboring community. **[2001]**

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Sites should include picnic tables, toilets (portable or permanent), water fountains, shade trees, limited parking, and a cement or asphalt boat launching area. These sites should include links to the neighboring business district by pedestrian paths with signing for services and historic interpretation, if applicable. Additionally, if the YRT or spur trail is accessible from the park, signs with clear directions should be posted. Improved parks should be promoted so that citizens of the community and region are aware of the river access.

Plan and build new river access areas. **[2001]**

Mackin recommends building a series of new river access areas (Figure 7). These access areas should be built in existing communities with direct pedestrian links from the river to the town. The boat launches should be created to encourage additional recreational opportunities and associated development. The suggested locations were determined by road access, relationship to population centers and commercial districts, location of existing parks, and the topography of the land.

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This tour would highlight 10-20 historic and cultural sites within the **Mountains of Fire** journey area. It would use new signage, incorporating the **Mountains of Fire** logo, on existing roads and should be designed to bring users into existing commercial districts whenever possible.

Implement a survey of abandoned mines within the study corridor to develop a reclamation strategy. **[2002]**
Three popular programs involved in reclamation were the Rural Abandoned Mine Program (RAMP), the Landowner Reclamation Program (LRP), and the Surface Mining Control and Reclamation Act of 1977. RAMP is a federal program funded by USDA, NRCS and supported by the Western Pennsylvania Coalition for Abandoned Mine Reclamation (WPCAMR) which is a non-profit, volunteer group that is involved in increasing public awareness, attracting support for abandoned mine projects and obtaining full federal funding for reclamation projects. LRP was a cooperative effort between PADEP and the State Conservation Commission. This program allows interested landowners to take advantage of state funds to reclaim any abandoned mine sites on their property. The Surface Mining Control and Reclamation Act of 1977 is supported by PADEP BAMR and provides for a per ton fee on active coal mine to help pay for clean up. In 1990, the act was amended to allow states to set aside up to 10 percent of their funding to tackle abandoned mine drainage.

Create tourist information centers in McKeesport, Connellsville, and Smithton. **[2003]**
The cities of Connellsville and McKeesport were the two largest communities on the Yough and also mark the endpoints of the study corridor, while Smithton sits almost exactly in the middle of the two. Each of these communities had good highway access and were close to other large population centers.

The tourist centers should, at a minimum, consist of a parking area, rest rooms, food and drink vending machines, picnic area, and an information center. The information center in its most basic form could consist simply of a map and display of brochures on local attractions and businesses. However, a more advanced system could include a computerized tourist kiosk, as proposed by the Steel Industry Heritage Corporation for their landing sites. This computerized information kiosk would allow visitors to select a specific destination, or group of destinations, by category (i.e. biking, historic sites, golfing, etc.). The kiosk would then print a customized map of the **Mountains of Fire** Journey, with all of the sites in each selected category.

The tourist centers must be located along the river, near the major road access points in each town. In McKeesport, the center should be near Route 148 or 130; in Smithton, it should be near Route 987; and in Connellsville, it should be near Route 119. The tourist information centers could be new construction or could be created by rehabilitating older buildings.

Two possible locations for centers in rehabilitated buildings would be the 'Round House' near the 15th Street Bridge in McKeesport and the Connellsville Historical Society building located near the north end of the Youghiogheny River Park in Connellsville. A possible site for the Smithton location is on the waterfront at the current terminus of the YRT.

Plan and develop outdoor classrooms in conjunction with river access areas. [2005]
These facilities should include a gathering space for larger groups, proximity to an existing community, and to significant historic, cultural and environmental resources (Figure 7).

Develop the abandoned Overholt Distillery as a 'destination' restaurant or shopping center. [2008]
Architectural features, size, and proximity to the river make this site an attractive opportunity for development. Renovating this site into a unique riverside restaurant or specialty shopping mall would make it an outstanding regional attraction and would highlight the culture and history of the Youghiogheny River valley.

Develop a travel link for tourists to move between study corridor communities, using trails, roads, railroads, and the river. [2008]
Because there is no single transportation source that links all of the study corridor communities on both sides of the river, travel links should be developed to encourage both residents and visitors to move between communities. This could be developed under the auspices of the **Mountains of Fire** Journey, and should create logical links, using all potential transportation methods along the corridor, to significant natural, recreational, historical, and commercial sites. The creation of this linked transportation method will make visitors more aware of the multitude of activities available within the study corridor and encourage more overnight tourism.

Develop the concept of the Mountains of Fire Journey. [Ongoing]
With the resources and businesses already located in the valley and additional room for expansion, it appears that an increased tourist trade would provide a profitable and clean economic base. In order to accomplish this increase and ensure that all river communities see benefits from it, the Youghiogheny River valley should be treated as a single recreation/tourist destination.

The **Mountains of Fire** Journey, part of SIHC's *Rivers of Steel* Heritage Area, is designed to create this impression in the minds of both residents and tourists. This designation, which could be applied similar to the federal Recreation Area designation employed on the Delaware Water Gap in eastern Pennsylvania and the New River in West Virginia, encourages visitors to move throughout the corridor and experience the many natural, recreational, and cultural resources available.

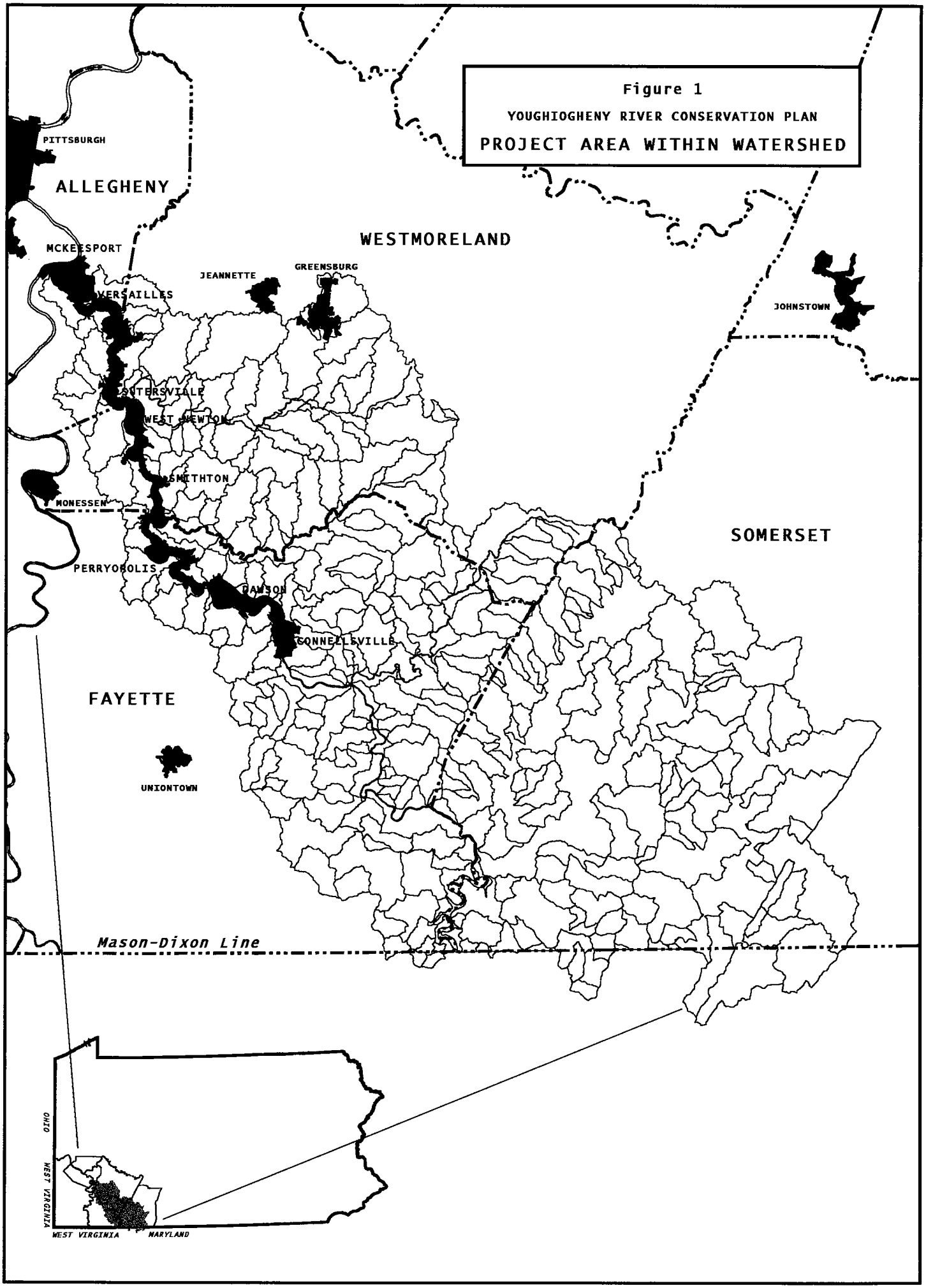
Preserve existing historic structures within the study corridor and integrate these sites with local communities and recreational activities. [Ongoing]
The quality and diversity of historical sites and structures within the study corridor represents a unique opportunity to link these areas with local communities. Many of these structures were

attractive locations for historic interpretive sites, which when linked with community recreation, could capitalize on heritage tourism.

Develop a plan to promote redevelopment of culturally and historically significant structures and buildings. **[Ongoing]**

Develop a plan to identify community in-fill development sites and the redevelopment and reuse of historically and culturally significant buildings to attract new commercial business and increase tourism within the existing community. These structures could house both a commercial business, be of historical significance and promote other attractions along the river corridor. The Oil Heritage Region has developed a similar concept by helping business obtain redevelopment money to renovate historical structures. The structures would house a business which promotes a feature of the regions heritage related to that business. For example a music shop, in addition to selling musical instruments and music, would promote the coal and coke region, its lore, myths and music of the past. Additional, low interest loans, tax abatement programs, foundation grants and state funds can be procured to foster start up businesses. Partnerships should be developed with the SIHC, Fay-Penn Economic Redevelopment Authority, the PHMC, local historical societies and business groups, among others, to identify significant structures and secure funding sources.

FIGURES



Project Area (1 of 1)

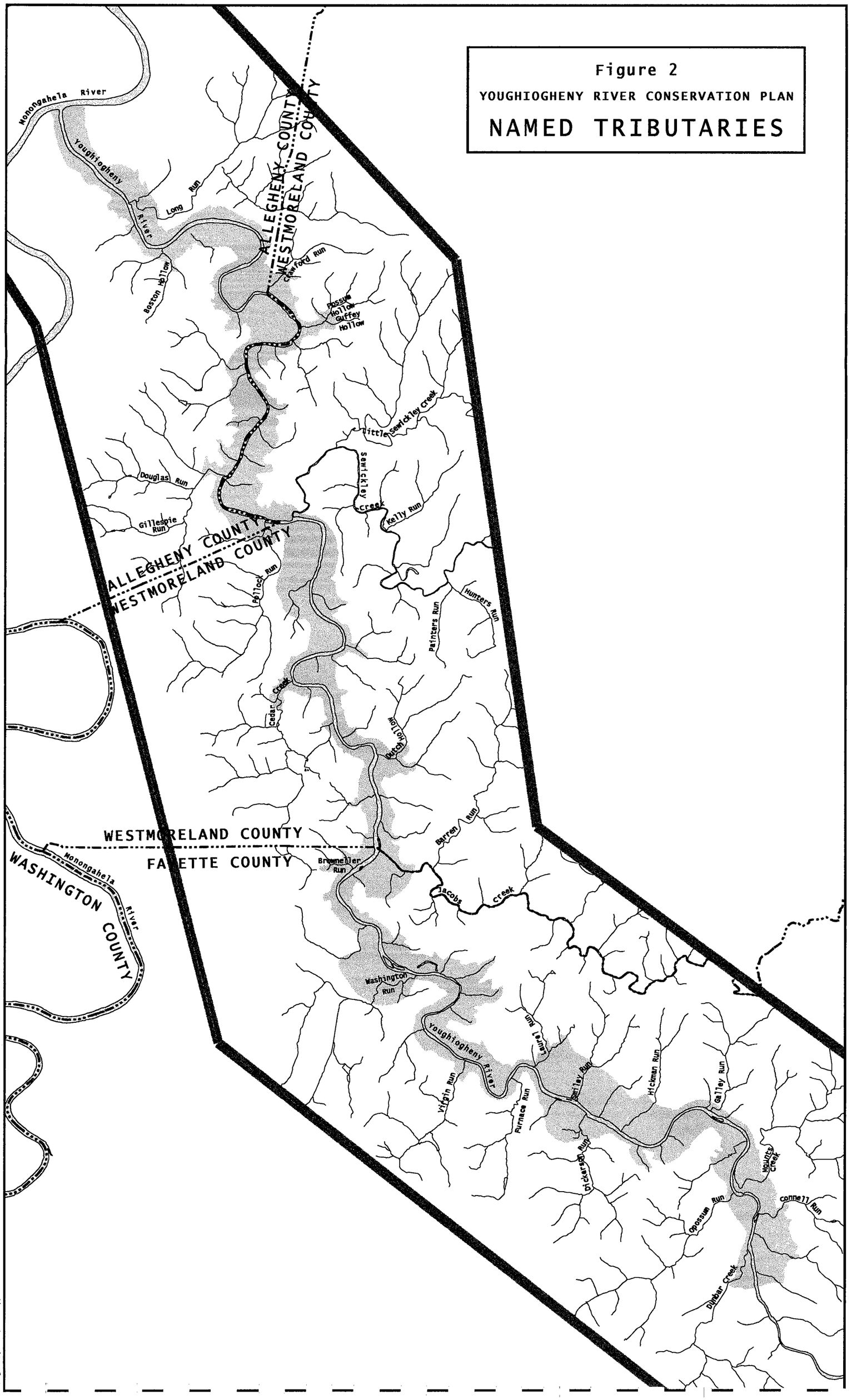
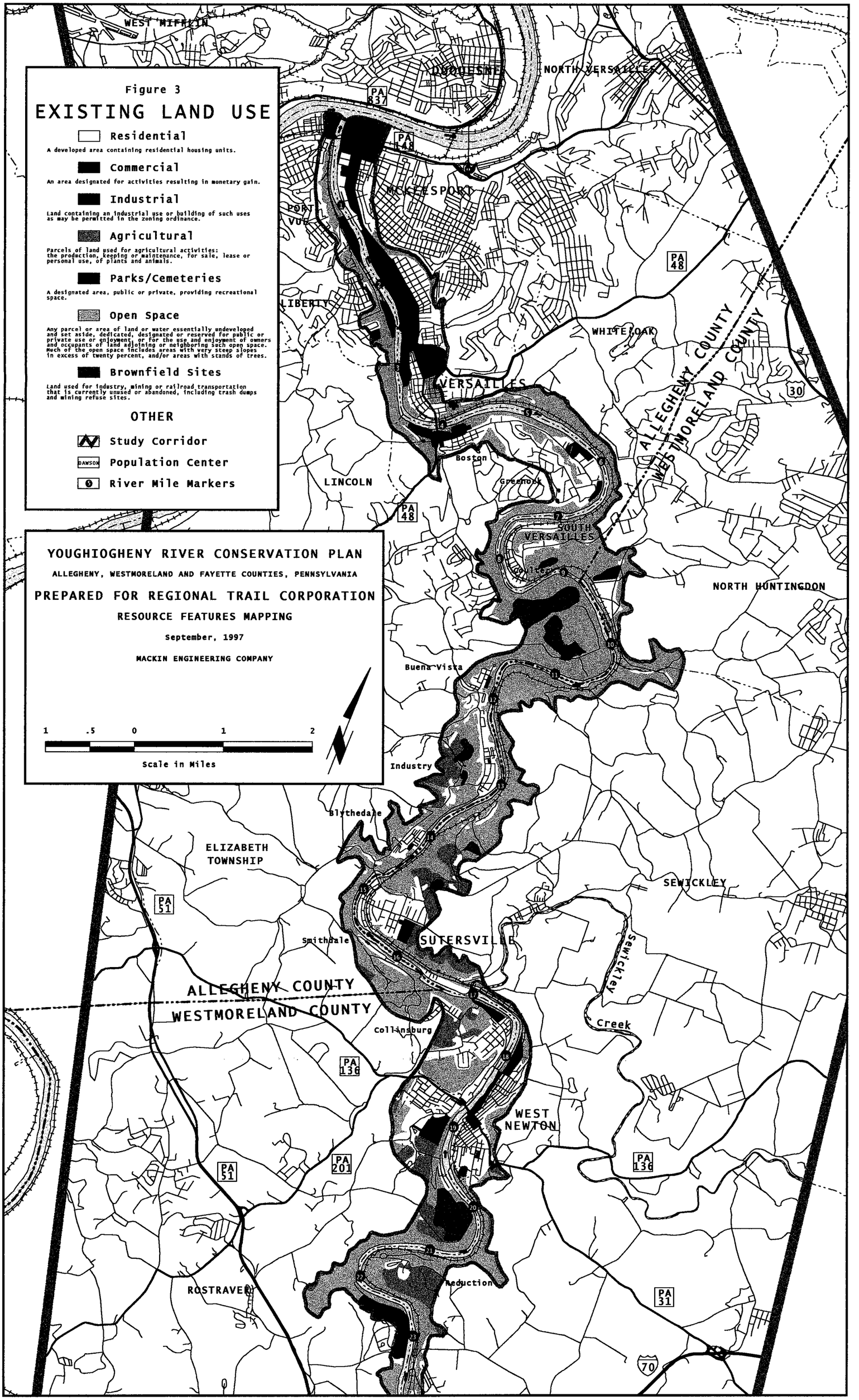


Figure 2
YOUGHIOGHENY RIVER CONSERVATION PLAN
NAMED TRIBUTARIES
Monongahela River
Youghiogheny River
Long Run
Boston Hollow
ALLEGHENY COUNTY
WESTMORELAND COUNTY
Crawford Run
Possum Hollow
Guffey Hollow
Little Sewickley Creek
Sewickley Creek
Kelly Run
Douglas Run
Gillespie Run
Hallock Run
Painters Run
Hunters Run
Cedar Creek
Dutch Hollow
Barren Run
WESTMORELAND COUNTY
FAYETTE COUNTY
Brownsville Run
Jacobs Creek
WASHINGTON COUNTY
Monongahela River
Washington Run
Youghiogheny River
Laurel Run
Virgin Run
Furnace Run
Galley Run
Hickman Run
Galley Run
Dickerson Run
Mounts Creek
Connell Run
Opossum Run
Dunbar Creek



Existing Land Use (1 of 2)

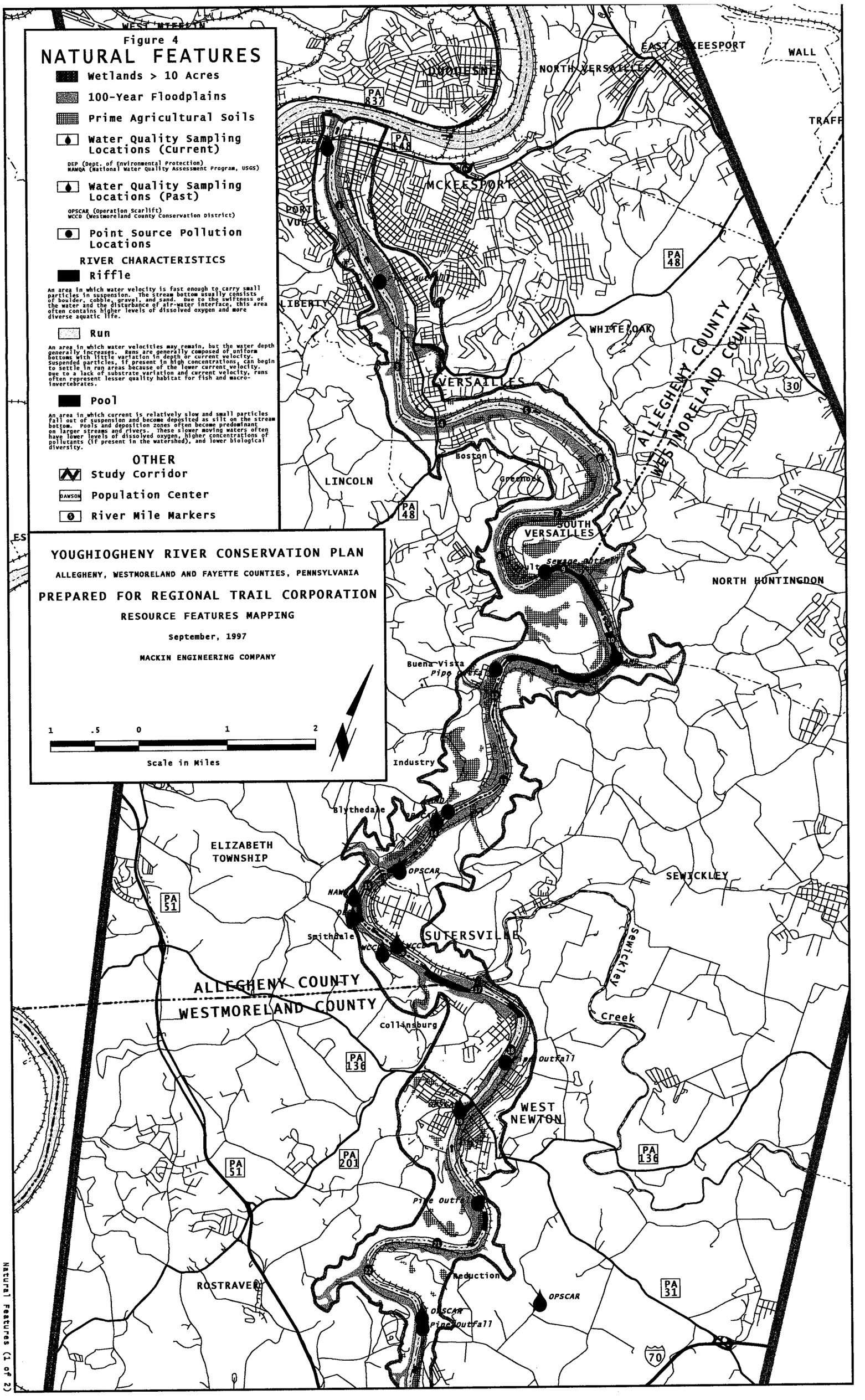
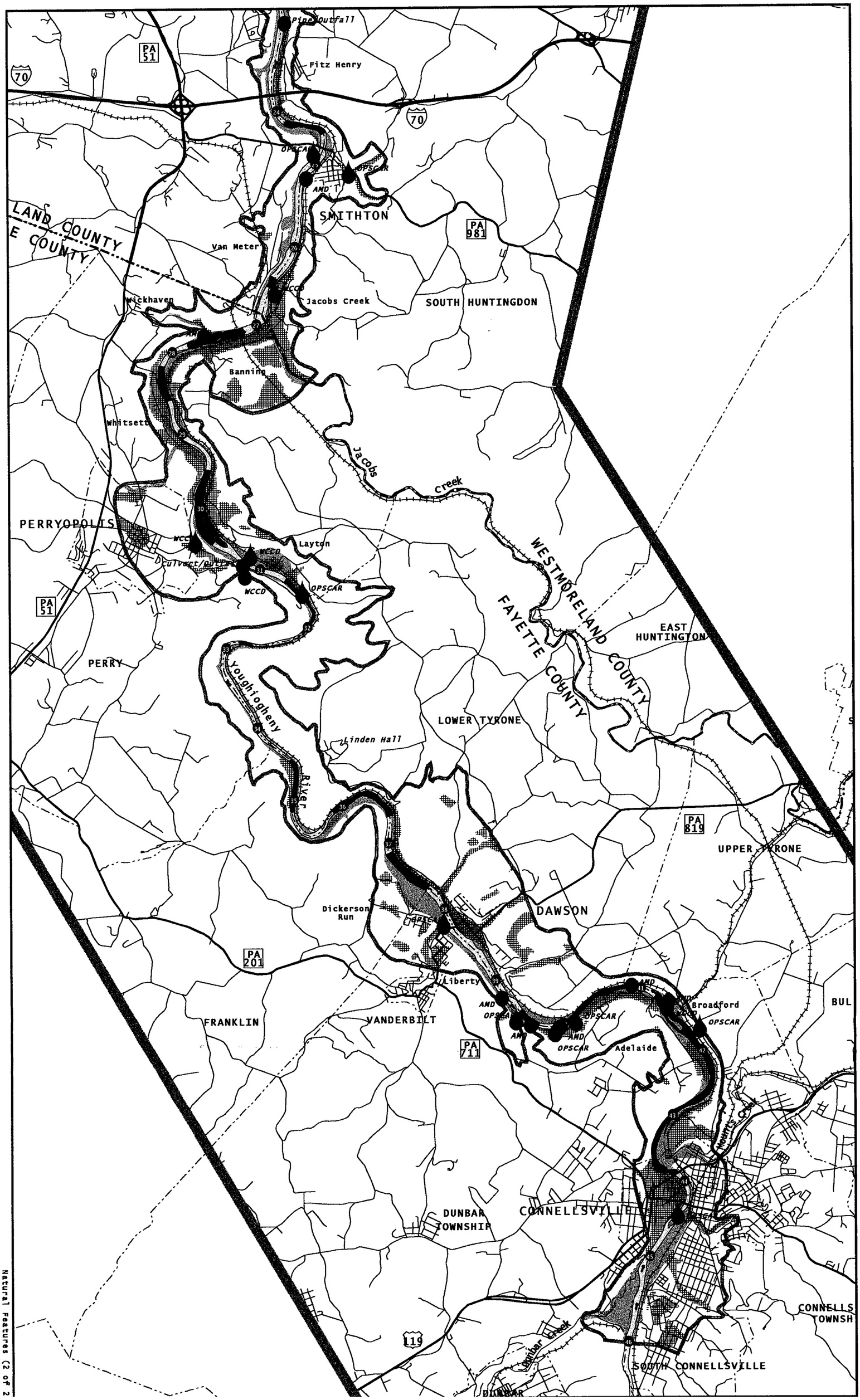
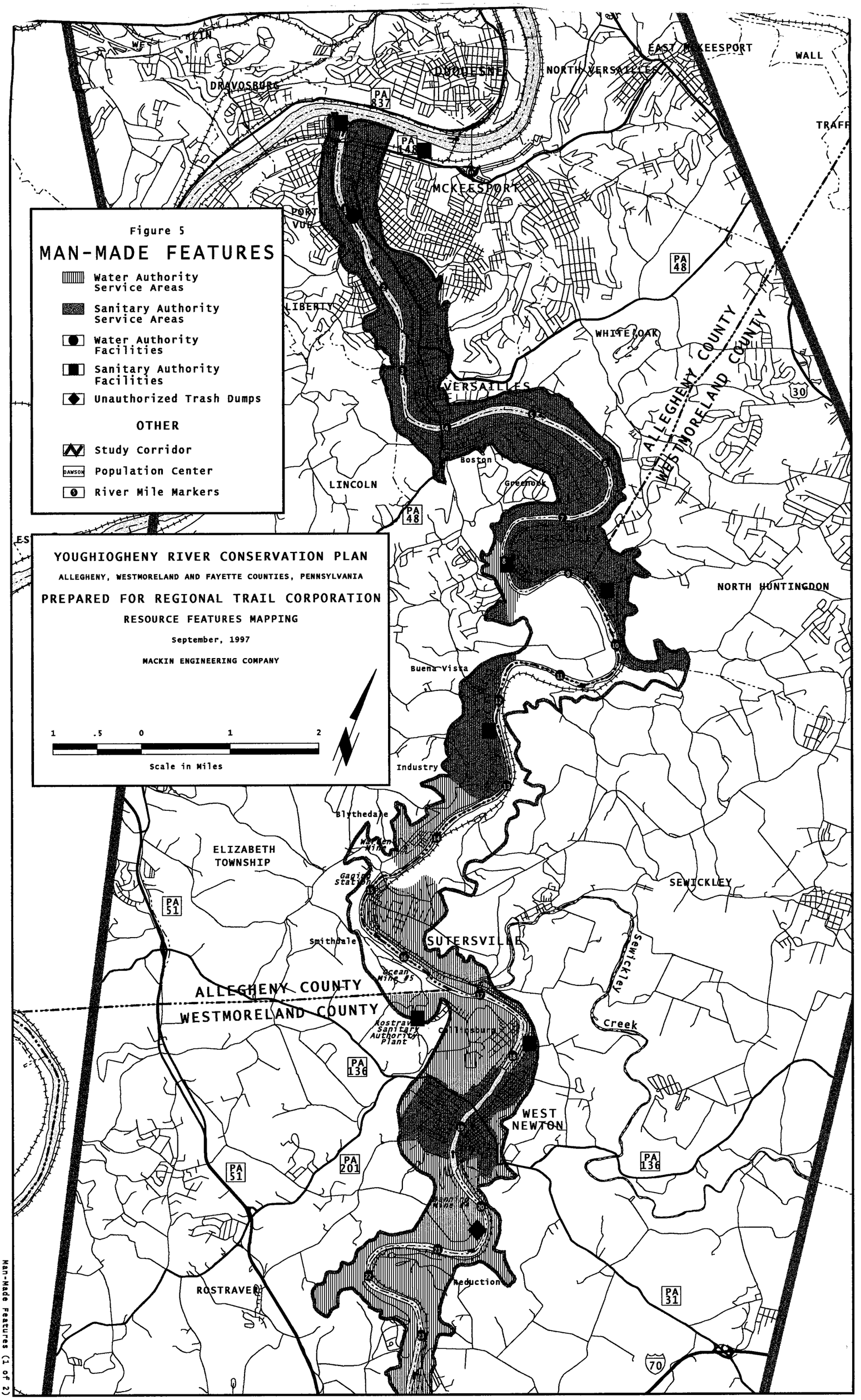


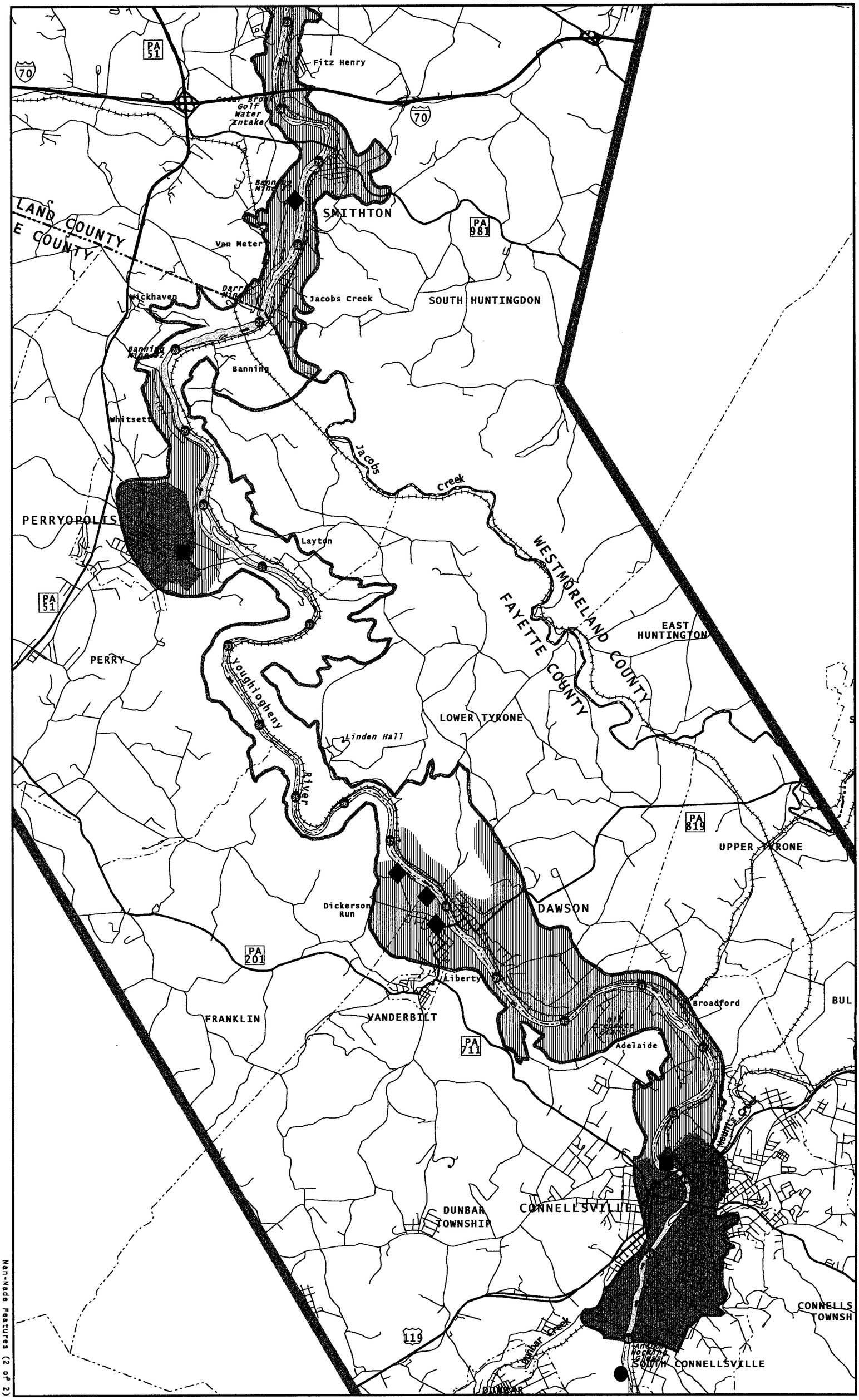
Figure 4
NATURAL FEATURES
Wetlands > 10 Acres
100-Year Floodplains
Prime Agricultural Soils
Water Quality Sampling Locations (Current)
DEP (Dept. of Environmental Protection)
NAWQA (National Water Quality Assessment Program, USGS)
Water Quality Sampling Locations (Past)
OPSCAR (Operation Scarlift)
WCCD (Westmoreland County Conservation District)
Point Source Pollution Locations
RIVER CHARACTERISTICS
Riffle
An area in which water velocity is fast enough to carry small particles in suspension. The stream bottom usually consists of boulder, cobble, gravel, and sand. Due to the swiftness of the water and the disturbance of air-water interface, this area often contains higher levels of dissolved oxygen and more diverse aquatic life.
Run
An area in which water velocities may remain, but the water depth generally increases. Runs are generally composed of uniform bottoms with little variation in depth or current velocity. Suspended particles, if present in high concentrations, can begin to settle in run areas because of the lower current velocity. Due to a lack of substrate variation and current velocity, runs often represent lesser quality habitat for fish and macro-invertebrates.
Pool
An area in which current is relatively slow and small particles fall out of suspension and become deposited as silt on the stream bottom. Pools and deposition zones often become predominant on larger streams and rivers. These slower moving waters often have lower levels of dissolved oxygen, higher concentrations of pollutants (if present in the watershed), and lower biological diversity.
OTHER
Study Corridor
DAWSON
Population Center
River Mile Markers
YOUGHIOGHENY RIVER CONSERVATION PLAN
ALLEGHENY, WESTMORELAND AND FAYETTE COUNTIES, PENNSYLVANIA
PREPARED FOR REGIONAL TRAIL CORPORATION
RESOURCE FEATURES MAPPING
September, 1997
MACKIN ENGINEERING COMPANY
1 .5 0 1 2
Scale in Miles
DUQUESNE
NORTH VERSAILLES
EAST PITTSBURGH
WALL
TRAFF
MCKEESPORT
PORT VUE
LIBERTY
VERSAILLES
WHITE OAK
ALLEGHENY COUNTY
WESTMORELAND COUNTY
Boston
Greenock
LINCOLN
SOUTH VERSAILLES
NORTH HUNTINGDON
Buena Vista
Industry
Blythedale
ELIZABETH TOWNSHIP
OPSCAR
SEWICKLEY
Smithdale
SUTERSVILLE
Sewickley
Creek
Collinsburg
WEST NEWTON
ROSTRAVER
Reduction
PA 837
PA 48
PA 136
PA 51
PA 201
PA 31
30
70



Natural Features (2 of 2



Man-Made Features (1 of 2)



Man-Made Features (2 of 2)

