ALLEGHENY COUNTY

NATURAL HERITAGE INVENTORY

Prepared for:

The Allegheny County Board of Commissioners
Tom Foerster, Chairman
Pete Flaherty
Larry Dunn
Project Management:

Allegheny County Planning Department
Raymond L. Reaves, Director
Andrew M. Loza, Project Manager

Prepared by:

Western Pennsylvania Conservancy

Pittsburgh,

Pennsylvania

February 1994

This study was developed in part with financial assistance provided through the Recreational Improvement and Rehabilitation Act
Program (RIRA Grant # RIRA-TAG-8-2), as administered by the Pennsylvania Department of Community Affairs, Bureau of
Recreation and Conservation

PREFACE

The Allegheny County Natural Heritage Inventory identifies and maps Allegheny County's most significant natural areas. The study investigated plant and animal species and communities that are unique or uncommon in Allegheny County; it also explored areas important for general wildlife habitat, education and scientific study.

The inventory does not confer protection on any of the areas listed here. It is however a tool for informed and responsible decision-making. Public and private organizations may use the inventory to guide land acquisition and conservation decisions. Local municipalities and the County may use it to help with comprehensive planning, zoning and the review of development proposals. Developers, utility companies and government agencies alike may benefit from access to this environmental information prior to detailed development plans being made.

Although the inventory was conducted using a tested and proven methodology, it is best viewed as a preliminary report rather than the final word on the subject of Allegheny County's natural heritage. Further investigations could potentially uncover a few previously unidentified Natural Heritage Areas. Likewise, in-depth investigations of sites listed in this report could reveal greater natural wealth than has been documented here.

The reader should remember that many of the areas described here are privately-owned. In such cases, permission should be obtained from the property owner(s) prior to any attempt to visit these areas.

The Western Pennsylvania Conservancy was the principal investigator for the study, as well as the preparer of the report and maps. The Conservancy is a private, non-profit, natural resource conservation organization. Any questions concerning sites or updates to the inventory may be addressed to the Western Pennsylvania Conservancy, 316 Fourth Avenue, Pittsburgh, PA 15222; phone: (412)288-2777.

The study was managed by the Allegheny County Planning Department. Requests for copies of the inventory can be addressed to the Allegheny County Planning Department, 441 Smithfield Street, Pittsburgh, PA 15222-2219.

ACKNOWLEDGMENTS

Financial assistance was provided by the Pennsylvania Chapter of The Nature Conservancy, the Western Pennsylvania Conservancy, the Pennsylvania Department of Community Affairs and the County of Allegheny.

Individuals representing several agencies and organizations that contributed valuable information and time include Dick Belding, Pennsylvania Game Commission; Doug France, Allegheny County Conservation District; and John Doyle, Allegheny County Department of Parks, Recreation, and Conservation at South Park. Special thanks to the staff of the Allegheny County Planning Department for the production of graphics for the report and overall cooperation and assistance with the inventory; Kathy Mandrell and the staff at the U.S.D.A. Agricultural Stabilization and Conservation Service for their assistance and use of aerial photographs; Gerald Sides and Steve Robbins for their aerial reconnaissance skills; Roy Kraynyk for the use of his boat and time on the Allegheny River; the U.S.D.A. Soil Conservation Service for a copy of the Allegheny County Soil Survey; the many municipal secretaries and staff that assisted in attaining land ownership information; and to the many citizens and landowners of Allegheny County who volunteered information, time, and effort to the inventory and granted permission to access land. It would be impossible to name and thank all individuals that contributed, but without their help much of the inventory would not have been completed.

Lisa L. Smith
Natural Heritage Ecologist
Western Pennsylvania Conservancy

ALLEGHENY COUNTY NATURAL HERITAGE INVENTORY

TABLE OF CONTENTS

TABLE OF CONTENTS (CONT.)

LIST OF TABLES

LIST OF FIGURES

SUMMARY OF RESULTS

This section presents the results of the Natural Heritage Inventory for Allegheny County, summarized in tabular form. Table 1 lists Natural Heritage Areas in order of significance category and provides a brief description of the important features of the area. Table 2 lists Natural Heritage Areas by the municipality(ies) in which they are located. As an aid to those wishing to find an area contained within a particular municipality, the U.S.G.S. quadrangle names in which the areas are discussed in the report accompany the Natural Heritage Area names. A table of Dedicated Areas ends this section and supplies a list and description of those areas which are dedicated to the protection of ecological resources in the county. This section ends with a table that lists the sites under each natural heritage category.

Table 1: Summary of Natural Heritage Areas in order of relative county significance.

The Natural Heritage Areas that have qualified for inclusion in this report are ranked according to their significance as areas of importance to the biological diversity and ecological integrity of the county. Also included in this evaluation is the level of state and/or global significance ("S" or "G" rank) of each site. The three county significance ranks are Exceptional, High, and Notable significance. The three county ranks have been used to prioritize all identified sites and suggest the relative attention that sites should receive for the amount, degree and rate of protection (for a full explanation of these items, see Appendix I). The sites are in alphabetical order for each significance level. Designation as to type of Natural Heritage Area (NA=Natural Area, BDA=Biological Diversity Area, DA=Dedicated Area, LCA=Landscape Conservation Area, OHA=Other Heritage Area) is included as part of the site name. Refer to the "Natural Heritage Areas Classification" section of the report for explanations of these site categories.

SITE	QUADRANGLE	DESCRIPTION
EXCEPTIONAL		
Big and Little Sewickley Creek LCA	Ambridge Baden Emsworth Mars	Landscape Conservation Area that encompasses a watershed of a High Quality stream, as well as a large tract of highly diverse forest as a biological designated Diversity area.
Campmeeting Woods BDA	Ambridge	Within the Big and Little Sewickley Creek LCA, this Biological Diversity Area represents one of the largest, most contiguous forest in the county. Diversity of habitats and plant and animal species is high. A Mesic Central Forest and a Medium-Gradient Clearwater Creek Community are identified
Crouse Run Valley BDA	Glenshaw	Mesic Central Forest Community and site for a state listed plant species

SITE	QUADRANGLE	DESCRIPTION
EXCEPTIONAL (CONT.)		
Deer Creek Valley BDA	New Kensington West	Best example of Floodplain Forest in the county. Also significant examples of a mature Mesic Central Forest and Dry-Mesic Acidic Central Forest communities. High community and species diversity; unfortunately site is somewhat fragmented and disturbed
Harrison Hills BDA	Freeport	Steep slopes along the Allegheny River which provide conditions for a Dry Mesic Acidic Central Forest and Mesic Central Forest Communities, as well as a somewhat county rare Acidic Cliff community
Peters Creek Wetland BDA	Glassport	Robust Emergent Marsh Community that is one of the few examples of wetland communities in the county. Serves as habitat for a state listed plant species.
Toms Run Valley BDA	Emsworth	Forested watershed significant for its high biological diversity and significant examples of a Dry-Mesic Acidic Central Forest and Mesic Central Forest Communities
HIGH		
Allegheny River BDA	Braddock Freeport New Kensington East New Kensington West Pittsburgh East Pittsburgh West	Recovering river system that provides habitat for a number of state listed animal species. River continues to be altered by human influences including effluent discharges, point source discharges, navigational locks and dams and dredging of river bed.

SITE	QUADRANGLE	DESCRIPTION
HIGH (CONT.)		
Barking Slopes BDA	New Kensington West	One of the few steep river slopes Remaining in the county. Represents a good example of a Mesic Central Forest.
Campbell Run Valley BDA	New Kensington West	Relatively large, forested stream valley exhibiting a recovering Mesic Central forest community
Clinton Wetlands BDA	Clinton	Robust Emergent Marsh community; one of a few wetland communities in the county.
Guyasuta Run Valley BDA	Glenshaw Pittsburgh East	Small valley representing a mature Dry-Mesic Acidic Central Forest and a Northern Hardwoods Forest Community.
Hemlock Grove BDA	Glenshaw	Mesic Central Forest and site for a State listed plant species
Jacks Run Valley BDA	McKeesport	Large, forested valley with a mature Mesic Central Forest Community. Partly within the boundaries of a managed land.
Liberty Valley BDA	McKeesport	Large, contiguous, relatively unbroken forest situated along the Youghiogheny River. More investigation needed.
Lower Allegheny River Islands BDA	New Kensington West	Section of Allegheny River that represents pre-lock and dam conditions of the river. The islands represent the most natural of such features in this southwestern part of Pennsylvania and exhibit a recovering Floodplain Forest Community.

SITE	QUADRANGLE	DESCRIPTION
HIGH (CONT.)		
Millers Run BDA	Canonsburg	Mesic Central Forest Community and site for state listed plant species
Montour Run Valley LCA	Ambridge Oakdale	Large, roadless, forested valley exhibiting a number of recovering habitats
Ohio River BDA	Ambridge Emsworth	Recovering river system that provides habitat for a state listed animal species River continues to be altered by human influences including effluent discharges, point source discharges, navigational locks and dams, and dredging of river bed.
Peregrine Falcon BDA	Pittsburgh East Pittsburgh West	Urban habitat for a state and federally listed animal species.
Plum Creek Valley BDA	New Kensington West	Moderate size forested stream valley and associated tributary with mature examples of Mesic Central Forest, Dry Mesic Acidic Central Forest, and Northern Hardwoods Forest Communities. Encompasses two managed lands.
Simpson Run BDA	Murrysville	Mesic Central Forest Community and site for a state listed plant species.
Trillium Trail BDA	Glenshaw	Mature Mesic Central Forest recognized for a rich display of spring wildflowers
Willow Run Slopes BDA	Glenshaw	Habitat for a state listed plant species

SITE	QUADRANGLE	DESCRIPTION
NOTABLE		
Beechwood Farms Nature Reserve OHA	Glenshaw	Serves as both an education and scientific area with the potential for natural areas management
Beckets Run BDA	Donora	Habitat for a state listed plant species.
Blue Run Valley OHA	Glenshaw	Small section of stream and of mature forest that serve as the focus for environmental education classes.
Bullock-Pens Park OHA	Braddock	Municipal park with a small section of forested slope and bottomland that are used for education purposes
Frick Park OHA	Pittsburgh East	City park with a nature center and forested areas that are used for purposes of environmental education.
Gilfilin Woods OHA	Bridgeville	Small remnant of mature forest used by local groups for educational purposes.
Lowries Run Slopes BDA	Emsworth	Habitat for a state listed plant species.
Mayview Valley BDA	Bridgeville	Small tributary valley and adjacent slopes along Chartiers Creek. Mesic Central Forest and Dry-Mesic Acidic Central Forest exhibit a high diversity of plant species.
Millerstown Woods BDA	Curtisville	Large area of mature and recovering forest. More investigation needed.
Moon Run Slopes BDA	Ambridge Emsworth Pittsburgh West	Steep forested slopes along the Ohio River which serve as habitat for a state listed plant species. More information needed for forest community at site

SITE	QUADRANGLE	DESCRIPTION
NOTABLE (CONT.)		
North Park Lake BDA	Emsworth	Disturbed habitat for a state listed plant species.
Oakmont Floodplain BDA	New Kensington West	One of the few sections of Floodplain Forest remaining along the Allegheny River in the county.
Painter Run Slopes BDA	Bridgeville	Habitat for a state listed plant species.
Raccoon Creek Valley LCA	Clinton	Part of a larger Landscape Conservation Area that extends into Allegheny County from Beaver and Washington County where the Raccoon Creek valley Is situated. Encompasses the recovering forest in Potato Garden Run in Allegheny County.
Salamander Park OHA	Glenshaw	Small park along portion of a High Quality stream. Stream, field, and forest used for environmental education purposes.