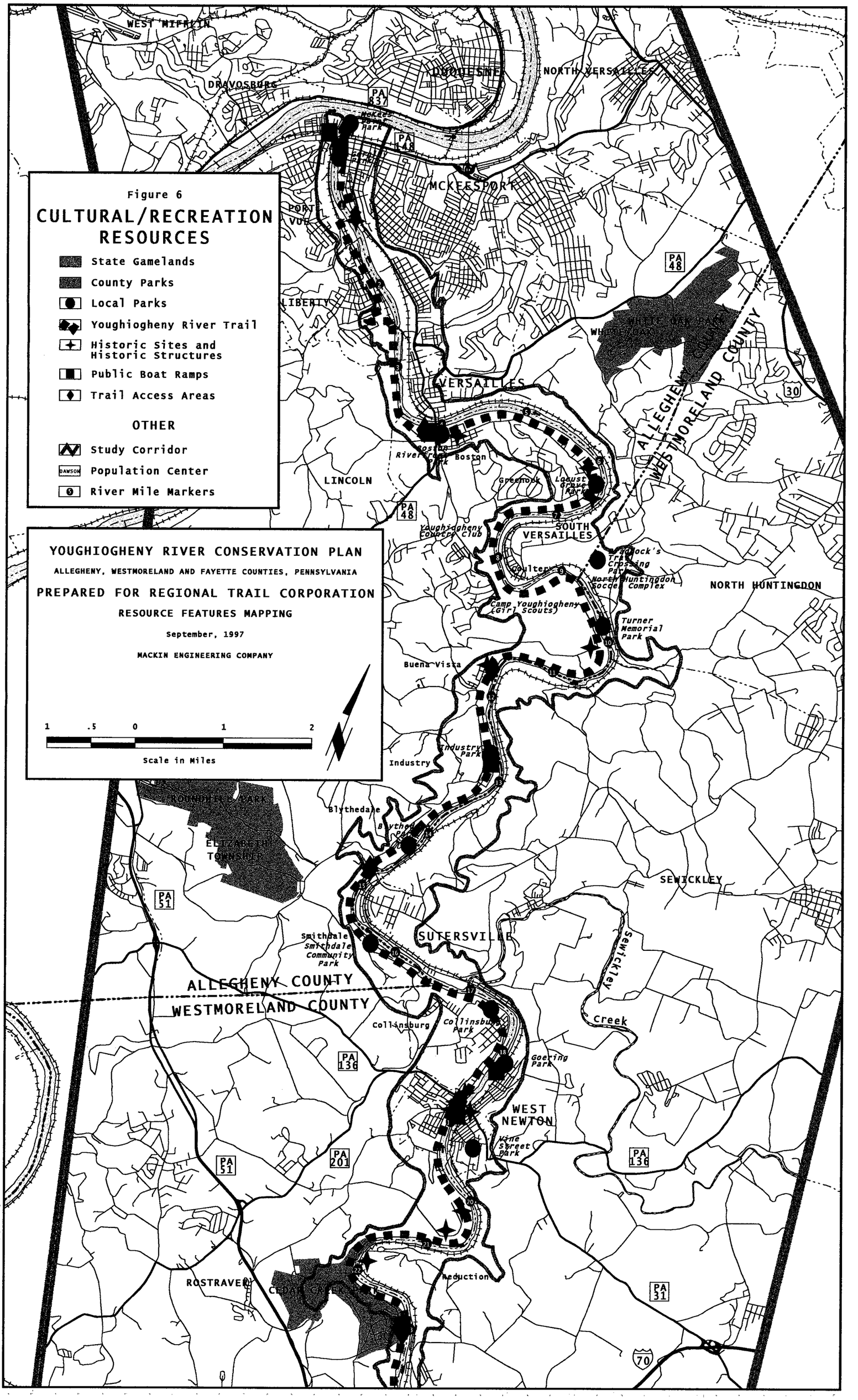
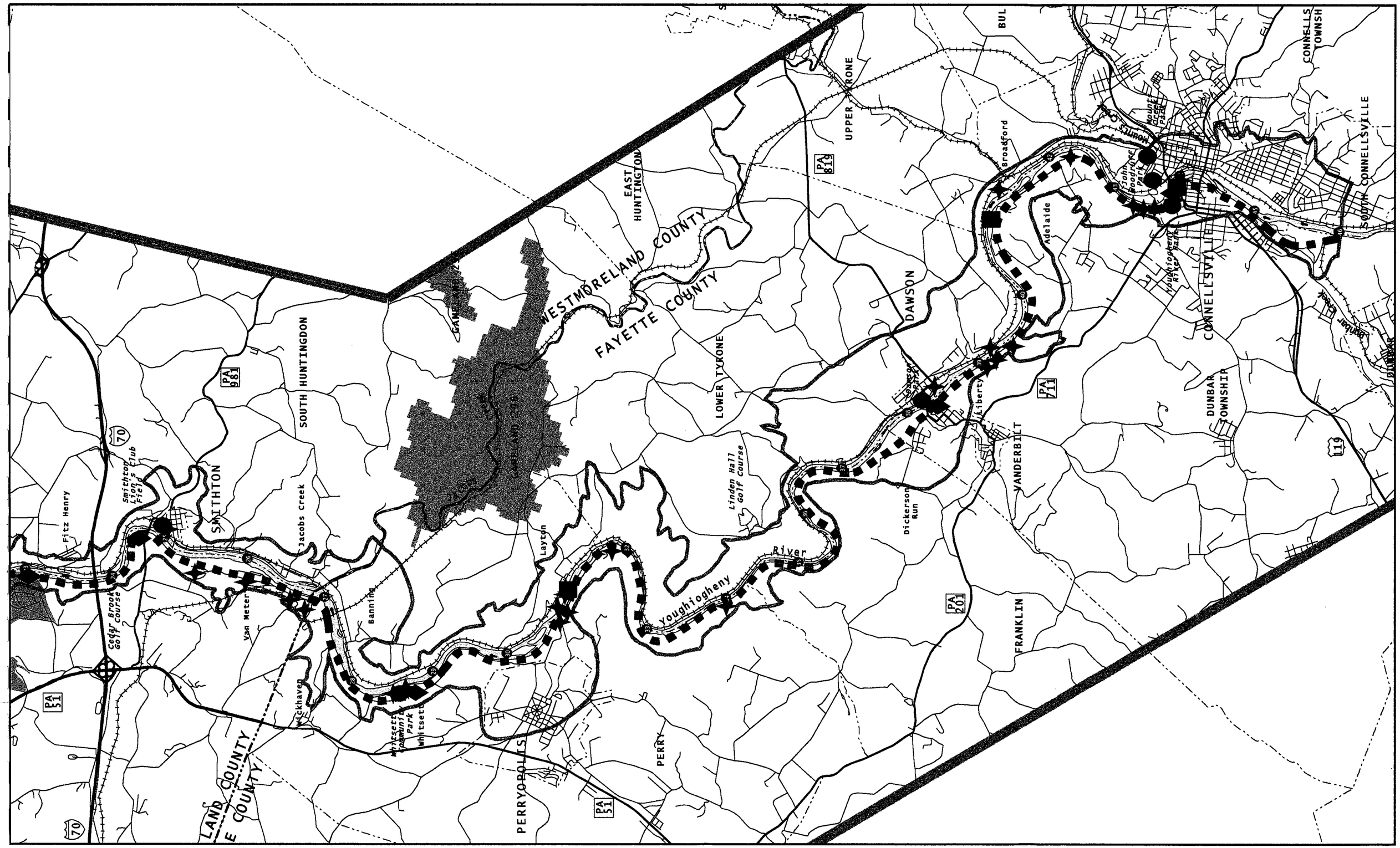


Figure 6
CULTURAL/RECREATION RESOURCES
State Gamelands
County Parks
Local Parks
Youghiogheny River Trail
Historic Sites and Historic Structures
Public Boat Ramps
Trail Access Areas
OTHER
Study Corridor
DAWSON Population Center
River Mile Markers
YOUGHIOGHENY RIVER CONSERVATION PLAN
ALLEGHENY, WESTMORELAND AND FAYETTE COUNTIES, PENNSYLVANIA
PREPARED FOR REGIONAL TRAIL CORPORATION
RESOURCE FEATURES MAPPING
September, 1997
MACKIN ENGINEERING COMPANY
1 .5 0 1 2
Scale in Miles
WEST MIFFLIN
DRAVOSBURG
DUQUESNE
NORTH VERSAILLES
McKees Rocks Park
McKEESPORT
PORT VUE
LIBERTY
VERSAILLES
Boston Riverfront Park
Boston
LINCOLN
Greenock
Locust Grove Park
Youghiogheny Country Club
SOUTH VERSAILLES
Coulter
North Huntingdon Soccer Complex
NORTH HUNTINGDON
Camp Youghiogheny (Girl Scouts)
Turner Memorial Park
Buena Vista
Industry Park
Industry
Blythedale
Blythedale Park
ELIZABETH TOWNSHIP
SEWICKLEY
Smithdale
Smithdale Community Park
SUTERSVILLE
Sewickley Creek
ALLEGHENY COUNTY
WESTMORELAND COUNTY
Collinsburg
Collinsburg Park
Goering Park
WEST NEWTON
Wine Street Park
Reduction
ROSTRAVER
CEDAR CREEK
PA 837
PA 148
PA 48
PA 136
PA 51
PA 201
PA 31
30
70



Cultural/Recreation Features (2 of 2)

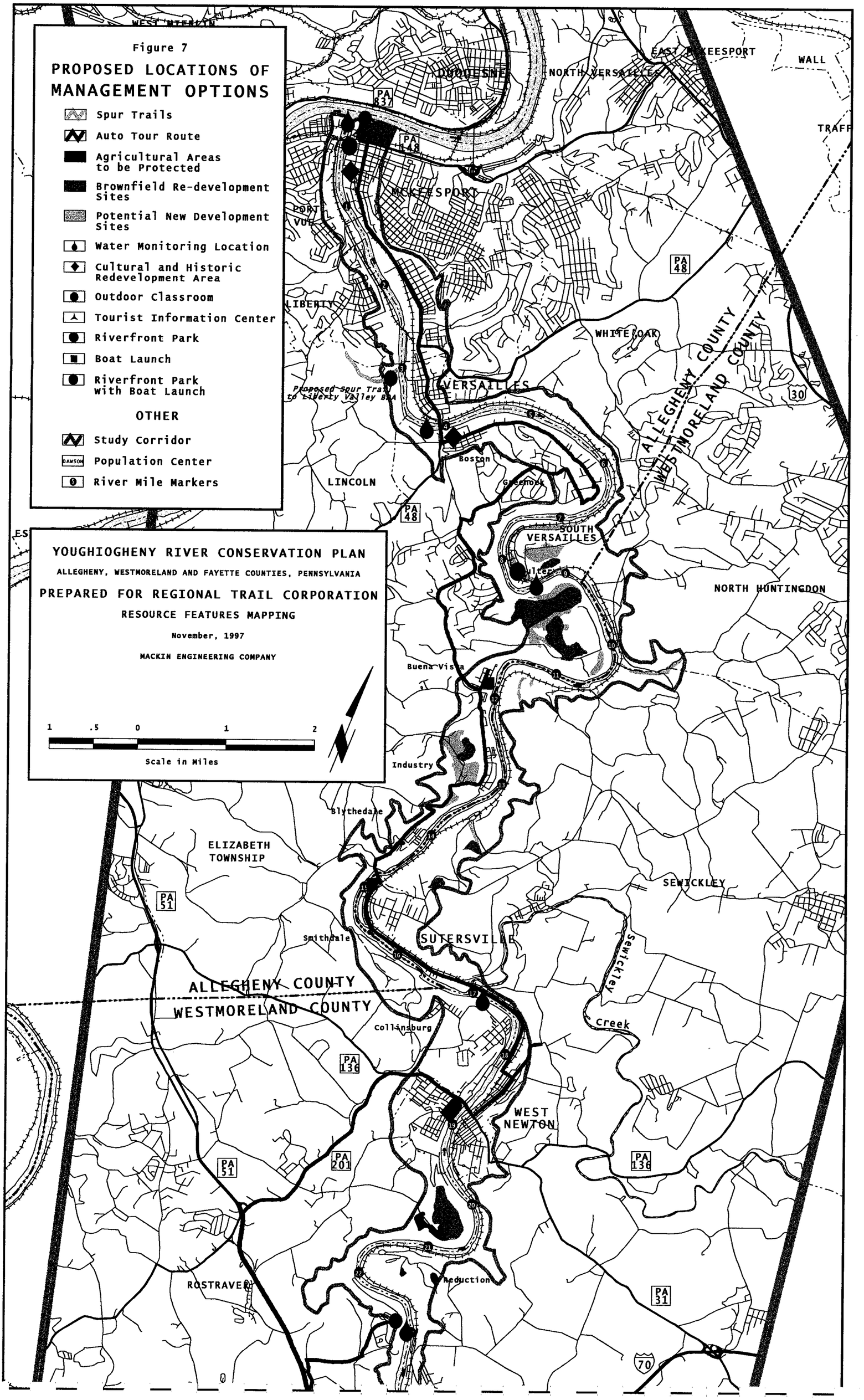
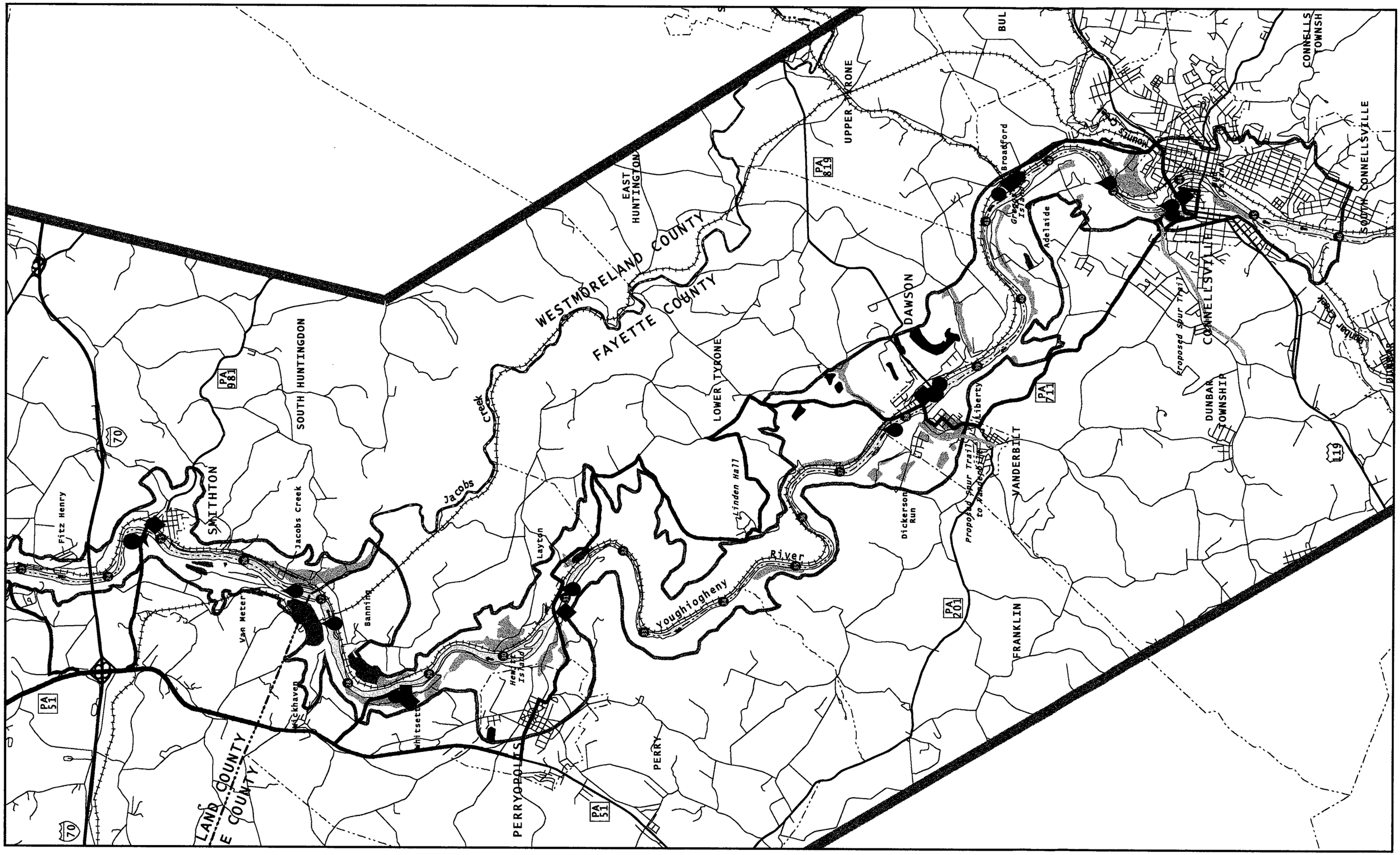


Figure 7
PROPOSED LOCATIONS OF MANAGEMENT OPTIONS
Spur Trails
Auto Tour Route
Agricultural Areas to be Protected
Brownfield Re-development Sites
Potential New Development Sites
Water Monitoring Location
Cultural and Historic Redevelopment Area
Outdoor Classroom
Tourist Information Center
Riverfront Park
Boat Launch
Riverfront Park with Boat Launch
OTHER
Study Corridor
DAWSON
Population Center
Riverfront Park
River Mile Markers
YOUGHIOGHENY RIVER CONSERVATION PLAN
ALLEGHENY, WESTMORELAND AND FAYETTE COUNTIES, PENNSYLVANIA
PREPARED FOR REGIONAL TRAIL CORPORATION
RESOURCE FEATURES MAPPING
November, 1997
MACKIN ENGINEERING COMPANY
1 .5 0 1 2
Scale in Miles
DUQUESNE
NORTH VERSAILLES
EAST MCKEESPORT
WALL
TRAFF
MCKEESPORT
PORT VUE
LIBERTY
VERSAILLES
Proposed Spur Trail to Liberty Valley BBA
WHITE OAK
ALLEGHENY COUNTY
WESTMORELAND COUNTY
Boston
Greenock
LINCOLN
SOUTH VERSAILLES
NORTH HUNTINGDON
Buena Vista
Industry
Blythedale
ELIZABETH TOWNSHIP
SEWICKLEY
Smithdale
SUTERSVILLE
Sewickley
Creek
ALLEGHENY COUNTY
WESTMORELAND COUNTY
Collinsburg
WEST NEWTON
ROSTRAVER
Reduction
PA 837
PA 48
PA 51
PA 136
PA 201
PA 31
30
70



Management Options (2 of 2)

APPENDIX A

Comments

The KEMP GROUP

Engineers • Planners • Foresters
Landscape Architects • Construction Managers

December 16, 1997

Mr. Larry Ridenour
LLR Landscape Architects
736 Jefferson Drive
Pittsburgh, PA 15229-1205

Bob

Dear Larry,

A quick follow-up on the West Newton Public Meeting. A few suggestions.

First of all, I don't think you should limit the insect problem to black flies. Perhaps it should read:

> Continue to implement insecticide spraying at locations with high infestations of insect pests.

There are always mosquitoes, and the gypsy moth larvae will return.

As I mentioned at the meeting, I think a stronger position should be identified in the acquisition/lease/permission of adjacent private lands to establish boat-in only, primitive camp sites for river voyagers. It would be accompanied by a river map describing all the water and adjacent land features, i.e., riffles, eddies, falls, islands, river crossings, etc., etc. and then the low-key signage for those spots.

I could see sites established at maybe ten mile intervals along the entire stretch which would allow groups, especially small canoe parties to land, set up camp and overnight.

In addition, the mapping should be accompanied by a conservation code of conduct to guide the campers.

2405 McCLINTOCK ROAD, WHITE OAK, PENNSYLVANIA 15131 (412) 678-6400

I liken this to West Branch of the Susquehanna River between Clearfield and Renova where the Boy Scouts went in and created a similar system of maps and camp sites. This way it avoids any problem of trespass on private or hostile land. I'd be glad to assist. I still have my Susquehanna River file. Have a blessed holiday.

Sincerely,

George R. Kemp
GRK/cc

cc: RTC/R. McKinley

Pennsylvania Environmental Council

Investment Building 239 4th Avenue Suite 1808 Pittsburgh, PA 15222
412/471. 1770 FAX 412/471. 1661

To: Larry L. Ridenour
From: John Walliser, Pennsylvania Environmental Council
RE: Youghiogheny River Corridor Plan
Date: September 25, 1997

Hello,

Just wanted to send you general comments and information concerning the River Corridor Plan. The executive summary and presentation were impressive -- I'm not sure that there is much I can add at this point that would be of substantive value. I appreciate your including myself and PEC in the planning process, and hope that you continue to keep us involved as the objectives are further narrowed and defined.

There are currently three bills in the Pennsylvania legislature [H.B. 1613, 1614 & 1615] that will encourage "smart growth" by amending the MPC to facilitate inter-regional planning. The best PEC contact would be Anna Breinich [(717) 230-8044] at our Harrisburg office. Representative David Steil (R-Bucks) [(215) 968-3975] has been an active proponent of this legislation. You can obtain copies of these bills by calling (717) 787-7570 (Joint Legislative Conservation Committee) and asking for Richard Fox.

After all the talk of "marketing" and "promotion" at the West Newton meeting, I can only re-emphasize the importance of not losing sight of the "preservation" goals of the Plan -- ensuring the inherent resources of the area. The reason I stress this fact is that every "quality of life" meeting that I have attended over the past year has essentially been a "you don't know what you've got 'til its gone" discussion; I would hate to see similar "development" results along the Yough. Though regional promotion is important, primary effort should still focus on the adoption of sound land use practices, water quality management, et cetera.

Your point about local participation is also important -- those who travel the least amount of distance to target areas are the ones who should have the lasting roles in the Plan's implementation. As was stated at the meeting, its worth the effort to identify and involve local individuals / expertise. (Perhaps residents who have worked on the rail-trials or those who are involved with the water activities?) As far as getting local input generally, PEC was involved in a community "visioning process" in the Johnstown area that had goals similar to those of the River Corridor Plan. Again, Anna Breinich would be the best person to talk to.

Educational projects often "pull in" the community in that adults gain interest through what their children are involved in. In addition, utilizing school children, as well as local college students and faculty, provides a "voluntary" work force that may supplement your efforts - such

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c o Killian & Gephart 216-218 Pine Street Harrisburg, PA 17108
Wilkes University Wilkes-Barre, PA 18766

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as aiding in water quality monitoring, issue awareness and discussion, et cetera. The French Creek Project has developed an environmental education curriculum for grades kindergarten to twelfth. Brian Hill is the Director of the Project and can be reached at: (814) 332-2946. A quick search through the internet will reveal several other curriculums that have been designed for both rural and urban watersheds.

I hope this information helps. Again, please keep us posted of developments!

Sincerely,

J. Walliser

John Walliser

Wilderness Voyageurs Inc.

Outdoor Adventure Specialists Since 1964

The following are my comments concerning the Youghiogheny River Conservation Plan, Preliminary Findings Report.

I encourage the creation of a Lower Youghiogheny River Council, but hope that it will be nothing more than a volunteer grassroots organization with no funding and no employees. The LYRC when considering any actions should survey the landscape and utilize the strengths of existing entities. There are already economic development programs, there are organizations engaged in tourism marketing, and the private sector will fulfill needs of the market. Consideration of a different name may be warranted, as the marketing efforts of the whitewater industry have labeled the section of the Youghiogheny from Ohiopyle to Bruner Run as the Lower Youghiogheny. For more than 30 years this label has been used and promoted in more than 1 million pieces of literature annually.

The largest hurdle will be establishing an identity that is representative and recognizable. I feel it is imperative to collaborate and cooperate with the area visitor bureaus whom have made considerable advances in the area of "Brand identity".

<develop a travel link>
Recent developments between the GPCVB and the LHVB have created a natural role for the Youghiogheny corridor. An extensive regional signage program is being designed that will link the attractions and sites of Pittsburgh and the Laurel Highlands. The river serves as the historical and natural way to achieve this linkage. I recommend continued contact with the bureau personnel responsible for design.

<tourist information centers>
These are a great idea if they are to be unmanned or volunteer staffed. If there are to be paid personnel, learn from history. The LHVB which is in the business of tourism promotion found it difficult to justify these expenses even at such high traffic areas as New Stanton.

<official map>
There are too many "official maps" running around. Incorporate design elements of the other maps (GPCVB, or LHVB) or be incorporated and included into their design process.

P.O. Box 97 - Ohiopyle, PA 15470
Business 412 - 329 - 5517 • E-mail RaftPA1@aol.com • Reservations 800 - 272 - 4141

Education is critical to the sustainability of a resource. The initiatives listed in the plan are going out to the community, a mechanism of bringing the community to the river is necessary.

Encourage science classes to utilize the Yough as their laboratory.

History classes should look at the Youghiogheny valley holistically and be taught the international implications of local activities.

Avoid duplication of efforts of other organizations and do not create another self serving bureaucracy.

If clarification of any comments is necessary, feel free to contact me at 412-329-1000.

See you on the river,

Eric Martin
Vice President

To: Regional Trail Corp.

The last thing the Yough River needs is leveleping. I have fished the Yough River for 20 years. It all started with the Cedar Creek Park launching area + bike trail. The river was peaceful and quiet before they were built. You could relax and enjoy some fine fishing. But now I have encountered up to 15 boats in less than a 1/2 mile stretch of river. I have seen fisherman harvest strangers of legal and illegal fish. I don't have reports but the fishing has not been as good as in the past. I have seen garbage being left along and in this beautiful River. The Yough is not a large body of water, it is nothing but a large stream. There is no way it can handle this increase of people. Besides, what is there to enjoy about an overcrowded river. A person would not be able to fish properly because in a 1/2 mile of river your lucky if 40% of that is fishable. The river's fishery could not handle this surge of people. People should think of what they really enjoyed about the river before giving it up because once it is gone they will never

get it back, Also, I'll believe the catch + release program when I see it, because that is up to the Fish Commission Not you.

Walt Sugent
Jeannette, Pa
WALT SUGENT

P.S. Enclosed is a list of People who also disagree.

NAME	ADDRESS
1. [illegible]	
2. Paul P Perlich	Greensburg Pa.
3 [illegible]	S W. GREENSBURG
4 [illegible]	
5 [illegible]	
6 [illegible]	[illegible] PA
7. [illegible]	MT. PLEASANT, PA.
8. Ray [illegible],	[illegible] Pa.
9 [illegible]	
10 [illegible]	KDD Connellsville
11 Barry Gioffery	Acme, PA
12 [illegible]	West Newton PA
13 Mark [illegible]	Dawson PA.
14 John H. Wiernesh	North Huntingdon Pa 15642

15	John C Kenner	GREENSBURG
16	Joseph Sekowski	ACME, PA.
17	Ronald J Cicco	Trafford Pa.
18	[illegible]	Gbg. PA
19	Doug Walk	[illegible] PA
20	[illegible]	Scottdale PA
21	[illegible]	[illegible]
22	Mark J Kennedy	Gbg. PA
23	[illegible]	[illegible]
24	Mike Lichk	GBG PA
25	Barry Burkley	[illegible] PA
26	[illegible]	WHITE OAK, PA
27	[illegible]	Gbg, PA
28	JAKE MORRIS	NEW STANTON, PA
29	SAM NEIDERMISER	DONORA, PA
30	SHANE McBRIDE	GBG PA
31	Art Hook	West Newton PA
32	[illegible]	[illegible] PA.
33	Joe Schall	Latrobe
34	Bob [illegible]	[illegible] PA
35	JERRY DUEZ	IRWIN PA.
36	Angela Manchis	Jeannette Pa
37	Nathan Shutt	Youngwood PA
38	Patti Myers	Hunnah, PA.
39	[illegible]	[illegible] Pa
40	Rick Dailey	Greensburg Pa.

41 Jeff Wood Hunter PA
42. Rick Calvigne "Sutersville PA"
43 Lindy Margery Greensburg Pa

Linden Hall

R. D. #1 - DAWSON, PA 15428
5 Miles East of Perryopolis
Phone 412-529-7543 FAX 412-529-0529
(Outside Western PA) 1-800-944-3238

October 28, 1997

TO: Bob McKinley - YRTC
FROM: Tim Hall, General Manager of Linden Hall
RE: Input on Executive Summary Draft of the Yough Conservation Study

We were quite surprised and deeply concerned that the major issues brought to the meetings by Linden Hall's representative Jim DeOre, as well as Joe Pfoal of Commercial Stone and Pat Tremble of Dawson were not addressed in the report. The Black Fly problem is a serious and ongoing threat to the river environment and to the Trail which needs to be part of any serious program designed for river conservation and tourism development.

It's absence in the study implies that despite our well publicized efforts to create an environment of support to meet this continuing problem. The Conservation Executive Report items were predicated in advance permitting very little meaningful input from meeting attenders. The Executive Committee of the United Steelworkers of America are considering substantial developments to Linden Hall over the next five years, and they perceive this problem to be a major concern to the area. Linden Hall currently employees over 100 people, and spends 1.2 million dollars locally with Vendors. The United Steelworkers expansion here means more jobs and local economic growth. What is to be made of the reports neglect to consider the Black Fly problem in light of such an expansion program?

Also, of concern was the lack to mention the Linden Hall Mansion on the A & E Great American Castle series this fall and our value as a lodging facility and support attraction for tourism. As you may know, Linden Hall has attempted to provide an anchor for the local river and trail communities by linking to the trail, hosting business gatherings, as well as supporting The Return To The Turn Of The Century Concept (Fayette Festival Assoc.) as a basis for promoting lower Yough tourism. Ignoring our efforts ignores what is in reality happening to the Yough River and in its communities.

This draft is deeply distressing and in trust I will be forwarding a revised report with my comments to my superiors the United Steelworkers of America.

Sincerely,

Tim Hall
General Manager

OFFICE OF
THE MAYOR

JOSEPH J. BENDEL
MAYOR
"Working each day for a better tomorrow"

To: John Palyo, TRCOG Recreation Coordinator
From: Mayor Bendel
Date: August 11, 1997
RE: RTC Youghiogheny River Conservation Plan

The City of McKeesport in conjunction with Versailles is developing jointly the (east side) Youghiogheny river front along the Walnut Street Corridor. There is significant opportunity for a variety of river front activities. The trail from McKees Point (The Mon) to the Boston Bridge (Elizabeth Township) is one example.

In September, the City will initiate portions of the trail from the 15th Street Bridge to McKees Point. More details are available by contacting Jody Swenderman at 675-5028.

By:
Joseph J. Bendel

cc: Jody Swenderman

CITY OF MCKEESPORT • 201 LINDEN BOULEVARD • MCKEESPORT • PENNSYLVANIA 15132 • 412-675-5050 • FAX 412-675-5019

APPENDIX B

Supporting Data

Recreational Facilities

Youghiogheny River Conservation Plan
Recreation Facilities Within Study Corridor

FACILITY	PARKING STALLS	BOAT RAMP	BOAT TRAILER PARKING	TRAIL ACCESS	DRINKING WATER	TOILET	PICNIC AREA	PHONE
Adelaide (Rivers Edge)*	40	Y	Y	Y	Y	Y	Y	Y
Blythedale Community Park	10	N	N	Y	N	N	N	N
Blythedale/ Sutersville YRTC Trailhead	40	N	N	Y	N	Y	Y	N
Boston Park Community Park	3	Y	Y	Y	N	Y	Y	N
Buena Vista YRTC Trailhead	10	N	N	Y	N	N	Y	N
Cedar Creek Park Westmoreland County Park	200+	Y	Y	Y	Y	Y	Y	Y
Collinsburg Community Park	Street	N	N	N	N	N	Y	Y
Dickerson Run/Dawson YRTC Trailhead	Street	Y**	Street	UNDEV	N	N	Y	N
Gergley Park McKeesport Community Park	100	Y	Y	UNDEV	Y	Y	Y	N
Goering Community Park	100	Y	Y	N	Y	Y	Y	Y
Greenock Community Park	70	Y**	Y	Y	N	Y	Y	N
Industry Community Park	Street	Y	Street	Y	N	N	Y	N
John Woodruff Community Park	50	N	N	N	Y	Y	Y	Y
Layton (Hazelbaker's)*	100	Y	Y	N	Y	Y	Y	Y
Locust Grove Community Park	Street	N	N	Y	N	N	Y	N
Mounts Creek Community Park	60	N	N	N	Y	N	N	N
Perry Boro Community. Park	100	N	N	N	Y	Y	Y	Y
Smithdale Community Park	Street	N	N	N	N	N	Y	Y
Smithton Lion's Club Community Park and Field	30	N	N	N	N	N	N	N
Smithton YRTC Trailhead	100	Y**	N	Y	N	Y	Y	N
Tri-Town Area Playground	20	N	N	Y	N	N	Y	N
Van Meter Community Park	N	N	N	N	N	N	N	N
Vine Street Park Community Park	Street	N	N	N	Y	N	Y	N
West Newton YRTC Trailhead	75	Y***	Y	Y	N	N	N	N
Whitsett Community Park	40	Y	N	UNDEV	N	N	N	N
Yough River Park Connellsville YRTC Trailhead	100	Y	Y	Y	Y	Y	Y	Y

* commercial campground facilities

** canoe only

***site accessible by bridge

UNDEV - Trail is unfinished in these areas

Zoning

Youghiogheny River Conservation Plan
Zoning

COUNTY	MUNICIPALITY	Zoning Ordinance	Existing Landuse
Allegheny	McKeesport City	Municipal	See Figure # 3
Allegheny	White Oak Boro	Municipal	See Figure # 3
Allegheny	Versailles Boro	Municipal	See Figure # 3
Allegheny	Port Vue Boro	Municipal	See Figure # 3
Allegheny	Liberty Boro	Municipal	See Figure # 3
Allegheny	Lincoln Boro	Municipal	See Figure # 3
Allegheny	Elizabeth Twp	Municipal	See Figure # 3
Allegheny	S. Versailles Twp	Municipal	See Figure # 3
Westmoreland	N. Huntingdon Twp	Municipal	See Figure # 3
Westmoreland	Sewickley Twp	none	See Figure # 3
Westmoreland	Sutersville Boro	none	See Figure # 3
Westmoreland	West Newton Boro	Municipal	See Figure # 3
Westmoreland	S. Huntingdon Twp	none	See Figure # 3
Westmoreland	Smithton Boro	none	See Figure # 3
Westmoreland	Rostraver Twp	Municipal	See Figure # 3
Fayette	Perry Twp	County	See Figure # 3
Fayette	Perryopolis Boro	County	See Figure # 3
Fayette	Lower Tyrone Twp	County	See Figure # 3
Fayette	Franklin Twp	County	See Figure # 3
Fayette	Dunbar Twp	County	See Figure # 3
Fayette	Dawson Boro	County	See Figure # 3
Fayette	Vanderbilt Boro	County	See Figure # 3
Fayette	Upper Tyrone Twp	County	See Figure # 3
Fayette	Connellsville City	Municipal	See Figure # 3
Fayette	Connellsville Twp	County	See Figure # 3
Fayette	S. Connellsville Boro	County	See Figure # 3

Zoning and Land Use Conflicts

Youghiogheny River Conservation Plan
Zoning/Land Use Conflicts within the Study Corridor

Allegheny County			Westmoreland County		
Municipality	Land Use	Zoning	Municipality	Land Use	Zoning
City of McKeesport *West Side of River*	Open Space	Industrial	North Huntington Township	Park	Residential
	Industrial	Commercial		Open Space	Residential
Port Vue Borough	Open Space	Industrial	West Newton Borough		
	Residential	Industrial	*East Side of River*	Residential	Commercial
Liberty Borough	Open Space	Industrial	*West Side of River*	Open Space	Residential
	Park	Residential	Rostraver Township	Open Space	Industrial
	Open Space	Residential		Residential	Industrial
Lincoln Borough	Open Space	Residential			
Versailles Borough	Open Space	Industrial			
	Commercial	Residential			
	Open Space	Residential			
White Oak Borough	Open Space	Industrial			
	Open Space	Residential			
South Versailles Township	Open Space	Commercial			
	Open Space	Residential			
	Residential	Commercial			
Elizabeth Township	Open Space	Residential			
	Open Space	Industrial			
Boston	Open Space	Industrial			
	Park	Residential			
Greenock	Commercial	Residential			
Industry	Residential	Commercial			

Youghiogheny River Conservation Plan
Zoning/Land Use Conflicts within the Study Corridor

Fayette County					
Municipality	Land Use	Zoning	Municipality	Land Use	Zoning
Perry Township			Dunbar Township		
East Side of Yough River	Open Space	Industrial	*Liberty*	Open Space	Industrial
	Commercial	Open Space	*Dickerson Run*	Open Space	Residential
West Side of Yough River	Open Space	Industrial			
	Residential	Open Space	*Broadford*	Residential	Industrial
	Agricultural	Open Space			
Perryopolis Borough	Agricultural	Open Space	City of Connellsville		
	Open Space	Residential	*East Side of River*	Residential	Commercial
Franklin Township	Agricultural	Open Space		Commercial	Industrial
	Open Space	Industrial		Commercial	Residential
Upper Tyrone Township	Open Space	Industrial	*West Side of River*	Park	Industrial
	Residential	Industrial		Industrial	Commercial
Lower Tyrone Township	Agricultural	Open Space		Open Space	Industrial
	Open Space	Residential			
	Residential	Open Space			
Dawson Borough	Commercial	Residential			
	Open Space	Residential			

Pennsylvania Natural Diversity Index
Information System Responses

Pennsylvania Department of Conservation and Natural Resources

Rachel Carson State Office Building
P.O. Box 8552
Harrisburg, PA 17105-8552
July 9, 1997

717-787-3444
fax 717-783-5109

Bureau of Forestry

David A. Zimsky
Mackin Engineering Company
RIDC Park West
117 Industry Drive
Pittsburgh, PA 15275-1015

RE: PNDI Information Request for Youghiogheny River Conservation Plan, Mackin Project No: 3824-001, Allegheny, Westmoreland and Fayette Counties PER NO: 005545.

Dear Mr. Zimsky:

In response to your request of June 17, 1997, the Pennsylvania Natural Diversity Inventory (PNDI) information system was used to gather information regarding the presence of resources of special concern within the referenced site. The attached list documents **historic** and **confirmed** occurrences of the species of special concern within a half mile of the project area. Legal authority for Pennsylvania's biological resources resides with three administrative agencies. The enclosure titled PNDI Management Agencies, outlines which species groups are managed by these agencies.

This response represents the most up-to-date summary of the PNDI data files and is applicable for one year. However, an absence of recorded information does not necessarily imply actual conditions on site. A field survey of any site may reveal previously unreported populations.

PNDI is a site specific information system which describes significant natural resources of Pennsylvania. This system includes data descriptive of plant and animal species of special concern, exemplary natural communities and unique geological features. PNDI is a cooperative project of the Department of Conservation and Natural Resources, The Nature Conservancy and the Western Pennsylvania Conservancy.

PNDI is partially funded through contributions to the Wild Resource Conservation Fund. If you feel that this information is of use to your company please feel free to use the enclosed flyer to make a donation to the Wild Resource Conservation Fund.

If information provided by the PNDI system is to be published in any form, the Inventory should be informed at the outset and credited as the source. Please phone this office if you have questions concerning this response or the PNDI system.