Table 2: Summary of sites by municipality

Municipality	**Natural Heritage Area,** ***Managed Lands, Geologic Features and Fossil Localities***	**U.S.G.S. Quadrangle**	**Page**
Aleppo Township	Toms Run Valley BDA	Emsworth	127
Aspinwall Borough	Allegheny River BDA	Pittsburgh East	164
Avalon Borough	Ohio River BDA	Emsworth Pittsburgh West	127 160
Baldwin Borough	None		
Baldwin Township	None		
Bell Acres Borough	Big and Little Sewickley Creek LCA Campmeeting Woods BDA Wagner Hollow	Ambridge Ambridge Ambridge	137
Bellevue Borough	Ohio River BDA	Pittsburgh West	160
Ben Avon Borough	Ohio River BDA	Emsworth Pittsburgh West	127 160
Ben Avon Heights Borough	None		
Bethel Park Borough	South Park	Bridgeville Glassport	188 184
Blawnox Borough	Allegheny River BDA	Braddock	170
Brackenridge Borough	Allegheny River BDA	New Kensington East New Kensington West	92 95
Braddock Borough	None		
Braddock Hills Borough	None		
Bradford Woods Borough	None		
Brentwood Borough	None		

Municipality	**Natural Heritage Area**, *Managed Lands, Geologic Features and Fossil Localities*	**U.S.G.S. Quadrangle**	**Page**
Bridgeville Borough	None		
Carnegie Borough	None		
Castle Shannon Borough	None		
Chalfant Borough	None		
Cheswick Borough	Allegheny River BDA Lower Allegheny River Islands BDA	New Kensington West New Kensington West	97
Churchill Borough	Bullock-Pens Park OHA	Braddock	170
City of Clairton	None		
Collier Township	Settlers Cabin Park	Oakdale	154
Coraopolis Borough	Montour Run Valley LCA Ohio River BDA	Ambridge Ambridge	137
Crafton Borough	None		
Crescent Township	Ohio River BDA	Ambridge	137
Dormont Borough	None		
Dravosburg Borough	None		
City of Duquesne	None		
East Deer Township	Allegheny River BDA	New Kensington West	95
East McKeesport Borough	None		
East Pittsburgh Borough	None		
Edgewood Borough	None		

Municipality	**Natural Heritage Area** *Managed Lands, Geologic* Features and Fossil Localities	**U.S.G.S** ***Quadrangle***	*Page*
Edgeworth Borough	Big and Little Sewickley Creek LCA	Ambridge	137
	Campmeeting Woods BDA	Ambridge	
	Ohio River BDA	Ambridge	
	Walker Park	Ambridge	
Elizabeth Borough	None		
Elizabeth Township	Liberty Valley BDA	McKeesport	178
	Roundhill Park	Donora	202
		McKeesport	
Emsworth Borough	Ohio River BDA	Emsworth	127
Etna Borough	Allegheny River BDA	Pittsburgh East	164
Fawn Township	Millerstown Woods BDA	Curtisville	80
Findlay Township	Clinton Wetlands BDA	Clinton	150
	Raccoon Creek Valley LCA	Clinton	
Forest Hills Borough	None		
Forward Township	Beckets Run BDA	Donora	202
Fox Chapel Borough	Beechwood Farms Nature Reserve OHA	Glenshaw	115
	Campbell Run Slopes BDA	New Kens West	95
	Guyasuta Run Valley BDA	Glenshaw	
	Salamander Park OHA	Glenshaw	
	Trillium Trail	Glenshaw	
	Trillium Trail BDA	Glenshaw	
Franklin Park Borough	Big and Little Sewickley Creek LCA	Ambridge	137
		Emsworth	127
	State Game Lands 203	Ambridge	
		Emsworth	
Frazer Township	Deer Lakes Park	Curtisville	80
		New Kensington West	95

Municipality	**Natural Heritage Area**, *Managed Lands, Geologic Features and Fossil Localities*	**U.S.G.S. Quadrangle**	**Page**
Glassport Borough	None		
Glenfield Borough	Ohio River BDA	Ambridge	137
		Emsworth	127
	Toms Run Valley BDA	Emsworth	
Green Tree Borough	None		
Hampton Township	Cold Valley	Glenshaw	115
	Crouse Run Valley BDA	Glenshaw	
	Hartwood	Glenshaw	
	Hemlock Grove BDA	Glenshaw	
	North Park	Glenshaw	
	Willow Run Slopes BDA	Glenshaw	
Harmar Township	Allegheny River BDA	New Kensington West	95
	Campbell Run Slopes BDA	New Kensington West	
	Deer Creek Valley BDA	New Kensington West	
	Fourteenmile Island	New Kensington West	
	Lower Allegheny River Islands BDA	New Kensington West	
	Twelvemile Island	New Kensington West	
Harrison Township	Allegheny River BDA	Freeport	84
		New Kensigton West	95
	Harrison Hills BDA	Freeport	
	Harrison Hills Park	Freeport	
Haysville Borough	Ohio River BDA	Ambridge	137
Heidelberg Borough	None		
Homestead Borough	None		
Indiana Township	Blue Run Valley OHA	Glenshaw	115
	Campbell Run Slopes	New Kensington West	95
	Deer Creek Valley BDA	New Kensington West	
	Hartwood	Glenshaw	
Ingram Borough	None		

Municipality	**Natural Heritage Area** *Managed Lands, Geologic Features and Fossil Localities*	**U.S.G.S. Quadrangle**	**Page**
Jefferson Borough	Peters Creek Wetland BDA	Glassport	184
Kennedy Township	Moon Run Slopes BDA	Emsworth	127
		Pittsburgh West	160
	Ohio River BDA	Emsworth	
		Pittsburgh West	
Kilbuck Township	Ohio River BDA	Emsworth	127
	Toms Run Conservation Area	Emsworth	
	Toms Run Valley BDA	Emsworth	
Leet Township	Big and Little		
	Sewickley Creek LCA	Ambridge	137
	Campmeeting Woods BDA	Ambridge	
	Walker Park	Ambridge	
Leetsdale Borough	Big and Little		
	Sewickley Creek LCA	Ambridge	137
	Ohio River BDA	Ambridge	
Liberty Borough	Liberty Valley BDA	McKeesport	178
Lincoln Borough	Liberty Valley BDA	McKeesport	178
Marshall Township	Big and Little		
	Sewickley Creek LCA	Ambridge	137
		Baden	68
		Emsworth	127
		Mars	72
	State Game Lands 203	Ambridge	
		Baden	
		Emsworth	
		Mars	
Town of McCandless	Hemlock Grove BDA	Glenshaw	115
	North Park	Emsworth	127
		Glenshaw	
	North Park Lake BDA	Emsworth	
McDonald Borough	None		

Municipality	**Natural Heritage Area**, *Managed Lands, Geologic* Features and Fossil Localities	**U.S.G.S. Quadrangle**	**Page**
McKees Rocks Borough	Ohio River BDA	Pittsburgh West	160
City of McKeesport	None		
Millvale Borough	Allegheny River BDA	Pittsburgh East	164
Monroeville Borough	Boyce Park	Braddock	170
		Murrysville	174
	Simpson Run BDA	Murrysville	
Moon Township	Brush Creek Marine Zone at Sewickley Bridge	Ambridge	137
	Montour Greenway Parcel M93-1	Oakdale	154
	Montour Run Valley LCA	Ambridge	
		Oakdale	
	Moon Township Park	Oakdale	
	Ohio River BDA	Ambridge	
	Robin Hill Park	Ambridge	
Municipality of Mt. Lebanon	None		
Mt. Oliver Borough	Peregrine Falcon BDA	Pittsburgh East	164
Munhall Borough	None		
Neville Township	Ohio River BDA	Ambridge	137
		Emsworth	127
		Pittsburgh West	160
North Braddock Borough	None		
North Fayette Township	Settlers Cabin Park	Oakdale	154
North Versailles Township	Jacks Run Valley BDA	McKeesport	178

Municipality	**Natural Heritage Area**, *Managed Lands, Geologic Features and Fossil Localities*	**U.S.G.S. Quadrangle**	**Page**
O'Hara Township	Allegheny River BDA	Braddock	170
		New Kensington West	95
		Pittsburgh East	164
	Camp Guyasuta	Glenshaw	115
		Pittsburgh East	
	Campbell Run Slopes BDA	New Kensington West	
	Guyasuta Run Valley BDA	Glenshaw	
		Pittsburgh East	
Oakdale Borough	None		
Oakmont Borough	Allegheny River BDA	New Kensington West	95
	Dark Hollow Woods Park	New Kensington West	
	Lower Allegheny River Islands BDA	New Kensington West	
	Plum Creek Valley BDA	New Kensington West	
Ohio Township	Toms Run Conservation Area	Emsworth	127
	Toms Run Valley BDA	Emsworth	
Osborne Borough	Ohio River BDA	Ambridge	137
Penn Hills Township	Allegheny River BDA	Braddock	170
		Pittsburgh East	164
	Penn Hills Community Park	New Kensington West	95
	Plum Creek Valley BDA	New Kensington West	
Pennsbury Village	None		
Pine Township	North Park	Emsworth	127
		Glenshaw	115
		Mars	72
Pitcairn Borough	None		
City of Pittsburgh	Allegheny River BDA	Pittsburgh East	164
		Pittsburgh West	160
	Frick Park OHA	Pittsburgh East	
	Ohio River BDA	Pittsburgh West	
	Peregrine Falcon BDA	Pittsburgh East	
		Pittsburgh West	

Municipality	**Natural Heritage Area**, *Managed Lands, Geologic Features and Fossil Localities*	**U.S.G.S. Quadrangle**	**Page**
Pleasant Hills Borough	None		
Plum Borough	Allegheny River BDA	New Kensington West	95
	Barking Slopes BDA	New Kensington West	
	Boyce Park	Braddock	170
		Murrysville	174
	Lower Allegheny River Islands BDA	New Kensington West	
	Plum Creek Valley BDA	New Kensington West	
Port Vue Borough	None		
Rankin Borough	None		
Reserve Township	Peregrine Falcon BDA	Pittsburgh East	164
Richland Township	None		
Robinson Township	Montour Run Valley LCA	Ambridge	137
		Oakdale	154
	Moon Run Slopes BDA	Ambridge	
		Emsworth	127
		Pittsburgh West	160
	Ohio River BDA	Ambridge	
		Emsworth	
	Settlers Cabin Park	Oakdale	
Ross Township	Lowries Run Slopes BDA	Emsworth	127
Rosslyn Farms Borough	None		
Scott Township	Painter Run Slopes BDA	Bridgeville	188
Sewickley Borough	Ohio River BDA	Ambridge	137
Sewickley Heights Borough	Big and Little Sewickley Creek LCA	Ambridge	137
	Campmeeting Woods BDA	Ambridge	
	Sewickley Heights Borough Park	Ambridge	

Municipality	**Natural Heritage Area**, *Managed Lands, Geologic Features and Fossil Localities*	**U.S.G.S. Quadrangle**	**Page**
Sewickley Hills Borough	Big and Little Sewickley Creek LCA	Ambridge	137
	Campmeeting Woods BDA	Ambridge	
	Toms Run Valley BDA	Emsworth	127
Shaler Township	Allegheny River BDA	Pittsburgh East	164
	Fall Run Park	Glenshaw	115
Sharpsburg Borough	Allegheny River BDA	Pittsburgh East	164
South Fayette Township	Mayview Valley BDA	Bridgeville	188
	Millers Run BDA	Canonsburg	194
South Park Township	South Park	Bridgeville	188
		Glassport	184
South Versailles Township	None		
Springdale Borough	Allegheny River BDA	New Kensington West	95
Springdale Township	Allegheny River BDA	New Kensington West	95
Stowe Township	Moon Run Slopes BDA	Pittsburgh West	160
	Ohio River BDA	Pittsburgh West	
Swissvale Borough	None		
Tarentum Borough	Allegheny River BDA	New Kensington East	92
		New Kensington West	95
Thornburg Borough	None		
Trafford Borough	None		
Turtle Creek Borough	None		
Upper St. Clair Township	Gilfilin Woods OHA	Bridgeville	188
	Mayview Valley BDA	Bridgeville	
	Painter Run Slopes BDA	Bridgeville	

Municipality	**Natural Heritage Area** *Managed Lands, Geologic* Features and Fossil Localities	**U.S.G.S Quadrangle**	**Page**
Verona Borough	Allegheny River BDA	Braddock	170
		New Kensington West	95
	Oakmont Floodplain BDA	New Kensington West	
Versailles Borough	None		
Wall Borough	None		
West Deer Township	Deer Lakes Park	New Kensington West	95
West Elizabeth Borough	None		
West Homestead Borough	None		
West Mifflin Borough	None		
West View Borough	None		
Whitaker Borough	None		
White Oak Borough	Jacks Run Valley BDA	McKeesport	178
	White Oak Park	McKeesport	
Whitehall Borough	None		
Wilkins Township	None		
Wilkinsburg Borough	None		
Wilmerding Borough	None		

Table 3: Dedicated Areas protecting biotic resources in Allegheny County.