Sincerely,

Ayesha Gray
Plant Program Specialist
Pennsylvania Natural Diversity Inventory

Enclosures

cc: Charles Bier, PNDI-W

EOR.....	SCIENTIFIC NAME.....	COMMON NAME.....	PA	US	COUNTYNAME1.....	LASTOBS...
IMBIV13010*010*PA	ELLIPSARIA LINEOLATA	BUTTERFLY MUSSEL			WASHINGTON	1919-PRE
IMBIV14080*017*PA	ELLIPTIO CRASSIDENS	ELEPHANT EAR			WASHINGTON	1919-PRE
IMBIV17070*005*PA	FUSCONAIA FLAVA	WABASH PIGTOE			WASHINGTON	1919-PRE
IMBIV17120*015*PA	FUSCONAIA SUBROTUNDA	LONG-SOLID			WASHINGTON	1919-PRE
IMBIV21110*007*PA	LAMPSILIS ABRUPTA	PINK MUCKET		LE	WASHINGTON	1919-PRE
IMBIV24010*010*PA	LEPTODEA FRAGILIS	FRAGILE PAPERSHELL			WASHINGTON	1919-PRE
IMBIV30010*006*PA	OBLIQUARIA REFLEXA	THREEHORN WARTYBACK			WASHINGTON	1919-PRE
IMBIV31050*004*PA	OBOVARIA SUBROTUNDA	ROUND HICKORYNUT			WASHINGTON	1919-PRE
IMBIV35090*008*PA	PLEUROBEMA CORDATUM	OHIO PIGTOE			WASHINGTON	1919-PRE
IMBIV37010*016*PA	POTAMILUS ALATUS	PINK HEELSPLITTER			WASHINGTON	1919-PRE
IMBIV39040*022*PA	QUADRULA CYLINDRICA	RABBITSFOOT			WASHINGTON	1919-PRE
IMBIV39080*012*PA	QUADRULA METANEVRA	MONKEYFACE			WASHINGTON	1919-PRE
IMBIV39110*010*PA	QUADRULA PUSTULOSA	PIMPLEBACK			WASHINGTON	1919-PRE
IMBIV44010*006*PA	TRITOGONIA VERRUCOSA	PISTOLGRIP MUSSEL			WASHINGTON	1919-PRE
PDAPIOY010*015*PA	ERIGENIA BULBOSA	HARBINGER-OF-SPRING (	PT		WESTMORELAND	1985-04-30
PDBOROL080*020*PA	LITHOSPERMUM LATIFOLIUM	AMERICAN GROMWELL 2	PE		WESTMORELAND	1995-05-17
PDRANO10A0*010*PA	ACONITUM UNCINATUM	BLUE MONKSHOOD	PT		WESTMORELAND	1984-08-20
PDRANO10A0*011*PA	ACONITUM UNCINATUM	BLUE MONKSHOOD	PT		WESTMORELAND	1984-08-20
PDRANO10A0*012*PA	ACONITUM UNCINATUM	BLUE MONKSHOOD 3	PT		WESTMORELAND	1984-08-20
PDRANO10A0*013*PA	ACONITUM UNCINATUM	BLUE MONKSHOOD	PT		WESTMORELAND	1988-08-24
PMLIL200L0*046*PA	TRILLIUM NIVALE	SNOW TRILLIUM 4	PR		WESTMORELAND	1985-03-16
IIC0080050*001*PA	STYLURUS NOTATUS	MARKED CLUBTAIL 5			ALLEGHENY	1921-08-06
PDAPIOY010*010*PA	ERIGENIA BULBOSA	HARBINGER-OF-SPRING	PT		WESTMORELAND	1987-03 22
PDAPIOY010*017*PA	ERIGENIA BULBOSA	HARBINGER-OF-SPRING 6	PT		WESTMORELAND	1995-03-23
PDRANO80J0*002*PA	DELPHINIUM EXALTATUM	TALL LARKSPUR 7	PE		ALLEGHENY	1939-10-07
PMLIL200L0*010*PA	TRILLIUM NIVALE	SNOW TRILLIUM	PR		ALLEGHENY	1919-03-19
PMLIL200L0*012*PA	TRILLIUM NIVALE	SNOW TRILLIUM	PR		WESTMORELAND	1986-03-24
PMLIL200L0*039*PA	TRILLIUM NIVALE	SNOW TRILLIUM 4	PR		WESTMORELAND	1985-??-??
PMLIL200L0*030*PA	TRILLIUM NIVALE	SNOW TRILLIUM	PR		WESTMORELAND	1986-03-24
PMLIL200L0*049*PA	TRILLIUM NIVALE	SNOW TRILLIUM	PR		WESTMORELAND	1987-03-30
PDRANO10A0*006*PA	ACONITUM UNCINATUM	BLUE MONKSHOOD	PT		FAYETTE	1984-08-31
PDRANO10A0*007*PA	ACONITUM UNCINATUM	BLUE MONKSHOOD	PT		FAYETTE	1984-08-31
PDRANO10A0*008*PA	ACONITUM UNCINATUM	BLUE MONKSHOOD 3	PT		FAYETTE	1984-08-31
PDRANO10A0*009*PA	ACONITUM UNCINATUM	BLUE MONKSHOOD	PT		FAYETTE	1984-08-11
PDRANO10A0*014*PA	ACONITUM UNCINATUM	BLUE MONKSHOOD	PT		FAYETTE	1985-08-03
PDRANON010*008*PA	TRAUTVETTERIA CAROLINIENSIS	CAROLINA TASSEL-RUE	PR		FAYETTE	1984-08-31
PDRANON010*009*PA	TRAUTVETTERIA CAROLINIENSIS	CAROLINA TASSEL-RUE 8	PR		FAYETTE	1985-07-13
PDPAS010A0*015*PA	PASSIFLORA LUTEA	PASSION-FLOWER 9	PE		FAYETTE	1953-07-22

Pennsylvania Fish and Wildlife Data Base
LIST C: Potential Special Concern Species Land Use/Cover Type List
** Mackin Engineering, Youghiogheny River, Conservation Plan, Mackin Project 3824-001 **
25 FEB 1997
Counties Included: Allegheny, Fayette, Westmoreland

Species		Feeding Behavior			Land Use/Cover Type																
Common Name.....	*Stat.	Herb	Omni	Carn..	Urban.. (10's)	Agric Crops (21)	Agric Orchd (22)	Agric.. Feed (23)	Range Herb (31)	Range Shrub (32)	Range.. Mix (33)	Forest Decid (41)	Forest Conif (42)	Forest.. Mix (43)	Water. Stream (51)	Water Lake (52)	Water. Reserv (53)	Water.. Bay (54)	Wetlnd Forest (61)	Wetlnd.. Non-For (62)	Barren. (70's)
Goshawk, Northern	V			X		X		X	X			X	X	X					X		
Grebe, Pied-billed	V			X											X	X	X	X		X	
Grosbeak, Blue	V		X						X	X	X	X									
Harrier, Northern	U			X	X	X			X	X	X									X	X
Heron, Yellow-crowned Night	T			X		X						X	X	X	X	X	X	X	X	X	
Nighthawk, Common	W			X	X	X			X												
Osprey	E			X	X							X	X	X	X	X	X	X	X	X	
Owl, Common Barn	U			X	X	X	X	X				X	X	X					X	X	
Owl, Long-eared	W			X	X	X	X		X	X	X	X	X	X					X		
Owl, Northern Saw-whet	W			X		X						X	X	X					X		
Owl, Short-eared	E			X		X			X	X	X							X		X	X
Pintail, Northern	W		X			X			X						X	X	X	X		X	
Rail, King	E		X			X									X	X	X	X		X	
Sandpiper, Upland	T		X		X	X			X			X	X	X							
Shoveler, Northern	W		X			X									X	X	X	X	X	X	
Snipe, Common	U		X			X	X		X	X	X	X	X	X					X	X	X
Sparrow, Henslow's	U		X			X			X											X	
Tanager, Summer	V		X				X					X		X					X		
Teal, Green-winged	V		X			X			X			X	X	X	X	X	X	X	X	X	X
Tern, Black	E			X											X	X	X			X	
Thrush, Swainson's	V		X		X							X	X	X					X		
Warbler, Prothonotary	U			X								X							X		
Whip-poor-will	W			X		X	X		X	X	X	X	X	X					X		
Wigeon, American	W		X			X						X	X	X	X	X	X	X	X	X	
Wren, Sedge	T			X														X		X	
Bat, Silver-haired	V		X		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X
Bobcat	U			X		X	X	X	X	X	X	X	X	X					X	X	X

* Status Codes: E = Endangered; T = Threatened. Candidate Classifications: U = At Risk; V = Rare; W = Undetermined Status; Y = Unspecified.

Pennsylvania Fish and Wildlife Data Base
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Cottontail, New England	U	X								X		X	X	X							
Hare, Snowshoe	U	X								X		X	X	X					X		
Myotis, Eastern Small-footed	T			X	X				X	X		X	X	X	X	X			X	X	X
Shrew, Least	E			X	X	X	X		X	X		X		X					X	X	
Squirrel, Fox	V		X		X	X	X					X	X	X					X		
Weasel, Least	W			X	X	X			X	X		X	X	X	X				X	X	
Woodrat, Eastern	T		X							X	X	X	X	X					X		X
Mussel, Pink Mucket Pearly	E		X												X						
Pigtoe, Rough	E		X												X						
Pimpleback, Orange	E		X												X						

* Status Codes: E = Endangered; T = Threatened. Candidate Classifications: U = At Risk; V = Rare; W = Undetermined Status; Y = Unspecified.

APPENDIX C

Management Options Matrix

Youghiogheny River Conservation Plan
Management Options

MANAGEMENT OPTIONS AND PRIORITIES	POTENTIAL PARTNERSHIPS and/or RESPONSIBLE PARTIES	POTENTIAL FUNDING SOURCES	PROJECTED IMPLEMENTATION YEAR
	RESOURCE CONSERVATION		
Create a Lower Youghiogheny River Council (LYRC). Purpose would be to oversee the implementation of the elements of this plan, and to update it when necessary to ensure that it stays current.	SIHC, RTC Steering Committee, local municipalities, counties	SIHC	1998
Organize municipalities and other stakeholders within the study corridor to become actively involved in the ACOE water reallocation study process.	PADEP, EPA, ACOE, PFBC, USGS, PA Cleanways, PSU-Biology Department, Pennsylvania Environmental Council (PEC), Pennsylvania Organization of Watersheds and Rivers (POWR), Ohio River Sanitary Commission (ORSANCO)	Private foundations (Heinz Endowments, RK Mellon, Fish America, National Fish and Wildlife, Westinghouse, Benedum)	1998
Develop a water quality monitoring program.	PADEP, US Environmental Protection Agency (EPA) Region 3 & 4, Army Corps of Engineers (ACOE), US Geological Survey (USGS), Pennsylvania Fish & Boat Commission (PFBC), PA Cleanways, PSU, Sewickley Creek Watershed Association, other watershed associations	PADEP- Bureau of Watershed Restoration, Bureau of Watershed Conservation (Citizens Volunteer Monitoring Program), Private foundations (Heinz Endowments, RK Mellon Foundation, Armco Foundation), Carnegie Mellon University (CMU) - David Dzombak.	1998
Create an "Adopt the Yough" volunteer trash removal program to ensure continued maintenance along the river corridor.	PA Cleanways, PSU, local conservation groups, sportsmen's associations, community groups, local trash hauling companies	Private foundations, county government, local volunteer organizations	1998
Emphasize water quality monitoring and improvement, with the future possibility of instituting a catch and release program or Big Bass Regulations for warmwater gamefish species.	PADEP, EPA, ACOE, PFBC, USGS, PA Cleanways, California University of Pennsylvania (CUP) -Biology Department, POWR, ORSANCO, Local sportsmen's groups	No direct costs involved	1998
Coordinate with local officials to enforce stormwater management regulations and best management practices.	County Conservation Districts, local engineering firms, municipalities, local watershed associations, landowners, PA Cleanways	Private foundations (Heinz Endowments, RK Mellon Foundation, Armco Foundation)	1999
Hire a Code Enforcement Officer and Community Development Specialist to enforce land use regulations and coordinate efforts for development within the river corridor.	LYRC	PA DCNR Circuit Rider Program	1999
Create a land trust to preserve sensitive ecological habitats or historical properties.	National Land Trust Association, Western Pennsylvania Conservancy (WPC), Allegheny Land Trust, LYRC	PA DCNR Keystone Recreation, Park and Conservation Fund, Land Trust Grant Program	1999
Encourage deficient municipalities to develop a formal sewage treatment plan.	LYRC, PADEP, county planning	PA DCED, PA Infrastructure Development Program (IDP), Shared Municipal Services (SMS), Section 108; Loan Guarantees: PA Governors Action Team, PA Infrastructure Investment Authority (PENNVEST), PADEP- Bureau of Water Supply	1999
Implement zoning in all municipalities bordering the river.	PASPPO, counties, local municipalities	PA DCED, Small Communities Planning Assistance Program (SCPAP), State Planning Assistance Grant (SPAG)	1999
Create a Special Overlay District for municipalities along the river.	PASPPO, counties, local municipalities	SCPAP, SPAG	1999
Have municipalities that do not implement zoning develop an Official Map.	PASPPO, counties, local municipalities	SCPAP, SPAG	1999
Establish Community Growth Boundaries.	PASPPO, counties, local municipalities	SCPAP, SPAG	1999
Encourage municipalities to adopt prime agricultural land protection as part of their land planning ordinance.	County Conservation District, municipalities, landowners	No cost associated	1999
Implement erosion control measures in areas which have exposed banks, especially downstream of Smithton.	Pennsylvania Department of Environmental Protection (PADEP) Bureau of Waterway Engineering, County Conservation District, local engineering firms, municipalities, local watershed associations, landowners, PA Cleanways, Pennsylvania State University (PSU)	PADEP- Bureau of Waterways Engineering, Private foundations (Heinz Endowments, RK Mellon, Fish America, National Fish and Wildlife, Westinghouse, Bender)	2000
Maintain and improve the ecological and visual quality of the river corridor by requiring a vegetative barrier along the river's edge.	PA Strategic Planning and Program Operations (PASPPO), PADEP, County Conservation District	PADEP - Bureau of Watershed Conservation, PA Department of Conservation and Natural Resources (DCNR) Land Trust Grant	2000
Develop a plan to identify, quantify and remove mine tailing piles and trash dumps.	Western Pennsylvania Coalition for Abandoned Mine Reclamation (WPCAMR), Fayette Forward Strategic Plan (Fayette County), Allegheny Heritage Foundation, PA Cleanways, PADEP- Bureau of Abandoned Mine Reclamation	PADEP- Industrial Site Reuse Program (ISRP), PADEP- Bureau of Abandoned Mine Reclamation, Land Recycling and Environmental Remediation Standards (PA Act 2)	2000

Youghiogheny River Conservation Plan
Management Options

MANAGEMENT OPTIONS AND PRIORITIES	POTENTIAL PARTNERSHIPS and/or RESPONSIBLE PARTIES	POTENTIAL FUNDING SOURCES	PROJECTED IMPLEMENTATION YEAR
Conduct a complete inventory and mapping study of the islands in the river.	Pennsylvania Game Commission (PGC), PADEP, PFBC, PSU, local historic societies	Private foundations, National Institute for Conservation of Cultural Property (NIC), National Trust (NT)	2000
Conduct an inventory of brownfields, and identify their redevelopment potential and eligibility status under PA Act 2 guidelines.	Local municipalities, county planning, Regional Industrial Site Evaluation System	Private foundations, PADEP- ISRP, ARC, Communities of Opportunity, Community Revitalization, PADEP- Bureau of Land Recycling and Waste Management	2000
Prioritize construction of new sewage treatment facilities, facility upgrades, and sewer line extensions through data obtained from the water quality monitoring program.	PADEP, local engineering firms, local municipalities, county planning	Pennsylvania Department of Community & Economic Development (PA DCED) Communities of Opportunity, Appalachian Regional Commission (ARC), Community Revitalization, Neighborhood Assistance Program, PADEP- Bureau of Water Supply Management	2001
Implement a survey of abandoned mines within the study corridor to develop a reclamation strategy.	WPCAMR, Fayette Forward Strategic Plan (Fayette County), Allegheny Heritage Foundation, National Research Center for Coal and Energy, Surface Mine Control & Reclamation (SMCRA), PADEP Bureau of Abandoned Mine Reclamation	Statewide Nonpoint Source Pollution Program Federal Clean Water Act Section 319, Rural Abandoned Mine Program (RAMP) and the Landowner Reclamation Program (LRP) through WPCAMR; PADEP- Bureau of Abandoned Mine Reclamation, SMCRA, CMU	2002
Place the river islands under the management of PA DCNR or the PGC.	PGC, PADEP, PFBC, PSU	No cost associated	2002
Coordinate with county conservation districts, landowners, and farmers to review and enforce sedimentation control regulations and techniques.	County Conservation District, local engineering firms, municipalities, local watershed associations, landowners, PA Cleanways	Private foundations (Heinz Endowments, RK Mellon Foundation, Armco Foundation, McCune, McKenna, Turner)	Ongoing
Investigate methods of controlling Japanese knotweed growth.	PADEP, EPA, ACOE, PFBC, USGS, PSU, PA DCNR	PADEP- Bureau of Waterways Engineering, Bureau of Forestry	Ongoing
IMPROVEMENT OF ECONOMIC AND SOCIAL CONDITIONS			
Create a Lower Youghiogheny River Council (LYRC). Purpose would be to oversee the implementation of the elements of this plan, and to update it when necessary to ensure that it stays current.	SIHC, RTC Steering Committee, local municipalities, counties	SIHC	1998
Conduct flood awareness seminars.	LYRC, National Weather Service	No cost associated	
Complete and maintain the Yough River Trail.	Youghiogheny River Trail (YRT), RTC	NIC, NT, Community Development Block Grant (CDBG), Fay-Penn, private foundations	1998
Develop a Master Site Plan for the Youghiogheny Linear Park at McKeesport.	City of McKeesport, RTC, SIHC	PA DCED: NIC, NT, Community Revitalization Grant, Community Grant Program, DCNR	1998
Promote the Youghiogheny River in fishing, hunting, camping, canoeing, and bicycling magazines.	Local sportsmen's groups, recreational outfitters, existing promoters, Local Chambers of Commerce, PGC, PFBC	No cost associated	1998
Develop a relationship with the Steel Industry Heritage Corporation and other tourism groups.	SIHC, Pennsylvania Historic and Museum Commission (PHMC), local historical societies, Allegheny Conference, existing promoters	No direct costs involved	1998
Hire a Code Enforcement Officer and Community Development Specialist to enforce land use regulations and coordinate efforts for development within the river corridor.	LYRC	PA DCNR Circuit Rider Program	1999
Implement zoning in all municipalities bordering the river.	PASPPO, counties, local municipalities	PA DCED -SCPAP, SPAG	1999
Create a Special Overlay District for municipalities along the river.	PASPPO, counties, local municipalities	SCPAP, SPAG	1999
Have municipalities that do not implement zoning develop an Official Map.	PASPPO, counties, local municipalities	SCPAP, SPAG	1999
Establish Community Growth Boundaries.	PASPPO, counties, local municipalities	SCPAP, SPAG	1999
Schedule a series of 'Yough Talks' - public presentations on various river-related topics.	Local school districts, LYRC, SIHC	No direct costs involved, local volunteers	1999
Conduct an income survey in all towns within the study corridor to determine eligibility for federal Community Development Block Grant funding.	PASPPO, PSU planning/ architecture departments	Fay-Penn, county planning	2000

Youghiogheny River Conservation Plan
Management Options

MANAGEMENT OPTIONS AND PRIORITIES	POTENTIAL PARTNERSHIPS and/or RESPONSIBLE PARTIES	POTENTIAL FUNDING SOURCES	PROJECTED IMPLEMENTATION YEAR
Conduct an inventory of brownfields, and identify their redevelopment potential and eligibility status under PA Act 2 guidelines.	Local municipalities, county planning, Regional Industrial Site Evaluation System	Private foundations, PADEP- ISRP, ARC, Communities of Opportunity, Community Revitalization, PADEP- Bureau of Land Recycling and Waste Management	2000
Prioritize construction of new sewage treatment facilities, facility upgrades, and sewer line extensions through data obtained from the water quality monitoring program.	PADEP, local engineering firms, local municipalities, county planning	PA DCED- Communities of Opportunity, ARC, Community Revitalization, Neighborhood Assistance Program, PADEP- Bureau of Water Supply Management	2001
Upgrade existing river access areas and create direct pedestrian links to the neighboring communities.	US Coast Guard, ACOE, PFBC, local economic development agency	PA DCED- IDP, CDBG, NIC, Fay-Penn	2001
Plan and build new river access areas in existing communities, creating direct pedestrian links from the river to the towns.	Local engineering firms, local municipality, county planning, PSU Planning Department	PA DCED: NIC, NT, Community Revitalization Grant, Community Grant Program, Fay- Penn	2001
Plan and build new riverfront parks	Local engineering firms, local municipality, county planning, PSU Planning Department	PA DCED: NIC, NT, Community Revitalization Grant, Community Grant Program, Fay- Penn	2001
Inventory and survey lands for potential development opportunities.	PSU Planning Department, Fay-Penn	PA DCED- SCPAP, SPAG	2001
Create a Lower Yough Auto Tour.	LYRC, SIHC	Local municipalities and businesses, SIHC	2001
Develop spur trails to the Yough River Trail at locations such as Dickerson Run, Dead Man's Hollow, Washingtons Run, and Dunbar Creek.	Steel Industry Heritage Corporation (SIHC), PA Rails-to-Trails Conservancy, RTC, local municipality, county planning	NT, CDBG, NIC, Fay-Penn, Intermodal Surface Transportation Efficiency Act (ISTEA), NEXTEA, private foundations, PA DCED- Community Grants	2001
Design a Youghiogheny River Educational package to be used in local schools.	Local school districts, PADEP, SIHC	PADEP- Bureau of Office Policy and Communications, local school districts	2003
Create tourist information centers in McKeesport, Connellsville, and Smithton.	SIHC, LYRC	PA DCNR Heritage Parks Program, SIHC	2003
Develop a travel link for tourists to move between study corridor communities using trails, roads, railroads, and the river.	SIHC, PA Rails to Trails Conservancy, RTC, local municipality, county planning, sportsmen's groups, recreational outfitters, existing promoters	PA DCED, CDBG, NT, NIC, Fay-Penn, private foundations, Community Grants, SIHC	2008
Develop the abandoned Overholt Distillery as a 'destination' restaurant or shopping center.	SIHC, local municipality, county planning, local Chambers of Commerce, private developers	PA DCED, CDBG, NT, NIC, PADEP-ISRP, Fay-Penn, PA Act 2	2008
Maintain and improve business and industry currently operating within the study corridor.	LYRC, counties, local municipalities	PA DCED, SCPAP, Fay-Penn, Westmoreland County Economic Development Association	Ongoing
Preserve existing historical structures within the study corridor and integrate these sites with local communities and recreational activities.	SIHC, PHMC, Southwestern Pennsylvania Historic Preservation Commission (SWHPC), local historic societies	PA DCED- CDBG, NIC, NT, Westmoreland County Economic Development Association, Fay-Penn, SIHC	Ongoing
Develop a plan to promote redevelopment of culturally and historically significant structures and buildings.	SIHC, PHMC, local historical societies, Allegheny Conference	PA DCED- SCPAP, SPAG, Community Revitalization Grant, SIHC	Ongoing
Develop the concept of the Mountains of Fire Journey	SIHC, LYRC	SIHC	Ongoing
Develop a marketing plan for the Mountains of Fire Journey	SIHC, LYRC	SIHC	Ongoing
ENHANCEMENT OF THE RIVER EXPERIENCE			
Create a Lower Youghiogheny River Council (LYRC). Purpose would be to oversee the implementation of the elements of this plan, and to update it when necessary to ensure that it stays current.	SIHC, RTC Steering Committee, local municipalities, counties	SIHC	1998
Develop a Master Site Plan for the Youghiogheny Linear Park at McKeesport.	City of McKeesport, RTC, SIHC	PA DCED: NIC, NT, Community Revitalization Grant, Community Grant Program, DCNR	1998
Emphasize water quality monitoring and improvement, with the future possibility of instituting a catch and release program or Big Bass Regulations for warmwater gamefish species.	PADEP, EPA, ACOE, PFBC, USGS, PA Cleanways, California University of Pennsylvania (CUP) -Biology Department, POWR, ORSANCO, Local sportsmen's groups	No direct costs involved	1998
Continue insecticide spraying at locations with high densities of black flies.	PADEP, county government, Local Chambers of Commerce	PADEP- Bureau of Water Supply Management, county government	1998
Develop a river guide book for fishermen, canoeists, and other recreational boaters.	Local sportsmen's groups, recreational outfitters, existing promoters, PFBC	Fay-Penn, private foundations	1999
Develop boat-in or trail access only, primitive camp sites.	Local sportsmen's groups, recreational outfitters, existing promoters, PFBC	Fay-Penn, private foundations	1999

Youghiogheny River Conservation Plan
Management Options

MANAGEMENT OPTIONS AND PRIORITIES	POTENTIAL PARTNERSHIPS and/or RESPONSIBLE PARTIES	POTENTIAL FUNDING SOURCES	PROJECTED IMPLEMENTATION YEAR
Hire a Code Enforcement Officer and Community Development Specialist to enforce land use regulations and coordinate efforts for development within the river corridor.	LYRC	PA DCNR Circuit Rider Program	1999
Schedule a series of 'Yough Talks' - public presentations on various river-related topics.	Local school districts, LYRC	No direct costs involved, local volunteers	1999
Maintain and improve the ecological and visual quality of the river corridor by requiring a vegetative barrier along the river's edge.	PASPPO, PADEP, Conservation District	PADEP - Bureau of Watershed Conservation, PA DCNR Land Trust Grant	2000
Create an "Adopt the Yough" volunteer trash removal program to ensure continued maintenance along the river corridor.	PA Cleanways, PSU, local conservation groups, sportsmen's associations, community groups, local trash hauling companies	Private foundations, county government, local volunteer organizations	2000
Develop a plan to identify, quantify and remove mine tailing piles and trash dumps.	WPCAMR, Fayette Forward Strategic Plan (Fayette County), Allegheny Heritage Foundation, PA Cleanways, PADEP- Bureau of Abandoned Mine Reclamation	PADEP- ISRP, PADEP- Bureau of Abandoned Mine Reclamation, Land Recycling and Environmental Remediation Standards (PA Act 2)	2000
Conduct an inventory of brownfields, and identify their redevelopment potential and eligibility status under PA Act 2 guidelines.	Local municipalities, RTC, county planning, Regional Industrial Site Evaluation System	Private foundations, PADEP- ISRP, ARC, Communities of Opportunity, Community Revitalization, PADEP- Bureau of Land Recycling and Waste Management	2000
Upgrade existing river access areas and create direct pedestrian links to the neighboring communities.	US Coast Guard, ACOE, PFBC, local economic development agency	PA DCED- IDP, CDBG, NIC, Fay-Penn	2001
Plan and build new river access areas in existing communities, creating direct pedestrian links from the river to the towns.	Local engineering firms, local municipality, county planning, PSU Planning Department	PA DCED: NIC, NT, Community Revitalization Grant, Community Grant Program, Fay- Penn	2001
Plan and build new riverfront parks	Local engineering firms, local municipality, county planning, PSU Planning Department	PA DCED: NIC, NT, Community Revitalization Grant, Community Grant Program, Fay- Penn	2001
Create a Lower Yough Auto Tour.	LYRC, SIHC	Local municipalities and businesses, SIHC	2001
Implement a survey of abandoned mines within the study corridor to develop a reclamation strategy.	WPCAMR, Fayette Forward Strategic Plan (Fayette County), Allegheny Heritage Foundation, National Research Center for Coal and Energy, SMCRA, PADEP- Bureau of Abandoned Mine Reclamation	Statewide Nonpoint Source Pollution Program Federal Clean Water Act Section 319, RAMP and LRP through WPCAMR, PADEP- Bureau of Abandoned Mine Reclamation, SMCRA, CMU	2002
Create tourist information centers in McKeesport, Connellsville, and Smithton.	SIHC, LYRC	PA DCNR- Heritage Parks Program, SIHC	2003
Plan and develop outdoor classrooms in conjunction with river access areas.	LYRC, Local school districts, PADEP	PA DCED, CDBG, NT, NIC, Fay-Penn, private foundations, PADEP- Bureau of Office Policy and Communications	2005
Develop the abandoned Overton Distillery as a 'destination' restaurant or shopping center.	SIHC, local municipality, county planning, local Chambers of Commerce, private developers	PA DCED, CDBG, NT, NIC, PADEP- ISRP, Fay-Penn, PA Act 2	2008
Develop a travel link for tourists to move between study corridor communities using trails, roads, railroads, and the river.	SIHC, PA Rails to Trails Conservancy, RTC, local municipality, county planning, sportsmen's groups, recreational outfitters, existing promoters	PA DCED, CDBG, NT, NIC, Fay-Penn, private foundations, Community Grants, SIHC	2008
Develop the concept of the Mountains of Fire Heritage Journey	SIHC, LYRC	SIHC	Ongoing
Preserve existing historic structures within the study corridor and integrate these sites with local communities and recreational activities.	SIHC, PHMC, SWHPC, local historic societies	PA DCED- CDBG, NIC, NT, Westmoreland County Economic Development Association, Fay-Penn , SIHC	Ongoing
Develop a plan to promote redevelopment of culturally and historically significant structures and buildings.	SIHC, PHMC, local historical societies, Allegheny Conference	PA DCED- SCPAP, SPAG, Community Revitalization Grant, SIHC	Ongoing

APPENDIX D

Agency Contacts

AGENCY CONTACTS			
AGENCY	**NAME**	**PHONE #**	**TOPIC DISCUSSED**
Land Resources			
RTC intern	Ron Christie		Current Land Use within Study Corridor
Fayette County Planning Department	Dennis Martinak	(412) 430-1210	Fayette County Zoning
City of McKeesport	Secretary	(412) 675-5036	Municipal Zoning
White Oak Borough	Secretary	(412) 672-9727	Municipal Zoning
Versailles Borough	Secretary	(412) 751-3922	Municipal Zoning
PortVue Borough	Secretary	(412) 664-9323	Municipal Zoning
Liberty Borough	Secretary	(412) 678-3286	Municipal Zoning
Lincoln Borough	Secretary	(412) 751-2655	Municipal Zoning
Elizabeth Township	Secretary	(412) 751-2880	Municipal Zoning
South Versailles Township	Secretary	(412) 751-7482	Municipal Zoning
North Huntingdon Township	Secretary	(412) 863-3806	Municipal Zoning
Sewickley Township	Secretary	(412) 446-7202	Municipal Zoning
Sutersville Borough	Secretary	(412) 872-7988	Municipal Zoning
West Newton Borough	Secretary	(412) 872-6860	Municipal Zoning
South Huntingdon Township	Secretary	(412) 872-8474	Municipal Zoning
Smithton Borough	Secretary	(412) 872-6406	Municipal Zoning
Rostraver Township	Secretary	(412) 929-8877	Municipal Zoning
Perry Township	Secretary	(412) 736-2334	Municipal Zoning
Perryopolis Borough	Secretary	(412) 736-4441	Municipal Zoning
Lower Tyrone Borough	Secretary	(412) 529-2810	Municipal Zoning
Franklin Township	Secretary	(412) 736-4661	Municipal Zoning
Dunbar Township	Secretary	(412) 628-1540	Municipal Zoning
Dawson Borough	Secretary	(412) 529-2311	Municipal Zoning
Vanderbilt Borough	Secretary	(412) 529-2724	Municipal Zoning
Upper Tyrone Township	Secretary	(412) 887-5795	Municipal Zoning
City of Connellsville	Secretary	(412) 628-9556	Municipal Zoning
Connellsville Township	Secretary	(412) 628-2020	Municipal Zoning
South Connellsville Borough	Secretary	(412) 628-9556	Municipal Zoning
Hazardous Wastes			
PADEP, Bureau of Land Recycling and Waste Management		(717) 787-6239	Act 2 Sites, Underground Storage Tanks
PADEP, Bureau of Water Quality Protection		(717) 787-6827	Surface Water Quality
WPA Project Mine Mapping	RTC	(412) 872-5586	Abandoned Well/Drift & Slope Areas
Westmoreland Conservation District		(412) 837-5271	Non-point Pollution Report
National Mine Reclamation Center	David Brant	(304) 293-2867	Abandoned Mine Restoration Areas
Water Use:			
PA-American Water Company	Gary King	(412) 437-0560	Service Areas, Withdrawal
North Fayette Water Authority	Bob Softcheck	(412) 626-1211	Service Areas, Withdrawal
Westmoreland County Municipal Authority	Tom Peto	(412) 834-6500	Service Areas, Withdrawal
Water Treatment:			
Perryopolis Municipal Authority	Tom Bibbe	(412) 736-2781	NPDES Limits, Service Area
Connellsville Municipal Authority	Ken James	(412) 628-4860	NPDES Limits, Service Area

South Connellsville Municipal Authority	Carl Sawyer	(412) 628-4860	Wastewater Treatment
Dawson Borough Building	Secretary	(412) 529-2311	Wastewater Treatment
Dunbar Borough Building	Secretary	(412) 277-4949	Wastewater Treatment
Lower/Upper Tyrone Township	Secretary	(412) 529-2810	Wastewater Treatment
North Huntingdon Municipal Authority	Gary Blasco	(412) 751-4571	NPDES Limits, Service Area
South Huntingdon Township	Secretary	(412) 872-8474	Wastewater Treatment
Smithton Borough Building	Michelle Cathers	(412) 872-6406	Wastewater Treatment
West Newton Municipal Authority	Walt Johnson	(412) 872-6171	NPDES Limits, Service Area
Sewickley Township	Secretary	(412) 446-7202	Wastewater Treatment
Sutersville Borough Building	Secretary	(412) 872-7988	Wastewater Treatment
Rostraver Municipal Authority	Rob Kolesser	(412) 930-7667	NPDES Limits, Service Area
South Versailles Municipal Authority	John Pecora	(412) 751-8180	NPDES Limits, Service Area
Elizabeth Municipal Authority	John Pecora	(412) 751-8180	NPDES Limits, Service Area
McKeesport Municipal Authority	Joe Rost	(412) 673-8276	NPDES Limits, Service Area
Hydrological Management			
Army Corps of Engineers	Werner Loehline	(412) 395-7363	Water Management Report
Riverfront Development			
City of McKeesport	Jody Swenderman	(412) 675-5028	McKee's Point Park, Linear Park
Natural Resources			
DCNR PNDI	Kathy McKenna	(717) 787-3444	Threatened and Endangered Species
PFBC	Andy Shiels	(814) 359-5113	Threatened and Endangered Species
PGC	Denver McDowell	(717) 787-6568	Threatened and Endangered Species
Audubon Society	Tingle Barnes	(412) 963-6100	Allegheny County Bird Species List
Audubon Society	Dick Byers		Westmoreland County Bird Species List
PGC	Dan Brauning	(717) 547-6938	Bird Species
PFBC			Approved Trout Waters
PFBC, Bureau of Fisheries	Rick Lorson	(814) 445-3454	Youghiogheny Management Report
PGC	Denny Jones	(412) 238-9523	Osprey Study Area
PGC, Furbearer Division	Tom Hardisky	(717) 725-2287	Bobcat Survey Areas
Penn State University	Tom Surface	(814) 863-3577	Otter Restoration Project
Western PA Conservancy		(412) 288-2777	Natural Heritage Inventory
PADEP, Armbrust Professional Center	Richard Krivda	(412) 925-5500	Operation Scarlift Report
DCNR, Bureau of Forestry	Kathy McKenna	(717) 787-3444	Plant Restoration/Endangered Species
Westmoreland Conservation District	Tony Quattro	(412) 837-5271	Natural Resource Data
Allegheny Conservation District		(412) 921-1999	Natural Resource Data
Fayette Conservation District		(412) 438-4497	Natural Resource Data
Cultural Resources			
PA Historical and Museum Commission	Grag Ramsey	(717) 783-9919	Nationally Registered or Eligible Historic Sites

Recreational Resources			
Youghiogheny River Trail Corporation	Bob McKinley	(412) 872-5586	Trail Use and Development Schedule
Hazelbakers	Mr. Hazelbaker	(412) 736-8155	Usage Numbers and Facilities
River Edge Campground	Carl Benson	(412) 628-4880	Usage Numbers and Facilities
Westmoreland County Parks and Recreation	Malcolm Sias	(412) 830-3962	Usage Numbers and Facilities
Cedar Creek Park	Park Manager	(412) 929-4352	Usage Numbers and Facilities
City of McKeesport, Gergley Park	Ed Figas	(412) 657-5040	Usage Numbers and Facilities

APPENDIX E

Results of Municipal Survey

YOUGHIOGHENY RIVER CONSERVATION PLAN COMMUNITY SURVEY

MUNICIPALITY: Borough of Dawson	
ADDRESS:	
PHONE:	FAX:
NAME:	TITLE:

Please complete the survey and return it to the Twin Rivers COG, 519 Walnut Street, McKeesport, PA 15132 before August 22, 1997. If you should have any questions please contact John Palyo from the TRCOG at 678-8651.

Order of Importance: Please list from #1 to #20 the order of importance of each River Related Issue that would be a concern or interest to your community.

Degree of Interest: Please list whether the River Related Issue is of High = H; Medium = M; or Low = L concern to your community.

Remarks: If you should have any comments regarding any River Related Issue please list your comment in this column.

RIVER RELATED ISSUES	ORDER OF IMPORTANCE	DEGREE OF INTEREST	REMARKS
Air Quality		H	trash & tire fires need to be reduced to 0.
Cultural Resources		H	Dawson will attract tourism due to the cultural uniqueness of the town.
Fish and Wildlife		H	This community is dependent on the fisherman using the river to fish.
Flood Plains		M	
Flood Water Damages		H	
Ground Water Quality		H	
Important Farmland		N/A	
Land Use Changes		N/A	
Public Health and Safety		H	
Recreation		H	
Sediment Damages		L	
Socioeconomic		H	
Soil Resource Base		L	
Surface Water Quality		H	Sewage needs to come out.
Threatened/Endangered Species		M	
Visual and Aesthetics		H	
Water Quantity		H	No more reallocating our water
Water Conservation		H	" "
Wetlands		M	
Wild and Scenic Values		H	

YOUGHIOGHENY RIVER CONSERVATION PLAN COMMUNITY SURVEY

MUNICIPALITY: Borough of Liberty	
ADDRESS: 2921 Liberty Way; McKeesport, PA 15133	
PHONE: 678-3286	FAX: 678-2622
NAME: STewart Owens	TITLE: Councilman

Please complete the survey and return it to the Twin Rivers COG, 519 Walnut Street, McKeesport, PA 15132 before August 22, 1997. If you should have any questions please contact John Palyo from the TRCOG at 678-8651

Order of Importance: Please list from #1 to #20 the order of importance of each River Related Issue that would be a concern or interest to your community.

Degree of Interest: Please list whether the River Related Issue is of High = H; Medium = M; or Low = L concern to your community.

Remarks: If you should have any comments regarding any River Related Issue please list your comment in this column.

RIVER RELATED ISSUES	ORDER OF IMPORTANCE	DEGREE OF INTEREST	REMARKS
Air Quality	1	H	
Cultural Resources	15	M	
Fish and Wildlife	4	H	
Flood Plains	3	H	
Flood Water Damages	19	M	
Ground Water Quality	16	M	
Important Farmland	20	M	
Land Use Changes	17	M	
Public Health and Safety	5	H	
Recreation	6	H	
Sediment Damages	18	M	
Socioeconomic	14	M	
Soil Resource Base	13	M	
Surface Water Quality	2	H	
Threatened/Endangered Species	11	M	
Visual and Aesthetics	7	H	
Water Quantity	9	H	
Water Conservation	8	H	
Wetlands	12	M	
Wild and Scenic Values	10	H	

YOUGHIOGHENY RIVER CONSERVATION PLAN COMMUNITY SURVEY

MUNICIPALITY: Borough of Lincoln	
ADDRESS: 45 Abe's Way, Elizabeth, Pa. 15037	
PHONE: (412) 751-2655	FAX: (412) 751-3590
NAME: Shelley Cornell	TITLE: Secretary

Please complete the survey and return it to the Twin Rivers COG, 519 Walnut Street, McKeesport, PA 15132 before August 22, 1997. If you should have any questions please contact John Palyo from the TRCOG at 678-8651.

Order of Importance: Please list from #1 to #20 the order of importance of each River Related Issue that would be a concern or interest to your community.

Degree of Interest: Please list whether the River Related Issue is of High = H; Medium = M; or Low = L concern to your community.

Remarks: If you should have any comments regarding any River Related Issue please list your comment in this column.

RIVER RELATED ISSUES	ORDER OF IMPORTANCE	DEGREE OF INTEREST	REMARKS
Air Quality	8	M	-
Cultural Resources	9	M	-
Fish and Wildlife	4	H	
Flood Plains	10	M	
Flood Water Damages	11	M	-
Ground Water Quality	13	M	
Important Farmland	19	M	
Land Use Changes	20	L	✓
Public Health and Safety	18	M	✓
Recreation	2	L	✓
Sediment Damages	16	[illegible]	✓
Socioeconomic	5	H	✓
Soil Resource Base	14	M	✓
Surface Water Quality	6	M	
Threatened/Endangered Species	12	M	✓
Visual and Aesthetics	1	H	
Water Quantity	15	M	✓
Water Conservation	7	H	✓
Wetlands	17	L	✓
Wiid and Scenic Values	3	H	✓

YOUGHIOGHENY RIVER CONSERVATION PLAN COMMUNITY SURVEY

MUNICIPALITY:	LOWER TYRONE TOWNSHIP		
ADDRESS:	P.O. BOX H DAWSON, PA 15428		
PHONE:	529-2810	FAX:	529-0544
NAME:	Edward C. HIGBEE	TITLE:	Chairman/Supervisor

Please complete the survey and return it to the Twin Rivers COG, 519 Walnut Street, McKeesport, PA 15132 before August 22, 1997. If you should have any questions please contact John Palyo from the TRCOG at 678-8651.

Order of Importance: Please list from #1 to #20 the order of importance of each River Related Issue that would be a concern or interest to your community.

Degree of Interest: Please list whether the River Related Issue is of High = H; Medium = M; or Low = L concern to your community.

Remarks: If you should have any comments regarding any River Related Issue please list your comment in this column.

RIVER RELATED ISSUES	ORDER OF IMPORTANCE	DEGREE OF INTEREST	REMARKS
Air Quality	12	L	
Cultural Resources	11	L	
Fish and Wildlife	3	H	
Flood Plains	4	H	
Flood Water Damages	1	H	
Ground Water Quality	13	H	
Important Farmland	19	L	
Land Use Changes	18	L	
Public Health and Safety	2	H	
Recreation	5	H	
Sediment Damages	10	M	
Socioeconomic	15	L	
Soil Resource Base	14	L	
Surface Water Quality	6	M	
Threatened/Endangered Species	7	M	
Visual and Aesthetics	16	M	
Water Quantity	8	H	
Water Conservation	9	M	
Wetlands	17	L	
Wild and Scenic Values	20	L	

YOUGHIOGHENY RIVER CONSERVATION PLAN COMMUNITY SURVEY

MUNICIPALITY: City of McKeesport	
ADDRESS: 201 Lysle Blvd. McKeesport, Pa 15132	
PHONE: (412) 675-5050	FAX: (412) 675-5049
NAME: JOSEPH J. BENDEL	TITLE: MAYOR

Contact Person - Judy Sunderman

Please complete the survey and return it to the Twin Rivers COG, 519 Walnut Street, McKeesport, PA 15132 before August 22, 1997. If you should have any questions please contact John Palyo from the TRCOG at 678-8651.

Order of Importance: Please list from #1 to #20 the order of importance of each River Related Issue that would be a concern or interest to your community.

Degree of Interest: Please list whether the River Related Issue is of High = H; Medium = M; or Low = L concern to your community.

Remarks: If you should have any comments regarding any River Related Issue please list your comment in this column.

RIVER RELATED ISSUES	ORDER OF IMPORTANCE	DEGREE OF INTEREST	REMARKS
Air Quality	19	M	
Cultural Resources	16	H	
Fish and Wildlife	3	H	
Flood Plains	6	L	
Flood Water Damages	15	M	
Ground Water Quality	7	L	
Important Farmland	17	L	
Land Use Changes	9	M	
Public Health and Safety	10	H	
Recreation	8	H	
Sediment Damages	14	L	
Sociceconomic	18	H	
Soil Resource Base	12	L	
Surface Water Quality	11	L	
Threatened/Endangered Species	20	L	
Visual and Aesthetics	1	H	
Water Quantity / Quality	5	H	
Water Conservation	13	H	
Wetlands	5	L	
Wild and Scenic Values	2	M	

Thank you! - no objection + no credit issues are involved. Degree of pollution are to be listed as important. To what degree.

YOUGHIOGHENY RIVER CONSERVATION PLAN COMMUNITY SURVEY

MUNICIPALITY: Perry Township	
ADDRESS: P.O Box 183 Star Junction PA 15482	
PHONE: 412-736-2334	FAX:
NAME: Richard Ubrin	TITLE: Secy.

Please complete the survey and return it to the Twin Rivers COG, 519 Walnut Street, McKeesport, PA 15132 before August 22, 1997. If you should have any questions please contact John Palyo from the TRCOG at 678-8651.

Order of Importance: Please list from #1 to #20 the order of importance of each River Related Issue that would be a concern or interest to your community. 1 Being Lowest

Degree of Interest: Please list whether the River Related Issue is of High = H; Medium = M; or Low = L concern to your community.

Remarks: If you should have any comments regarding any River Related issue please list your comment in this column.

RIVER RELATED ISSUES	ORDER OF IMPORTANCE	DEGREE OF INTEREST	REMARKS
Air Quality	1	L	
Cultural Resources	2	L	
Fish and Wildlife	20	H	
Flood Plains	15	M	
Flood Water Damages	18	M	
Ground Water Quality	15	H	
Important Farmland	20	H	
Land Use Changes	20	H	
Public Health and Safety	20	H	
Recreation	12	M	
Sediment Damages	12	M	
Socioeconomic	13	M	
Soil Resource Base	11	M	
Surface Water Quality	10	M	
Threatened/Endangered Species	20	H	
Visual and Aesthetics	20	H	
Water Quantity	10	M	
Water Conservation	16	M	
Wetlands	20	H	
Wild and Scenic Values	20	H	

YOUGHIOGHENY RIVER CONSERVATION PLAN COMMUNITY SURVEY

MUNICIPALITY: BOROUGH OF PERRYOPOLIS	
ADDRESS: PO BOX 304 201 E INDEPENDENCE ST PERRYOPOLIS, PA 15473	
PHONE: 412-736-4441	FAX: 412-736-2377
NAME: Alfred H Orsini	TITLE: MAYOR

Please complete the survey and return it to the Twin Rivers COG, 519 Walnut Street, McKeesport, PA 15132 before August 22, 1997. If you should have any questions please contact John Palyo from the TRCOG at 678-8651.

Order of Importance: Please list from #1 to #20 the order of importance of each River Related Issue that would be a concern or interest to your community.

Degree of Interest: Please list whether the River Related Issue is of High = H; Medium = M; or Low = L concern to your community.

Remarks: If you should have any comments regarding any River Related Issue please list your comment in this column.

RIVER RELATED ISSUES	ORDER OF IMPORTANCE	DEGREE OF INTEREST	REMARKS
Air Quality	7	H	
Cultural Resources	17	M	
Fish and Wildlife	3	H	
Flood Plains	1	H	
Flood Water Damages	2	H	
Ground Water Quality	13	H	
Important Farmland	20	H	
Land Use Changes	16	H	
Public Health and Safety	6	H	
Recreation	18	M	
Sediment Damages	11	H	
Socioeconomic	15	H	
Soil Resource Base	14	H	
Surface Water Quality	10	H	
Threatened/Endangered Species	12	H	
Visual and Aesthetics	19	M	
Water Quantity	4	H	
Water Conservation	5	H	
Wetlands	8	M	
Wild and Scenic Values	9	M	

YOUGHIOGHENY RIVER CONSERVATION PLAN COMMUNITY SURVEY

MUNICIPALITY: Sewickley Township	
ADDRESS: P.O. Box 28, Herminie, PA 15637-0028	
PHONE: (412) 446-7202	FAX: (412) 446-7330
NAME: John E. Prejza	TITLE: Superintendent of Roads

Please complete the survey and return it to the Twin Rivers COG, 519 Walnut Street, McKeesport, PA 15132 before August 22, 1997. If you should have any questions please contact John Palyo from the TRCOG at 678-8651.

Order of Importance: Please list from #1 to #20 the order of importance of each River Related Issue that would be a concern or interest to your community.

Degree of Interest: Please list whether the River Related Issue is of High = H; Medium = M; or Low = L concern to your community.

Remarks: If you should have any comments regarding any River Related issue please list your comment in this column.

RIVER RELATED ISSUES	ORDER OF IMPORTANCE	DEGREE OF INTEREST	REMARKS
Air Quality	18	L	
Cultural Resources	14	M	
Fish and Wildlife	5	H	
Flood Plains	3	H	
Flood Water Damages	2	H	
Ground Water Quality	17	L	
Important Farmland	20	L	
Land Use Changes	15	L	
Public Health and Safety	1	H	
Recreation	6	H	
Sediment Damages	4	H	
Socioeconomic	9	M	
Soil Resource Base	13	M	
Surface Water Quality	16	L	
Threatened/Endangered Species	11	M	
Visual and Aesthetics	10	M	
Water Quantity	7	H	
Water Conservation	8	M	
Wetlands	19	L	
Wild and Scenic Values	12	M	

YOUGHIOGHENY RIVER CONSERVATION PLAN COMMUNITY SURVEY

MUNICIPALITY: South Versailles Twp.	
ADDRESS: Box 66 Coulters Pa. 15028	
PHONE: 754-5240	FAX:
NAME: Dave Starkey	TITLE: Commissioner

Please complete the survey and return it to the Twin Rivers COG, 519 Walnut Street, McKeesport, PA 15132 before August 22, 1997. If you should have any questions please contact John Palyo from the TRCOG at 678-8651.

Order of Importance: Please list from #1 to #20 the order of importance of each River Related Issue that would be a concern or interest to your community.

Degree of Interest: Please list whether the River Related Issue is of High = H; Medium = M; or Low = L concern to your community.

Remarks: If you should have any comments regarding any River Related Issue please list your comment in this column.

RIVER RELATED ISSUES	ORDER OF IMPORTANCE	DEGREE OF INTEREST	REMARKS
Air Quality	10	H	Don't think also
Cultural Resources	18	H	one important
Fish and Wildlife	4	H	Rivers Corridor is
Flood Plains	3	H	at least
Flood Water Damages	2	H	importance.
Ground Water Quality	9	H	
Important Farmland	19	H	
Land Use Changes	8	H	
Public Health and Safety	1	H	
Recreation	5	H	
Sediment Damages	11	H	
Socioeconomic	21	H	
Soil Resource Base	12	H	
Surface Water Quality	13	H	
Threatened/Endangered Species	14	H	
Visual and Aesthetics	15	H	
Water Quantity	16	H	
Water Conservation	6	H	
Wetlands	7	H	
Wild and Scenic Values	17	H	

YOUGHIOGHENY RIVER CONSERVATION PLAN COMMUNITY SURVEY

MUNICIPALITY: Borough of Sutersville	
ADDRESS: 320 Municipal Ave Sutersville, PA 15083	
PHONE: 412-929-7998	FAX:
NAME: Jan Merlino	TITLE: President

Please complete the survey and return it to the Twin Rivers COG, 519 Walnut Street, McKeesport, PA 15132 before August 22, 1997. If you should have any questions please contact John Palyo from the TRCOG at 678-8651.

Order of Importance: Please list from #1 to #20 the order of importance of each River Related Issue that would be a concern or interest to your community.

Degree of Interest: Please list whether the River Related Issue is of High = H; Medium = M; or Low = L concern to your community.

Remarks: If you should have any comments regarding any River Related Issue please list your comment in this column.

RIVER RELATED ISSUES	ORDER OF IMPORTANCE	DEGREE OF INTEREST	REMARKS
Air Quality	15	L	
Cultural Resources	4	H	
Fish and Wildlife	3	H	
Flood Plains	6	H	
Flood Water Damages	7	H	
Ground Water Quality	13	M	
Important Farmland	20	L	
Land Use Changes	16	L	
Public Health and Safety	18	L	
Recreation	19	L	
Sediment Damages	5	H	
Socioeconomic	12	M	
Soil Resource Base	17	L	
Surface Water Quality	10	M	
Threatened/Endangered Species	2	H	
Visual and Aesthetics	11	M	
Water Quantity	14	L	
Water Conservation	9	M	
Wetlands	8	M	
Wild and Scenic Values	1	H	

YOUGHIOGHENY RIVER CONSERVATION PLAN COMMUNITY SURVEY

MUNICIPALITY:	West Newton Borough		
ADDRESS:	112 S. Water St., West Newton, PA. 15089		
PHONE:	872-6860	FAX:	872-8333
NAME:	Marlene Yurkovich	TITLE:	President - Council

Please complete the survey and return it to the Twin Rivers COG, 519 Walnut Street, McKeesport, PA 15132 before August 22, 1997. If you should have any questions please contact John Palyo from the TRCOG at 678-8651.

Order of Importance: Please list from #1 to #20 the order of importance of each River Related Issue that would be a concern or interest to your community.

Degree of Interest: Please list whether the River Related Issue is of High = H; Medium = M; or Low = L concern to your community.

Remarks: If you should have any comments regarding any River Related Issue please list your comment in this column.

RIVER RELATED ISSUES	ORDER OF IMPORTANCE	DEGREE OF INTEREST	REMARKS
Air Quality	2	H	
Cultural Resources	8	H	
Fish and Wildlife	15	H	
Flood Plains	3	H	
Flood Water Damages	4	H	
Ground Water Quality	13	M	
Important Farmland	20	L	
Land Use Changes	9	M	
Public Health and Safety	1	H	
Recreation	5	H	
Sediment Damages	19	M	
Socioeconomic	6	M	
Soil Resource Base	18	L	
Surface Water Quality	12	L	
Threatened/Endangered Species	16	L	
Visual and Aesthetics	10	M	
Water Quantity	7	M	
Water Conservation	14	M	
Wetlands	17	L	
Wild and Scenic Values	11	M	

YOUGHIOGHENY RIVER CONSERVATION PLAN COMMUNITY SURVEY

MUNICIPALITY:	WHITE OAK BOROUGH		
ADDRESS:	2280 LINCOLN WAY, WHITE OAK, PA 15131		
PHONE:	672-9727	FAX:	672-0760
NAME:	CRAIG MATTHEWS	TITLE:	MANAGER

Please complete the survey and return it to the Twin Rivers COG, 519 Walnut Street, McKeesport, PA 15132 before August 22, 1997. If you should have any questions please contact John Palyo from the TRCOG at 678-8651.

Order of Importance: Please list from #1 to #20 the order of importance of each River Related Issue that would be a concern or interest to your community.

Degree of Interest: Please list whether the River Related Issue is of High = H; Medium = M; or Low = L concern to your community.

Remarks: If you should have any comments regarding any River Related Issue please list your comment in this column.

RIVER RELATED ISSUES	ORDER OF IMPORTANCE	DEGREE OF INTEREST	REMARKS
Air Quality	7	M	
Cultural Resources	15	L	
Fish and Wildlife	8	M	
Flood Plains	10	M	
Flood Water Damages	11	L	
Ground Water Quality	9	M	
Important Farmland	20	L	
Land Use Changes	2	M	
Public Health and Safety	4	M	
Recreation	3	M	
Sediment Damages	19	L	
Socioeconomic	1	M	
Soil Resource Base	18	L	
Surface Water Quality	17	L	
Threatened/Endangered Species	16	L	
Visual and Aesthetics	5	M	
Water Quantity	13	L	
Water Conservation	14	L	
Wetlands	12	L	
Wild and Scenic Values	6	M	

APPENDIX F

Water Quality Support Data

Department of Environmental Resources
Chapter 93. Water Quality Standards

PA DEP Chapter 93 Classification		
TRIBUTARY	**PA DEP CH. 93 Classification**	**ZONE**
Youghiogheny River	WWF	Main Stem, Connell Run to Monogahela River
Dunbar Creek	TSF	Basin, Gist Run to Youghiogheny River
Connell Run	WWF	Basin
Opossum Run	WWF	Basin
Mounts Creek	WWF	Basin
Galley Run	WWF	Basin
Hickman Run	WWF	Basin
Dickerson Run	WWF	Basin
Smiley Run	WWF	Basin
Laurel Run	WWF	Basin
Furnace Run	WWF	Basin
Virgin Run	TSF	Basin, Pennsylania Fish Commission Dam at Virgin Run to Youghiogheny River
Washington Run	WWF	Basin
Browneller Run	WWF	Basin
Jacobs Creek	WWF	Basin from Bridgeport Reservoir Dam to Youghioghney River
Cedar Creek	TSF	Basin
Sewickley Creek	HQ-CWF	Main Stem, Brinkers Run to Youghiogheny River
Pollock Run	WWF	Basin
Douglass Run	*	*
Possum Hollow	*	*
Crawford Run	WWF	Basin
Boston Hollow	*	*
Long Run	HQ-CWF	Basin
* = Indictates that the tributary was not listed in Ch. 93 and therefore assumes the classification of the parent stream.		
WWF = Warm Water Fishery		
TSF = Trout Stocked Fishery		
HQ-CWF = High Quality Cold Water Fishery		

Water Chemistry Data

Penn's Corner RC&D Area
(1995-1997)

	YR-01					
	. Youghiogheny River					
	Dravo Cemetary					
	E, 4 or DC-01					
	Date	2/15/95	4/11/95			
	Field Results					
	pH (H+)	nt	6.68			
	Temp. (C)	nt	14.4			
	D.O. (mg/l)	nt	7.4			
	Cond (umS/cm)	nt	1060			
	Flow (gpm)	nt	nt			
	Lab Results					
	pH (H+)	8.63	6.75			
	Acidity (mg/l CaCO3)	0	0			
MIN 20	Alkalinity (mg/l CaCO3)	201.16	54.9			
1.5	Fe Tot (mg/l)	0.3	[redacted]			
0.3	Fe Diss (mg/l)	0.2	[redacted]			
	Al Tot (mg/l)	0	1.4			
	Al Diss (mg/l)	0	0			
1.0	Mn Tot (mg/l)	0	[redacted]			
1.0	Mn Diss (mg/l)	0	[redacted]			
250	Sulphate (mg/l)	0	16.6			
500	Dissolved Solids (mg/l)	455	nt			
750						

YR-02		
Youghiogheny River		
Mckeesport		
4499-04		
Date	5/5/97	6/30/97
Field Results		
pH (H+)	6.43	7
Temp. (C)	nt	nt
D.O. (mg/l)	nt	nt
Cond (umS/cm)	1036	1299
Flow (gpm)	2169.4	622.59
Lab Results		
pH (H+)	nt	nt
Acidity (mg/l CaCO3)	nt	nt
Alkalinity (mg/l CaCO3)	nt	nt
Fe Tot (mg/l)	*	*
Fe Diss (mg/l)	nt	nt
Al Tot (mg/l)	*	*
Al Diss (mg/l)	nt	nt
Mn Tot (mg/l)	*	*
Mn Diss (mg/l)	nt	nt
Sulphate (mg/l)	nt	nt
Dissolved Solids	nt	nt

YR-03			
Youghiogheny River			
Mckeesport			
4499-06			
Date	3/8/97	5/5/97	6/30/97
Field Results			
pH (H+)	4.9	6.35	7
Temp. (C)	nt	nt	nt
D.O. (mg/l)	nt	nt	nt
Cond (umS/cm)	940	1102	729
Flow (gpm)	2415	5754	270.62
Lab Results			
pH (H+)	nt	nt	nt
Acidity (mg/l CaCO3)	nt	nt	nt
Alkalinity (mg/l CaCO3)	nt	nt	nt
Fe Tot (mg/l)	0.1714	*	*
Fe Diss (mg/l)	nt	nt	nt
Al Tot (mg/l)	5.143	*	*
Al Diss (mg/l)	nt	nt	nt
Mn Tot (mg/l)	0.2062	*	*
Mn Diss (mg/l)	nt	nt	nt
Sulphate (mg/l)	nt	nt	nt
Dissolved Solids	nt	nt	nt

YR-04		
Youghiogheny River		
Mckeesport		
0911-03		
Date	5/5/97	7/2/97
Field Results		
pH (H+)	7.26	6
Temp. (C)	nt	nt
D.O. (mg/l)	nt	nt
Cond (umS/cm)	1108	1220
Flow (gpm)	1192	230.63
Lab Results		
pH (H+)	nt	nt
Acidity (mg/l CaCO3)	nt	nt
Alkalinity (mg/l CaCO3)	nt	nt
Fe Tot (mg/l)	*	*
Fe Diss (mg/l)	nt	nt
Al Tot (mg/l)	*	*
Al Diss (mg/l)	nt	nt
Mn Tot (mg/l)	*	*
Mn Diss (mg/l)	nt	nt
Sulphate (mg/l)	nt	nt
Dissolved Solids	nt	nt

YR-05			
Youghiogheny River			
Duglas run			
1476-09			
Date	6/18/96	7/23/96	6/30/97
Field Results			nt
pH (H+)	6.43	6.51	6
Temp. (C)	20.3	15	nt
D.O. (mg/l)	nt	nt	nt
Cond (umS/cm)	990	850	1327
Flow (gpm)	876	1200	3232.6
Lab Results			
pH (H+)	6.49	6.62	nt
Acidity (mg/l CaCO3)	74.72	-169.38	nt
Alkalinity (mg/l CaCO3)	229.73	231.88	nt
Fe Tot (mg/l)	[redacted]	[redacted]	*
Fe Diss (mg/l)	nt	nt	nt
Al Tot (mg/l)	0.3	0.27	*
Al Diss (mg/l)	nt	nt	nt
Mn Tot (mg/l)	0.8	0.9	*
Mn Diss (mg/l)	nt	nt	nt
Sulphate (mg/l)	[redacted]	[redacted]	nt
Dissolved Solids	nt	nt	nt

YR-06					
Youghiogheny River					
Pollock Run					
G, 7 or PR-01					
Date	2/15/95	5/11/95	6/15/95		
Field Results					
pH (H+)	nt	nt	nt		
Temp. (C)	nt	nt	nt		
D.O. (mg/l)	nt	nt	nt		
Cond (umS/cm)	nt	nt	nt		
Flow (gpm)	nt	nt	nt		
Lab Results					
pH (H+)	8.2	7.98	6.69		
Acidity (mg/l CaCO3)	0	0	8.74		
Alkalinity (mg/l CaCO3)	231.24	206	45.32		
Fe Tot (mg/l)	0.4	1.2	[redacted]		
Fe Diss (mg/l)	[redacted]	[redacted]	nt		
Al Tot (mg/l)	0	1	1		
Al Diss (mg/l)	0	1	1		
Mn Tot (mg/l)	0	1	nt		
Mn Diss (mg/l)	0	1	nt		
Sulphate (mg/l)	0	193.05	nt		
Dissolved Solids (mg/l)	446	nt	nt		

YR-07	
Youghiogheny River	
Dravo Cemetary	
E, 4 or DC-01	
Date	5/15/95
Field Results	
pH (H+)	8.16
Temp. (C)	18.5
D.O. (mg/l)	8.1
Cond (umS/cm)	440
Flow (gpm)	401.1
Lab Results	
pH (H+)	nt
Acidity (mg/l CaCO3)	nt
Alkalinity (mg/l CaCO3)	nt
Fe Tot (mg/l)	nt
Fe Diss (mg/l)	nt
Al Tot (mg/l)	nt
Al Diss (mg/l)	nt
Mn Tot (mg/l)	nt
Mn Diss (mg/l)	nt
Sulphate (mg/l)	nt
Dissolved Solids (mg/l)	nt

YR-08					
Youghiogheny River					
Cedar Creek					
D,4 or CD 01					
Date	2/15/95	5/11/95	6/15/95		
Field Results					
pH (H+)	nt	8.08	6.68		
Temp. (C)	nt	16.3	14.7		
D.O. (mg/l)	nt	8	nt		
Cond (umS/cm)	nt	490	680		
Flow (gpm)	nt	5760.3	nt		
Lab Results					
pH (H+)	7.68	7.94	6.76		
Acidity (mg/l CaCO3)	0	0	156.89		
Alkalinity (mg/l CaCO3)	203.04	192.51	163.77		
Fe Tot (mg/l)	0.5	0.2	0.5		
Fe Diss (mg/l)	0.1	~~1.1~~	0		
Al Tot (mg/l)	0	1	4		
Al Diss (mg/l)	0	1	4		
Mn Tot (mg/l)	0	1	0		
Mn Diss (mg/l)	0	1	0		
Sulphate (mg/l)	0	83.96	0		
Dissolved Solids (mg/l)	293	0	nt		

YR-09					
Youghiogheny River					
furnance run					
C or Py-o1					
Date	2/15/95	5/11/95	6/15/95		
Field Results					
pH (H+)	nt	nt	7.83		
Temp. (C)	nt	nt	15		
D.O. (mg/l)	nt	nt	nt		
Cond (umS/cm)	nt	nt	350		
Flow (gpm)	nt	nt	234.4		
Lab Results					
pH (H+)	7.55	7.67	6.03		
Acidity (mg/l CaCO3)	124.96	115.36	258.95		
Alkalinity (mg/l CaCO3)	948	[redacted]	267.8		
Fe Tot (mg/l)	1.1	0.3	[redacted]		
Fe Diss (mg/l)	0.1	1	[redacted]		
Al Tot (mg/l)	1.9	1	3.4		
Al Diss (mg/l)	0	1	nt		
Mn Tot (mg/l)	0.2	[redacted]	nt		
Mn Diss (mg/l)	0.2	[redacted]	nt		
Sulphate (mg/l)	124.96	nt	nt		
Dissolved solids	nt	nt	nt		

YR-10					
Youghiogheny River					
Eureka					
P or 16					
Date	2/15/95				
Field Results					
pH (H+)	nt				
Temp. (C)	nt				
D.O. (mg/l)	nt				
Cond (umS/cm)	nt				
Flow (gpm)	nt				
Lab Results					
pH (H+)	4.65				
Acidity (mg/l CaCO3)	0				
Alkalinity (mg/l CaCO3)	[redacted]				
Fe Tot (mg/l)	1.2				
Fe Diss (mg/l)	0.2				
Al Tot (mg/l)	20.8				
Al Diss (mg/l)	5				
Mn Tot (mg/l)	[redacted]				
Mn Diss (mg/l)	0.5				
Sulphate (mg/l)	[redacted]				
Dissolved solids	nt				

YR-11					
Youghiogheny River					
Jacob Creek					
O or 15					
Date	2/15/95				
Field Results					
pH (H+)	7.67				
Temp. (C)	5.6				
D.O. (mg/l)	nt				
Cond (umS/cm)	360				
Flow (gpm)	nt				
Lab Results					
pH (H+)	7.06				
Acidity (mg/l CaCO3)	0				
Alkalinity (mg/l CaCO3)	82.72				
Fe Tot (mg/l)	0				
Fe Diss (mg/l)	0				
Al Tot (mg/l)	0.1				
Al Diss (mg/l)	0.1				
Mn Tot (mg/l)	0.1				
Mn Diss (mg/l)	0				
Sulphate (mg/l)	56.06				
Dissolved Solids (mg/l)	182				

YR-12	
Youghiogheny River	
Banning state run off	
13,m	
Date	2/15/95
Field Results	
pH (H+)	nt
Temp. (C)	nt
D.O. (mg/l)	nt
Cond (umS/cm)	nt
Flow (gpm)	nt
Lab Results	
pH (H+)	6.3
Acidity (mg/l CaCO3)	0
Alkalinity (mg/l CaCO3)	39.48
Fe Tot (mg/l)	0.2
Fe Diss (mg/l)	0.2
Al Tot (mg/l)	1.1
Al Diss (mg/l)	0.9
Mn Tot (mg/l)	0.1
Mn Diss (mg/l)	0.1
Sulphate (mg/l)	0
Dissolved Solids	138

YR-13					
Youghiogheny River					
Virgin Run					
B, 2, or Vr-01					
Date	3/30/95				
Field Results					
pH (H+)	7.3				
Temp. (C)	6.4				
D.O. (mg/l)	8.3				
Cond (umS/cm)	1300				
Flow (gpm)	8.748				
Lab Results					
pH (H+)	6.87				
Acidity (mg/l CaCO3)	383.41				
Alkalinity (mg/l CaCO3)	61				
Fe Tot (mg/l)	0.4				
Fe Diss (mg/l)	[redacted]				
Al Tot (mg/l)	0.2				
Al Diss (mg/l)	0				
Mn Tot (mg/l)	0				
Mn Diss (mg/l)	0				
Sulphate (mg/l)	[redacted]83.31				

YR-14					
Youghiogheny River					
Dickerson Run					
a, 1, Dk-01					
Date	6/14/95				
Field Results					
pH (H+)	7.9				
Temp. (C)	15.5				
D.O. (mg/l)	nt				
Cond (umS/cm)	170				
Flow (gpm)	254.6				
Lab Results					
pH (H+)	7.49				
Acidity (mg/l CaCO3)	-57.09				
Alkalinity (mg/l CaCO3)	65.92				
Fe Tot (mg/l)	[redacted]				
Fe Diss (mg/l)	nt				
Al Tot (mg/l)	2.8				
Al Diss (mg/l)	0.2				
Mn Tot (mg/l)	0				
Mn Diss (mg/l)	0				
Sulphate (mg/l)	149.1				
Dissolved solids	nt				

YR-15		
Youghiogheny River		
Adelaide, 3		
k,11		
Date	2/15/95	6/14/95
Field Results		
pH (H+)	nt	8.05
Temp. (C)	nt	19.6
D.O. (mg/l)	nt	nt
Cond (umS/cm)	nt	390
Flow (gpm)	nt	1129.4
Lab Results		
pH (H+)	7.32	8.04
Acidity (mg/l CaCO3)	54.52	138.06
Alkalinity (mg/l CaCO3)	[redacted]	195.7
Fe Tot (mg/l)	0.3	1
Fe Diss (mg/l)	0.2	[redacted]
Al Tot (mg/l)	0	1
Al Diss (mg/l)	0	0.3
Mn Tot (mg/l)	0	0.1
Mn Diss (mg/l)	0	0
Sulphate (mg/l)	73.29	171.8
Dissolved Solids	476	nt

YR-16					
Youghiogheny River					
Adelaide					
rr-4078-2					
Date	2/26/97	5/21/97	6/17/97		
Field Results					
pH (H+)	6.35	6.14	6		
Temp. (C)	nt	nt	nt		
D.O. (mg/l)	nt	nt	nt		
Cond (umS/cm)	1074	690	1053		
Flow (gpm)	2553	300	322		
Lab Results					
pH (H+)	nt	nt	nt		
Acidity (mg/l CaCO3)	nt	nt	nt		
Alkalinity (mg/l CaCO3)	nt	nt	nt		
Fe Tot (mg/l)	[redacted]	*	*		
Fe Diss (mg/l)	nt	nt	nt		
Al Tot (mg/l)	0.06312	*	*		
Al Diss (mg/l)	nt	nt	nt		
Mn Tot (mg/l)	0.9296	*	*		
Mn Diss (mg/l)	nt	nt	nt		
Sulphate (mg/l)	nt	nt	nt		
Dissolved Solids	nt	nt	nt		

YR-17					
Youghiogheny River					
Adelaide, 3					
rr-4078-3					
Date	5/21/97	6/17/97			
Field Results					
pH (H+)	6.47	7			
Temp. (C)	nt	nt			
D.O. (mg/l)	nt	nt			
Cond (umS/cm)	753	1133			
Flow (gpm)	500	825			
Lab Results					
pH (H+)	nt	nt			
Acidity (mg/l CaCO3)	nt	nt			
Alkalinity (mg/l CaCO3)	nt	nt			
Fe Tot (mg/l)	*	*			
Fe Diss (mg/l)	nt	nt			
Al Tot (mg/l)	*	*			
Al Diss (mg/l)	nt	nt			
Mn Tot (mg/l)	*	*			
Mn Diss (mg/l)	nt	nt			
Sulphate (mg/l)	nt	nt			
Dissolved Solids	nt	nt			

YR-18					
Youghiogheny River					
adelaide unknown 1					
π-4078-1					
Date	3/21/97	5/21/97	6/17/97		
Field Results					
pH (H+)	6.24	6.3	6.9		
Temp. (C)	nt	nt	nt		
D.O. (mg/l)	nt	nt	nt		
Cond (umS/cm)	1844	1356	1894		
Flow (gpm)	7120	3000	2349		
Lab Results					
pH (H+)	nt	nt	nt		
Acidity (mg/l CaCO3)	nt	nt	nt		
Alkalinity (mg/l CaCO3)	nt	nt	nt		
Fe Tot (mg/l)	[redacted]	*	*		
Fe Diss (mg/l)	nt	nt	nt		
Al Tot (mg/l)	0.1187	*	*		
Al Diss (mg/l)	nt	nt	nt		
Mn Tot (mg/l)	[redacted]	*	*		
Mn Diss (mg/l)	nt	nt	nt		
Sulphate (mg/l)	nt	nt	nt		
Dissolved solids	nt	nt	nt		

YR-19		
Youghiogheny River		
Adelaide		
j,10		
Date	2/15/95	6/14/95
Field Results		
pH (H+)	nt	7.67
Temp. (C)	nt	14.6
D.O. (mg/l)	nt	nt
Cond (umS/cm)	nt	420
Flow (gpm)	nt	46.28
Lab Results		
pH (H+)	7.81	7.85
Acidity (mg/l CaCO3)	0	-235.09
Alkalinity (mg/l CaCO3)	118.44	251.32
Fe Tot (mg/l)	0.4	0.3
Fe Diss (mg/l)	0.2	[redacted]
Al Tot (mg/l)	0	1
Al Diss (mg/l)	0	1
Mn Tot (mg/l)	0.2	0.1
Mn Diss (mg/l)	0.1	0
Sulphate (mg/l)	112.04	175.11
Dissolved Solids	[redacted]	nt

$\bar{x} = 550$

750 MAX

YR-20		
Youghiogheny River		
Adelaide unknown 1		
I,or 9		
Date	2/15/95	6/14/95
Field Results		
pH (H+)	nt	6.78
Temp. (C)	nt	22
D.O. (mg/l)	nt	nt
Cond (umS/cm)	nt	121
Flow (gpm)	nt	74.8
Lab Results		
pH (H+)	7.46	7.13
Acidity (mg/l CaCO3)	0	36.49
Alkalinity (mg/l CaCO3	[redacted]	45.32
Fe Tot (mg/l)	0.4	[redacted]
Fe Diss (mg/l)	0.2	[redacted]
Al Tot (mg/l)	0	1
Al Diss (mg/l)	0	1
Mn Tot (mg/l)	0.2	0.5
Mn Diss (mg/l)	0.2	0.2
Sulphate (mg/l)	86.2	144.42
Dissolved solids	139	nt

YR-21						
Youghiogheny River						
Adelaide						
H,crosslands						
Date	2/15/95	5/11/95	6/14/95	3/27/97	5/21/97	6/17/97
Field Results						
pH (H+)	nt	nt	6.34	6.27	6.4	7
Temp. (C)	nt	nt	14.8	nt	nt	nt
D.O. (mg/l)	nt	nt	nt	nt	nt	nt
Cond (umS/cm)	nt	nt	1940	1824	1820	1808
Flow (gpm)	nt	nt	1134.5	1709	200	220
Lab Results						
pH (H+)	8.21	7.9	7.06	nt	nt	nt
Acidity (mg/l CaCO3)	0	0	-327.7	nt	nt	nt
Alkalinity (mg/l CaCO3)	146.64	154.5	288.4	nt	nt	nt
Fe Tot (mg/l)	0.3	1.3	35.5	19.27	*	*
Fe Diss (mg/l)	0.2	1.7	8.1	nt	nt	nt
Al Tot (mg/l)	0	1	1	*	*	*
Al Diss (mg/l)	0	1	1	nt	nt	nt
Mn Tot (mg/l)	0	1	1.5	1.078	*	*
Mn Diss (mg/l)	0	1	1.5	nt	nt	nt
Sulphate (mg/l)	0	47.04	1198.04	nt	nt	nt
Dissolved Solids (mg/l)	337	0	0	nt	nt	nt

YR-22			
Youghiogheny River			
Connellsville			
Davidson Pump House			
Date	4/1/97	5/21/97	6/17/97
Field Results			
pH (H+)	5.9	6.1	6.5
Temp. (C)			
D.O. (mg/l)			
Cond (umS/cm)	940	890	918
Flow (gpm)	9631.9	9000est	2903
Lab Results			
pH (H+)	nt	nt	nt
Acidity (mg/l CaCO3)	nt	nt	nt
Alkalinity (mg/l CaCO3)	nt	nt	nt
Fe Tot (mg/l)	28.58		
Fe Diss (mg/l)	nt	nt	nt
Al Tot (mg/l)			
Al Diss (mg/l)	nt	nt	nt
Mn Tot (mg/l)	1.72		
Mn Diss (mg/l)	nt	nt	nt
Sulphate (mg/l)	nt	nt	nt
Dissolved Solids	nt	nt	nt

YR-23			
Youghiogheny River			
Connellsville			
rr-4075-02			
Date	3/27/97	5/21/97	6/17/97
Field Results			
pH (H+)	4.84	5.07	5
Temp. (C)	nt	nt	nt
D.O. (mg/l)	nt	nt	nt
Cond (umS/cm)	901	850	846
Flow (gpm)	1055.92	400est	465.88
Lab Results			
pH (H+)	nt	nt	nt
Acidity (mg/l CaCO3)	nt	nt	nt
Alkalinity (mg/l CaCO3)	nt	nt	nt
Fe Tot (mg/l)	[redacted]	*	*
Fe Diss (mg/l)	nt	nt	nt
Al Tot (mg/l)	2.517	*	*
Al Diss (mg/l)	nt	nt	nt
Mn Tot (mg/l)	[redacted]	*	*
Mn Diss (mg/l)	nt	nt	nt
Sulphate (mg/l)	nt	nt	nt
Dissolved Solids	nt	nt	nt

YR-24					
Youghiogheny River					
Opposum run					
L,12,					
Date	2/15/95	6/14/95			
Field Results					
pH (H+)	nt	8.19			
Temp. (C)	nt	19.2			
D.O. (mg/l)	nt	nt			
Cond (umS/cm)	nt	350			
Flow (gpm)	nt	4486.4			
Lab Results					
pH (H+)	6.45	8.32			
Acidity (mg/l CaCO3)	0	-120.95			
Alkalinity (mg/l CaCO3)	60.16	131.63			
Fe Tot (mg/l)	0.5	0.3			
Fe Diss (mg/l)	0.2	nt			
Al Tot (mg/l)	0	1			
Al Diss (mg/l)	0	nt			
Mn Tot (mg/l)	0.2	0.2			
Mn Diss (mg/l)	0.1	nt			
Sulphate (mg/l)	77.6	973.48			
Dissolved solids	204	nt			

YR-25	
Youghiogheny River	
Connellsville	
rr-4073-11,12,13	
Date	3/27/97
Field Results	
pH (H+)	3.7
Temp. (C)	nt
D.O. (mg/l)	nt
Cond (umS/cm)	978
Flow (gpm)	87.63
Lab Results	
pH (H+)	nt
Acidity (mg/l CaCO3)	nt
Alkalinity (mg/l CaCO3)	nt
Fe Tot (mg/l)	<.075
Fe Diss (mg/l)	nt
Al Tot (mg/l)	6.542
Al Diss (mg/l)	nt
Mn Tot (mg/l)	0.7735
Mn Diss (mg/l)	nt
Sulphate (mg/l)	nt
Dissolved Solids	nt

Water Chemistry Data

National Water Quality Assessment Program
(1996)
United States Department of the Interior-Geological Survey

STRICT CODE 42

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

PROCESS DATE 5-08-97

03083500 - YOUGHIOGHENY RIVER AT SUTERSVILLE, PA.