The objective of the Allegheny County Natural Heritage Inventory is to provide information that can be utilized in planning for the protection of the biological diversity and ecological integrity of the county. Ultimately, the preservation of such resources will depend in part upon the establishment of management plans and specific areas dedicated to the protection of these resources. A definition and description of Dedicated Areas, as used for this study, can be found in the "Natural Heritage Areas Classification" section of the report.

Presently, there are no areas in Allegheny County that are specifically dedicated to the protection of ecological systems and biological diversity. There are, however, a number of areas in the county that could be successfully managed as dedicated areas. Some of the areas with the greatest potential include: Wagner Hollow, Beechwood Farms Nature Reserve, Toms Run Conservation Area, portions of State Game Lands 203, and portions of the nine county parks. The Pennsylvania Game Commission has provisions for creating dedicated areas under the categories of natural areas and special use areas, respectively. The Allegheny County Department of Parks, Recreation, and Conservation could also adopt a conservation or natural areas designation and set aside sections of the parks, preferably those with the greatest present ecological value, as primitive areas with no facilities or upgraded trails. Numerous areas recognized in this inventory, including both public and private lands, could be forged into dedicated areas through a variety of landowner agreements, easements, special programs, or a combination of methods. Ultimately, areas set aside now will be the exemplary natural areas of the future, and if planned well and of sufficient size, will become the premier areas for biodiversity protection in the county.

Table 4: Natural Heritage Areas, Managed Lands, and Geologic Features and Fossil Localities of Allegheny County.

NATURAL AREAS

None

BIOLOGICAL DIVERSITY AREAS

Allegheny River BDA	(Special Species Habitat)
Barking Slopes BDA	(High Diversity Area)
Beckets Run BDA	(Special Species Habitat)
Campbell Run Valley BDA	(High Diversity Area)
Campmeeting Woods BDA	(High Diversity Area, Community/Ecosystem Conservation Area)
Clinton Wetlands BDA	(Community/Ecosystem Conservation Area)
Crouse Run Valley BDA	(Special Species Habitat)
Deer Creek Valley BDA	(High Diversity Area, Community/Ecosystem Conservation Area)
Guyasuta Run Valley BDA	(High Diversity Area)
Harrison Hills BDA	(High Diversity Area, Community/Ecosystem Conservation Area)
Hemlock Grove BDA	(Special Species Habitat)
Liberty Valley BDA	(High Diversity Area)
Lower Allegheny River Islands BDA	(High Diversity Area, Community/Ecosystem Conservation Area)
Lowries Run Slopes BDA	(Special Species Habitat)
Mayview Valley BDA	(High Diversity Area)
Millers Run BDA	(Special Species Habitat)
Millerstown Woods BDA	(High Diversity Area)
Moon Run Slopes BDA	(Special Species Habitat)
North Park Lake BDA	(Special Species Habitat)
Oakmont Floodplain BDA	(Community/Ecosystem Conservation Area)
Ohio River BDA	(Special Species Habitat)
Painter Run Slopes BDA	(Special Species Habitat)
Peregrine Falcon BDA	(Special Species Habitat)
Peters Creek Wetland BDA	(Special Species Habitat, Community/Ecosystem Conservation Area)
Plum Creek Valley BDA	(High Diversity Area)
Simpson Run BDA	(Special Species Habitat)
Toms Run Valley BDA	(High Diversity Area)
Trillium Trail BDA	(High Diversity Area)
Jacks Run Valley BDA	(High Diversity Area)
Willow Run Slopes	(Special Species Habitat)

DEDICATED AREAS

None

LANDSCAPE CONSERVATION AREAS

Big and Little Sewickley Creek LCA
Montour Run Valley LCA
Raccoon Creek Valley LCA

OTHER HERITAGE AREAS

Beechwood Farms Nature Reserve OHA	(Educational Area, Scientific Area)
Blue Run Valley OHA	(Educational Area)
Bullock-Pens Park OHA	(Educational Area)
Frick Park OHA	(Educational Area)
Gilfilin Woods	(Educational Area)
Salamander Park OHA	(Educational Area)

Managed Lands

Beechwood Farms Nature Reserve
Blue Run Valley
Boyce Park
Camp Guyasuta
Dark Hollow Woods Park
Deer Lakes Park
Fall Run Park
Fourteenmile Island
Frick Park
Gilfilin Woods
Harrison Hills Park
Hartwood
Montour Greenway Parcel M93-1
Moon Township Park
North Park
Penn Hills Community Park
Robin Hill Park
Roundhill Park
Salamander Park
Settlers Cabin Park
Sewickley Heights Borough Park
South Park
State Game Lands 203
Toms Run Conservation Area
Trillium Trail
Twelvemile Island
Wagner Hollow

Walker Park

Managed Lands (Cont.)

White Oak Park

Geologic Features/Fossil Localities

Brush Creek Marine Zone at Sewickley Bridge
Cold Valley

COUNTY NATURAL HERITAGE INVENTORIES

INTRODUCTION

The first steps in ensuring protection of environmentally sensitive/ecologically important areas are to identify them and determine their importance. This information can help county, state, and municipal government, the public, and business interests plan development with the preservation of these environmentally important sites in mind. The Allegheny County Natural Heritage Inventory is designed to identify and map important biotic (living) and ecological resources that make up the natural heritage of Allegheny County. The biotic resources inherited by the citizens of Allegheny County include: areas that have been left relatively undisturbed by human activity, habitats for species of special concern [species facing imperilment at a state and/or global level (i.e., endangered, threatened, etc.)], significant natural communities (assemblages of plants and animals), and areas important for general wildlife habitat, open space, education, scientific study, and recreation.

Allegheny County is located in the southwestern corner of Pennsylvania. The most prominent feature in the county is the city of Pittsburgh, the second largest city in the state, which is situated in the center of the county where the Allegheny and Monongahela Rivers meet to form the Ohio River. Because of its strategic location along the three rivers, Allegheny County was and still is, one of the major industrial counties of Pennsylvania. It is also one of the most populated counties in the state.

Although residential, commercial, and industrial development occupy the majority of the landscape, the county retains a relative abundance of natural resources including flora, fauna, and natural habitats such as forests. Since the City of Pittsburgh and its many suburbs form the urban core of the county, the more rural, open areas in the perimeter of the county tend to be where many of these natural features are situated. The more rural areas of the county that are easily accessible by urbanites are experiencing much growth and development. As a result, the remaining county natural resources are threatened largely by unguided residential, commercial, and industrial development. Other threats to the landscape and the natural resources in the county that have been and still are present include mineral extraction and timber harvesting. If the remaining natural environment and the plants and animals associated with it are to be maintained in Allegheny County, a balance between growth and the protection of natural resources must be found. This can only be accomplished by guiding development away from, or merging it with, the protection of environmentally sensitive areas and by designing and providing the measures that will protect these areas into the next century and beyond.

NATURAL HERITAGE AREAS CLASSIFICATION

The Natural Heritage Areas identified in this report have been recognized according to the classification below. Sites chosen are those which are believed to be of sufficient size and quality (i.e., the natural systems are relatively intact) to continue as viable communities into the foreseeable future.

The approach of the inventory is to identify ecologically important sites that are of county significance. These are sites which are unique or uncommon in the county, but are not necessarily uncommon in the state. State significant sites are also included in the inventory since by definition they would be county significant. For example, a 50 acre mature hemlock-northern hardwood ravine is common in many places in Pennsylvania, however, a forest community of this type and size is uncommon in Allegheny County and would, therefore, be included in the inventory.

The following classification provides definitions and examples of the five types of Natural Heritage Areas included in this report. Following the definitions of Natural Heritage Areas are explanations of Managed Lands, Geological Features and Fossil Localities in the county. The types of Natural Heritage Areas found in the report are:

- NATURAL AREAS (NA)
  - I. Pristine Natural Area
  - II. Recovering Natural Area
- BIOLOGICAL DIVERSITY AREAS (BDA)
  - I. Special Species Habitat
  - II. High Diversity Area
  - III. Community/Ecosystem Conservation Area
- DEDICATED AREAS (DA)
- LANDSCAPE CONSERVATION AREAS (LCA)
- OTHER HERITAGE AREAS (OHA)
  - I. Scientific Area
  - II. Educational Area

Definitions and examples of each Natural Heritage Area follow:

NATURAL AREAS (NA)

I. Pristine Natural Area

A site that has essentially the same ecological conditions that are believed to have existed prior to European settlement, and is large enough, and buffered enough, to support and permanently protect the natural community.

Example: A tract of virgin forest community ten or more acres in size, the surrounding landscape is only moderately disturbed and the forest community has long term viability.

II. Recovering Natural Area

An area that is relatively undisturbed, or past disturbances are essentially minor, and the landscape has largely recovered to a pristine condition.

Example: A tract of forest that, although harvested a century ago, has regenerated so that it now supports a mature forest community and its associated qualities.

BIOLOGICAL DIVERSITY AREAS (BDA)

I. Special Species Habitat

An area that includes natural or human influenced habitat that harbors one or more occurrences of plants or animals recognized as state or national species of special concern.

Example: A forested stream valley that supports a threatened plant population or a stream that provides habitat for a rare animal.

II. High Diversity Area

An area found to possess a high diversity of species of plants and animals native to the county.

Example: A relatively large tract of land that provides a variety of habitats.

III. Community/Ecosystem Conservation Area

An area that supports a rare or exemplary natural community (assemblage of plants and animals), including the highest quality and least disturbed examples of relatively common community types.

Example: A marshland that supports a wetland community found in no or few other sites in the county.

DEDICATED AREAS (DA)

A property, possibly disturbed in the past, where the owner's stated objectives are to protect and maintain the ecological integrity and biological diversity of the property largely through a hands-off management approach, with intervention only when there are demonstrable threats to the ecology of the area.

Example: A forested tract that was previously harvested, but is now under the ownership of a conservation organization that has dedicated its management to the protection of the forest community.

LANDSCAPE CONSERVATION AREAS (LCA)

A large contiguous area that is important because of its size, open space and habitats, and although including a variety of land uses, has not been heavily disturbed and thus retains much of its natural character.

Example: An entire watershed that includes several thousand acres of forest that is interspersed with agricultural lands, limited residential and commercial development, and park land.

OTHER HERITAGE AREAS (OHA)

I. Scientific Area

An area that is consistently utilized for scientific monitoring of the environment, or other natural science studies.

Example: A small stream or wetland that is regularly studied to Monitor environmental changes.

II. Educational Area

Land regularly used by educational institutions, local environmental organizations, or general public for nature study or instruction.

Example: A site that is regularly visited by school classes to study The species of plants and animals native to the county.

Managed Lands

"Managed Lands" as defined in this county natural heritage inventory are owned or leased properties that are included in the report because of their importance, or potential importance, to the overall maintenance and protection of ecological resources of the county. Managed Lands are of two types: Public properties established and managed to a large extent for natural resources, and/or those that have the potential to manage such resources in order to maintain or enhance important ecological assets in the county, and by this evaluation are deemed by the inventory to be among the most ecologically "valuable" of public properties. Examples include: state game lands, state parks, national historic sites, county or municipal park lands.

_ Private properties that are held by private organizations concerned with the management and protection of natural resources, and which upon evaluation have been deemed by this inventory to be among the most ecologically "valuable" of such properties. Examples include: private nature preserves, private environmental education centers.