WATER-QUALITY DATA

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
APR 1996											
29...	1015	3080	314	6.9	12.0	734	10.2	98	27	7.5	16
MAY											
28...	1430	2700	291	7.5	14.0	735	9.7	97	26	7.7	14
JUN											
26...	1000	3610	249	6.9	19.0	743	8.3	79	22	5.9	11
JUL											
24...	0930	7030	155	7.3	19.0	739	8.9	50	14	3.6	7.1
AUG											
13...	1415	2220	254	7.5	21.5	739	9.0	78	22	5.7	14
SEP											
17...	0930	8030	234	7.4	16.5	731	8.8	78	22	5.7	10
23...	1130	--	--	--	--	--	--	--	--	--	--
OCT											
08...	1130	--	--	--	--	--	--	--	--	--	--
28...	1015	3700	209	7.4	14.0	739	9.7	65	18	4.9	9.9
NOV											
07...	0930	2630	240	7.4	11.0	738	9.6	76	21	5.7	13
DEC											
17...	0945	5760	180	7.2	5.0	728	13.1	58	16	4.5	8.4
JAN 1997											
28...	1115	--	500	7.2	0.0	746	13.6	100	29	7.5	46
FEB											
10...	1000	--	282	7.2	2.0	745	13.8	77	21	5.9	20
MAR											
20...	1100	--	211	7.0	6.0	735	13.0	68	18	5.5	11
APR											
09...	1030	2120	275	7.3	8.5	744	10.6	85	23	6.8	15

STRICT CODE 42 UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY PROCESS DATE 5-08-97
03083500 - YOUGHIOGHENY RIVER AT SUTERSVILLE, PA.

WATER-QUALITY DATA

DATE	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	IRON, DISSOLVED (UG/L AS FE) (01046)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)	SEDIMENT, SUSPENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
APR 1996										
29...	<0.20	0.020	<0.010	<0.010	88	180	1.5	0.40	21	92
MAY										
28...	0.30	0.020	<0.010	<0.010	85	150	1.3	0.50	3	29
JUN										
26...	0.20	0.110	<0.010	<0.010	13	36	2.2	2.2	70	90
JUL										
24...	<0.20	<0.010	<0.010	<0.010	69	68	1.8	0.70	15	81
AUG										
13...	0.20	<0.010	0.030	0.010	86	30	2.2	0.70	11	90
SEP										
17...	<0.20	0.110	<0.010	0.010	72	34	2.7	4.1	94	91
23...	--	--	--	--	--	--	--	--	--	--
OCT										
08...	--	--	--	--	--	--	--	--	--	--
28...	<0.20	0.020	<0.010	<0.010	8.0	65	1.7	0.30	--	--
NOV										
07...	<0.20	0.020	<0.010	<0.010	47	74	1.7	0.30	--	--
DEC										
17...	<0.20	<0.010	<0.010	<0.010	30	110	1.2	0.50	--	--
JAN 1997										
28...	0.40	0.690	<0.010	<0.010	15	190	1.8	1.4	--	--
FEB										
10...	<0.20	<0.010	0.010	<0.010	89	160	1.3	0.30	--	--
MAR										
20...	<0.20	0.030	<0.010	<0.010	41	170	1.3	0.60	--	--
APR										
09...	<0.20	0.030	<0.010	<0.010	110	110	--	--	--	--

WATER-QUALITY DATA

DATE	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)
APR 1996											
29...	1.4	27	78	17	<0.10	3.8	183	0.010	0.870	0.070	0.20
MAY											
28...	1.5	33	82	12	0.10	4.8	177	<0.010	0.690	0.110	0.20
JUN											
26...	1.7	26	58	11	0.10	5.1	128	0.010	1.00	0.040	0.60
JUL											
24...	1.3	16	32	7.5	0.10	4.4	89	0.010	0.790	0.050	<0.20
AUG											
13...	1.8	25	65	10	<0.10	4.0	150	0.020	0.760	0.030	0.20
SEP											
17...	2.1	46	52	12	<0.10	4.9	140	0.020	0.830	0.030	0.50
23...	--	--	--	--	--	--	--	--	--	--	--
OCT											
08...	--	--	--	--	--	--	--	--	--	--	--
28...	1.5	41	50	10	<0.10	4.6	116	0.010	0.730	0.030	0.20
NOV											
07...	1.4	39	60	11	<0.10	3.9	137	0.020	0.960	0.050	<0.20
DEC											
17...	1.0	36	40	10	<0.10	4.6	107	0.010	0.960	0.030	<0.20
JAN 1997											
28...	2.5	52	68	72	0.20	5.1	272	0.020	1.20	0.250	1.7
FEB											
10...	1.4	--	57	24	0.10	4.9	161	0.010	1.10	0.050	<0.20
MAR											
20...	1.2	33	49	14	<0.10	4.4	125	0.030	1.00	0.040	<0.20
APR											
09...	1.4	25	74	14	<0.10	4.1	165	<0.010	0.730	0.040	<0.20

Water Chemistry Data

Nonpoint Source Pollution in the Middle Youghiogheny River Watershed
(1994)
Westmoreland County Conservation District

MIDDLE YOUGHIOGHENY WATERSHED ASSESSMENT
WATER SAMPLING LOCATIONS MAP

(See Table 4 For Data)

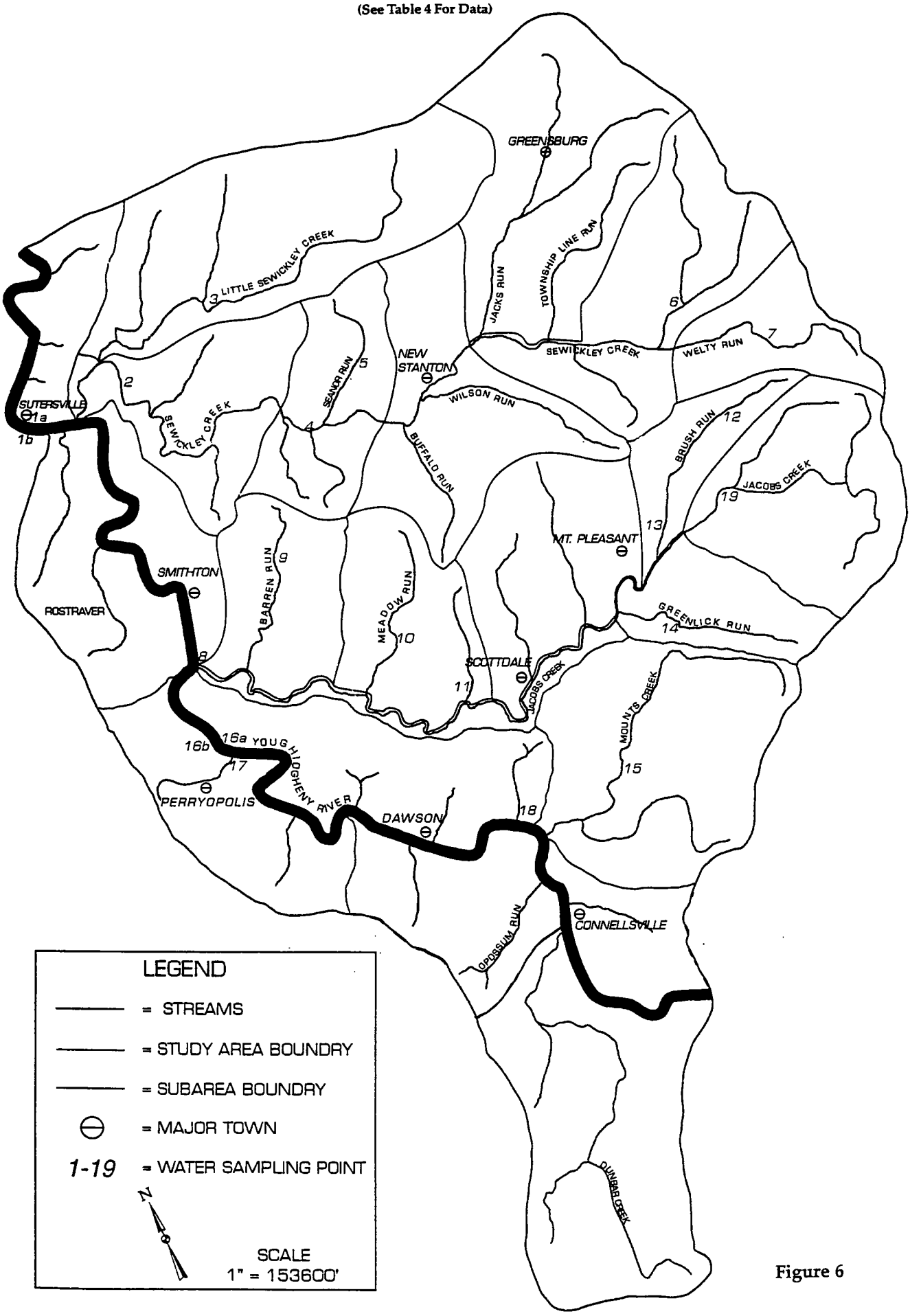

Figure 6

TABLE 4. STREAM TEST DATA FOR THE MIDDLE YOUGHIOGHENY WATERSHED EVALUATION

Testing Site	Round	No3N	PO4	pH	H20 Temp	02
		ppm	ppm	units	°C	ppm
1a	1	0.75	<0.5	7.25	8.2	11.1
	2	<0.25	<0.5	7.25	21.4	8.9
	3	0.75	<0.5	7.75	29.1	7.6
1b	1	<0.25	<0.5	6.90	8.8	11.2
	2	0.75	<0.5	6.75	19.6	8.8
	3	0.30	<0.5	7.25	30.1	7.6
02	1	5.00	<0.5	8.50	9.7	11.6
	2	3.00	<0.5	7.75	16.2	9.6
	3	3.00	<0.5	7.75	29.3	7.7
03	1	2.00	0.5	8.25	5.6	11.5
	2	1.00	<0.5	8.25	16.9	11.3
	3	0.35	<0.5	7.75	24.3	7.5
04	1	3.00	<0.5	7.00	10.5	10.0
	2	1.50	<0.5	6.75	15.3	9.4
	3	3.00	<0.5	6.75	23.5	6.3
05	1	0.50	<0.5	8.00	8.2	12.6
	2	0.25	<0.5	7.75	16.0	10.8
	3	0.75	<0.5	7.75	18.9	7.6
06	1	4.00	0.5	7.75	8.2	11.5
	2	0.30	0.5	7.75	17.0	9.8
	3	8.00	3.25	7.75	24.0	7.2
07	1	2.00	<0.5	6.75	7.4	11.3
	2	0.60	<0.5	6.75	18.2	10.3
	3	1.75	<0.5	7.75	23.4	7.8
08	1	0.50	<0.5	7.00	8.7	11.8
	2	0.75	<0.5	8.25	12.0	12.0
	3	0.75	<0.5	8.50	23.9	8.1
09	1	3.00	<0.5	7.25	8.6	11.8
	2	0.50	<0.5	8.25	10.8	11.4
	3	<0.25	<0.5	7.75	23.5	8.0
10	1	3.00	<0.5	6.75	9.0	11.2
	2	1.50	<0.5	7.25	10.7	11.1
	3	0.50	<0.5	7.75	22.1	8.2
11	1	7.00	<0.5	7.25	10.5	10.8
	2	3.00	<0.5	7.75	16.5	11.3
	3	0.50	<0.5	7.75	24.3	9.7
12	1	3.00	<0.5	6.75	7.8	11.5
	2	2.00	<0.5	7.75	20.3	9.0
	3	1.25	<0.5	7.75	26.0	8.1
13	1	2.00	<0.5	6.25	9.4	9.8
	2	0.75	<0.5	7.25	17.0	9.2
	3	1.00	<0.5	7.75	27.5	5.5
14	1	0.40	<0.5	6.50	10.3	10.2
	2	0.10	<0.5	6.75	17.0	10.0
	3	0.30	<0.5	7.25	24.7	7.6
15	1	2.00	<0.5	7.00	12.6	9.0
	2	0.50	<0.5	7.75	18.5	10.0
	3	3.00	0.5	7.75	29.3	7.7
16a	1	0.75	<0.5	5.75	9.6	12.5
	2	0.25	<0.5	6.75	10.3	11.0
	3	0.75	<0.5	6.75	27.6	7.4
16b	1	0.75	<0.5	6.75	9.9	9.9
	2	0.30	<0.5	6.75	10.9	11.4
	3	0.75	<0.5	6.75	28.0	7.0
17	1	1.50	0.5	7.75	12.1	10.8
	2	0.30	<0.5	7.75	10.8	10.7
	3	0.75	<0.5	7.75	25.3	7.4
18	1	0.50	<0.5	5.75	14.3	8.5
	2	0.10	<0.5	5.75	11.6	7.2
	3	<0.25	<0.5	5.75	22.0	3.1
19	1	0.30	<0.5	6.75	10.4	11.2
	2	0.25	<0.5	6.75	16.2	9.8
	3	0.30	0.5	7.25	24.5	7.5

Water Chemistry Data

Pennsylvania Department of Environmental Protection STORET System (1997)

Commonwealth of Pennsylvania
Department of Environmental Protection

**** STORET SUMMARY SECTION ****

FOLLOWING IS A RETRIEVAL OF DATA FROM THE ENVIRONMENTAL PROTECTION AGENCY'S STORET SYSTEM, A DATABASE OF SAMPLING SITES AND THEIR ASSOCIATED QUALITY DATA. THE INFORMATION WAS RETRIEVED USING SPECIFIC STORET INSTRUCTION SETS IN COMBINATION TO SELECT ONLY THE DATA REQUESTED FOR THIS RETRIEVAL. BRIEF EXPLANATIONS OF THE INSTRUCTION SETS ARE INCLUDED BELOW.

QUESTIONS MAY BE DIRECTED TO THE STORET USER ASSISTANCE SECTION AT (800) 424-9067.

****

FOLLOWING IS THE FORMAT FOR THE STATION HEADER INFORMATION WHICH APPEARS ON EACH PAGE OF THE RETRIEVAL UNLESS STATION AGGREGATION WAS PERFORMED

	STATION NUMBER(S)
	LATITUDE/LONGITUDE PRECISION CODE
	STATION LOCATION
	STATE/COUNTY CODE STATE NAME COUNTY NAME
	MAJOR BASIN NAME MAJ/MIN/SUB BASIN CODE
	MINOR BASIN NAME
*STATION TYPE	AGENCY CODE STORED DATE HYDROLOGIC UNIT
	STATION DEPTH ELEVATION
	ECOREGION
	WATER BODY
	AQUIFERS
	LOCKED DATE
*RIVER MILE INDEX	

CONTINUED ON NEXT PAGE(S)

RETRIEVAL PROGRAM

PGM=ALLPARM
THIS PROGRAM PRINTS ACTUAL SAMPLE VALUES FOR ALL PARAMETERS

A BEGINNING DATE OF (YY/MM/DD) 95/01/01 WAS REQUESTED
NO ENDING DATE WAS REQUESTED -- STORET ASSUMED THE ENDING DATE WAS THAT OF THE MOST RECENT DATA VALUE FOUND

STATION SELECTION WAS BY:

AGENCY CODE(S) AND STATION NUMBER(S) FOR THE FOLLOWING AGENCY(S):
21PA

STATIONS SELECTED WERE RESTRICTED TO:

AGENCIES WHOSE DATA HAS NOT BEEN 'RETIRED'

CONTACTS FOR AGENCY CODES RETRIEVED:

AGENCY	PRIMARY CONTACT NAME	ORGANIZATION	PHONE NUMBER(S)
21PA	SCHREFFLER, TAMMY	PENNSYLVANIA DPT ENV PROT	(717)783-3638

DATA SPECIFICATIONS:

NOTE
NO REMARK CODE RESTRICTIONS WERE SPECIFIED - COMPUTATIONS WILL
BE PERFORMED WITHOUT REGARD TO DATA REMARKS

DATA RESTRICTIONS:

NOTE
NO DEPTH INDICATOR RESTRICTIONS WERE SPECIFIED - COMPUTATIONS WILL
BE PERFORMED WITHOUT REGARD TO DEPTH INDICATORS

NOTE
NO GRAB/COMPOSITE RESTRICTIONS WERE UTILIZED, SO BOTH GRAB AND COMPOSITE SAMPLE TYPES MAY HAVE
BEEN INCLUDED - COMPUTATIONS WILL BE PERFORMED WITHOUT REGARD TO SAMPLE TYPE

NOTE
NO COMPOSITE SAMPLE RESTRICTIONS WERE SPECIFIED - COMPUTATIONS WILL INCLUDE STATISTICAL FEATURES OF
THE COMPOSITING PROCESS, PRODUCING VALID RESULTS ONLY WHEN SOPHISTICATED COMPOSITES ARE NOT ENCOUNTERED.
SPECIFY COMPOSITE HANDLING KEYWORDS "ANC" AND/OR "DSROC" IF NEEDED

***** END OF SUMMARY SECTION *****

WQN0706 03083500 PFBC8-041
40 14 24.0 079 48 24.0 1
YOUGHIOGHENY RVR-SR3045 BR-SUTERSVILLE
42129 PENNSYLVANIA WESTMORELAND
MONONGAHELA RIVER 050200
YOUGHIOGHENY RIVER
21PA 770419 05020006001 0014.860 ON
0000 FEET DEPTH

TYPA/AMBNT/STREAM/BIO

INITIAL DATE				95/01/19	95/02/16	95/03/16	95/04/18	95/05/18	95/06/15	95/07/18	95/08/17	95/09/19
INITIAL TIME				0845	0930	0900	0900	1000	0945	0930	0945	0945
MEDIUM				WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
00010	WATER	TEMP	CENT	4.5	.9	10.1	10.1	15.1	20.5	24.5	27.6	18.7
00011	WATER	TEMP	FAHN	40.1$	33.6$	50.2$	50.2$	59.2$	68.9$	76.1$	81.7$	65.7$
00095	CNDUCTVY	AT 25C	MICROMHO	187	441	209	225	173	251	267	240	256
00300	DO		MG/L	11.1	13.5	8.8	9.9	7.5	5.6	6.0	5.5	8.3
00301	DO	SATUR	PERCENT	84.7$	95.1$	77.9$	87.6$	73.5$	60.9$	70.6$	69.6$	88.3$
00400	PH		SU	7.00	7.00	7.13	7.10		7.10	7.00	6.70	7.80
00403	PH	LAB	SU	6.6	6.9	6.6	6.7	6.8	6.9	6.7	6.5	6.7
00410	T ALK	CACO3	MG/L	19	36	19	22	18	28	30	22	26
00515	RESIDUE	DISS-105	C MG/L	114	286	128	120	146	148	196	116	180
00530	RESIDUE	TOT NFLT	MG/L	2K	140	8	6	20	42	4	14	2K
00556	OIL-GRSE	FREON-GR	MG/L	5.00K	5.00K	5.00K	5.00K	5.00K	5.00K	5.00K	5.00K	5.50
00610	NH3+NH4-	N TOTAL	MG/L	.020	.170	.020	.020	.020K	.020K	.050	.020K	.020K
00612	UN-IONZD	NH3-N	MG/L	.00002$	.0002$	.00005$	.00005$	.00003$	.0001$	.0003$	.00007$	.0004$
00615	NO2-N	TOTAL	MG/L	.008	.024	.010	.004	.004	.006	.016	.006	.006
00619	UN-IONZD	NH3-NH3	MG/L	.00003$	.0002$	.00006$	.00006$	.00004$	.0001$	.0003$	.00008$	.0005$
00620	NO3-N	TOTAL	MG/L	1.000	1.010	.900	.740	.730	.800	1.040	.640	.630
00665	PHOS-TOT		MG/L P	.040	.380	.040	.030	.040	.070	.060	.030	.030
00680	T ORG C	C	MG/L	1.9	3.2	1.3	1.3	1.6	2.8	2.5	2.1	2.1
00719	CN FREE	HBG METH	UG/L	1.000K	1.000K	1.000K	1.000K	1.000K	1.000K	1.000K	1.000K	1.000K
00720	CYANIDE	CN-TOT	MG/L	.001K	.001	.001K	.001K	.001K	.001K	.001K	.001K	.001K
00900	TOT HARD	CACO3	MG/L	58	92	54	75	54	73	88	69	74
00945	SULFATE	SO4-TOT	MG/L	42	72	52	65	44	63	68	73	69
00951	FLUORIDE	F,TOTAL	MG/L	.20K	.20K	.20K	.20K	.20K	.20K	.20K	.20K	.20K
01042	COPPER	CU,TOT	UG/L	10K	10K	10K	10K	10K	10K	10K	10K	10K
01045	IRON	FE,TOT	UG/L	757	9980	446	390	632	996	1300	324	147
01051	LEAD	PB,TOT	UG/L	1	9	1K	1K	1K	2	1	1K	1K
01055	MANGNESE	MN	UG/L	130.0	441.0	154.0	113.0	90.0	102.0	105.0	45.0	19.0
01067	NICKEL	NI,TOTAL	UG/L	25K	25K	25K	25K	27	25K	25K	25K	25K
01092	ZINC	ZN,TOT	UG/L	14	56	15	10K	10K	30	10K	10K	10K
01105	ALUMINUM	AL,TOT	UG/L	338	4210	283	230	329	523	826	154	135K
32730	PHENOLS	TOTAL	UG/L	0	0	0	38	0	0	3	3	0
74041	WQF	SAMPLE	UPDATED	950616	950616	950621	950908	950908	960229	951213	951214	960215

WQN0706 03083500 PFBC8-041
40 14 24.0 079 48 24.0 1
YOUGHIOGHENY RVR-SR3045 BR-SUTERSVILLE
42129 PENNSYLVANIA WESTMORELAND
MONONGAHELA RIVER 050200
YOUGHIOGHENY RIVER
21PA 770419 05020006001 0014.860 ON
0000 FEET DEPTH

TYPA/AMBNT/STREAM/BIO

INITIAL DATE				95/10/12	95/10/17	95/11/16	95/12/28	96/01/30	96/02/21	96/03/27	96/04/30	96/05/21
INITIAL TIME				1030	0157	1115	0945	0900	1015	1030	0930	0920
MEDIUM				WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
DEPTH-FT(SMK)					471							
00010	WATER	TEMP	CENT	17.0		2.9	.2	2.0	4.6	5.0	14.0	18.0
00011	WATER	TEMP	FAHN	62.6$		37.2$	32.4$	35.6$	40.3$	41.0$	57.2$	64.4$
00095	CNDUCTVY	AT 25C	MICROMHO	302		315	306	183	252	200	265	168
00300	DO		MG/L	8.5		12.5						
00301	DO	SATUR	PERCENT	87.6$		92.6$						
00400	PH		SU	7.08		6.80	6.90	6.98	7.23	8.04		6.70
00403	PH	LAB	SU	6.7		6.7	6.6	6.6	6.6	6.5	6.4	6.3
00410	T ALK	CACO3	MG/L	26		26	19	15	17	15	28	16
00515	RESIDUE	DISS-105	C MG/L	204		190	178	106	192	0	207	106
00530	RESIDUE	TOT NFLT	MG/L	8		8	2K	2K	42	2	5	10
00556	OIL-GRSE	FREON-GR	MG/L	5.00K		5.00K	5.00K	5.00K	5.00K		5.00K	11.00
00610	NH3+NH4-	N TOTAL	MG/L	.020K		.020	.080	.040	.080	.020	.030	.020K
00612	UN-IONZD	NH3-N	MG/L	.00008$		.00001$	.00005$	.00004$	.0002$	.0003$	.00002$	.00003$
00615	NO2-N	TOTAL	MG/L	.004K		.006	.006	.006	.012	.006	.014	.006
00619	UN-IONZD	NH3-NH3	MG/L	.00009$		.00002$	.00006$	.00005$	.0002$	.0003$	.00002$	.00004$
00620	NO3-N	TOTAL	MG/L	.350		.980	1.290	1.220	1.400	1.050	.820	.760
00665	PHOS-TOT		MG/L P	.020		.020	.040	.030	.080	.020	.050	.020
00680	T ORG C	C	MG/L	2.1		2.5	1.5	1.8	2.1	1.5	1.8	1.6
00719	CN FREE	HBG METH	UG/L	1.000K		1.000K	1.000K	1.000K	1.000K	1.000K	1.000K	1.000K
00720	CYANIDE	CN-TOT	MG/L	.001K		.001K	.001K	.001K	.001K	.001K	.001K	.001K
00900	TOT HARD	CACO3	MG/L	88		72	75	49	68	58	85	55
00945	SULFATE	SO4-TOT	MG/L	86		53	60	39	50	49	68	40
00951	FLUORIDE	F,TOTAL	MG/L	.20K		.20K	.20K	.20K	.20K	.20K	.20K	.20K
01042	COPPER	CU,TOT	UG/L	10K		10K	10K	10K	10K	10K	10K	10K
01045	IRON	FE,TOT	UG/L	125		734	318	693	2330	826	1120	508
01051	LEAD	PB,TOT	UG/L	1K		1K	1K	1K	2	1K	1K	1K
01055	MANGNESE	MN	UG/L	25.0		118.0	217.0	195.0	317.0	197.0	195.0	127.0
01067	NICKEL	NI,TOTAL	UG/L	25K		25K	25K	25K	25K	25K	34	25K
01092	ZINC	ZN,TOT	UG/L	10K		10K	10K	19	33	27	50K	10
01105	ALUMINUM	AL,TOT	UG/L	135K		311	135K	493	2020	783	803	340
32730	PHENOLS	TOTAL	UG/L	0		0	0		0	0	0	0
34664	PCB-1221	TISMG/KG	WET WGT		.026K							
34667	PCB-1232	TISMG/KG	WET WGT		.026K							
34669	PCB-1248	TISMG/KG	WET WGT		.026K							

(SAMPLE CONTINUED ON NEXT PAGE)

WQN0706 03083500 PFBC8-041
40 14 24.0 079 48 24.0 1
YOUGHIOGHENY RVR-SR3045 BR-SUTERSVILLE
42129 PENNSYLVANIA WESTMORELAND
MONONGAHELA RIVER 050200
YOUGHIOGHENY RIVER
21PA 770419 05020006001 0014.860 ON
0000 FEET DEPTH

'TYPA/AMBNT/STREAM/BIO

(SAMPLE CONTINUED FROM PREVIOUS PAGE)

	INITIAL DATE			95/10/12	95/10/17	95/11/16	95/12/28	96/01/30	96/02/21	96/03/27	96/04/30	96/05/21
	INITIAL TIME			1030	0157	1115	0945	0900	1015	1030	0930	0920
	MEDIUM			WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
	DEPTH-FT(SMK)				471							
34670	PCB-1260	TISMG/KG	WET WGT		.026K							
34680	ALDRIN	TISMG/KG	WET WGT		.010K							
34685	ENDRIN	TISMG/KG	WET WGT		.010K							
34686	HPCHLREP	TISMG/KG	WET WGT		.010K							
34687	HEPTCHLR	TISMG/KG	WET WGT		.010K							
34689	PCB-1242	TISMG/KG	WET WGT		.026K							
34690	PCB-1254	TISMG/KG	WET WGT		.170							
39063	CHLORDAN	C ISOMER	TIS-UG/G		.010K							
39066	CHLORDAN	T ISOMER	TIS-UG/G		.010K							
39069	NONACHLR	C ISOMER	TIS UG/G		.010K							
39072	NONCHLOR	T ISOMER	TIS-UG/G		.010K							
39074	ALPHABHC	TISMG/KG	WET WGT		.010K							
39105	PERCENT	FAT	HEX EXTR		.8							
39302	P,P'DDT	TISMG/KG	WET WGT		.01K							
39307	O P DDT	TISSUE	UG/G		.01K							
39312	P,P'DDD	TISMG/KG	WET WGT		.01K							
39322	P,P'DDE	TISMG/KG	WET WGT		.01K							
39325	O,P DDD	TISSUE	UG/G		.010K							
39329	O,P'DDE	TISSUE	UG/G		.010K							
39404	DIELDRIN	TISMG/KG	WET WGT		.01K							
39785	GBHC-TIS	LINDANE	WETMG/KG		.01K							
46471	CHLORDNE	TISS WET	WT MG/KG		.010K							
70320	MOISTURE	CONTENT	PERCENT		78							
71930	MERCURY	TISMG/KG	WET WGT		.10							
71936	LEAD	TISMG/KG	WET WGT		.08							
71937	COPPER	TISMG/KG	WET WGT		.42							
71939	CR-FISH	UG/G OR	MG/KG WT		.12							
71940	CADMIUM	TISMG/KG	WET WGT		.005K							
74041	WQF	SAMPLE	UPDATED	960215	970313	960215	960415	960415	960613	960820	960816	960911
74990	FISH	SPECIES	NUMERIC		47							
74995	ANATOMY		CODE		117							
78457	A-CLRDEN	TISS,WET	WT.MK/KG		.010K							
78459	G-CLRDEN	TISS,WET	WT.MK/KG		.010K							
81614	NO.INDV.	IN THE	SAMPLE		4							
81644	MTXCHLOR	FISH WET	WGT UG/G		.052K							
81645	MIREX F	ISH WETW	GT UG/G		.010K							
81822	KEPONE	FISH WET	WGTMG/KG		.010K							

(SAMPLE CONTINUED ON NEXT PAGE)

WQN0706 03083500 PFBC8-041
40 14 24.0 079 48 24.0 1
YOUGHIOGHENY RVR-SR3045 BR-SUTERSVILLE
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MONONGAHELA RIVER 050200
YOUGHIOGHENY RIVER
21PA 770419 05020006001 0014.860 ON
0000 FEET DEPTH

/TYPA/AMBNT/STREAM/BIO

(SAMPLE CONTINUED FROM PREVIOUS PAGE)

INITIAL DATE				95/10/12	95/10/17	95/11/16	95/12/28	96/01/30	96/02/21	96/03/27	96/04/30	96/05/21
INITIAL TIME				1030	0157	1115	0945	0900	1015	1030	0930	0920
MEDIUM				WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
DEPTH-FT(SMK)					471							
82029	OXYCHLRD	TISS	WETMG/KG		.010K							
84005	FISH	SPECIES	F &WL		SMB							
84007	ANATOMY	ALPHA	CODE		FILSK							

INITIAL DATE				96/06/27	96/07/18	96/08/15	96/09/26	96/10/30	96/11/21	96/12/19	97/01/30	97/02/19
INITIAL TIME				0925	0835	0835	0935	0930	0945	0945	0925	0935
MEDIUM				WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
00010	WATER	TEMP	CENT	21.0	.0	23.0	18.0	17.5	5.2	2.0	1.0	5.0
00011	WATER	TEMP	FAHN	69.8$	32.0$	73.4$	64.4$	63.5$	41.4$	35.6$	33.8$	41.0$
00095	CNDUCTVY	AT 25C	MICROMHO	270	283	233	185	180	210	203		373
00400	PH		SU	6.88	7.60	6.70	6.80	6.60	6.80	6.80	6.70	7.10
00403	PH	LAB	SU	6.3	6.9	6.3	6.3	6.6	6.5	6.5	6.6	6.5
00410	T ALK	CACO3	MG/L	30	26	24	20	22	24	22	26	34
00515	RESIDUE	DISS-105	C MG/L	252	216	196	136	130	98	266	198	142
00530	RESIDUE	TOT NFLT	MG/L	44K	24	2K	6	2K	4	2K	6	34
00556	OIL-GRSE	FREON-GR	MG/L				5.00K	5.00K		5.00K	5.00K	5.00K
00610	NH3+NH4-	N TOTAL	MG/L	.070	.020K	.020K	.020K	.020K	.030	.060	.130	.100
00612	UN-IONZD	NH3-N	MG/L	.0002$	.00007$	.00005$	.00004$	.00003$	.00002$	.00004$	.00006$	.0002$
00615	NO2-N	TOTAL	MG/L	.018	.008	.004	.008	.004	.006	.010	.010	.020
00619	UN-IONZD	NH3-NH3	MG/L	.0003$	.00008$	.00006$	.00005$	.00003$	.00003$	.00004$	.00007$	.0002$
00620	NO3-N	TOTAL	MG/L	1.300	.850	.730	.740	.660	.870	.890	1.200	1.120
00665	PHOS-TOT		MG/L P	.080	.020	.020	.020K	.020	.020K	.020K	.020	.020
00680	T ORG C	C	MG/L	3.1	2.1	2.5	2.7	2.1	1.8	1.7	1.9	1.5
00719	CN FREE	HBG METH	UG/L	1.000K	1.000K	1.000K	1.000K	1.000K	1.000K	1.000K	1.000K	1.000K
00720	CYANIDE	CN-TOT	MG/L	.001K	.001K	.001K	.001K	.001K	.001K	.001K	.000	.001K
00900	TOT HARD	CACO3	MG/L	75	89	78	59	60	41	53	64	98
00945	SULFATE	SO4-TOT	MG/L	37	74	65	46	42	64	62	51	64
00951	FLUORIDE	F,TOTAL	MG/L	.20K	.20K	.20K	.20K	.20K	.20K	.20K	.20K	.20K
01042	COPPER	CU,TOT	UG/L	10K	10K	10K	10K	10K	10K	10K	10K	10K
01045	IRON	FE,TOT	UG/L	3250	865	354	492	369	460	522	1640	550
01051	LEAD	PB,TOT	UG/L	2	1K	1K	1K	1K	1K	1K	1K	1K
01055	MANGNESE	MN	UG/L	242.0	120.0	36.0	84.0	75.0	122.0	140.0	209.0	188.0
01067	NICKEL	NI,TOTAL	UG/L	25K	25K	25K	25K	25K	25K	25K	25K	25K
01092	ZINC	ZN,TOT	UG/L	22	29	10K	23	10K	15	12	52	11
01105	ALUMINUM	AL,TOT	UG/L	2430	384	159	210	135K	200	264	925	237
32730	PHENOLS	TOTAL	UG/L	0	0	0	0	0	0	0	3K	0
74041	WQF	SAMPLE	UPDATED	960911	970106	970107	970107	970228	970306	970522	970519	970520

THAT'S ALL FOLKS

DATA with REMARK CODES

Observations in STORET are stored as numerical values usually representing the result of a laboratory or field analysis to quantify the concentration of a chemical in a water sample. In some cases, the numerical value stored represents something other than a normal outcome, and a "Remark Code" is associated with the value as it is entered. Remark codes which are permitted are listed below with their definitions.

REMARK	DEFINITION
(blank)	Data not remarked. Number should be interpreted exactly as reported.
B	Results based upon colony counts outside the acceptable range.
C	Calculated. Value stored was not measured directly, but was calculated from other data available.
D	Field measurement. Some parameter codes (e.g., 400, "Field pH") imply this condition without this remark.
E	Extra sample taken in compositing process.
F	In the case of species, F indicates Female sex.
J	Estimated. Value shown is not a result of analytical measurement.
K	Off-scale low. Actual value not known, but known to be less than value shown. Usually used to indicate a failure to detect the substance.
L	Off-scale high. Actual value not known, but known to be greater than value shown.
M	Presence of material verified, but not quantified. Indicates a positive detection, at a level too low to permit accurate quantification. In the case of temperature or oxygen reduction potential, M indicates a negative value. In the case of species, M indicates Male sex.
N	Presumptive evidence of presence of material.
O	Sampled for, but analysis lost. Accompanying value is not meaningful for analysis.
S	Laboratory test.
T	Value reported is less than the criteria of detection.
U	Material was analyzed for, but not detected. Value stored is the limit of detection for the process in use. In the case of species, U indicates Undetermined sex.
W	Value observed is less than the lowest value reportable under remark "T".
$	Calculated by retrieval software. Numerical value was neither measured nor reported to the database, but was calculated from other data available during generation of the retrieval report. □

Water Chemistry Trend Data

1994 Water Quality Assessment, 305(b) Report
(1994)
Commonwealth of Pennsylvania
Department of Environmental Resources

TABLE 22 (cont.): Summary of Trends at WQN Stations

Summary of Trends at WQN Stations: 1984 to 1992 (1988 to 1992 for the Metals)
A number in the column indicates there is a 95% confidence there is a trend. The number is the estimated yearly change in concentration.
A positive number indicates an increasing trend while a negative number indicates a decreasing trend.

Station	Alkalinity mg/l	Hardness mg/l	Dissolved Solids mg/l	Sulfate mg/l	Ammonia, Total mg/l	Nitrate mg/l	Phosphorous Total mg/l	Al Total µg/l	Cu Total µg/l	Fe Total µg/l	Mn Total µg/l	Ni Total µg/l	Pb Total µg/l	Zn Total µg/l
434-KETTLE CREEK						0.02					-6.2			
439-BENNETT BRANCH SINNEMAHONING CREEK											-38.8			
444-MUNCY CREEK	1.00	2.50		-0.97		0.19				8.0				
445-BALD EAGLE CREEK				-2.00										
501-CONOCOCHEAGUE CR.				1.00										
505-LICKING CREEK											2.3			
506-LITTLE WILLS CREEK														
507-ROCK CREEK														
601-LAKE ERIE		-1.67		1.24		0.02								
622-LAKE ERIE		-2.00		1.00										
632-PRESQUE ISLE BAY	-1.46	-2.50		1.00		0.01				-24.1	-2.8			
641-TWELVEMILE CREEK	3.45	5.51												
643-CONNEAUT CREEK														
701-MONONGAHELA RIVER	0.80				-0.010									2.3
702-MONONGAHELA RIVER	0.50										-12.0			
704-TURTLE CREEK	0.80				-0.020	0.06								
706-YOUGHIOGHENY R.	1.00					0.02				96.0	8.0			
709-YOUGHIOGHENY R.				0.86					-5.3	-13.8				
710-CASSELMAN RIVER	0.33								-4.3					
714-DUNKARD CREEK	2.00									-95.7				
715-SEWICKLEY CREEK	0.75				-0.080	0.07					-21.1			
717-TEN MILE CREEK			193.90	-7.00										
725-MONONGAHELA RIVER	0.93					0.01					-16.3			
726-CASSELMAN RIVER	0.67	1.75				0.07								
727-CHEAT RIVER								96.7						
728-WHITELEY CREEK														
729-INDIAN CREEK	0.75							-8.0						
801-ALLEGHENY RIVER														-2.0
802-ALLEGHENY RIVER			-4.10											
805-ALLEGHENY RIVER				1.67										
807-ALLEGHENY RIVER	0.50			1.00										
810-CONEMAUGH RIVER	0.25													
812-LOYALHANNA CREEK	1.00				-0.010									
814-BLACKLICK CREEK						-0.02								-3.0

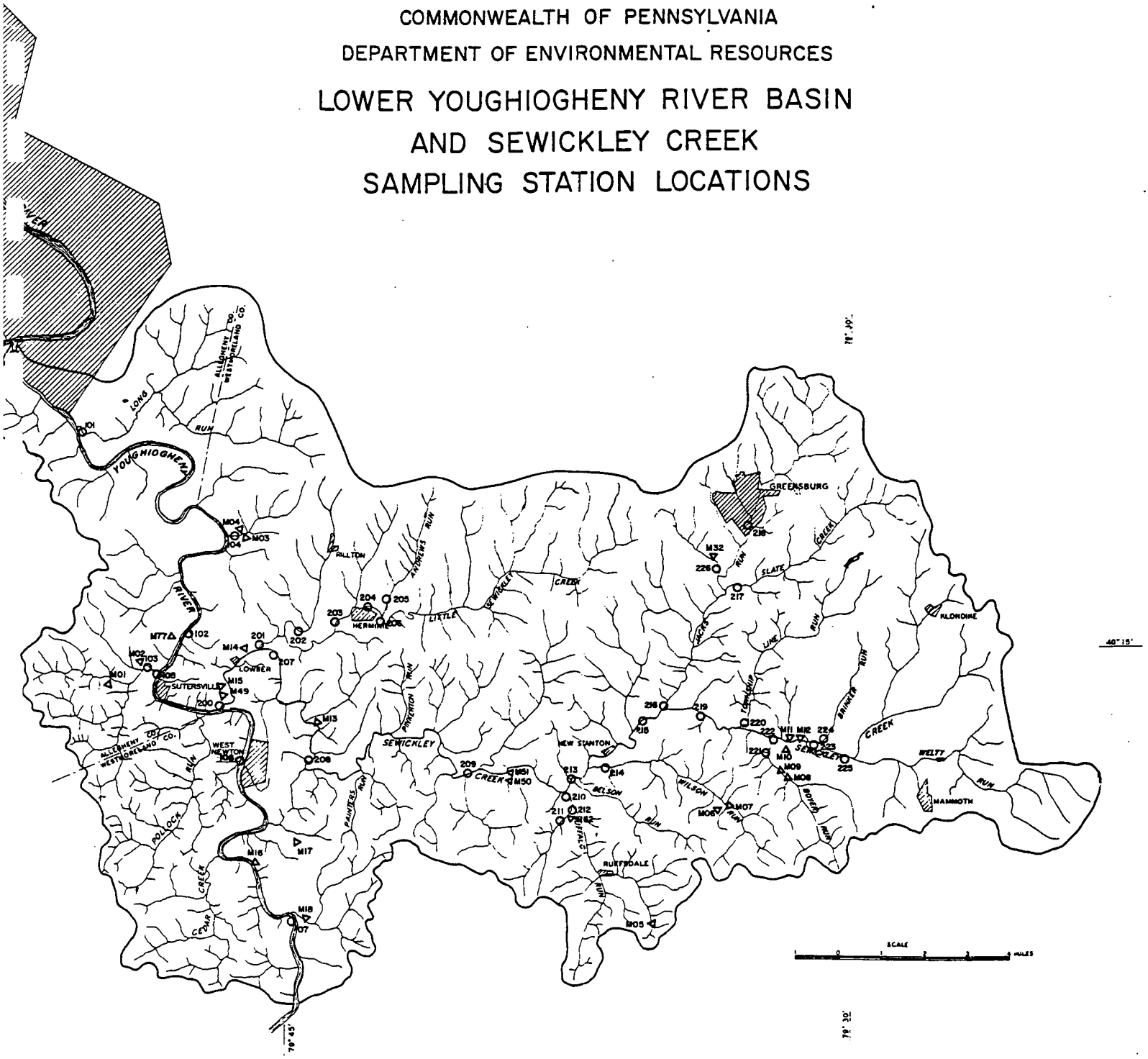
Operation Scarlift Data

Youghiogheny River Basin
Mine Drainage Pollution Abatement Project
(1971)
Commonwealth of Pennsylvania
Department of Environmental Resources

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF ENVIRONMENTAL RESOURCES

LOWER YOUGHIOGHENY RIVER BASIN AND SEWICKLEY CREEK SAMPLING STATION LOCATIONS



YOUGHIOGHENY RIVER BASIN
SAMPLING DATA

SAMPLE NUMBER & STREAM LEVEL 1	2	3	4	5	STREAM NAME	DATE	CFS	TEMP. °C	pH FIELD	pH LAB	ACIDITY mg/l	ACIDITY LB/DAY	SULFATE mg/l	SULFATE LB/DAY	TOTAL IRON mg/l	TOTAL IRON LB/DAY	ALKALINITY mg/l	FERROUS IRON mg/l	TOTAL HARDNESS mg/l	MANGANESE mg/l	CHLORIDE mg/l	CONDUCTIVITY u-mhos
	557				CASSELMAN RIVER	5/8/69	41.0	17.5	7.6	7.4	5.0	1,107	31.0	6,860	0.65	144	12.0	0.045	45.0	0.49	12.5	
		556			MEADOW RUN	5/8/69	2.5	15.0	7.2	7.3	6.0	81	41.0	554	0.41	6	10.0	0.08	56.0	0.63	9.5	
		555			TUB MILL RUN	5/8/69	9.35	14.5	7.6	6.8	4.0	202	24.0	1,212	0.46	23	11.0	0.08	54.0	0.58	16.0	
	554				CASSELMAN RIVER	5/8/69	54.3	17.0	7.6	7.6	2.0	586	30.0	8,797	0.67	196	13.0	0.02	55.0	0.49	17.5	
		553			BIG PINEY CREEK	5/8/69	12.2	17.5	7.8	7.3	2.0	132	16.5	1,087	0.44	29	14.0	0.06	28.0	0.40	26.0	
	552				CASSELMAN RIVER	5/8/69	65.9	19.0	7.7	7.1	3.0	1,060	34.0	12,099	0.57	202	11.0	0.02	70.0	0.35	15.5	
		551			COAL RUN	5/8/69	0.329	17.5	2.9	2.9	1,075	1,909	840	1,492	95	168	0	56.5	3,350	2.20		
			M30		MINE DISCHARGE	5/8/69	0.151	15.0	2.9	2.9	1,725	1,407	2,650	2,140	105	368	0	66.5	3,500	7.30	0	
			M31		MINE DISCHARGE	6/16/69	0.08	16.0	2.6	2.9	3,050	1,318	2,500	1,078	425	183	0	37.5	840	2.47	0	2,900
		550			COAL RUN	5/8/69	1.45	18.0	3.1	2.7	1,050	8,222	2,200	17,194	145	1,133	0	115.5	1,650	12.8		
		549			COAL RUN	5/8/69	1.48	19.0	3.0	2.7	725	5,794	2,166	17,278	135	1,077	0	17.0	1,500	3.9	0	
	548				CASSELMAN RIVER	5/8/69	67.5	19.5	4.7	4.5	15.0	5,468	62.0	22,599	1.88	684	2.0	0.80	112.0	0.4	9.0	
		547			TRIB. OF CASSELMAN	5/8/69	0.47	17.5	4.4	4.3	18.0	46	105.0	266	1.90	5	0	0.80	110.0	0.3		
		M33			MINE DISCHARGE	10/9/69	0.46	14	3.5	3.0	1950	4,844	1831	4,548	443	1,098		89	1000		0	2100
		546			TRIB. OF CASSELMAN	5/9/69	0.90	13.5	7.2	4.6	20.0	97	72.0	350	0.53	3	0	.03	66.0	0.40		
	545				CASSELMAN RIVER	5/9/69	89.8	17.0	4.4	4.3	20.0	9,698	77.5	37,581	3.34	1,616	0	0.84	74.0	0.25	8.0	
		M29			MINE DISCHARGE	5/8/69	0.45	15.5	3.6	3.2	1,900	4,617	2,818.8	6,835	550	1,334	0	18.25	2,400	10.8		
		M28			MINE DISCHARGE	5/8/69	0.41	18.0	3.3	2.8	1,175	2,601	2,725	6,022	175	387	0	12.0	2,650	12.14		
			M27		MINE DISCHARGE	5/8/69	0.67	18.5	3.2	3.0	2,450	8,864	2,475	8,938	450	1,675	0	21.45	1,450	4.86		
		M26			MINE DISCHARGE	5/8/69	1.38	18.5	3.2	3.0	1,525	11,364	2,570	19,116	400	2,975	0	15.35	2,500	10.0	0	
		544			MILLER RUN	5/9/69	1.28	14.0	7.4	7.1	2.0	14	34	235	0.31	2	20.0	0.03	60.0	0.35		
	543				CASSELMAN RIVER	5/9/69	113	16.5	4.7	4.3	25.0	15,255	100	61,020	5.58	3,986	0	0.98	86.0	0.63	10.0	
		542			FLAUGHERTY CREEK	5/9/69	22.4	16.5	8.0	6.9	2.0	242	15.5	1,875	3.06	370	18.0	0.27	38.0	1.05		
		541			FLAUGHERTY CREEK	5/9/69	30.1	16.5	7.6	7.0	2.0	325	19.0	3,088	1.33	213	22.0	0.03	38.0	0.13	7.0	
	540				CASSELMAN RIVER	5/9/69	135.54	17.5	4.7	4.1	22	16,102	105	76,709	5	3,653	0	0.32	96.0	0.13	8.0	
		539			ELK LICK CREEK	5/9/69	36.2	15.5	7.8	7.0	1.0	195	25.5	4,972	0.62	121	20.0	0.02	34.0	0.20		
	538				CASSELMAN RIVER	5/12/69	142.43	11.5	4.7	4.7	10.0	7,690	74.5	57,300	4.48	3,439	1.0	1.86	75.0	0.58	8.5	
		537			BLUE LICK CREEK	5/12/69	6.0	10.5	8.2	7.3	1.4	45	35.5	1,150	0.375	12	10.0	0.025	46.0	0.35	6.0	
			536		TRIB. TO BLUE LICK CK	5/12/69	1.88	10.5	4.0	3.7	52	528	568.7	5,773	8.74	89	0	2.62	696	0.35	3.0	
		535			BLUE LICK CREEK	5/12/69	8.8	10.5	7.2	6.6	2.0	95	200	9,500	1.03	92	6.0	0.33	206	0.58	4.0	
	534				CASSELMAN RIVER	5/12/69	146.97	10.5	4.8	4.8	10.0	7,936	73.3	58,174	4.43	3,516	2.0	1.89	58.0	0.30	9.5	
		533			SWAMP CREEK	5/12/69	1.31	12.5	7.6	7.4	1.0	7	69	488	0.49	3	66.0	0.02	128.0	0.30	5.0	
	532				CASSELMAN RIVER	5/13/69	159.3	15.0	5.2	4.8	12.0	10,320	87	74,870	3.85	3,306	2.0	1.50	64.0	0.30	7.65	
			M76*		MINE DISCHARGE	8/11/66	1.22	17	5.3		190	1.250	423	2.300	67	440			370			
		531			BUFFALO CREEK	5/12/69	7.82	12.5	5.2	4.8	42.0	1,772	89	3.756	23.39	986	0	11.60	204	0.85	5.0	
			M75		MINE DISCHARGE	7/7/70	1.0			3.6	250	1.350	725	3,900	72	390		4.5	800	2.3	6	690
		530			BUFFALO CREEK	5/12/69	9.4	12.5	6.9	6.4	7.0	355	131.2	6,654	17.89	906	18.0	7.1	230	0.85	5.0	
		529			BUFFALO CREEK	5/12/69	9.45	10.5	7.2	6.4	13.0	663	126.6	6,456	18.48	941	13.0	8.2	237	0.51	10.0	

YOUGHIOGHENY RIVER BASIN
SAMPLING DATA

SAMPLE NUMBER & STREAM LEVEL 1	2	3	4	5	STREAM NAME	DATE	CFS	TEMP. °C	pH FIELD	pH LAB	ACIDITY mg/l	ACIDITY LB/DAY	SULFATE mg/l	SULFATE LB/DAY	TOTAL IRON mg/l	TOTAL IRON LB/DAY	ALKALINITY mg/l	FERROUS IRON mg/l	TOTAL HARDNESS mg/l	MANGANESE mg/l	CHLORIDE mg/l	CONDUCTIVITY u-mhos
			528		MILL RUN	5/13/69	3.3	8.5	7.7	7.3	2.0	36	74	1,318	0.18	3	18.0	0.02	94.0	0.38	7.75	
				527	TRIB. TO MILL RUN	5/13/69	1.0	12.5	7.7	7.3	2.0	10.8	30.5	165	0.44	3	8.0	0.02	36.0	0.17	2.50	
			526		MILL RUN	5/13/69	4.86	9.5	7.8	7.4	2.0	52.4	76	1,995	0.18	5.0	18.0	0.02	109	0.58	6.50	
		525			BUFFALO CREEK	5/13/69	17.8	10.5	7.2	6.6	1.0	96.1	120	11,532	8.78	842	11.0	3.2	180	0.72	7.00	
			524		BEACHDALE HOLLOW RUN	5/13/69	5.41	8.5	5.7	5.2	6.0	175	168	4,906	0.23	7	2.0	0.03	64	0.35	3.50	
			M34		MINE DISCHARGE	10/9/69	0.18	13	5.8	3.5	100	97	787	765	79	76	0	11.2	900			1360
			M25		MINE DISCHARGE	5/16/69	0.86	17.0	3.6	3.3	110	511	131.3	610	50	232		3.5	46	0.46	[illegible]	460
		523			BUFFALO CREEK	5/13/69	23.7	10.5	7.1	6.5	5.0	630	138	17,700	7.25	926	6.0	2.79	164	0.46	7.00	
			M74		MINE DISCHARGE	7/7/70	0.4			3.4	1900	4,100	1950	4,200	225	490	0	11.2	1240	8		1000
			M73		MINE DISCHARGE	7/7/70	0.3			5.2	85	138	1200	1,950	25	4	0	5.6	1270	0.9	[illegible]	670
			M36		MINE DISCHARGE	10/9/69	0.02	17	4.4	4.2	120	13	362	39	130	14	0	89.4	600			920
		522			BUFFALO CREEK	5/13/69	25.0	14.5	6.8	5.8	12.0	1,620	146.6	19,791	7.5	1,011	3.0	2.26	64	0.35	7.50	
521					CASSELMAN RIVER	5/13/69	192	14.5	5.0	4.7	15.0	15,552	80.6	83,566	4.21	4,365	0	1.46	52	0.13	5.65	
		520			COXES CREEK	5/14/69	6.87	12.5	7.4	7.4	0.0	0.0	27.0	1001.7	0.97	36	30.0	0.025	84	0.13	29.5	
			519		TRIB. OF COXES CK.	5/14/69	2.61	12.0	7.4	7.4	1.0	14.1	100	1,410	0.59	8	25.0	0.02	124	0.38	31.5	
		518			COXES CREEK	5/14/69	9.42	12.5	7.3	7.1	1.0	51.0	50.5	2,575	0.85	43	12.0	0.03	94	0.13	34.0	
			517		KIMBERLY RUN	5/14/69	9.2	11.0	7.2	5.9	2.0	99.0	91	4,521	0.14	7	3.0	0.02	100	0.25	21.0	
		516			COXES CREEK	5/14/69	26.2	13.0	7.7	7.1	2.0	283	72	10,188	0.84	119	17.0	0.02	98	0.09	31.0	
			515		W. BRANCH COXES CK.	5/14/69	8.63	13.0	7.8	7.6	0.0	0.0	19	885	0.36	17	32.0	0.025	54.0	0.05	6.5	
			514		BROMM RUN	5/14/69	10.2	12.0	4.8	4.6	11.0	606	24	1,322	0.19	10	1.0	0.01	24.0	0.13	3.0	
			M67*		MINE DISCHARGE	6/66	0.05				205	49	600	160	34	8	0		264			
		513			COXES CREEK	5/14/69	49.4	14.0	8.2	6.5	1.0	267	49	13,083	0.44	117	11.0	0.01	66.0	0.13	17.0	
			M38		MINE DISCHARGE	10/9/69	0.04	16	3.4	2.9	500	108	437	94	102	22	0	89.4	350			1140
			M37		MINE DISCHARGE	10/9/69	0.09	18	3.4	2.7	2000	972	1831	890	235	114	0	61.4	1000			2300
			M66		MINE DISCHARGE	NO DATA																
			M68		MINE DISCHARGE	NO DATA																
		512			COXES CREEK	5/14/69	55.0	14.0	7.2	5.8	1.0	297	62	18,414	0.88	261	5.0	0.03	64	0.13	13.5	
			M71*		MINE DISCHARGE	6/66	0.10				100	53	430	230	28	15	0		324			
				M70*	MINE DISCHARGE	5/24/66	0.73	15	3.3		248	970	88	350	3	11	0		16			
				M69*	MINE DISCHARGE	7/19/66	0.12	16	2.8		480	315	546	350	59	39	0		128			
			511		WILSON CREEK	5/14/69	16.0	14.0	4.0	3.5	45	3,888	77.5	6,696	4.46	385	0.0	1.17	42	0.35	2.5	
			M72		MINE DISCHARGE	7/7/70	0.3			6.5	3	5	450	730	26	42	0	6	332	0.5		370
		510			COXES CREEK	5/14/69	75.0	14.5	5.6	5.1	6.0	2,430	64.5	26,122	1.80	728	2.0	0.02	70	0.20	13.0	
509					CASSELMAN RIVER	5/14/69	269.9	15.5	5.4	4.9	12.0	17,458	76	110,570	1.32	2,129	2.0	0.025	62	0.30	9.0	
		508			SOUTH GLADE RUN	5/19/69	3.77	17.5	7.4	7.4	1.0	20	106	2,152	0.50	10	28.0	0.02	112	0.25	3.5	
		507			MIDDLE CREEK	5/19/69	13.23	18.0	7.9	7.6	1.0	71	15.5	1,100	1.02	71	26.0	0.02	40	0.09	2.0	

YOUGHIOGHENY RIVER BASIN
SAMPLING DATA

SAMPLE NUMBER & STREAM LEVEL 1	2	3	4	5	STREAM NAME	DATE	CFS	TEMP. °C	pH FIELD	pH LAB	ACIDITY mg/l	ACIDITY LB/DAY	SULFATE mg/l	SULFATE LB/DAY	TOTAL IRON mg/l	TOTAL IRON LB/DAY	ALKALINITY mg/l	FERROUS IRON mg/l	TOTAL HARDNESS mg/l	MANGANESE mg/l	CHLORIDE mg/l	CONDUCTIVITY u-mhos
	506				CASSELMAN RIVER	5/19/69	228.08	20.0	5.1	5.0	10.0	11,236	106	119,102	0.97	1,193	2.0	0.18	60	0.33	6.0	
	505				CASSELMAN RIVER	5/19/69	230	22.0	6.2	4.9	10	12,420	106	131,652	0.82	1,016	2.0	0.16	92	0.35	6.5	
		504			TOWNSHIP LINE RUN	5/19/69	24	18.5	5.0	6.7	2.0	259	13	1,685	2.54	329	6.0	0.025	12	0.07	1.0	
	503				CASSELMAN RIVER	5/19/69	270.27	23.0	5.1	5.0	9.0	13,136	87	126,985	0.69	1,005	3.0	0.13	78	0.35	3.5	
		502			WHITES CREEK	5/19/69	29.23	20.5	7.6	7.4	0.0	0	23	3,634	0.90	142	12.0	0.01	32	0.09	4.0	
	501				CASSELMAN RIVER	5/20/69	260.36	20.5	5.4	5.2	5.0	7,030	74.5	104,747	0.50	702	3.0	0.07	74	0.28	2.0	
		500			LAUREL HILL CREEK	5/20/69	108.7	18.5	7.4	7.3	1.0	587	15.5	9,098	0.75	439	12.0	0.02	22	0.09	2.0	
122					YOUGHIOGHENY RIVER	5/20/69	251.00	8.5	7.5	7.3	1.0	1,356	17.5	23,720	0.20	271	10.0	0.02	22	0.11	2.0	
121					YOUGHIOGHENY RIVER	5/20/69	604	11.0	6.8	6.7	3.0	9,767	42.0	136,733	0.25	813	10.0	0.06	50	0.20	3.0	
	120				TRIB. TO YOUGHIOGHENY	5/20/69	1.45	18.5	5.1	4.9	14	110	84	658	2.79	22	2.0	0.47	132	0.38	1.0	
			M40		M.D. TO TREATMENT	10/10/69	0.02	14	3.6	2.8	6050	653	10500	1,134	562	61	0	190	1850			4900
			M39		TREATED DISCHARGE	10/10/69	0.02	15	7.8	7.2	0	0	5900	637	7	1	838	2.2	1840			4800
		123			LAUREL RUN	10/10/69	0.64	12	6.0	4.3	60	207	150	518	14	47	0	2.8	200			340
	119				BIG MEADOW RUN	5/20/69	50.5	21.0	7.4	7.4	0.0	0	74.5	20,338	0.41	112	10.0	0.01	134	0.35	0.5	
	118				CUCUMBER RUN	5/20/69	6.72	18.0	4.2	4.3	16	581	46.5	1,688	1.89	69	0.0	0.71	32	0.28	0.5	
	117				JONATHAN RUN	5/20/69	4.7	17.0	7.5	7.2	1	25	15.7	392	0.07	2	8.0	0.01	18	0.05	1.5	
	415				INDIAN CREEK	5/24/69	51.26	15.5	7.4	7.2	1	277	18.0	4,982	0.68	188	16.0	0.01	32	0.09	16.5	102
				M60*	MINE DISCHARGE	9/66	0.006				620	20	822	30	151	5	0		442			
		414			CHAMPION CREEK	5/22/69	9.47	18.5	7.6	7.1	1	51	39.5	2,014	0.32	16	10.0	0.01	52	0.09	11.5	
			413		PUZZLE RUN	5/22/69	0.60	16.0	7.6	7.0	1	4	21	68	0.17	1	6.0	0.02	22	0.09	0.5	47
				M24	MINE DISCHARGE	5/22/69	0.01	19.0	2.8	2.7	300	16	300	16	975	63	0	514	400	0.88	0	1,800
			412		PUZZLE RUN	5/22/69	0.76	14.5	3.6	3.5	100	410	157.6	646	34	139	0	11.16	80	0.63	0	360
			M48		MINE DISCHARGE	10/11/69	0.05	13	3.3	3.9	80	21	525	142	20	5		16.8	100			270
			M23		FLUME POND	5/22/69	0.003	25.0	2.7	2.7	3,900	72	2,175	40	1,225	23	0	751.16	700	0.68	0	2,800
			M22		MINE DISCHARGE	5/22/69	0.10	19.0	3.1	2.5	7 500	4.050	1,000	540	117	63	0	22.34	1,900	58.1	0	6,000
			M47		MINE DISCHARGE	10/11/69	0.18	13	3.3	2.8	1000	972	987	959	95	92		22.3	750			1600
			M43		MINE DISCHARGE	10/10/69	0.01	14	3.7	3.0	1100	60	1675	90	132	7		72.6	850			2000
			M46		MINE DISCHARGE	10/11/69	0.04	15	4.4	3.7	320	70	637	136	22	5		16.8	750			1180
		411			CHAMPION CREEK	5/24/69	11.1	18.0	3.6	3.7	92	5,514	132.5	7,942	12	711	0	5.65	92	0.35	10.5	306
	410				INDIAN CREEK	5/24/69	61.81	16.0	6.8	6.4	1	333	41	13,686	1.82	606	3.0	0.35	38	0.2	14.7	129
		M42			MINE DISCHARGE	10/10/69	0.001	15	4.3	3.1	190	1	337	2	145	1		11.2	250			1010
		M41			MINE DISCHARGE	10/10/69	0.18	13	5.6	4.1	75	73	256	249	31	30		22.3	150			400
	409				INDIAN CREEK	5/25/69	73.5	17.0	7.0	6.6	1.5	595	36.3	14,411	1.06	421	3.0	0.17	44	0.17	7.5	122
			M61*		MINE DISCHARGE	9/27/66	0.2	14	3.0		1228	142	1586	170	179	20			435			
		408			POPLAR RUN	5/24/69	6.91	17.0	5.0	4.9	4.0	149	42	1,567	0.5	19	0	0.11	38	0.2	1.5	100
	407				INDIAN CREEK	5/25/69	80.4	15.0	7.0	6.8	2.0	868	35.5	15,413	0.86	371	10.0	0.16	42	0.2	10.0	114
		406			LAUREL RUN	5/25/69	18.73	15.0	6.8	7.4	2.0	202	13.5	1,363	0.14	14	18.0	0.01	22	0.07	2.5	48

YOUGHIOGHENY RIVER BASIN
SAMPLING DATA

SAMPLE NUMBER & STREAM LEVEL 1	2	3	4	5	STREAM NAME	DATE	CFS	TEMP. °C	pH FIELD	pH LAB	ACIDITY mg/l	ACIDITY LB/DAY	SULFATE mg/l	SULFATE LB/DAY	TOTAL IRON mg/l	TOTAL IRON LB/DAY	ALKALINITY mg/l	FERROUS IRON mg/l	TOTAL HARDNESS mg/l	MANGANESE mg/l	CHLORIDE mg/l	CONDUCTIVITY u-mhos
	405				INDIAN CREEK	5/25/69	92	16.0	7.0	6.9	2.0	994	34.0	16,898	0.55	273	8.0	0.03	44	0.02	7.0	101
	404				INDIAN CREEK	5/25/69	110.25	18.0	7.6	7.1	2.0	1,190	30.5	18,147	0.27	161	2.0	0.01	44	0.25	7.0	102
			M21		MINE DISCHARGE	5/24/69	1.68	15.0	2.9	2.8	900	8,165	1087.5	9,866	115	1,041	0	65.85	410	6.8	0	2,000
		403			CHARLES RUN	5/25/69	3.37	15.0	3.1	2.8	325	5,476	581.25	9,794	65	1,181	0	45.85	310	11.42	0	1,500
		401			TRIB. TO RASLER RUN	5/22/69	0.34	14.0	7.6	6.9	1	2	483.75	890	0.39	1	7	0.01	7	2.43	1.5	49
		402			RASLER RUN	5/22/69	4.97	14.0	5.2	5.1	2	54	85.5	2,294	0.26	7	4.0	0.08	95	0.58	4.0	165
	400				INDIAN CREEK	5/22/69	136	17.5	4.6	4.8	70	5,141	54	39,658	1.5	1,100	1.0	0.24	60	0.25	6.5	126
	116				TRIB. TO DUNBAR CK.	5/27/69	2.6	14.0	7.2	7.0	10	140	88	1,232	0.7	10	8	0.03	110	0.49	6	240
	115				DUNBAR CREEK	5/27/69	12.9	14.0	7.3	7.3	8.0	557	50.5	3,518	0.23	16	30	0.06	76	0.25	2	154
					YOUGHIOGHENY RIVER	5/27/69	604	18.0	7.3	7.3	4.0	13,047	53.5	172,865	0.36	1,174	4.0	0.03	48	0.28	3	146
	M56*				MINE DISCHARGE	11/21/67	0.56	13	5.0		130	390	1352	4100	59	180	[illegible]		850		5	
		M59			MINE DISCHARGE	7/7/70	0.1			3.2	500	270	750	400	99	54		6.7	725	[illegible]		710
		M58			MINE DISCHARGE	7/7/70	0.[illegible]			3.7	350	380	775	840	25	30	[illegible]	5.6	850	[illegible]	4	610
		M57			MINE DISCHARGE	7/7/70	0.15			3.2	500	400	625	500	63	50		11.2	725	[illegible]	8	690
	113				GALLEY RUN	5/27/69	1.10	17.5	3.8	3.5	360	2,138	581.25	3,453	13.21	78	0	2.53	750	1.68	0	1,340
		M20			MINE DISCHARGE	5/27/69	0.75	17.0	4.8	4.5	1,440	5,848	612.5	2,481	27.5	111	0	22.34	700	15.56	0	1,280
	112				GALLEY RUN	5/27/69	1.85	17.5	4.2	3.7	500	4,995	581.25	5,807	18.15	181	0	14.9	700	2.71	0	1,300
		M19			MINE DISCHARGE	5/27/69	8.56	18.0	6.5	6.2	80	3,696	597.5	27,604	115	5,306	0	89.36	1,550	8.0	0	270
		M54			MINE DISCHARGE	7/7/70	1.0			4.0	100	540	775	4200	100	540		10.1	760		12	680
		M55			MINE DISCHARGE	7/7/70	0.5			3.3	275	740	1115	3000	75	200		22.4	1090	[illegible]	16	840
	111				HICKMAN RUN	5/28/69	0.41	14.5	3.8	3.5	280	619	675	1,492	5.3	12	0	2.7	850	2.27	0	1,220
					YOUGHIOGHENY RIVER	5/27/69	615.62	18.0	6.7	6.8	8.0	26,595	82	272,597	1.37	5,231	6	0.43	88	0.2	6.25	245
	109				DICKERSON RUN	5/28/69	0.78	14.0	7.4	7.6	0	0	212.5	892	0.15	1	128	0.03	414	0.25	7.8	760
					YOUGHIOGHENY RIVER	5/28/69	648	19.0	7.2	6.8	5.0	17,496	91	318,427	1.00	3,493	8	0.03	88	0.2	4.5	230
	312				JACOBS CREEK	5/29/69	8.79	20.0	7.6	7.3	2	95	26.5	1,235	0.21	10	22	0.01	46	0.13	20.5	165
		311			BRUSH CREEK	5/29/69	0.90	26.0	7.6	7.7	2	10	61	296	1.39	7	96	0.01	128	0.11	14.5	340
	310				JACOBS CREEK	5/29/69	9.69	20.0	7.6	7.2	2	104	26	1,361	0.26	14	22	0.02	72	0.09	18	185
		309			TRIB. TO JACOBS CK.	5/29/69	1.7	24.0	7.6	7.1	2	18	76	698	0.81	7	14.6	0.02	200	0.07	10	530
		313			INDUSTRIAL DISCHARGE	5/29/69	0.24	34.0	2.8	2.6	840	1,089	24	31	39	50	0	10.95	300	13.6	0	2,300
		308			SHERRICK RUN	5/29/69	0.14	26.0	3.5	3.3	440	333	581.25	439	5.4	4.0	0	2.12	550	0.95	0	1,220
	307				JACOBS CREEK	5/29/69	10.27	25.0	7.2	6.8	3	166	75	4,162	1.10	61	24	0.02	140	0.25	13	320
			M62*		MINE DISCHARGE	3/7/68	0.06	13	2.4		1710	585	2340	760	312	107	0		690			
			M63*		MINE DISCHARGE	3/7/68	0.03	13	2.5		1200	216	1716	280	186	34	0		740			
		306			STAUFFER RUN	5/29/69	0.43	26.0	3.3	3.4	440	1,021	1,066	2,471	18.13	42	0	4.45	450	1.37	0	860
	305				JACOBS CREEK	5/29/69	12.28	24.0	7.1	6.6	4.0	265	101	6,696	1.57	104	18	0.31	154	0.4	16.5	375
	304				JACOBS CREEK	5/28/69	13.57	19.0	7.4	7.0	2.0	147	98	7,183	0.54	40	26	0.02	152	0.25	21	400