Managed Lands do not necessarily include, nor are they necessarily included within, identified natural heritage areas, e.g. Natural Area, Biological Diversity Area, Landscape Conservation Area, or Other Heritage Area. However, these properties are often large in size (e.g., essentially all state game lands) and, for this and potentially for other reasons, are ecologically important in a general sense. The ecological importance and value of some Managed Lands is due to their association with an area identified for natural heritage significance, e.g., a Managed Land within the boundaries of a Natural Area or Biological Diversity Area. However, Managed Lands are legally bounded properties, and are not to be confused with areas of natural heritage importance, which are identified by their ecological significance. An important consideration is that many Managed Lands have the potential to become even more ecologically valuable if their management becomes more sensitive to biological diversity issues and protection.

Managed Lands dedicated to the protection of natural ecological systems and biological diversity are referred to as Dedicated Areas. These properties are distinct from other Managed Lands because of the ecological emphasis of the owner's management practices and goals. Dedicated Areas are among the most important natural heritage areas since plans to protect the ecological resources therein already exist. An evaluation of Dedicated Areas in the inventory was based upon the stated management criteria and existing practices of the owner/manager. A definition for "Dedicated Areas" is given earlier in this section of the report and further elaborated on in Table 3, page 19. At the present time there are no Dedicated Areas in Allegheny County.

Geologic Features and Fossil Localities

Geologic features include those areas that illustrate regional geologic processes, landforms or scenery, and are those recognized as outstanding in Pennsylvania by Geyer and Bolles (1979, 1987). Fossil localities are those recognized by Hoskins et. al. (1983). These places are not of importance to biological diversity and are therefore not considered Natural Heritage Areas. However, they are included as natural history references in the county.

NATURAL HERITAGE INVENTORY METHODS

Presently, seven county Natural Heritage Inventories have been completed for western Pennsylvania including Allegheny County. The other inventories include the Butler County Natural Heritage Inventory (Smith et al., 1991), Centre County Natural Heritage Inventory (Stack et al., 1991), Beaver County Natural Heritage Inventory (Smith, 1993), Clinton County Natural Heritage Inventory (Wagner et al., 1993), and Erie County Natural Heritage Inventory (Kline et al., in press). Methods used in this inventory are based on the previous reports, as well as those used by Anonymous (1985); Reese, G.A., et al. (1988); and Davis A.F., et al. (1990). The Allegheny County Natural Heritage Inventory proceeded in the following stages:

_ gathering existing information
_ aerial photo and map interpretation
_ aerial reconnaissance
_ ground survey
_ data analysis.

Gathering existing information

A list of the known special concern species and important natural community sites for Allegheny County was prepared from the Pennsylvania Natural Diversity Inventory (PNDI) data base (see Appendix II). Information regarding potential sites was solicited from local citizens by contacting individuals by mail. Included in the mailing was a description of the inventory and a Natural Heritage Site Recommendation Form (Appendix III) for responses. Members of local land trusts and conservancies, environmental advisory councils, and other conservation oriented citizens groups were contacted, as well as other individuals that could potentially contribute information to the inventory. Some of the professional resource people that were contacted for existing site information include the Allegheny County Conservation District, Pennsylvania Game Commission, U.S.D.A. Soil Conservation Service, and local naturalists.

General information from other sources such as soil maps, geology maps, earlier field studies, and published materials on the natural history of the county was collected to gain a better understanding of the county's natural environment.

Aerial Photo and Map Interpretation

An effective method for determining potential sites in the county was through the use of aerial photographs. The scale of the photographs used was one inch equals 660 feet. This scale allowed for fairly detailed study of the county's landscape. These photographs were made available by the Allegheny County Office of the U.S.D.A. Agriculture Stabilization and Conservation Service, Beaver, PA. Since the photographs were taken between 1987 and 1988 they were assumed to be fairly accurate representations of the present conditions of the landscape in the county. The photographs were used to compare the physical signature (characteristic appearance) of known high quality areas to those of yet unvisited areas. In this way, sites that had similar signatures to high quality areas, as well as sites that had unique signatures, could be identified as potentially significant sites. Sites that appeared to be disturbed or very common could be dismissed. Topographic maps were referenced as part of the aerial photo interpretation process. Potential site boundaries located on the photos were transcribed onto the topography maps. These photographs, as well as 1:12,000 scale photos were useful in the final stages of the inventory for determining site boundaries, as well as potential threats and disturbances that were not always obvious during ground surveys.

Aerial Reconnaissance

In order to gain the most recent knowledge of sites that were identified as potentially significant sites, aerial reconnaissance flights were performed. This methodology was particularly useful since low altitude flying was possible. For this reason, much more information was gathered for each site. Present disturbances (or disturbances occurring after aerial photos were taken) at or in the vicinity of the site, as well as boundaries for the site could be easily determined. Photographs of sites were taken during the flights for future reference.

One of the problems with the aerial reconnaissance flights performed for this project was that much of the western part of the county is included within the restricted air space of the Pittsburgh International Airport. Flights within this air space were prohibited, and therefore, the majority of the sites in the western part of the county were unable to be evaluated from the air. The use of aerial reconnaissance flights, as well as aerial photos, was particularly important in evaluating sites in which permission to field survey was not granted or was not pursued due to time constraints.

Ground Survey

Areas that were identified using the methods mentioned above were visited to evaluate the natural condition and quality of the habitat and to investigate the significance of the natural resources present. Prior to visiting a site, the ecologist contacted the land owner for permission to access the site. Site Survey Forms (Appendix IV) were completed for each site and an evaluation of the quality Of the site was made. Boundaries for each area were drawn on the U.S.G.S. topographic maps using field survey and aerial photographs

as references. Site boundaries were drawn to include both the key features of the site and additional buffer areas critical to the protection of the site.

The flora, fauna, level of disturbance, approximate age of community, and local threats were among the most important descriptors recorded for each site. Sites for some occurrences of species of special concern were visited and the condition of the habitat and the species' population were evaluated. In some instances, such as when permission to visit a site was not granted, or enough information was available from other sources, sites were not ground surveyed. In this situation, decisions for inclusion in the inventory were made based on data collected from aerial photographs, aerial reconnaissance, or previously existing information.

Data Analysis

A file was prepared for each site which included a description of its overall significance and characteristics such as its quality, size, condition, recoverability and rarity. The quality of the site was determined by examining how well it fulfilled the definition as one of the natural heritage site types described in the introduction. Each natural community and species of special concern is ranked by PNDI using factors of rarity and threat on a state-wide (state rank) and rangewide (global rank) basis (Appendix V and VI). Such a ranking gives information about the range of a species or community and provides some means of comparing resources at a broad scale, especially where official ranks are lacking (see Appendix VI for details of the ranking system). Each site was also ranked by inventory methods according to its relative significance in the county (Appendix I). Sites that were the most significant natural heritage sites for Allegheny County were selected for inclusion in the report after analyzing the data collected and through a comparison of similar types of sites.

Field data for the significant natural communities and for sites harboring state listed plant and animal species were synthesized with existing data previously generated throughout the inventory, summarized, and the locations were transcribed on to a clear polyester sheet which served as an overlay for each of the 7 1/2 minute U.S.G.S. quadrangle maps (Fig. 2).

GENERAL RECOMMENDATIONS FOR THE PROTECTION OF NATURAL HERITAGE AREAS

The inventory identifies natural heritage areas in order to promote their protection. Specific site recommendations for the maintenance of these important biotic and ecological resources are made based upon (1) the type of natural heritage site that the site is classified as; (2) the ecological characteristics of each site; (3) evidence of past or present disturbance within the site; and (4) the potential effects of the land-use activities that surround the site. Thus, these recommendations and site mapping recognize the interaction between the site's biotic resources and the natural ecosystems and/or land-use activities in proximity to the site. The general recommendations furnished below are meant to further clarify the differences between the various natural heritage areas and to provide a general framework into which specific management recommendations can be made.

Natural Heritage Areas

Natural Areas

Natural Areas are recognized as areas whose communities have flourished with little or no human disturbance, particularly recent disturbances. Their continuance as the best examples of natural communities in the county depends upon the maintenance of the undisturbed qualities. Therefore, the protection of Natural Areas requires that the disturbances associated with all land-uses including those described below be eliminated from the site and its buffer. In some cases, specific and non-invasive management may be required to maintain the qualities of the NA (e.g. removal of exotic plant species that are threatening the integrity of the natural community may be an acceptable practice, whereas, spraying for gypsy moth probably would not be considering the broad scale effects of the pesticide).

Biological Diversity Areas

Biological Diversity Areas include those sites that are recognized as supporting special species (Special Species Habitat), relatively large numbers and kinds of species (High Diversity Areas), or entire communities or ecosystems (Community/Ecosystem Conservation Areas). Occasionally these areas require an amount of human manipulation of the site in order to maintain suitable conditions for the species, group of species, or natural communities. This is particularly true in places where natural habitats have been displaced and where species are now surviving in human influenced/created areas that mimic certain natural habitats. Beyond such specific cases, however, these BDA's should remain as free from other disturbances as possible. Actions and projects impacting BDA's should take into consideration the ecological requirements of the species/community that is the feature of the area. When activities threaten to impact ecological features, the responsible agency should be contacted. If no agency exists, private groups such as

conservancies, land trusts, and watershed associations should be sought for ecological consultation and specific protection recommendations.

Dedicated Areas

Dedicated Areas are recognized because of the owner's specific intention to protect their present and potential future ecological resources. Under such protection, those sites that are not presently examples of special habitat or exemplary communities will be permitted to mature and attain qualities recognized for Natural Areas or Biological Diversity Areas. Sites that are already significant as NA's or BDA's will be allowed to continue, undisturbed, as the best examples of natural communities in the county. The management of DA's may therefore follow the recommendations furnished for NA's and BDA's and may involve some level of carefully planned intervention to maintain their significant ecological resources. Usually, management involves simply leaving the area alone to mature and recover from previous disturbance. Generally, many land-uses, including those discussed in the following section, are not compatible with DA's and should be avoided.

Landscape Conservation Areas

Landscape Conservation Areas recognize large pieces of the landscape that are of higher ecological quality than other areas of similar size. Contiguous natural communities, minimal human disturbance and often the presence of other Natural Heritage Areas within the LCA allow ecological processes to function across an entire landscape. Management requirements for LCA's are less stringent than those for either NA's, BDA's, or DA's because they encompass a variety of land uses, some which are not directly involved in the protection of specific species or communities. Whereas with NA's, BDA's, and DA's, disturbances should be evaluated in terms of direct impacts to areas; with LCA's disturbances should be considered on a broad scale in terms of fragmentation and general habitat integrity. Sustainable land-uses that are sensitive to the natural features within the LCA are essential for the long-term preservation of the natural qualities recognized by the LCA. Construction of new roads and utility corridors, non-conservation timber harvesting, clearing or disruption of large pieces of land, and other activities that divide and alter the character of the landscape should be avoided. People and human created features are often part of LCA's but should not dominate the landscape. By limiting the amount of land in intensive use (agricultural zones, residential zones, etc.) and by compressing development into already disturbed areas (villages, roads, existing ROW's, etc.), large pieces of the landscape can be maintained intact. Some LCA's are designed with aquatic resources in mind, and in those cases, a watershed boundary may be used to identify the LCA.

Other Heritage Areas

Areas containing ecological resources that involve public education or scientific study fall into the category of Other Heritage Area (OHA). These activities lend importance to places that might not otherwise be considered as unique or significant relative to other areas in the county. OHA's require that resources emphasized for study be protected from disturbances that are not within the context of the study (e.g. a stream may be studied as an aquatic habitat affected by a land-use within its watershed and will therefore, require different protection approaches). This protection should include the environment and processes necessary for its sustenance. For example, if aquatic resources are the focus of the OHA, an entire watershed may require some level of protection. If the focus is a small patch of forest, a much more compact area of protection may be appropriate. Also, the study of the resource may require management or sampling, and may alter the natural character of the site. Such management would not be appropriate within an NA, BDA, or DA, but is acceptable in an OHA.

Other Recommendations

Riverine Ecosystems

Of all ecosystems, perhaps none is so intertwined and dependent upon all parts of the landscape for its health and existence as the river ecosystem. Rivers play a key role in the continuous water cycle, the transport of minerals and nutrients from higher to lower land, as well as provide drinking water, food, transportation/commerce routes, waste removal, and energy. In addition, rivers are pivotal in shaping the physical and biological landscape of regions. Linking terrestrial and aquatic habitats, the rivers of western Pennsylvania once supported an incredible diversity of species and natural communities. However, the intensive industrialization that began in the mid to late 1800's resulted in severe degradation of water quality and habitats and continued to do so until the enactment of the Clean Water Act amendments of 1977. Further degradation of water quality as a result of growth in the watersheds has led to the present day imperilment of many of these aquatic systems.

There are two ways in which river systems receive pollution; these are "point" and "non-point" source pollution. Point source pollution is that pollution whose source can be identified at one point along the river or within the river's watershed; for example, a pipe discharging chlorine into a stream. Management of this type of pollution is fairly straight forward since it is easy to track. However, point-source pollution is acceptable, to a degree, by state and federal governments as a method of removing numerous types of wastes in urban and industrial areas. Rivers are thereby directly and deliberately polluted to some extent.

Non-point source pollution results from runoff from land-based human activities. Such pollution can not be easily detected at any single point and generally results from urban and infrastructural development, as well as farming, mining, etc.. Examples of non-point source pollution include runoff of agricultural or horticultural nutrients, suspended

sediments, septic effluent, organic compounds, petroleum hydrocarbons, heavy metals, pesticides, road deicing salts, toxic chemicals, fertilizers, and eroded soil (Guldin, 1989; Newton, 1989). Such pollution is the most difficult to track and remediate and can take place in subtle modes across large areas of a given watershed.

Disturbances that have been and still are the most threatening to river ecosystems in western Pennsylvania include industrial and municipal discharge, acid mine drainage, dredging operations, exotic species, navigational locks and dams, and development on and along the river. Industrial discharges into rivers have largely resulted from steel mills, salt works, chemical production, paper factories, oil refineries and other manufacturing operations. Thermal pollution resulting from cooling water discharges at nuclear power plants and other industrial facilities can also be included in this list. Municipal discharges that pollute rivers include unprocessed sewage that leaks from dilapidated or inadequate sewage systems, as well as treated effluent that usually contains chemical sterilizers (e.g. chlorine). Storm water runoff from roads and parking lots containing pollutants such as gasoline, oil, and road deicing chemicals also enters rivers. Fuel and oil spills due to accidents on the river and adjacent roads can also be a significant source of pollution.

Mine acid pollution results from both strip mining and deep mining and generally drains into tributary streams prior to entering a river. In western Pennsylvania, the bulk of acid mine drainage results from coal mining. Streams that are impacted by acid mine drainage characteristically have stream bottoms that take on an orange or white color which results from sulphur compounds and aluminum hydroxide that precipitate out of the polluted water. Acid mine drainage was and continues to be a major impact to water quality in western Pennsylvania including from mines long out of production.

Dredging river bottoms for commercial purposes, as well as maintaining navigational channels creates common ecological problems. As river beds are dredged and sand, gravel, and cobble are removed, turbidity of the water and siltation of the river bottom result. Turbidity and siltation interferes with the physiological functions of aquatic organisms such as fish, mussels, and insects. Dredging activity has also resulted in the transformation of many river habitats. Shallow river bottoms of cobble, sand, and gravel which serve as critical habitat for many aquatic species, are often removed. Deep, cool holes typically form as a result of dredging activity and produce silty, mucky areas of low oxygen content, which are unsuitable habitat for the aquatic organisms that depend on rapidly flowing, well oxygenated water.

Habitat degradation is thought to be responsible for the continued existence and proliferation of many exotic species in riverine systems (Allan and Flecker, 1993).The presence of exotic species in riverine ecosystems is largely the result of accidental and/or intentional introduction by humans. Since these species are often able to withstand degraded habitat, they may outcompete native flora and fauna and also impact native habitats. Carp (Cyprinus carpio) is one example of an exotic fish species in the rivers of western Pennsylvania. This fish has taken over habitat that is typically used by native species and has made conditions unsuitable for many fish and invertebrates by stirring bottom sediments during feeding, and thus increasing the turbidity of the water and

altering habitat. Another exotic species that poses a threat to native river species is the Asian clam (Corbicula fluminea), a small filter feeding mollusk that is believed to outcompete native mussel species for habitat in some places.

Among the most permanent impacts to river systems is the presence of navigational dams. Dredging of sediment from the river bottom to form deeper navigational channels accompanies dam construction and operation. The construction of locks and dams and the associated dredging activity, has transformed many rivers from free flowing streams providing numerous habitats, to a series of deep, slow moving pools. Dams on rivers cause water levels to rise and the current to slow. As a result, the natural features of the river such as floodplains, riffles, and islands, which many organisms depend on as habitat, are to a large extent damaged or destroyed. These drastic changes in the character of the river ecosystems result, ultimately, in a reduction in biological diversity.

Development activities impact river habitats such as shorelines and floodplains. Clearing floodplains for development has been a common occurrence along the rivers of western Pennsylvania, since these areas are flat and easy to access with machinery. Associated with this development is the construction of roads, asphalt parking lots, and other infrastructural components, as well as riprapping and bulkheads along the river's edge, both of which serve to control erosion. This artificial bank stabilization eliminates natural shallow water and gradually sloping shoreline habitat, and interferes with the flooding cycles that floodplain forests and wetlands depend upon. River edge habitat is also eliminated when boat docks and marinas are constructed. Since these structures accommodate boats, these are also places where gasoline and oil spillage are concentrated.

To aid in the protection of river systems, particularly those in densely populated western Pennsylvania, consideration must be given to the impacts of land-use activities within the river's watershed. Increasing water quality is one key to protecting and restoring river systems and the native animals and plants that occur within their boundaries, which will also further encourage the repopulation of native species that were previously lost. This will require maintaining high water quality standards and placing more stringent restrictions on industrial, residential, and commercial discharges along the rivers and their tributary streams. Local municipalities need to incorporate protection measures into the municipal comprehensive plans. Careful monitoring and enforcement of regulations for all activities on rivers and their tributary streams is recommended. Protection of the high quality tributary streams is important to the recovery of rivers as is clean-up of those tributaries where the water quality is poor.

Navigational dams and dredging activities are one of the most important limiting factors in the recovery of rivers in western Pennsylvania. Since locks and dams permanently alter the river, construction of new structures should be reviewed and evaluated for impacts to the river and be avoided if at all possible. In cases where the section of river where a dam is situated is no longer important for navigational activities or flood control, the dam should be removed. The sand, gravel and cobble deposits that are important components of riverine habitats are essentially finite, non-renewable resources. In light of this, commercial dredging of these materials should be suspended in

many areas. In every case when an activity that could have a potentially adverse effect on the quality of a river is proposed, ecological professionals should be involved with local governments in evaluating these activities.

Within Allegheny County there are four large rivers; the Allegheny, Monongahela, Ohio and Youghiogheny Rivers. These rivers, at one time, supported a diverse assemblage of aquatic life, including fishes, freshwater mussels (bivalve mollusks that are filter feeders with a very low tolerance for water pollutants or sediments) and plants, etc.. Since the onset of industrialization and growth of the region in the late 1800's and early 1900's, these rivers have been subject to many of the impacts mentioned in the previous paragraphs. The present day condition of the rivers has improved since the mid 1900's as a result of stricter regulations on industrial and municipal discharges and a general decrease in industrial activity along the river's shores. Activities still exist, however, that prevent these aquatic systems from recovering a significant portion of their original biological diversity. Improvement of water quality and riverine habitats is necessary if native species are to return and the river is to more closely function as an intact ecological resource. Recommendations for protecting these rivers, especially the Allegheny and Ohio, which are presently improved to the point where native species are reestablishing, should follow those given above. For a more detailed description of the Allegheny and Ohio Rivers see the Freeport and Emsworth quadrangle descriptions on pages 84 and 127, respectively.

Buffers

Buffers or buffer zones are the areas surrounding the core areas of a site and provide insulation between significant ecological qualities and the existing, or potential, negative disturbances nearby. The size of the buffer depends upon physical factors (slope, topography, and hydrology) and ecological factors (species present, disturbance regime, etc.) as well as characteristics of the buffer itself, such as uniformity, species composition, and age. Although similar sites may have similar kinds of buffers, no two buffers will be exactly alike in size or extent. Two wetlands, for instance, of exactly the same size, and in the same region, may require very different buffers, if one receives mostly ground water and the other mostly surface water, or if one supports migratory waterfowl and the other does not.

The buffer and the area being "buffered" constantly interact and affect one another. As an example, protecting a section of old growth forest surrounded by second growth forest would involve creating a buffer that would allow plant species to spread outward from the old growth section and at the same time, discourage inward colonization by weedy opportunistic species. The buffer would also protect the site from heavy winds and storms. Buffers must always be considered in the context of what they are protecting and how these zones will evolve when functioning as buffers. In the case of the old growth forest, a hiking trail through the buffer would probably not significantly change the buffer or impact the old growth forest. However, the expansion of camping facilities into the buffer could slow or prevent the build-up of humus and the reproduction of trees,

introduce invasive species and pollutants, and eventually alter the character of the buffer and ultimately decrease its effectiveness in protecting the old growth site.

The decision as to how large a buffer should be for an individual site took into account the requirements of the natural community or species habitat that were the focus of the site. Buffers were not regarded as fixed distance areas around sites and the often irregular site boundaries demonstrate that point. A fixed buffer may serve to reduce direct impacts on a site, but may not account for the connections a site has with other parts of the landscape. By either failing to protect the natural system of which the site is a part (e.g. ground water recharge zone for a spring) or by allowing other land-uses nearby (e.g. ore extraction within a rock formation supporting a bat cave), a buffer can fail to provide adequate protection to a site. In addition to considering the above referenced factors when determining buffers for Natural Heritage Area boundaries, consideration was also given to recommendations by Brown and Schaefer et al. (1987) and recommendations by the D.E.R. Bureau of Topographic and Geologic Survey to the Western Pennsylvania Conservancy on the use of buffers to protect water quality and quantity, as well as to maintain the ecological integrity of the natural community(ies) that comprise a natural heritage area.

Each Natural Heritage Area is mapped to include both the feature and a buffer area which is intended to protect the feature. The line delineating the feature, often referred to as the primary boundary, is not designated on the maps. The line that does appear for Natural Heritage Areas, referred to as the secondary boundary, includes the feature and a buffer.

OVERVIEW OF ALLEGHENY COUNTY NATURAL FEATURES
INTRODUCTION

Allegheny County is approximately 741 square miles with fourteen of those square miles covered by water. The population of Allegheny County in 1990 was 1,336,449 with 28% of that total concentrated in the City of Pittsburgh. Essentially all of the forested land in the county was previously cut, put into other uses, and has now reverted back to woodland. Many of these woodlands have matured and have been spared from another round of cutting that has occurred in many of the surrounding counties. This is due, in part to the small size or location of many of these forested areas, many of which are situated on steep slopes or in valleys that are inaccessible. Mineral extraction has been and continues to be a major land-use activity in the county. Coal, one of the most commonly mined minerals in western Pennsylvania, has been mined throughout the county. Deep mining, the most common form of extraction, involves the creation of a series of tunnels which serve as transport routes as coal is removed from large underground areas. Strip mining, on the other hand, involves removing the soil and rock that cover the desired mineral and results in a permanent alteration of the natural landscape. Both types of mining can have impacts on the hydrology of an area. Deep mining was, and still is, prevalent throughout the county, however, most of the strip mining activity appears to be concentrated in the southern and western portions of the county. Sand, gravel, and cobblestone mining has occurred throughout history in three of the county's four rivers. Dredging of the riverbottoms is the common method of extraction in this type of mining. The floodplains and bottomlands along these rivers have served as convenient places for large industry (e.g. steel mills, energy generating plants, refining plants, etc.) to be established. In addition, these areas were logical locations for the largest cities and towns in Allegheny County. As a result, some of the most unique natural lands that once existed along these rivers have been largely destroyed by development.