YOUGHIOGHENY RIVER BASIN
SAMPLING DATA

SAMPLE NUMBER & STREAM LEVEL 1	2	3	4	5	STREAM NAME	DATE	CFS	TEMP. °C	pH FIELD	pH LAB	ACIDITY mg/l	ACIDITY LB/DAY	SULFATE mg/l	SULFATE LB/DAY	TOTAL IRON mg/l	TOTAL IRON LB/DAY	ALKALINITY mg/l	FERROUS IRON mg/l	TOTAL HARDNESS mg/l	MANGANESE mg/l	CHLORIDE mg/l	CONDUCTIVITY u-mhos
		303			MEADOW RUN	5/28/69	0.75	19.0	7.2	7.4	2	8	29	116	0.23	1	36	0.01	88	0.07	5	144
	302				JACOBS CREEK	5/28/69	18.3	19.0	7.6	7.2	2	198	93	9,190	0.24	23	18	0.02	136	0.09	16.5	335
		301			BARREN RUN	5/28/69	1.28	17.0	7.8	7.3	4	28	37.5	259	0.15	1	70	0.03	118	0.11	22	310
	300				JACOBS CREEK	5/28/69	18.63	17.0	7.4	7.2	2	201	95.6	9,618	0.17	17	20	0.02	136	0.11	14	350
	M18				MINE DISCHARGE	6/2/69	0.08	18.5	3.2	2.9	1,040	449	1087.5	470	118	51	0	55.85	1,100	2.44	0	1,510
10					YOUGHIOGHENY RIVER	6/2/69	600	24.0	7.4	7.5	2	6,480	95.6	309,744	0.63	2,038	2.0	0.025	88	0.11	5	192
	M16				TREAT. PLANT DIS.	6/2/69	3.2	21.5	7.6	7.9	0	0	931.3	16,093	2.4	42	100	0.12	2,020	3.27	27	2,800
	M17				MINE DISCHARGE	6/9/69	3.66	17.0	5.4	5.3	640	12,649	1222.5	24 161	150	2,959	0	134	3,400	25.5	0	2,900
106					YOUGHIOGHENY RIVER	6/2/69	607	24.0	7.3	7.3	3	9,833	112	367,114	1.12	3,991	8.0	0.13	112	0.17	3	280
	225				SEWICKLEY CREEK	6/5/69	2.36	16.0	7.9	7.6	0	0	88	1,121	0.31	4	110	0.02	210	0.11	36	435
		224			BRINKER RUN	6/5/69	0.25	15.0	3.7	3.7	340	459	568.5	767	8.10	11	0	3.58	550	1.48	0	840
	223				SEWICKLEY CREEK	6/5/69	3.26	16.5	7.4	7.5	0	0	112	1,971	1.24	22	86	0.10	340	0.46	26.5	455
		M12			MINE DISCHARGE	6/5/69	7.09	14.5	6.1	6.2	300	11,486	700	26,800	156	5,962	80	123	1,320	21.6	0	1,280
		M11			MINE DISCHARGE	6/5/69	0.39	22.0	3.2	3.1	780	1,643	1,000	2,106	66	139	0	12	1,100	11.1	0	1,800
		M10			MINE DISCHARGE	6/5/69	2.41	20.0	6.6	6.7	5	65	537.5	6,987	121	1,575	236	12	900	2.1	0	1,290
	222				SEWICKLEY CREEK	6/7/69	13.92	15.0	6.1	5.2	25	1,879	612.5	46,040	88.22	6,619	0	64.88	560	1.68	1.5	1,085
			M08		MINE DISCHARGE	6/7/69	0.15	14.5	5.5	3.6	240	194	575	466	51	41	0	22	700	4.21	0	1,180
			M09		MINE DISCHARGE	6/7/69	1.32	15.0	6.8	6.6	0	0	393.8	2,807	36	260	198	12	680	1.1	5.5	1,180
		221			BOYER RUN	6/7/69	3.13	16.0	7.0	6.4	10	169	262.5	4,436	22.5	380	154	11.17	540	0.58	17.5	890
		220			TOWNSHIP LINE RUN	6/7/69	1.35	18.0	7.7	7.5	1	7	37	270	0.70	5	48	0.03	68	0.05	20.5	220
	219				SEWICKLEY CREEK	6/7/69	17.63	17.0	6.9	6.4	10	952	493.8	47,009	[illegible].23	6,200	30	31.55	480	1.15	18.0	940
		218			JACKS RUN	6/5/69	1.07	15.0	7.9	8.1	0	0	170	982	0.48	3	180	0.025	342	0.46	32.0	625
				M32	MINE DISCHARGE	10/8/69	2.42	14	5.4	3.6	550	7187	700	9150	96	1256		55.8	700			1450
			22.		TRIB. OF JACKS RUN	10/8/69	2.47	15	5.5	3.7	300	4000	737	9828	89	1182		27.9	600			1340
			217		SLATE CREEK	6/5/69	0.67	15.0	7.5	7.6		0	115	416	0.88	3	[illegible]	0.03	164	0.35	43.5	378
		216			JACKS RUN	6/7/69	10.89	19.5	7.4	7.1	0	0	310	18,228	15.6	916	58	4.12	420	0.68	41.5	790
	215				SEWICKLEY CREEK	6/7/69	29.81	20.0	7.0	6.8	10	1,610	412.5	66,412	39	6,339	46	11.17	420	0.85	22.0	890
			M07		MINE DISCHARGE	6/7/69	0.55	23.0	7.0	7.7	0	0	568.8	1,576	8.75	26	154	1	640	0.80	16	1,060
			M06		MINE DISCHARGE	6/7/69	2.13	16.0	6.4	6.0	10	115	725	8,337	56	643	60	22.34	1,320	2.20	0	1,320
		214			WILSON RUN	6/7/69	2.45	21.0	7.4	7.6	0	0	597.5	7,905	12	165	80	0.56	580	0.63	15.0	1,060
	213				SEWICKLEY CREEK	6/9/69	31.17	20.0	6.9	6.8	1	168	306.3	51,468	29	4,885	46	7.08	440	0.76	40.5	1,020
			M05		MINE DISCHARGE	6/9/69	1.10	17.0	3.2	3.1	110	6,604	725	4,314	115	682	0	105.3	820	6.65	0	1,700
			M52*		MINE DISCHARGE						1640	45	2000	54	610	15			387			
		212			BUFFALO RUN	6/9/69	1.75	24.0	3.1	3.1	850	8,033	931.3	8,801	36	384	0	11.13	660	5.0	0	1,650
			211		TRIB. TO BUFFALO R.	6/9/69	0.75	22.0	3.0	3.1	1,200	4,360	931.3	3,772	218	879	0	61.44	1,040	18.5	0	3,200

YOUGHIOGHENY RIVER BASIN
SAMPLING DATA

SAMPLE NUMBER & STREAM LEVEL 1	2	3	4	5	STREAM NAME	DATE	CFS	TEMP. °C	pH FIELD	pH LAB	ACIDITY mg/l	ACIDITY LB/DAY	SULFATE mg/l	SULFATE LB/DAY	TOTAL IRON mg/l	TOTAL IRON LB/DAY	ALKALINITY mg/l	FERROUS IRON mg/l	TOTAL HARDNESS mg/l	MANGANESE mg/l	CHLORIDE mg/l	CONDUCTIVITY u-mhos
		210			BUFFALO RUN	6/9/69	2.77	21.0	3.1	3.0	1,150	17,204	568.8	8,509	89	1,325	0	15.59	680	6.24	0	2,450
		H51*			MINE DISCHARGE	7/28/65	0.64	19	2.9		1005	3473	1866	6450	139	480	[illegible]		840			
		H50			MINE DISCHARGE	10/13/69	0.05	27	3.4	3.0	86000	23000	36625	9900	1087	293	[illegible]	[illegible]	10,300			1200
	209				SEWICKLEY CREEK	6/11/69	35.51	24.0	5.4	4.9	100	19,180	675	129,460	30	5,742	0	6.1	300	2.92	0	1,080
	208				SEWICKLEY CREEK	6/10/69	35.66	19.0	4.4	4.3	80	15,400	656.3	126,377	22	4,167	0	1.98	460	1.29	0	1,040
		H13			MINE DISCHARGE	6/4/69	6.33	17.0	5.3	5.0	320	10,938	1,450	49,561	88	2,985		67				
	207				SEWICKLEY CREEK	6/2/69	42.41	24.0	4.2	4.0	140	32,062	675	154,584	26	5,900	0	6.67	500	1.56	0	1,010
		206			LITTLE SEWICKLEY CK.	6/4/69	0.97	20.0	8.0	7.7	0	0	80	155	0.22	1.15	80	0.02	244	0.13	36.5	500
			205		ANDREWS RUN	6/4/69	0.44	20.0	7.8	7.7	0	0	250	594	4.17	10	88	0.03	316	0.325	10.5	605
		204			LITTLE SEWICKLEY CK.	6/4/69	1.87	19.0	8.0	7.8	0	0	150	1,515	0.18	2	80	0.02	276	0.13	24.0	520
		203			LITTLE SEWICKLEY CK.	6/2/69	1.88	24.0	7.7	7.4	0	0	176	1,795	0.15	2	108.4	0.02	278	0.13	18.0	500
			202		TRIB. TO LITTLE SEW.	6/2/69	0.71	22.0	7.8	8.2	0	0	79	303	0.26	1	174	0.02	272	0.17	2.0	418
		201			LITTLE SEWICKLEY CK.	6/2/69	3.5	23.0	7.4	7.7	0	0	144	2,721	0.50	9	1	0.02	458	0.35	24.5	1,280
		H14			MINE DISCHARGE	6/2/69	6.98	17.0	6.0	5.4	320	12,061	750	28,267	138	5,173	0	117	950	25	40	3,300
		H15			MINE DISCHARGE	6/2/69	0.15	17.0	3.6	3.6	260	211	612.5	504	10	8	0	4.47	650	0.38	0	940
		H49			MINE DISCHARGE	10/11/69	0.02	17	4.6	4.1	700	756	1244	1334	8	8	[illegible]	[illegible]	300			1140
	200				SEWICKLEY CREEK	6/2/69	50.20	22.5	5.6	5.0	180	48,780	675	182,925	36	9,876	0	6.25	360	2.24	0	1,140
T95					YOUGHIOGHENY RIVER	6/10/69	657.2	22.0	7.2	7.2	6	21,293	129	457,806	2.92	10,344	6	0.47	114	0.20	8.0	300
			H01		MINE DISCHARGE	6/11/69	0.26	16.0	6.6	6.8	0	0	243.8	342	11	15	320	3.35	280	0.68	57	1,200
		H02			MINE DISCHARGE	6/11/69	2.62	14.0	6.7	6.7	0	0	675	9,551	58	812	220	16.76	320	1	72	1,550
	103				GILLESPIE RUN	6/10/69	4.49	16.0	7.4	7.4	0	0	512.5	12,423	19	460	216	0.56	340	1.1	68.5	1,340
	H77*				MINE DISCHARGE	5/1/65	1.26	14	3.7		170	1160	740	5,000	35	240	0		430			
	102				TRIB. TO YOUGH. RIVER	6/10/69	.09	16.0	4.9	4.7	120	58	950	462	2.39	1	0	0.02	780	1.1	0	1,460
		H03			MINE DISCHARGE	6/10/69	2.42	18.0	6.2	6.1	10	131	1222.5	15,978	95	1,239	0	11.8	560	6.34	0	2,200
		H04			MINE DISCHARGE	6/10/69	5.03	15.0	6.7	6.4	10	272	725	14,259	38	1,017	128	55	400	6.4	34.5	1,500
	104				TRIB. TO YOUGH. RIVER	6/10/69	7.82	16.0	6.6	6.3	10	422	791.3	33,415	54	2,266	0	16.76	440	2.58	0	1,800
	101				LONG RUN	6/11/69	1.11	30.0	7.6	7.6	0	0	280	1,678	3.26	20	78	0.03	340	0.66	63	780
T00					YOUGHIOGHENY RIVER	6/11/69	670.62	26.0	7.5	7.2	4	14,485	140	506,989	2.42	8,748	1.0	0.18	140	0.20	10	410

MINE DISCHARGE
SAMPLING DATA

SUB-BASIN	DISCHARGE NO.	STREAM NAME	NAME	CFS	TEMP. °C	pH FIELD	pH LAB	ACIDITY mg/l	ACIDITY LBS/DAY	SULFATE mg/l	SULFATE LBS/DAY	TOTAL IRON mg/l	TOTAL IRON LBS/DAY	ALKALINITY mg/l	FERROUS IRON mg/l	TOTAL HARDNESS mg/l
A. YOUGHIOGHENY	M01	TO DOUGLAS RUN	6/11/69	0.26	16	6.6	6.7	0	0	244	342	11	15	320	3.4	280
	M02	TO GILLESPIE RUN	6/11/69	2.62	14	6.7	6.6	0	0	675	9550	58	812	220	16.8	320
	M03	TO TRIB. OF YOUGH.	6/10/69	2.42	18	6.2	6.1	10	130	1222	15,978	95	1239	0	55.9	560
	M04	TO TRIB. OF YOUGH.	6/10/69	5.03	15	6.7	6.3	10	272	725	14,259	38	1017	128	11.7	400
	M16	TO YOUGHIOGHENY	6/2/69	3.2	22	7.6	7.9	0	0	931	16,093	2	42	100	0.1	2020
	M17	TO YOUGHIOGHENY	6/9/69	3.66	17	5.4	5.2	640	12,649	1222	24,161	150	2959	0	134	3400
	M18	TO YOUGHIOGHENY	6/2/69	0.08	19	3.2	2.9	1040	450	1087	470	118	51	0	55.8	1100
	M19	TO YOUGHIOGHENY	5/27/69	8.56	18	6.5	6.2	80	3696	597	27.604	115	5306	0	89.4	1550
	M20	TO GALLEY RUN	5/27/69	0.75	17	4.8	4.4	1440	5848	613	2481	28	111	0	22.3	700
	M39	TO LAUREL RUN	10/10/69	0.02	15	7.8	7.2	0	0	5900	637	7	1	838	2.2	1840
	M40	TO TREATMENT PLANT	10/10/69	0.02	14	3.6	2.8	6050	653	10500	1134	562	61	0	189.9	1850
	M54	TO YOUGHIOGHENY	7/7/70	1.0			4.0	100	540	775	4200	100	540	0	10.1	760
	M55	TO YOUGHIOGHENY	7/7/70	0.5			3.3	275	740	1115	3000	75	200	0	22.4	1090
	M56*	TO YOUGHIOGHENY	11/21/67	0.56	13	5.0		130	390	1352	4100	59	180	27		850
	M57	TO GALLEY RUN	7/7/70	0.15			3.2	500	400	625	500	63	50	0	11.2	725
	M58	TO GALLEY RUN	7/7/70	0.2			3.7	350	380	775	840	25	30	0	5.6	850
	M59	TO GALLEY RUN	7/7/70	0.1			3.2	500	270	750	400	99	54	0	6.7	725
	M77*	TO YOUGHIOGHENY	5/1/65	1.26	14	3.7		170	1160	740	5000	35	240	0		430
B. SEWICKLEY CREEK	M05	TO BUFFALO RUN	6/ 9/69	1.1	17	3.2	3.1	1110	6604	725	4314	115	682	0	105.3	820
	M06	TO WILSON RUN	6/7/69	2.13	16	6.4	6.0	10	115	725	8337	56	643	60	22.3	1320
	M07	TO WILSON RUN	6/7/69	0.55	23	7.0	7.6	0	0	569	1576	9	26	154	1	640
	M08	TO BOYER RUN	6/7/69	0.15	14.5	5.5	3.5	240	194	575	466	51	41	0	22	700
	M09	TO BOYER RUN	6/7/69	1.32	15	6.8	6.6	0	0	394	2807	36	260	198	12	680
	M10	TO SEWICKLEY CREEK	6/5/69	2.41	20	6.6	6.6	5	65	538	6987	121	1575	236	12	900
	M11	TO SEWICKLEY CREEK	6/5/69	0.39	22	3.2	3.1	780	1643	1000	2106	66	139	0	12	1100
	M12	TO SEWICKLEY CREEK	6/5/69	7.09	14.5	6.1	6.2	300	11,486	700	26,800	156	5962	80	123	1320
	M13	TO SEWICKLEY CREEK	6/4/69	6.33	17	5.3	5.0	320	10,938	1450	49,561	88	2985	0	67	600
	M14	TO SEWICKLEY CREEK	6/2/69	6.98	17	6.0	5.4	320	12,061	750	28,267	138	5173	0	117	950
	M15	TO SEWICKLEY CREEK	6/2/69	0.15	17	3.6	3.5	260	211	613	504	10	8	0	4.5	650
	M32	TO TRIB. OF JACKS RUN	10/8/69	2.42	14	5.4	3.6	550	7187	700	9148	96	1256	0	55.8	700
	M49	TO SEWICKLEY CREEK	10/11/69	0.02	17	4.6	4.1	700	756	1244	1334	8	8	0	2.2	300
	M50	TO SEWICKLEY CREEK	10/13/69	0.05	27	3.4	3.0	86.000	23,220	36,625	9887	1087	293	0	681.4	10300
	M51*	TO SEWICKLEY CREEK	7/28/65	0.64	19	2.9		1005	3473	1866	6450	139	480	0	840	
	M52*	TO BUFFALO RUN	7/28/65	0.005				1640	40	2000	50	610	15	0		387

MINE DISCHARGE
SAMPLING DATA

SUB-BASIN	DISCHARGE NO.	STREAM NAME	DATE	CFS	TEMP. °C	pH FIELD	pH LAB	ACIDITY mg/l	ACIDITY LBS/DAY	SULFATE mg/l	SULFATE LBS/DAY	TOTAL IRON mg/l	TOTAL IRON LBS/DAY	ALKALINITY mg/l	FERROUS IRON mg/l	TOTAL HARDNESS mg/l
C. JACOBS CREEK	M62*	TO STAUFFER RUN	3/7/68	0.06	13	2.4		1710	685	2340	760	312	107	0		690
	M63*	TO STAUFFER RUN	3/7/68	0.03	13	2.5		1200	216	1716	280	186	34	0		740
D. INDIAN CREEK	M21	FLUME DISCHARGE	5/24/69	1.68	15	2.9	2.7	900	8165	1088	9866	115	1041	0	65.9	410
	M22	TO CHAMPION CREEK	5/22/69	0.10	19	3.1	2.5	7500	4050	1000	540	118	63	0	22.8	1900
	M23	TO FLUME	5/22/69	0.003	25	2.7	2.6	3900	72	2175	40	1225	23	0	751.2	700
	M24	TO FLUME	5/22/69	0.01	19	2.8	2.6	300	16	300	16	975	53	0	513.8	400
	M41	TO INDIAN CREEK	10/10/69	0.18	13	5.6	4.1	75	73	256	249	31	30	0	22.3	150
	M42	TO INDIAN CREEK	10/10/69	0.001	15	4.3	3.1	190	-	337	-	145	-	0	11.2	250
	M43	TO CHAMPION CREEK	10/10/69	0.01	14	3.7	3.0	1100	59	1675	90	132	7	0	72.6	850
	M46	TO CHAMPION CREEK	10/11/69	0.04	15	4.4	3.7	320	69	637	136	22	5	0	16.8	750
	M47	TO CHAMPION CREEK	10/11/69	0.18	13	3.3	2.8	1000	972	987	959	95	92	0	22.3	750
	M48	TO CHAMPION CREEK	10/11/69	0.05	13	3.3	3.9	80	21	525	142	20	5	0	16.8	100
	M60*	TO L. CHAMPION CREEK	9/66	0.01				620	20	822	30	151	5	0		442
	M61*	TO TRIB OF POPLAR RUN	9/27/66	.02	14	3.0		1228	142	1586	170	179	20	0		435
E. CASSELMAN RIVER	M25	TO BUFFALO CREEK	6/16/69	0.86	17	3.6	3.0	110	511	131	610	50	232	0	44.7	46
	M26	TO CASSELMAN	5/8/69	1.33	18	3.2	3.0	1525	11,364	2570	19116	400	2975	0	185	2500
	M30	TO COAL RUN	5/8/69	0.15	16	2.9	2.9	1725	1407	2650	2140	105	368	0	66	3500
	M31	TO COAL RUN	6/16/69	0.08	15	2.6	2.9	3050	1318	2500	1080	425	183	0	37.5	840
	M33	TO CASSELMAN	10/9/69	0.46	14	3.5	3.0	1950	4844	1831	4548	443	1098	0	89.4	1000
	M34	TO BUFFALO CREEK	10/9/69	0.18	13	5.8	3.5	100	97	787	765	79	76	0	11.2	900
	M35	POND	10/9/69	POND	19	3.6	3.1	550		375		81		0	11.2	360
	M36	TO BUFFALO CREEK	10/9/69	0.02	17	4.4	4.2	120	13	362	39	130	14	0	89.4	600
	M37	TO COXES CREEK	10/9/69	0.09	18	3.4	2.7	2000	972	1831	890	235	114	0	61.4	1000
	M38	TO COXES CREEK	10/19/69	0.04	16	3.4	2.9	500	108	437	94	102	22	0	89.4	350
	M67*	TO COXES CREEK	6/66	0.05				205	49	600	160	34	8	0		264
	M69*	TO WILSON CREEK	7/19/66	0.12	16	2.8		480	315	546	350	59	39	0		128
	M70*	TO WILSON CREEK	5/24/66	0.73	15	3.3		248	970	88	350	3	11	0		16
	M71*	TO COXES CREEK	6/66	0.10				100	53	430	230	28	15	0		324
	M72	TO COXES CREEK	7/7/70	0.3			6.5	3	5	450	730	26	42	0	6	332
	M73	TO BUFFALO CREEK	7/7/70	0.3			5.2	85	138	1200	1950	25	4	0	5.6	1270
	M74	TO BUFFALO CREEK	7/7/70	0.4			3.4	1900	4100	1950	4200	2.5	490	0	11.2	1240
	M75	TO BUFFALO CREEK	7/7/70	1.0			3.6	250	1350	725	3900	72	390	0	4.5	800
	M76	TO BUFFALO CREEK	8/11/66	1.22	17	5.3		190	1250	423	2300	67	440	0		370

Fin Fish Data

Youghiogheny River (819D) Management Report, Section 5
(1994)
Commonwealth of Pennsylvania
Fish and Boat Commission

Table 2. Species composition using gill nets and night electrofishing. Youghiogheny River, Pennsylvania, Section 05; sampled July 1992 and May 1993.

		Site		
		1992		1993
Common Name	Scientific Name	0501	0502	0501
Smallmouth bass	*Micropterus dolomieui*	X	X	X
Spotted bass	*Micropterus punctulatus*	X	X	X
Largemouth bass	*Micropterus salmoides*			X
Rock bass	*Ambloplites rupestris*	X	X	X
White bass	*Morone chrysops*	X		
Walleye	*Stizostedion vitreum*		X	
Sauger	*Stizostedion canadense*	X	X	
Black crappie	*Pomoxis nigromaculatus*	X		X
Bluegill	*Lepomis macrochirus*		X	X
Pumpkinseed	*Lepomis gibbosus*		X	
Tiger muskellunge	*Esox masquinongy*		X	
Channel catfish	*Ictalurus punctatus*	X	X	X
Brown bullhead	*Ictalurus nebulosus*			X
Freshwater drum	*Aplodinotus grunniens*	X		X
Common carp	*Cyprinus carpio*	X	X	X
Northern hog sucker	*Hypentelium nigricans*	X		
Golden redhorse	*Maxostoma erythrurum*	X	X	X
Shorthead redhorse	*Maxostoma macrolepidatum*	X		
Silver redhorse	*Maxostoma anisurum*	X		
Gizzard shad	*Dorsoma cepedianum*	X	X	
Emerald shiner	*Notropis atherinoides*	X		
Logperch	*Percina caprodes*	X	X	
Hybrid sunfish	*Lepomis spp. x Lepomis spp.*			X
Mooneye [1]	*Hiodon tergisus*			X
Total Species		16	13	13

[1] Captured with a rod and reel, July 1993.

Table 3. Length frequency, total catch, and catch per unit effort (CPUE, hour) for species captured by gill nets, Youghiogheny River, Pennsylvania, Section 05 (Sites 01 and 02 combined); July 1992.

	Species				
Length (mm)	Common carp	Channel catfish	Rock bass	Walleye/ sauger	Smallmouth bass
150 - 174	---	---	1	---	---
175 - 199	---	---	2	---	1
200 - 224	---	---	---	---	---
225 - 249	---	---	---	---	---
250 - 274	---	---	---	1	---
275 - 299	---	---	---	---	---
300 - 324	---	2	---	---	1
325 - 349	1	5	---	---	---
350 - 374	1	4	---	1	---
375 - 399	1	3	---	---	---
400 - 424	2	1	---	---	---
425 - 449	3	2	---	1	---
450 - 474	6	3	---	---	---
475 - 499	5	---	---	---	---
500 - 524	---	---	---	---	---
525 - 549	2	---	---	---	---
Total catch	21	20	3	3	2
CPUE	0.10	0.10	0.01	0.01	0.01

Table 4. Length frequency, total catch, and catch per unit effort (CPUE, hour) for species captured by night electrofishing, Youghiogheny River, Pennsylvania, Section 05 (Sites 01 and 02 combined); July 1992.

	Species				
Length (mm)	Channel catfish	Rock bass	Sauger	Smallmouth bass	Spotted bass
50 - 74	---	1	---	---	---
75 - 99	---	5	---	2	---
100 - 124	---	4	---	25	1
125 - 149	---	6	---	15	2
150 - 174	---	8	---	11	5
175 - 199	---	5	---	7	2
200 - 224	---	---	---	2	---
225 - 249	---	---	1	1	---
250 - 274	---	---	9	1	---
275 - 299	---	---	3	2	---
300 - 324	1	---	---	2	---
325 - 349	2	---	1	---	---
350 - 374	1	---	---	1	---
375 - 399	2	---	---	---	---
400 - 424	---	---	1	---	---
Total catch	6	29	15	69	10
CPUE	3.11	15.02	7.77	35.75	5.18
CPUE ≥ 300 mm				1.55	
PSD	0	---	20	31	0

Table 4. Length frequency, total catch, and catch per unit effort (CPUE, hour) for species captured by night electrofishing, Youghiogheny River, Pennsylvania, Section 05 (Sites 01 and 02 combined); July 1992.

	Species				
Length (mm)	Channel catfish	Rock bass	Sauger	Smallmouth bass	Spotted bass
50 - 74	---	1	---	---	---
75 - 99	---	5	---	2	---
100 - 124	---	4	---	25	1
125 - 149	---	6	---	15	2
150 - 174	---	8	---	11	5
175 - 199	---	5	---	7	2
200 - 224	---	---	---	2	---
225 - 249	---	---	1	1	---
250 - 274	---	---	9	1	---
275 - 299	---	---	3	2	---
300 - 324	1	---	---	2	---
325 - 349	2	---	1	---	---
350 - 374	1	---	---	1	---
375 - 399	2	---	---	---	---
400 - 424	---	---	1	---	---
Total catch	6	29	15	69	10
CPUE	3.11	15.02	7.77	35.75	5.18
CPUE ≥ 300 mm				1.55	
PSD	0	---	20	31	0

Table 5. Length frequency, total catch, and catch per unit effort (CPUE, hour) of channel catfish by gill nets; Youghiogheny River, Pennsylvania, Section 05, Sites 01 and 02; July 1992.

Length (mm)	Site 0501	Site 0502
300 - 324	2	---
325 - 349	1	4
350 - 374	1	3
375 - 399	---	3
400 - 424	---	1
425 - 449	---	2
450 - 474	---	3
Total catch	4	16
CPUE	0.04	0.16

Table 6. Length frequency, total catch, and catch per unit effort (CPUE, hour) of common carp by gill nets; Youghiogheny River, Pennsylvania, Section 05, Sites 01 and 02; July 1992.

Length (mm)	Site 0501	Site 0502
325 - 349	---	1
350 - 374	1	---
375 - 399	---	1
400 - 424	1	1
425 - 449	---	3
450 - 474	2	4
475 - 499	2	3
500 - 524	---	---
525 - 549	1	1
Total catch	7	14
CPUE	0.07	0.14

Table 7. Length frequency, total catch, and catch per unit effort (CPUE, hour) of walleye and sauger by gill nets; Youghiogheny River, Pennsylvania, Section 05, Sites 01 and 02; July 1992.

Length (mm)	Site 0501	Site 0502
250 - 274	---	1
350 - 374	1	---
425 - 449	---	1
Total catch	1	2
CPUE	0.01	0.02

Table 8. Length frequency, total catch, catch per unit effort (CPUE, hour), and PSD of smallmouth bass by night electrofishing; Youghiogheny River, Pennsylvania, Section 05, Sites 01 and 02; July 1992, May 1993.

Length (mm)	1992 0501	1992 0502	1993 0501
75 - 99	1	1	---
100 - 124	4	21	13
125 - 149	3	12	12
150 - 174	2	9	8
175 - 199	1	6	1
200 - 224	1	1	3
225 - 249	---	1	3
250 - 274	1	---	4
275 - 299	1	1	9
300 - 324	1	1	5
325 - 349	---	---	5
350 - 374	---	1	3
375 - 399	---	---	1
Total catch	15	54	67
CPUE	16.13	54.00	88.16
CPUE ≥300 mm	1.07	2.00	18.42
PSD	25	40	42

Table 9. Length frequency, total catch, and catch per unit effort (CPUE, hour) of rock bass by night electrofishing; Youghiogheny River, Pennsylvania, Section 05, Sites 01 and 02; July 1992, May 1993.

Length (mm)	1992 0501	1992 0502	1993 0501
50 - 74	---	1	---
75 - 99	3	2	1
100 - 124	2	2	21
125 - 149	4	2	2
150 - 174	4	4	2
175 - 199	4	1	13
200 - 224	---	---	10
225 - 249	---	---	3
250 - 274	---	---	1
Total catch	17	12	53
CPUE	18.28	12.00	69.74

Table 10. Length frequency, total catch, and catch per unit effort (CPUE, hour) of spotted bass by night electrofishing; Youghiogheny River, Pennsylvania, Section 05, Sites 01 and 02; July 1992, May 1993.

Length (mm)	1992 0501	1992 0502	1993 0501
100 - 124	---	1	---
125 - 149	1	1	---
150 - 174	2	3	1
175 - 199	1	1	5
Total catch	4	6	6
CPUE	4.30	6.00	7.89

Table 11. Length frequency, total catch, and catch per unit effort (CPUE, hour) of sauger by night electrofishing; Youghiogheny River, Pennsylvania, Section 05, Sites 01 and 02; July 1992, May 1993.

Length (mm)	1992 0501	1992 0502	1993 0501
225 - 249	---	1	---
250 - 274	2	7	---
275 - 299	---	3	---
300 - 324	---	---	---
325 - 349	1	---	---
400 - 424	---	1	---
Total catch	3	12	0
CPUE	3.23	12.00	0.00

Table 12. Length frequency, total catch, and catch per unit effort (CPUE, hour) of channel catfish by night electrofishing; Youghiogheny River, Pennsylvania, Section 05, Sites 01 and 02; July 1992, May 1993.

Length (mm)	1992 0501	1992 0502	1993 0501
300 - 324	---	1	---
325 - 349	2	---	---
350 - 374	1	---	1
375 - 399	2	---	---
450 - 474	---	---	1
Total catch	5	1	2
CPUE	5.38	1.00	2.63

Table 13. Age and growth for smallmouth bass collected by night electrofishing in the Youghiogheny River (819D); July 1992.

Cohort	Num aged	Wt Mean Lgth(mm)	Wt Mean Lgth(mm)	I	II	III	IV	V	VI	VII	VIII
1992	1	111	12	111							
1991	25	135	32	91	134						
1990	6	213	121	73	159	207					
1989	7	272	248	81	126	167	250				
1988	11	313	380	76	133	186	239	300			
1987	10	322	420	76	123	164	209	264	316		
STATE AVERAGE				103	173	229	277	326	369		
Grand average total length (mm):				83	134	179	231	283	316		
Annual growth increments (mm):				83	51	45	52	52	33		
Low backcalculated value (mm):				58	93	132	168	197	257		
High backcalculated value (mm):				121	178	263	295	352	383		

GM functional linear regression Log10(weight)= -5.25 + 3.1578 Log10(length)
R=0.9931

Table 14. Age and growth for spotted bass collected by night electrofishing in the Youghiogheny River (819D); July 1992.

Cohort	Num aged	Wt Mean Lgth(mm)	Wt Mean Lgth(mm)	I	II	III	IV	V	VI	VII	VIII
1990	6	181	73	101	150	181					
AREA 8 AVERAGE				111	172	216					
Grand average total length (mm):				101	150	181					
Annual growth increments (mm):				101	49	31					
Low backcalculated value (mm):				79	136	160					
High backcalculated value (mm):				130	161	197					

GM functional linear regression Log10(weight)= -8.08 + 4.5725 Log10(length)
R=0.9625

Table 15. Age and growth for rock bass collected by night electrofishing in the Youghiogheny River (819D); July 1992.

Cohort	Num aged	Wt Mean Lgth(mm)	Wt Mean Lgth(mm)	I	II	III	IV	V	VI	VII	VIII
1991	11	109	24	64	102						
1990	4	154	77	46	101	147					
1989	0	-	-	-	-	-	-				
1988	17	194	150	53	85	122	170	192			
1987	3	206	174	50	89	125	150	188	206		
1986	3	227	229	57	105	150	184	196	216	227	
1985	2	243	271	48	79	129	167	194	217	234	243
STATE AVERAGE				63	100	138	166	187	206	229	252
Grand average total length (mm):				55	92	129	169	192	213	230	243
Annual growth increments (mm):				55	37	37	40	23	21	17	13
Low backcalculated value (mm):				38	69	101	116	165	182	212	231
High backcalculated value (mm):				71	113	170	203	214	225	244	255

GM functional linear regression Log10(weight)= -4.94 + 3.1312 Log10(length)
R=0.9919
Instantaneous rate of annual mortality (Z) = 0.1640
Annual mortality (A) = 0.1512
Annual survival (S) = 0.8488
Correlation Coefficient (R) = 0.6991

Table 16. Age and growth for sauger collected by night electrofishing in the Youghiogheny River (819D); July 1992.

Cohort	Num aged	Wt Mean Lgth(mm)	Wt Mean Lgth(mm)	I	II	III	IV	V	VI	VII	VIII
1990	20	256	106	178	233						
1989	4	278	134	165	228	264					
1988	3	369	238	196	254	315	361				
1987	1	429	656	219	267	320	383	416			
STATE AVERAGE				216	284	333	???	???			
Grand average total length (mm):				179	236	292	367	416			
Annual growth increments (mm):				179	57	54	77	49			
Low backcalculated value (mm):				140	216	254	331	416			
High backcalculated value (mm):				223	277	339	386	416			

GM functional linear regression Log10(weight)= -6.43 + 3.5833 Log10(length)
R=0.9787
Instantaneous rate of annual mortality (Z) = 0.927
Annual mortality (A) = 0.6045
Annual survival (S) = 0.3955
Correlation Coefficient (R) = 0.5689

Table 17. Stocking density, N/H, (N/A), and total number stocked for the Youghiogheny River, Pennsylvania Section 05; 1984 - 1993

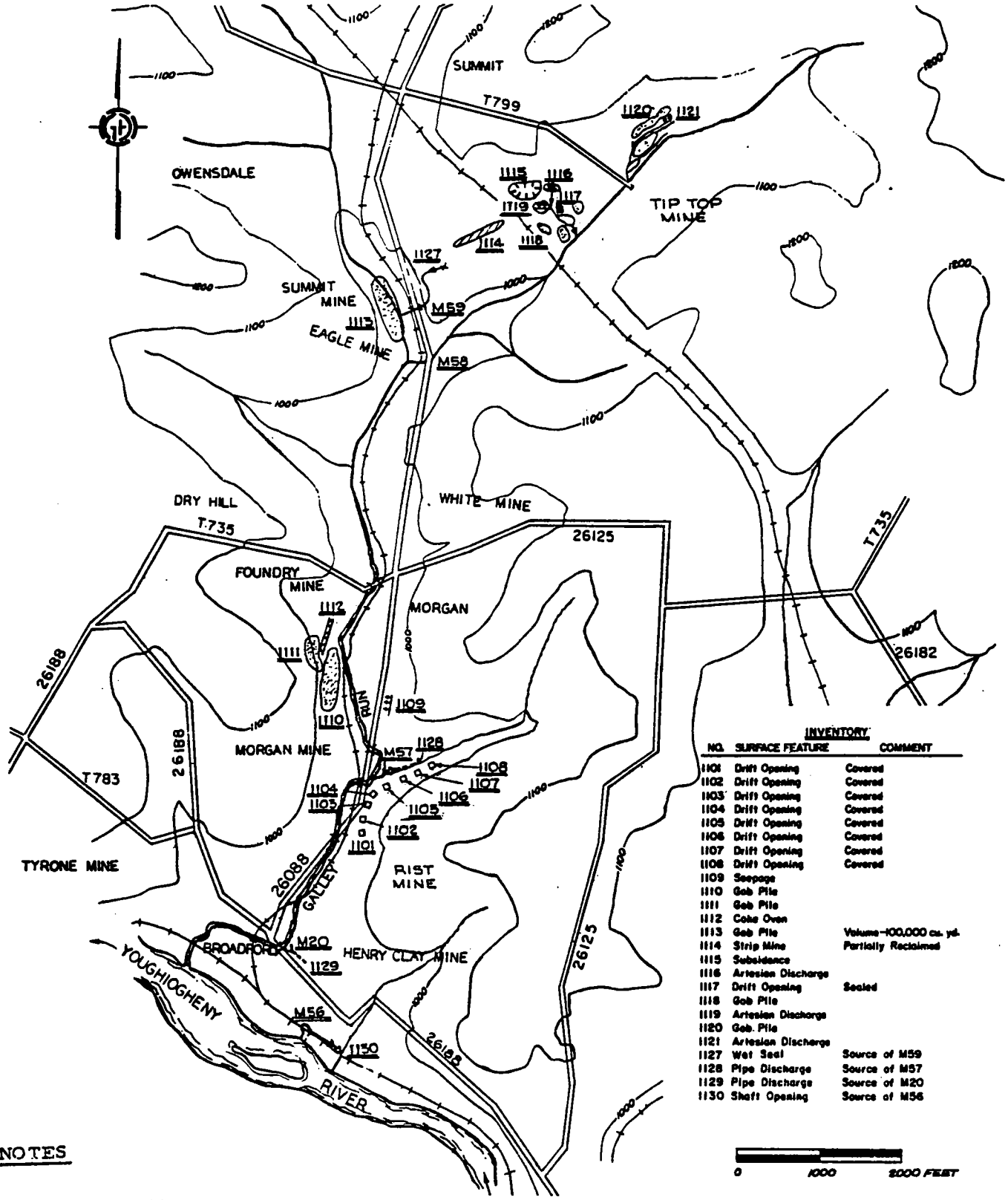
Year	Species	Size	Number/hectare	Number/acre	Number stocked
1984	SB x WB	Fingerling	14	6	11,000
	Walleye	Fingerling	21	8	16,000
1985	SB x WB	Fingerling	1	0.5	1,000
	Walleye	Fry	1,187	481	900,000
1986	Walleye	Fingerling	54	22	41,000
	Walleye	Fry	6,594	2,670	5,000,000
1987	Walleye	Fingerling	62	25	47,000
	Walleye	Fry	6,594	2,670	5,000,000
1988	SB x WB	Fingerling	7	3	5,600
	Walleye	Fingerling	12	5	9,100
1989	Walleye	Fingerling	23	9	17,750
1990	SB x WB	Fingerling	9	4	7,150
	Walleye	Fry	2,338	947	1,773,000
1991	SB x WB	Fingerling	6	2	4,300
	Walleye	Fingerling	57	23	43,550
1992	Walleye	Fry	2,338	947	1,773,000
1993	Walleye	Fingerling	50	20	37,600

1994 443,550 fry
1,301,750 fry

APPENDIX G

Mine Drainage Pollution Abatement Project
Maps

Youghiogheny River Basin
Mine Drainage Pollution Abatement Project
(1971)
Commonwealth of Pennsylvania
Department of Environmental Resources



NOTES

1. 1101 thru 1108 are believed to be short drift or auger openings advanced from strip workings and not connected with sites of proposed seals. However, follow-up sealing may be necessary.