PHYSIOGRAPHY, GEOLOGY AND SOILS

Allegheny County is located in the Appalachian Plateaus Province, which runs in a band from the southwestern to the northeastern part of the state. The county lies in the Pittsburgh Low Plateau Section of the Province. The topography of the county is typical of plateaus in that it has flat uplands and steep sided V-shaped valleys that have been created by the downcutting action of streams as they attempt to reach the elevation of the deep, broad valleys of the Ohio, Monongahela, Allegheny, and Youghiogheny Rivers. Three of these four rivers form a junction in the center of the county, which results in a three part division of the county. The construction of navigational dams on the Ohio, Monongahela, and Allegheny has altered the character of these rivers and the adjacent terrestrial habitats significantly. Adjacent to the rivers and streams are upland areas that tend to range from broad to very narrow in size and have a rolling or undulating character. Elevations in the county range from 682 ft. at the normal pool level of the Ohio River to approximately 1400 ft. at the Allegheny-Westmoreland County line in Plum Borough.

Bedrock geology and soils are significant factors involved in the formation of natural vegetation. The bedrock underlying Allegheny County is divided into three major groupings based upon the age and composition of the rocks. They are, in chronological order, the Allegheny, Conemaugh, Monongahela, and Dunkard Groups (Pennsylvania Geologic Survey, 1980). The rocks that make up these formations were formed in the Pennsylvania Period.

The Allegheny Group, the oldest of the four, is the least common in the county and shows up in a few northern tributaries to the Allegheny River and along a short section of the Allegheny River near Tarentum. It consists of cyclic sequences of sandstone, siltstone, shale, limestone, and coal. The limestone and coal in this group are of commercial mining quality. The Conemaugh Group is at the surface throughout most of the county, especially along the four river valleys. This group is composed of the Glenshaw and Casselman Formations. It consists of repeated series of red and gray shale and siltstone and thin strata of limestone and coal. Massive sandstone lies at its base. The southern portion of the county is occupied by the Monongahela Group. This group consists of cyclic sequences of limestone, shale, sandstone, and coal. In some cases commercially important coals are present. The Dunkard Group, the youngest bedrock in the county, occupies a small area along the southern border in the vicinity of Bridgeville, Castle Shannon, and Mt. Lebanon. This group consists of the Waynesburg, Washington, and Greene Formations. Cyclic sequences of sandstone, shale, limestone, and coal including some commercial coals characterize this group.

There are ten major soil associations as recognized in the county by the U.S. Soil Conservation Service (Newbury, et al. 1981). Five of the ten associations are located in areas where the land has not been greatly altered by excavation, strip mining, or reshaping, and buildings and other urban structures do not cover the soil extensively. These soils comprise approximately 74% of the county and are found in the uplands, on poorly drained floodplains, and on steep valley slopes throughout the county.

The remaining five soil associations are comprised of the soils in areas where land has been altered by excavation, reshaping, and strip mining and where buildings and other structures cover the land. Comprising about 26% of the county, these soil associations are found mainly on floodplains, terraces, and bottomland adjacent to major streams. Two land types which are important components of these soil associations are urban land, which are areas where highly variable fill material has been placed over soils, and strip mines, which is a land type that consists of variable spoil material.

VEGETATION

Allegheny County exhibits a diversity of vegetation across its landscape. This diversity is due, in part, to the physiography and the varied bedrock and soils of the region. In addition, human activities have had a great impact on the native vegetation of the county. Clearing the land for industrial, commercial, and residential development, as well as strip mining has permanently altered the land, and the vegetation in these areas reflects this activity. Logging has significantly influenced the types of forests, and agriculture, be it

cultivation or pasture, has altered the soils and as a result has influenced the type of vegetation growing on these sites. In addition to logging, forests in Allegheny County have been impacted by other unnatural disturbances including the gypsy moth (Lymantria dispar). This exotic forest pest was accidentally introduced to Massachusetts in 1868 and has just recently arrived in Allegheny County. This insect poses a threat to forests since its huge populations occasionally defoliate thousands of acres of trees. It is expected that the action of the gypsy moth will impact certain forest communities by changing their composition. Since oaks are primary targets for the gypsy moth, a few years of defoliation of these trees could result in mortality. Mortality of the oaks, which are dominant tree species in much of Pennsylvania's woods could result in a shift in dominance of canopy species. This shift in dominance is similar to that which occurred as a result of the chestnut blight (Endothia parasitica). The chestnut blight is an introduced parasitic fungus that is responsible for the demise of the American chestnut (Castanea dentata), which was at one time a dominant species in the forests of this region. Oaks were the tree species that replaced the American chestnut in these forests. Disturbances such as those mentioned have played a major role in shaping the present forest communities and vegetation of Allegheny County.

The forests of Allegheny County have been characterized by a number of researchers and from a number of perspectives. In the early to mid 1900's, E.L. Braun studied remnants of the original forest in the region of Allegheny County. Based on her studies, she determined that Allegheny County is located within the Cumberland and Allegheny Plateaus Section of the original Mixed Mesophytic forest region (Braun, 1950). This region extends from northern Alabama to glaciated northeastern Pennsylvania. The dominant species of the climax forest in this region are the American beech (Fagus grandifolia), tulip tree (Liriodendron tulipifera), basswood (Tilia sp.), sugar maple (Acer saccharum), American chestnut, sweet buckeye (Aesculus octandra), red oak (Quercus rubra), white oak (Q. alba), and eastern hemlock (Tsuga canadensis). Allegheny County lies in the Low Hills Belt, a subdivision of the Cumberland and Allegheny Plateaus Section. Here there was a larger proportion of oak than in other regions of the original mixed mesophytic forest. Since the European settlement of the county, almost all of the original forest has been removed at one time or another. Since Braun's description of the Mixed Mesophytic forest in this region, another round Of timber harvesting has occurred and has resulted in a change in composition. A young successional stage of the Mixed Mesophytic forest type may describe what is present today.

Jennings (1927) describes the vegetation of Allegheny County in the early 1900's as being part of two associations, or plant groupings. The majority of the county is described as a White Oak Association which occurs on rolling uplands or rounded hills comprising the remnants of the Harrisburg Peneplain in southwestern Pennsylvania, at an elevation of 1200-1300 ft.. These forests are dominated by white oak, shagbark hickory (Carya ovata), red maple (Acer rubrum), red oak, and many other oak species. On more fertile moist soils, such as floodplains and lower slopes in the Ohio River valley, a Sugar Maple-Beech Climax association occurs. Dominant tree species in these forest types include sugar maple, American beech, hickories (Carya spp.), red oak, white oak, white ash (Fraxinus americana), American basswood (Tilia sp.) and a number of other less common species. Jennings also notes that this forest association is the climax forest where it is found, unless

disturbed by fire, timber harvesting, or some other highly modifying destructive disturbance, and will not be replaced by another vegetation type.

In a description of more modern composition of forests in the United States and Canada, the Society of American Foresters (1980) suggests that the forest cover type of the part of the United States where Allegheny County is located is a White Oak-Black Oak (Quercus velutina)-Northern Red Oak type. Although these three species of oak are dominant, other tree species reported common in the forests of southwestern Pennsylvania are chestnut oak (Q. prinus), tulip tree, blackgum (Nyssa sylvatica), sugar maple, red maple, white ash, green ash (Fraxinus pensylvanica), American elm (Ulmus americana), red elm (Ulmus rubra), basswood, cucumber tree (Magnolia accuminata), sweet gum (Liquidambar styraciflua), shortleaf pine (Pinus echinata), pitch pine (P. rigida), Virginia pine (P. virginiana), and loblolly pine (P. taeda). Black walnut (Juglans nigra), black cherry (Prunus serotina), American beech, and eastern hemlock may also be present. It should be mentioned that sweet gum, shortleaf pine, and loblolly pine do not occur naturally in southwestern Pennsylvania.

Another description of the vegetation of the Northeastern United States comes from Lull (1968), in which he describes the forest region of western Pennsylvania as the Oak-Tulip Tree Forest Region, and divides it into two sections. The more northerly shallow soil sections where Allegheny County is located, are dominated by white oak, red oak, and hickory species, with eastern hemlock common in the ravines and northern hardwoods such as sugar maple and hickory prevailing on some north facing slopes. The lower elevations or more southerly locations of this region have a similar oak component, but a greater dominance of tulip poplar.

K□chler (1964 a,b) presents yet another view on forest vegetation in the United States. In this case, consideration is given to the potential forest vegetation of an area that would exist today if human influences had not altered the landscape. Since a difference in concepts exists, it is difficult to compare K□chler's work to the work of others that have been mentioned, with the exception of E.L. Braun, since she used a similar approach. Nonetheless, K□chler describes the region in which Allegheny County is located as being dominated by an Appalachian Oak Forest. The predominant tree species in this forest type include white oak and red oak.

The most common forest type in Allegheny County recorded during this study is similar to that described by Jennings (1927) as the Sugar Maple-Beech Climax association. The majority of the forests which now are found on slopes and uplands are dominated by sugar maple, white oak, red oak, hickories, American beech, American basswood, and white ash. In the smaller stream valleys, northern slopes, and more protected areas, eastern hemlock becomes a common species in this forest. This forest vegetation is representative of the Mesic Central Forest community described by Smith (1983). Smith's classification of natural communities (Appendix VI) is used by the Natural Heritage Inventory. Other forest communities found in Allegheny County include a Northern-Hardwood Conifer Forest, typically found on cool, moist slopes which provide suitable conditions for eastern hemlock, maple, and birch species; a Dry Mesic Acidic

Central Forest, which is predominantly found on uplands and south facing slopes with fairly dry, acidic soils where mixed oaks and hickories dominate; and Floodplain Forests, which are situated in bottomlands along the rivers and streams where mesic, rich, alluvial soils support such species as sycamore (Platanus occidentalis), silver maple (Acer saccharinum), common cottonwood (Populus deltoides), box elder (Acer negundo), and black willow (Salix nigra). Several other natural communities are found in the county, as well. These include riverine (streams), lacustrine (large ponds & lakes), and palustrine (wetlands) communities. The riverine communities include those low, medium, and high gradient creeks and rivers throughout the county. The lacustrine communities include natural ponds which are most often created as a result of beaver activity and artificial lakes. Palustrine communities are rare throughout the county. Those that do exist are generally associated with streams that have been altered or blocked by roads and railroads. The wetland communities that have formed are generally robust emergent marshes or shrub swamps.

Overall, natural communities vary in many qualities and are extremely complex. Although they may appear very similar on the surface with respect to flora and fauna composition, each is very unique. The fact that most, if not all, of Allegheny County has been subject to some type of past disturbance such as timber harvesting, clearing for industrial, residential, or commercial development, agricultural purposes, or mineral extraction, filling, draining, or pollution from acid mine drainage resulting from deep and surface mining, also adds to the complexity of understanding the condition and description of natural communities. As a result of past disturbances, many of the natural communities in the county are in various stages of growth or recovery. This makes classifying communities difficult. Therefore, the name that has been assigned to each of the natural communities recognized in the report is based on both the present and expected future vegetation representing the community.

RESULTS BY U.S.G.S. QUADRANGLE

INTRODUCTION

Twenty three, 7.5-minute U.S.G.S. quadrangle maps cover Allegheny County (Fig. 2, page 66). These maps are arranged in numerical order according to the index depicted on Fig. 2. The Natural Heritage Areas, managed lands, and geologic features and fossil localities in Allegheny County are indicated on these topographic maps. Included as part of each Natural Heritage Area name is the abbreviated Natural Heritage Area designation (NA = Natural Area, BDA = Biological Diversity Area, DA = Dedicated Area, LCA = Landscape Conservation Area, OHA = Other Heritage Area). The Natural Heritage Areas are labeled with bold print upper case letters. Managed Lands and Geologic Features and Fossil Localities are labeled with bold upper and lower case letters. A map labeling and site mapping system has been utilized to indicate the Natural Heritage Areas on each topographic map. The labels are:

NATURAL HERITAGE AREAS

--Natural Areas. These include all categories of natural areas (pristine and recovering). Site names are followed by the "NA" designation. There are no examples of these areas identified for Allegheny County at this time.

--Biological Diversity Areas. These include special species habitats, high diversity areas and community/ecosystem conservation areas. Site names are followed by the "BDA" designation. e.g., **TOMS RUN VALLEY BDA; CROUSE RUN VALLEY BDA.**

--Dedicated Areas. These important managed areas will be designated with a "DA" following each name. There are no examples of these areas identified for Allegheny County at the present time.

--Landscape Conservation Areas. These names are followed by an "LCA" designation. e.g., **BIG AND LITTLE SEWICKLEY CREEK LCA; RACCOON CREEK LCA**.

--Other Heritage Areas. These include Scientific and Educational Areas. Site names are followed by the "OHA" designation. e.g.,

BEECHWOOD FARMS NATURE RESERVE OHA; BLUE RUN VALLEY OHA.

Managed Lands and Geologic Features and Fossil Localities

--Managed Lands such as Pennsylvania State Game Lands, and state and local parks, e.g., State Game Lands 203, Harrison Hills Park.

--Geologic Features/Fossil Localities, e.g., Cold Valley, Brush Creek Marine Zone at Sewickley Bridge.

The mapping uses the following conventions:

_ Natural Areas and Biological Diversity Areas, are mapped using solid lines (▬▬▬) which include both the site core (natural community or species of special concern habitat) and critical buffer lands surrounding the core. The Peregrine Falcon BDA is mapped using a dashed line (■ ■ ■ ■ ■ ■ ■).

_ Landscape Conservation Areas are mapped using dotted lines (●●●●●●●●●).

_ Dedicated Areas, Other Heritage Areas and Managed Lands are a dashed line (▬▬▬ ▬ ▬▬▬ ▬ ▬▬).

_ Geologic Features/Fossil Areas are indicated by a large darkened circle ●.

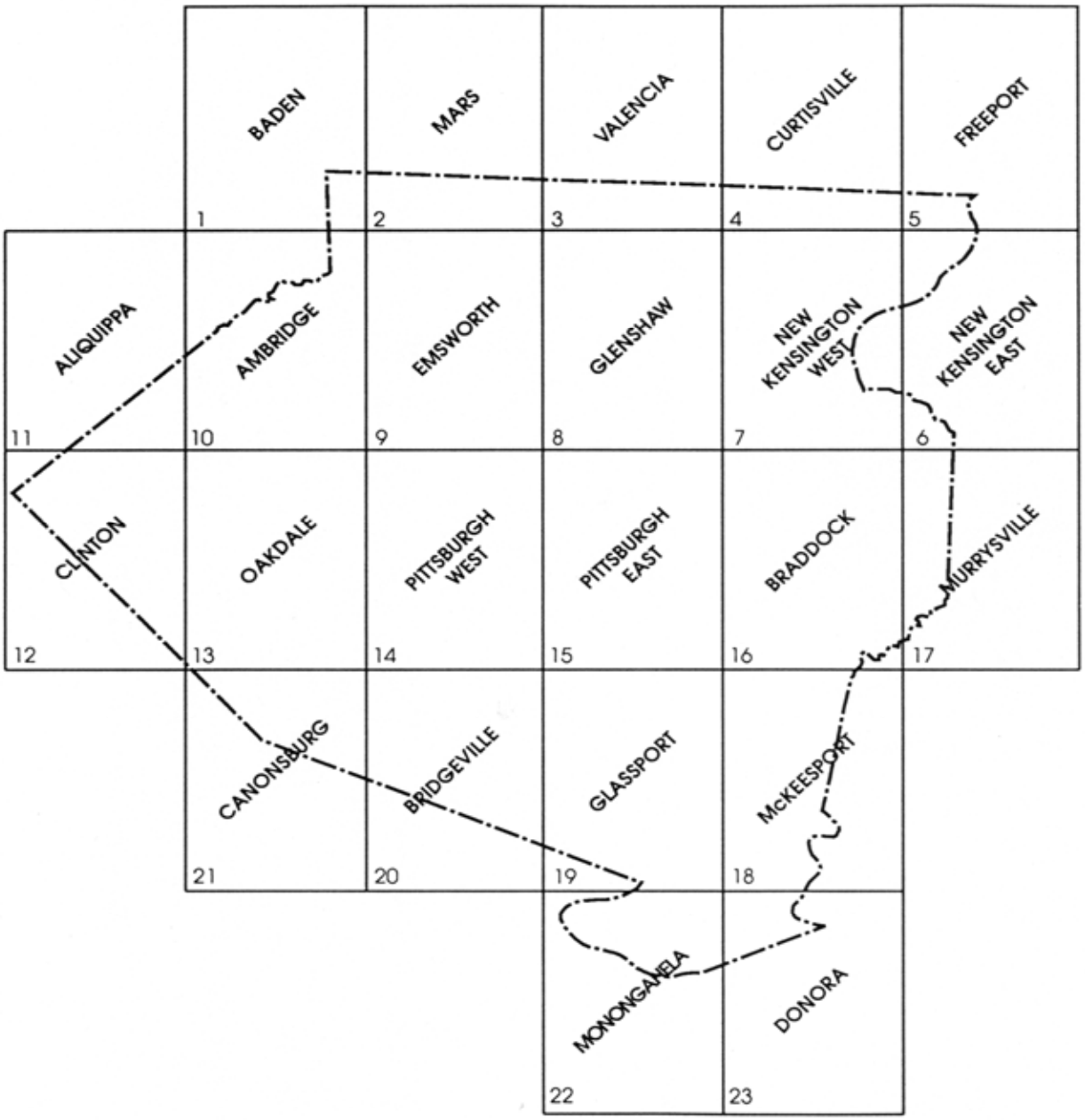
A summary table of sites precedes each map and lists the identified Natural Heritage Areas. Under each area are listed the associated natural communities or species of special concern (endangered, threatened, etc.). Managed lands, geologic features, and fossil localities are listed after the Natural Heritage Areas. Following each site name is the site's relative county significance. Table 1 summarizes Allegheny County Natural Heritage Areas by significance rank and Appendix I defines the three ranks. Listed under each Natural Heritage Area name are the natural communities and species of special concern, specified by an alphanumeric code, that have been identified within the area (see Appendix V for a list of Natural Communities recognized in Pennsylvania). Also included for each community and species is a P.N.D.I. rank, current legal status, and the

date that the community or species was last observed. The text that follows each table discusses the natural communities and includes descriptions, potential threats, and recommendations for protection.

The summary tables do not specify the names of the elements (natural communities or species of special concern); the specific communities are identified in the text, but the species of special concern are not to avoid the possible consequences that heavy visitation, collection or intentional disturbance might have to the plant or animal populations. This report does not intend to encourage visitation, however, if visitation is necessary, it must be only by permission from the landowners. Also, the report is not burdened with detailed information required to manage the species of special concern. If more information is needed, ecological professionals at the Conservancy or at the state natural resource agencies should be contacted. Hopefully, this report will encourage communication between ecological professionals at the Conservancy and within state natural resource agencies with municipalities, organizations, and individuals.

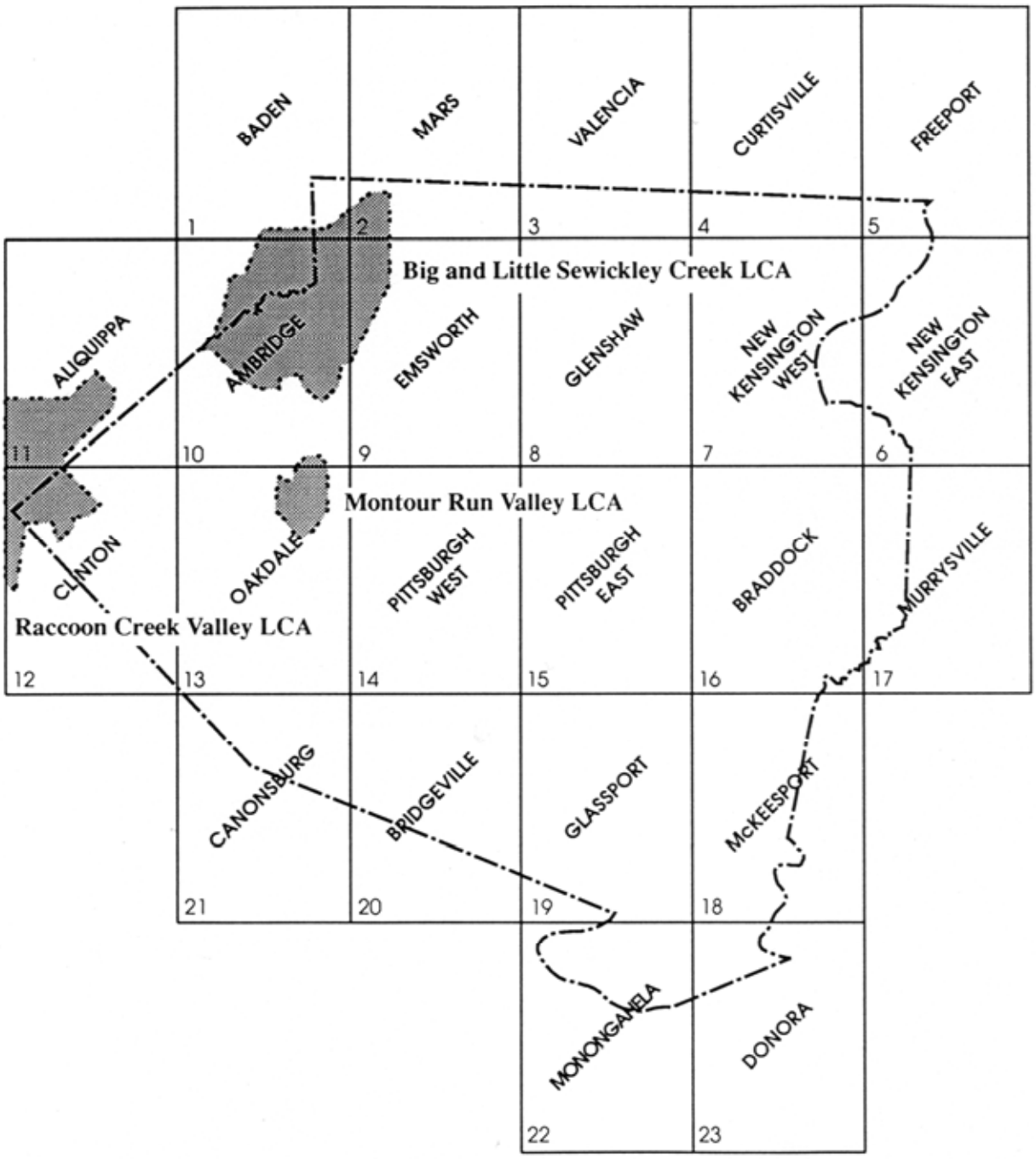
Figure 3 precedes the quadrangle maps and descriptions. This figure shows the approximate locations and extents of the LCA's contained within Allegheny County. Because LCA's stretch across a number of quadrangles, it can be difficult to envision how the sections relate to one another and to the county as a whole. Hopefully, this figure will clarify the shape, size and location of the LCA's within the county and provide a quick reference for finding other quadrangles containing the LCA's of interest.