2. Presumed sealed drift opening 1117 may require remedial work, to be undertaken after completion of other abatement work in the area.

FIGURE 11, GALLEY RUN AREA

INVENTORY MAP

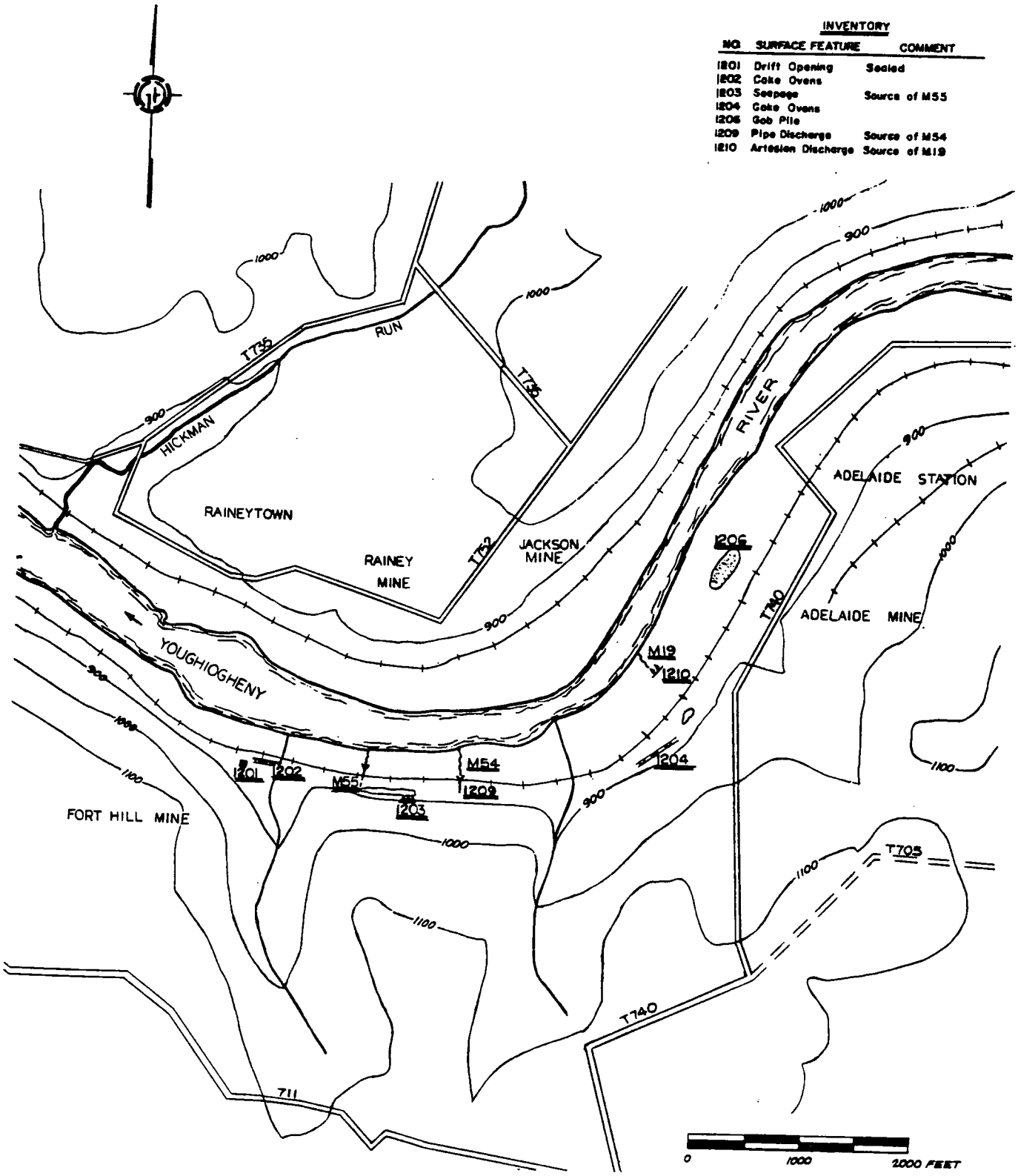


FIGURE 12, ADELAIDE STATION AREA INVENTORY MAP

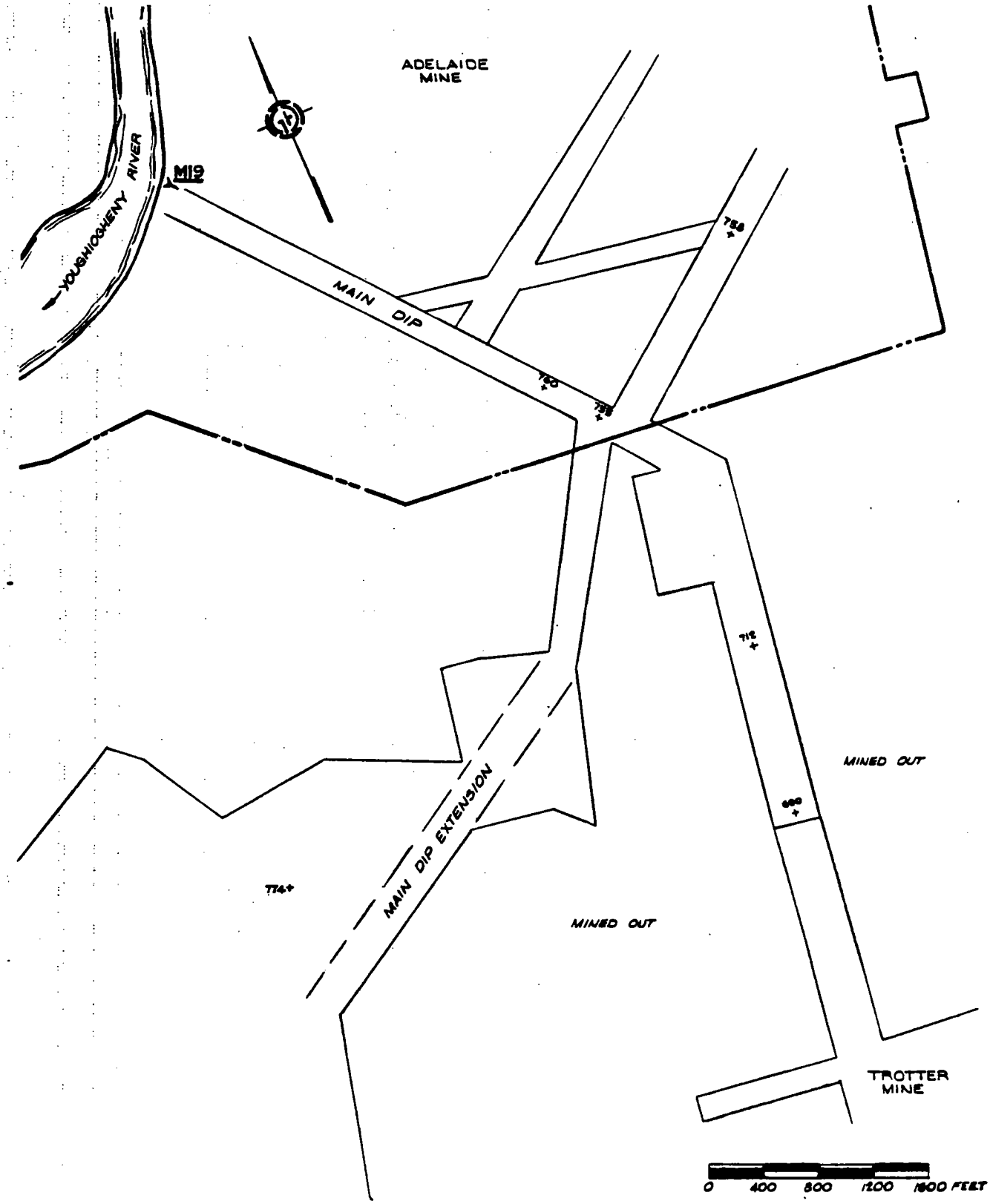


FIGURE 12-A, ADELAIDE STATION AREA
DEEP MINE MAP

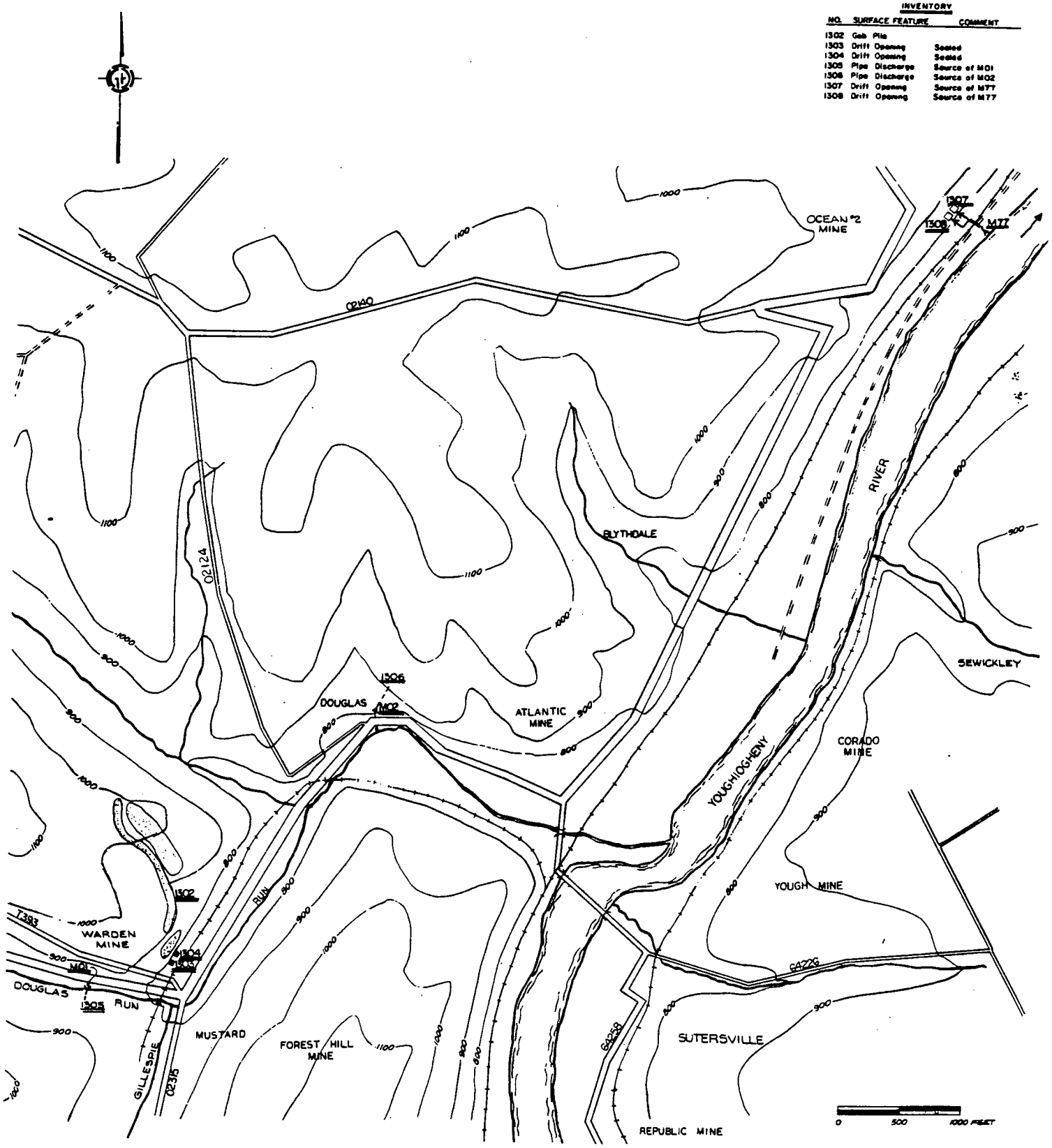


FIGURE 13, WARDEN MINE AREA
INVENTORY MAP

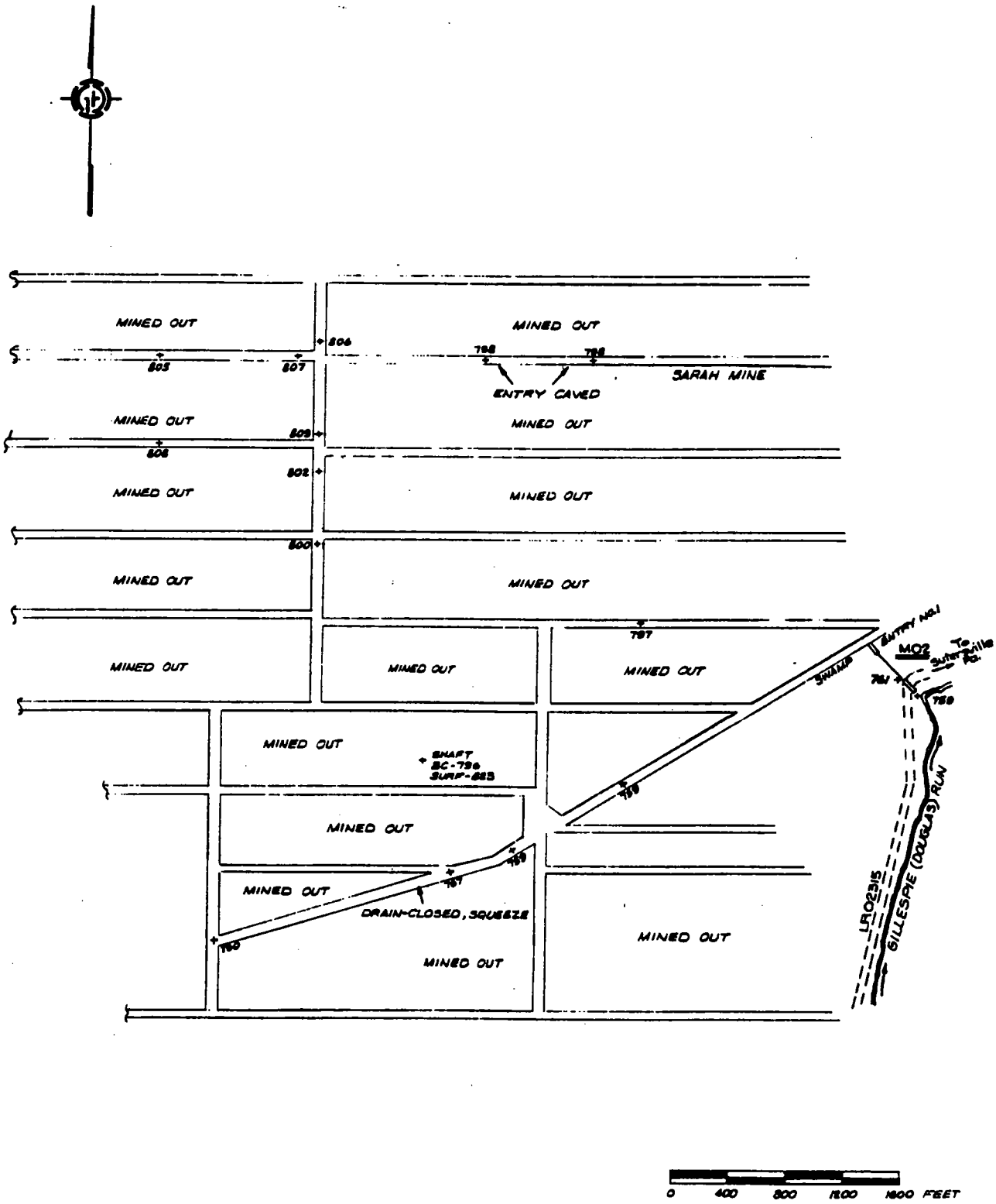


FIGURE 13-A. WARDEN MINE AREA
DEEP MINE MAP

INVENTORY

NO.	FEATURE	COMMENT
1401	Shaft	Covered
1402	Drift Opening	Open, Dry
1403	Drift Opening	Open, Dry
1404	Drift Opening	Open, Dry
1405	Seepage	
1406	Seepage	
1407	Drift Opening	Wet
1408	Borehole	Sealed, Dry
1409	Seepage	
1410	Gob Pile	
1411	Drift Opening	Open, Wet
1412	Drift Opening	Source of MO_3
1413	Pipe Discharge	Source of MO_4

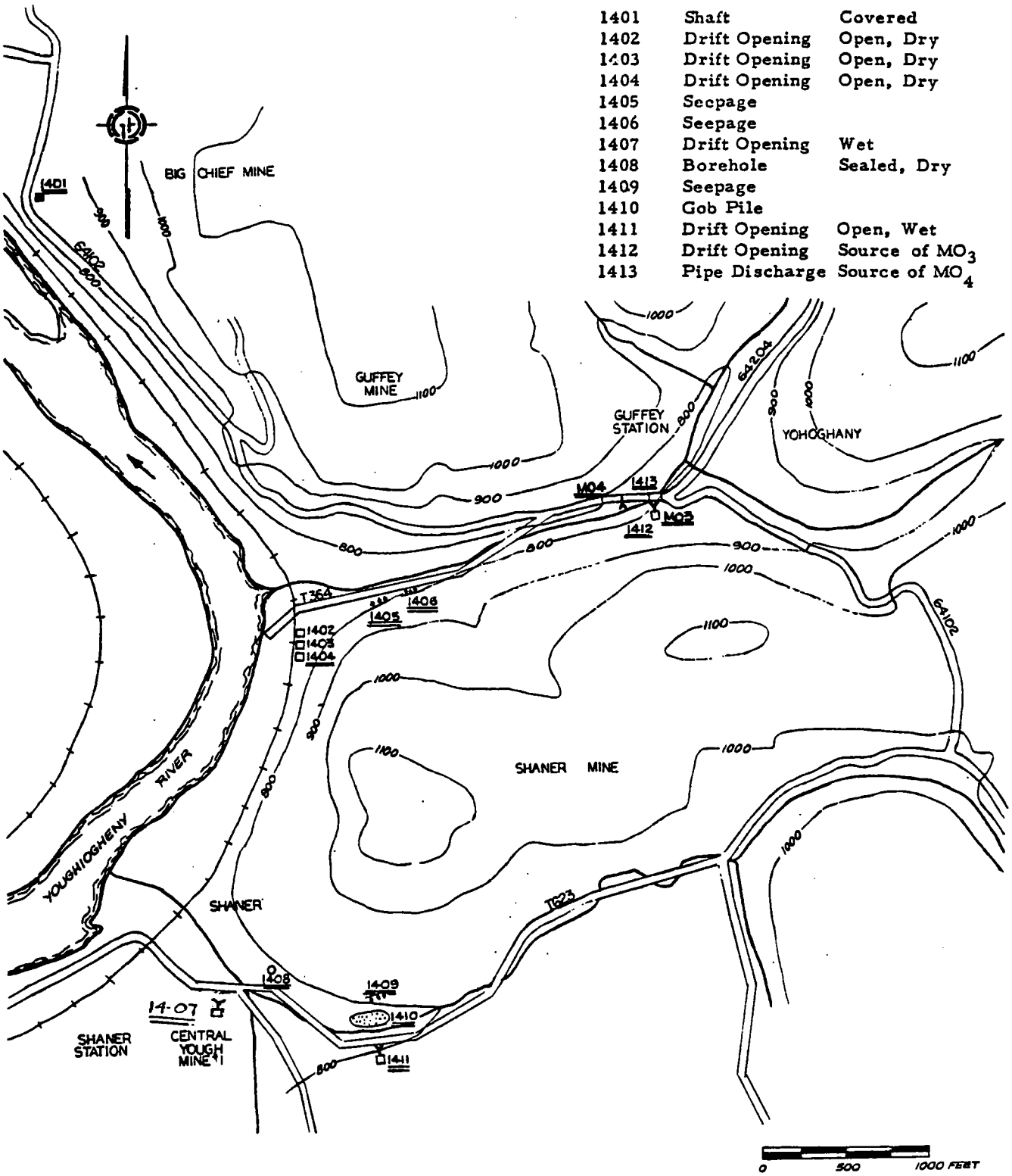


FIGURE 14, GUFFEY STATION AREA INVENTORY MAP

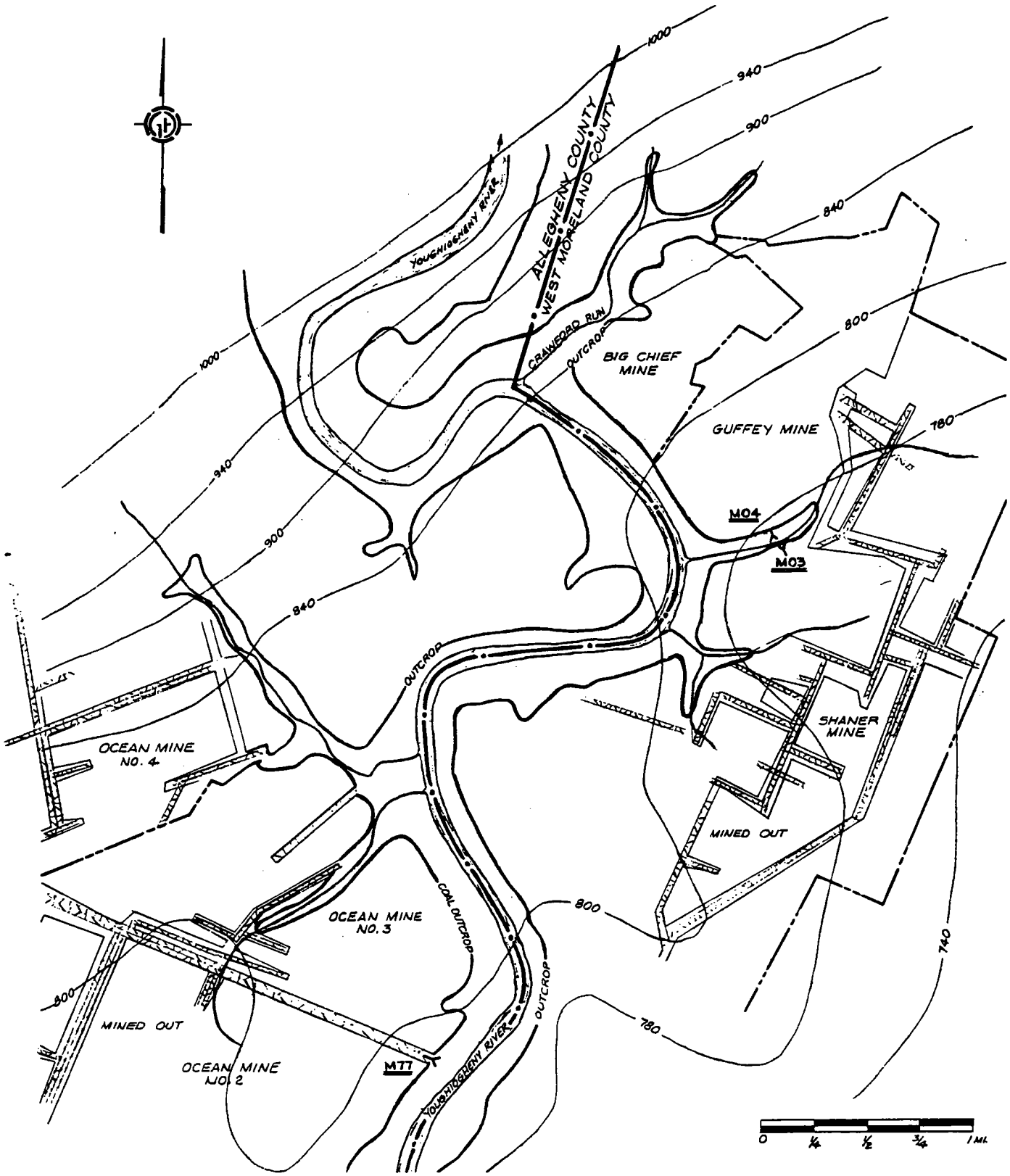
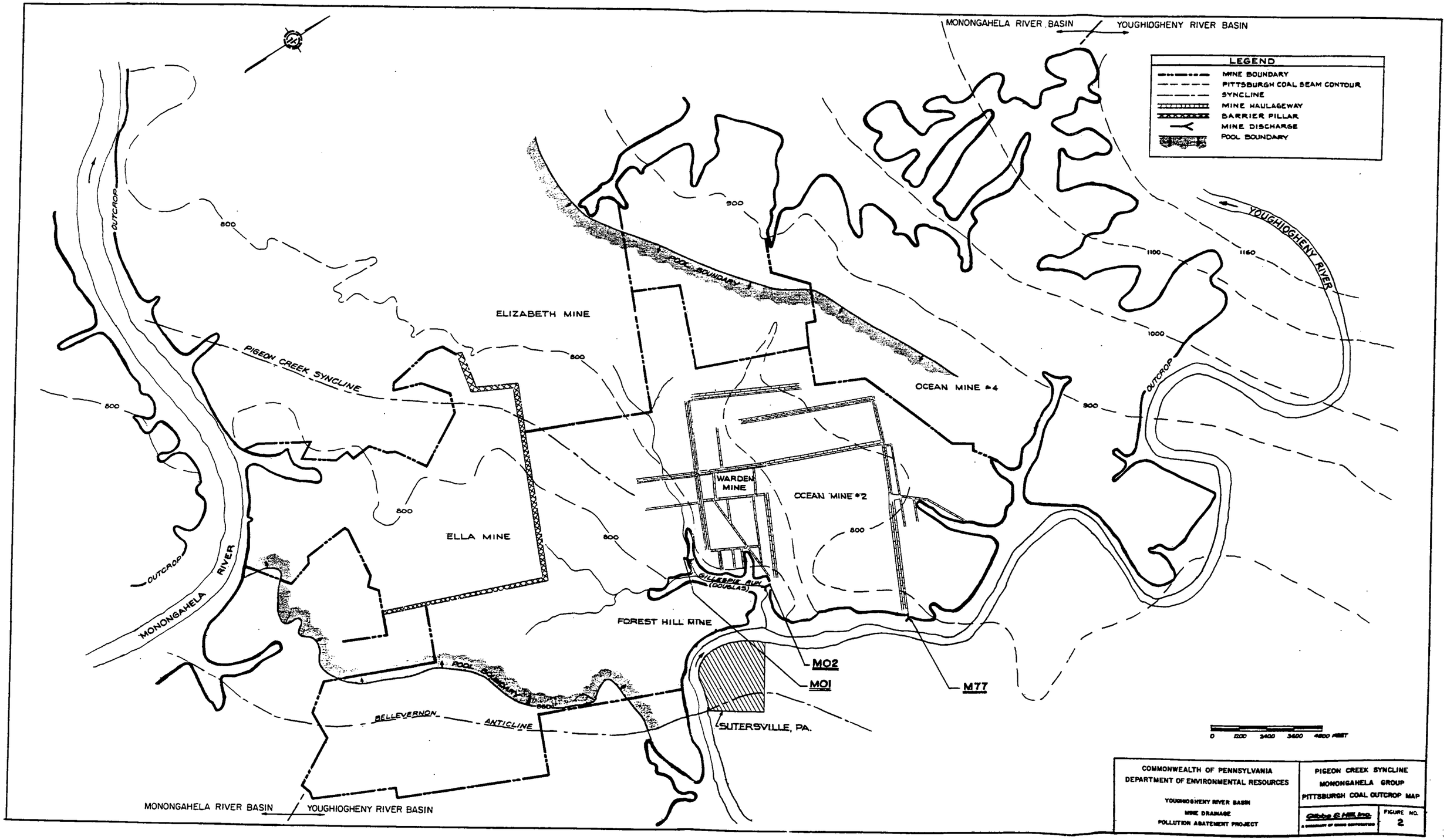
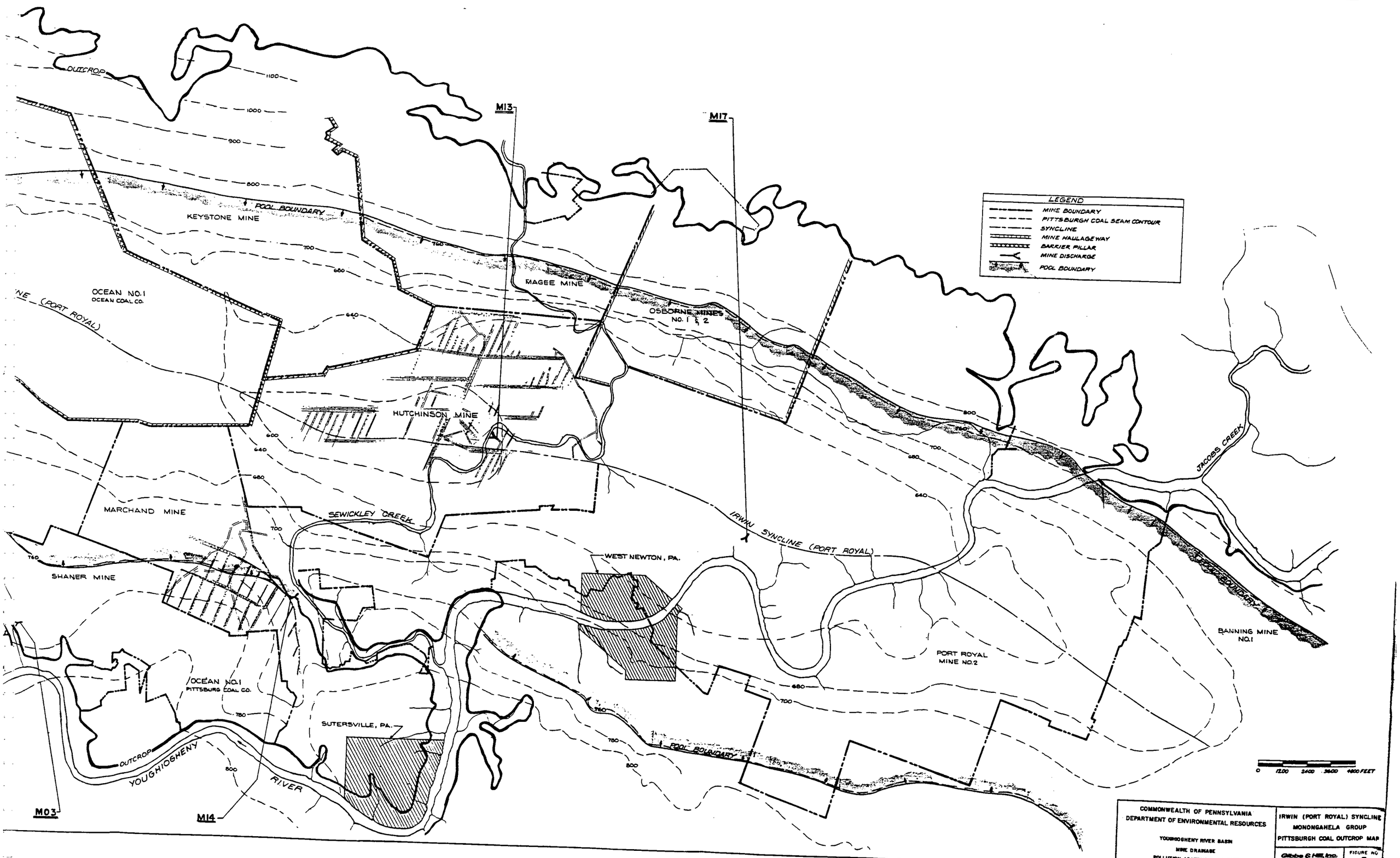


FIGURE 14-A, GUFFEY STATION AREA
DEEP MINE MAP



COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES YOUGHIOGHENY RIVER BASIN MINE DRAINAGE POLLUTION ABATEMENT PROJECT	PIGEON CREEK SYNCLINE MONONGAHELA GROUP PITTSBURGH COAL OUTCROP MAP Gibbs & Hill, Inc. A SUBSIDIARY OF DRAKE CORPORATION FIGURE NO. 2



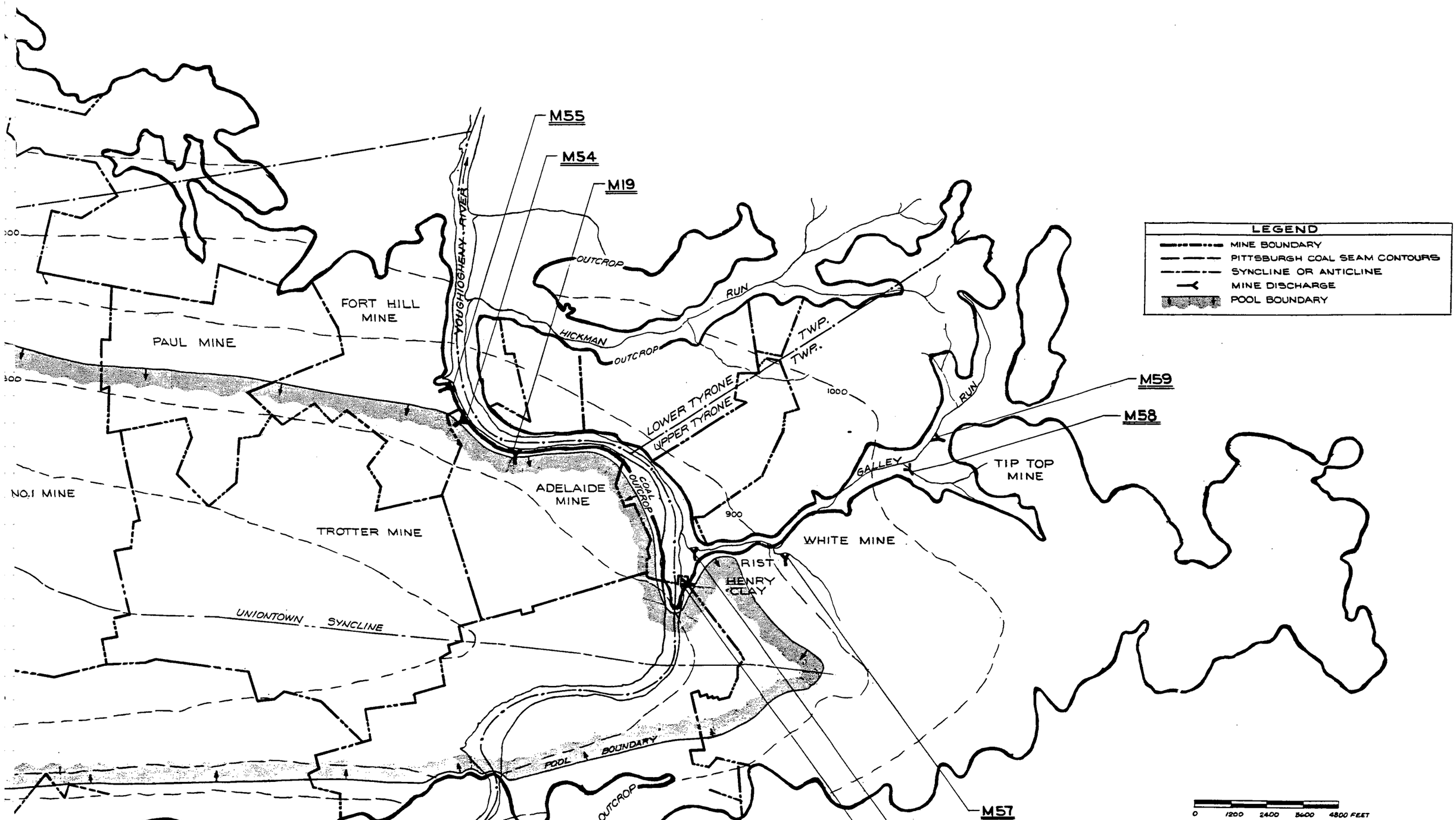
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

YOUGHIOGHENY RIVER BASIN
MINE DRAINAGE
POLLUTION ABATEMENT PROJECT

IRWIN (PORT ROYAL) SYNCLINE
MONONGAHELA GROUP
PITTSBURGH COAL OUTCROP MAP

Gibbs & Hill, Inc.
A SUBSIDIARY OF DRAVO CORPORATION

FIGURE NO
3



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

YOUGHIOGHENY RIVER BASIN
MINE DRAINAGE
POLLUTION ABATEMENT PROJECT

UNIONTOWN SYNCLINE
MONONGAHELA GROUP
PITTSBURGH COAL OUTCROP MAP

Gibbs & Hill, Inc.
A SUBSIDIARY OF DRAVO CORPORATION

FIGURE NO. 6