Figure 2:
USGS quadrangle map index of Allegheny County



Source: U.S. Geologic Survey

Figure 3:
Landscape Conservation Areas in Allegheny County



Base Map Source: U.S. Geologic Survey

BADEN QUADRANGLE

	PNDI Rank		Legal Status		Last
	Global	State	Fed.	State	Seen

NATURAL HERITAGE AREAS:

BIG AND LITTLE SEWICKLEY CREEK LCA *Exceptional Significance*

NATURAL COMMUNITY:	NC001	G?	S3	N	N	6/93

MANAGED LANDS: State Game Lands 203


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
COMMONWEALTH OF PENNSYLVANIA
STATE PLANNING BOARD
TOPOGRAPHIC AND GEOLOGIC SURVEY
BADEN QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
DAUGHERTY
NEW SEWICKLEY
ECONOMY
OHIO
BIG AND LITTLE
SEWICKLEY CREEK
LCA
State Game Lands 203
SCALE 1:24000
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
ROAD CLASSIFICATION
BADEN, PA.
40080-F3-TF-024
1963
PHOTOREVISED 1990

BADEN QUADRANGLE

This quadrangle is shared by Allegheny, Beaver, and Butler Counties. Allegheny County is situated in the southeastern corner. An overall view of the northern portion of Allegheny County suggests a relatively level, rolling topography occupying the headwaters of a number of streams. This type of topography is conducive to agricultural land uses which occupy the largest percentage of land in this part of the county. A prominent feature in this quadrangle is the upper reaches of the Big Sewickley Creek watershed. This watershed is threatened by a recent sprawl of development in the Cranberry Township, Economy Borough, and Wexford areas of Butler, Beaver, and Allegheny Counties, respectively. Much of the residential development that is occurring in this part of the county is so recent that it has not yet been depicted on the quadrangle map.

State Game Lands 203, a 1247 acre managed land, has been set aside in this rapidly developing part of the county. A thin section of the northwest corner of these managed lands occupies the southeast corner of this quadrangle while the majority of the game lands is situated in the Mars and Emsworth quadrangle anda small section of the southwest corner is located on the Ambridge quadrangle. Afull description of these managed lands is given on the Mars quadrangle description on page 72.

The Big and Little Sewickley Creek LCA encompasses State Game Lands 203 on this quadrangle and the adjacent Mars, Emsworth, and Ambridge quadrangles. The LCA recognizes the significance of the largely unfragmented forested character of this part of the county, as well as the watershed of the Little Sewickley Creek, a Medium Gradient-Clearwater Creek (**NC001**) and parts of The Big Sewickley Creek watershed. The land in the LCA represents exceptionally significant natural land in a landscape that is threatened and being destroyed by development. A description of the LCA and its importance to the county's natural heritage is located on the Ambridge quadrangle on page 137.

MARS QUADRANGLE

	PNDI Rank		Legal Status		Last
	Global	State	Fed.	State	Seen

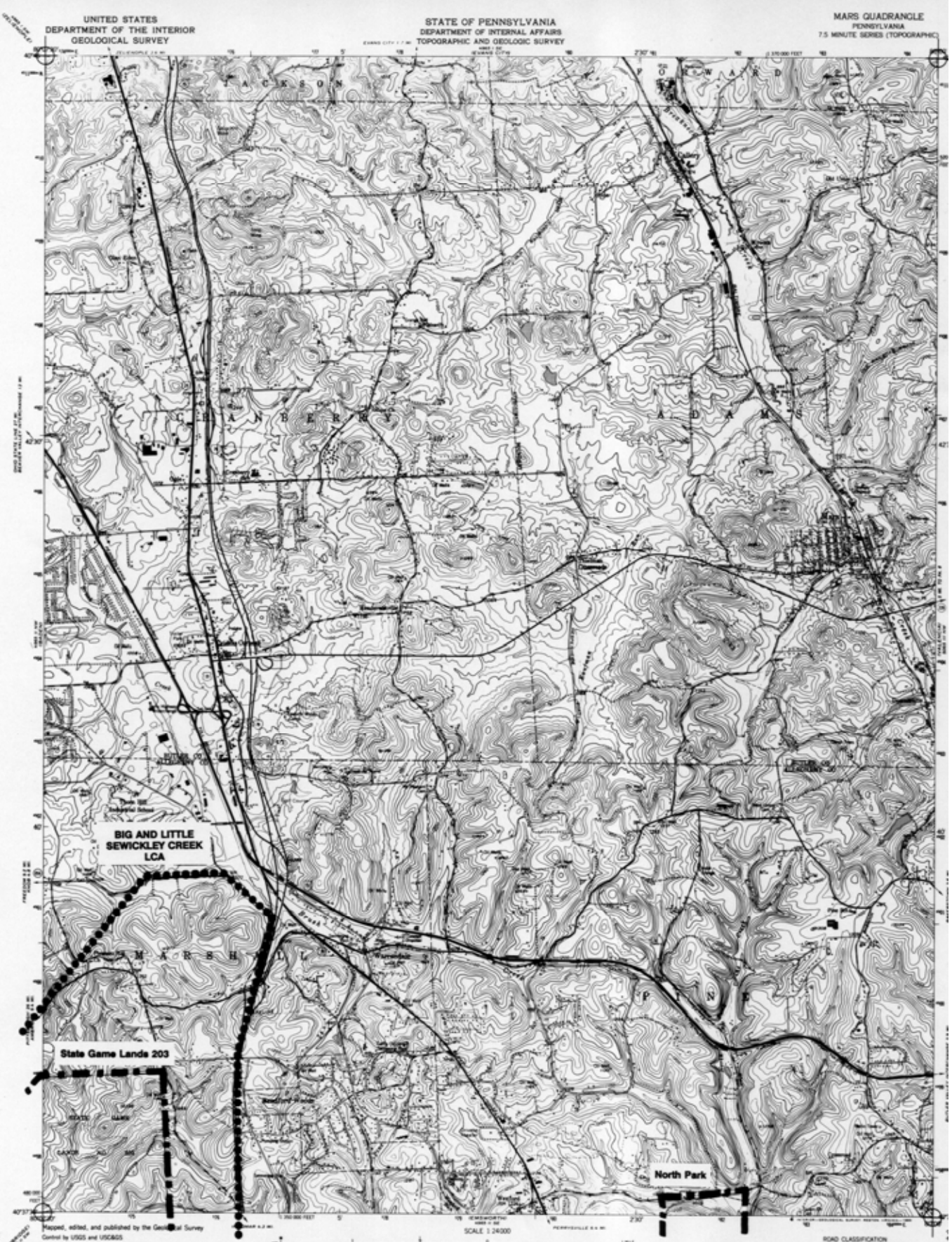
NATURAL HERITAGE AREAS:

BIG AND LITTLE SEWICKLEY CREEK LCA *Exceptional Significance*

NATURAL COMMUNITY:	NC001	G?	S3	N	N	6/93

MANAGED LANDS: North Park

State Game Lands 203


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF PENNSYLVANIA
DEPARTMENT OF INTERNAL AFFAIRS
TOPOGRAPHIC AND GEOLOGIC SURVEY
MARS QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
JACKSON
PENN
CRANBERRY
ADAMS
MARSHALL
PINE
BIG AND LITTLE
SEWICKLEY CREEK
LCA
State Game Lands 203
North Park
SCALE 1:24000
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
ROAD CLASSIFICATION
Heavy-duty
Light-duty
Medium-duty
Unimproved dirt
U.S. Route
State Route
Interstate Route
MARS, PA.
N4037.5—W8000/7.5
1953
PHOTOREVISED 1979

MARS QUADRANGLE

Agricultural lands and rapidly developing residential areas along Interstate 79 and the Pennsylvania Turnpike (Interstate 76) corridors characterize this northnorthwest portion of Allegheny County. The majority of the land covered by this quadrangle has been cleared of natural vegetation. Those areas that do remain in second-growth forest are patches on an otherwise cleared landscape. Fragmentation of this landscape is also attributed to roads, utility right-of- ways, and major expressways such as I-79, the PA turnpike, and PA Route 19, which create large areas of disturbance especially where they intersect.

Amongst all of the development that is occurring, a 1247 acre managed land has been established. A thin section of the northeast corner of State Game Lands 203 occupies the southwest corner of this quadrangle. The majority of the site is situated in this and the Emsworth quadrangle, while small sections of the northwest and southwest corners are located on the Baden and Ambridge quadrangles, respectively.

State Game Lands 203 is largely forested land with patches of cleared land in the form of food plots, clearcuts, and reverting forest, all of which is managed for wildlife. This property, which is owned and managed by the Pennsylvania Game Commission, is situated in the East Branch Big Sewickley Creek valley and in other tributary valleys to the Big Sewickley Creek. The forest here represents some of the most natural land in the area and an important large green space for Allegheny County. All of the forest has been selectively logged more than once, so it does take on the character of a young, early successional forest with scattered mature trees. The more mature sections of forest in the upland areas represent a recovering Dry-Mesic Acidic Central Forest Community. Since high quality examples of this forest community are fairly uncommon in the county, the Game Commission is encouraged to allow some of this forest to remain undisturbed and mature on its own so that it can be preserved as an example of old growth forest in the future. A suggested area where this could happen would be the slopes and uplands along the southern side of the East Branch Big Sewickley Creek in the southeastern quadrant of the game lands. The food plots that occupy the upland areas are presently being farmed using organic farming methods. A reduction in the risk of pollution to streams, soils, and ultimately wildlife by pesticides, herbicides, or fertilizers will result from the continued use of this farming practice.

Presently, the major threat to these managed lands is the rapid rate of residential development that is occurring in the areas adjacent to the game lands. In order to better protect the habitats and natural communities within the game lands and at the same time protect a large part of the Big Sewickley Creek watershed, the Game Commission or other conservation entities are encouraged to acquire those remaining forested or undeveloped areas surrounding the game lands. The protection afforded to the Big Sewickley Creek by the game lands will aid in maintaining the quality of the stream. Efforts for acquisition of adjacent land should focus especially on those areas to the west in the Big Sewickley Creek Valley, south in the East Branch, and east along the upper reaches of the tributary to the East Branch. These predominantly forested areas are contiguous with the forested areas of the game lands and as such would provide excellent buffer and a larger protected area.

To further recognize the significance of the large relatively unfragmented landscape in the Little Sewickley Creek watershed and parts of the Big Sewickley Creek watershed, **the Big and Little Sewickley Creek LCA** has been extended to include State Game Lands 203 and the remainder of the land in the Big Sewickley Creek watershed depicted on this, the Baden, Ambridge, and Emsworth quadrangle. This LCA is designed to protect the Little Sewickley Creek, a Medium Gradient-Clearwater Creek (**NC001**), as well as identify areas surrounding State Game Lands 203 that could be targeted for acquisition and protection. A description of the LCA and its importance to the county's natural heritage is located on the Ambridge quadrangle on page 137.

The northern edge of North Park extends into the southern portion of this quadrangle. This county owned managed land is discussed in further detail in the Glenshaw quadrangle description on page 115.

VALENCIA QUADRANGLE

	PNDI Rank	Legal Status	Last
	Global State	Fed. State	Seen


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF PENNSYLVANIA
DEPARTMENT OF INTERNAL AFFAIRS
TOPOGRAPHIC AND GEOLOGIC SURVEY
VALENCIA QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
M I D D L E S E X
R I C H L A N D
W E S T D E E R
Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Topography from aerial photographs by multiplex methods
Aerial photographs taken 1947. Field check 1950
Polyconic projection. 1927 North American datum
10,000-foot grid based on Pennsylvania coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks, zone 17, shown in blue
Revisions shown in purple compiled in cooperation with State of Pennsylvania agencies from aerial photographs taken 1969
This information not field checked
SCALE 1:24000
CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, WASHINGTON, D. C. 20242
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST
ROAD CLASSIFICATION
Heavy-duty
Medium-duty
Light-duty
Unimproved dirt
U. S. Route
State Route
Interstate Route
VALENCIA, PA.
N4037.5—W7952.5/7.5
1950
PHOTOREVISED 1969

VALENCIA QUADRANGLE

The landscape in this northcentral part of Allegheny County is mostly cleared for agricultural uses. Small patches of woodland are scattered across the landscape and persist especially on steeper slopes along streams where farming or clearing is difficult. Much of what was once cleared agricultural land however, is now being used for residential development, or is reverting to young, early successional forest. The majority of the development is situated in the center of this quadrangle in and around the towns of Bakerstown and Gibsonia, both of which are located along PA Route 8, the major road connecting Pittsburgh and Butler. The landscape covered by this quadrangle has been Altered to such a degree that the area exhibits few natural heritage area qualities at the present time.

CURTISVILLE QUADRANGLE

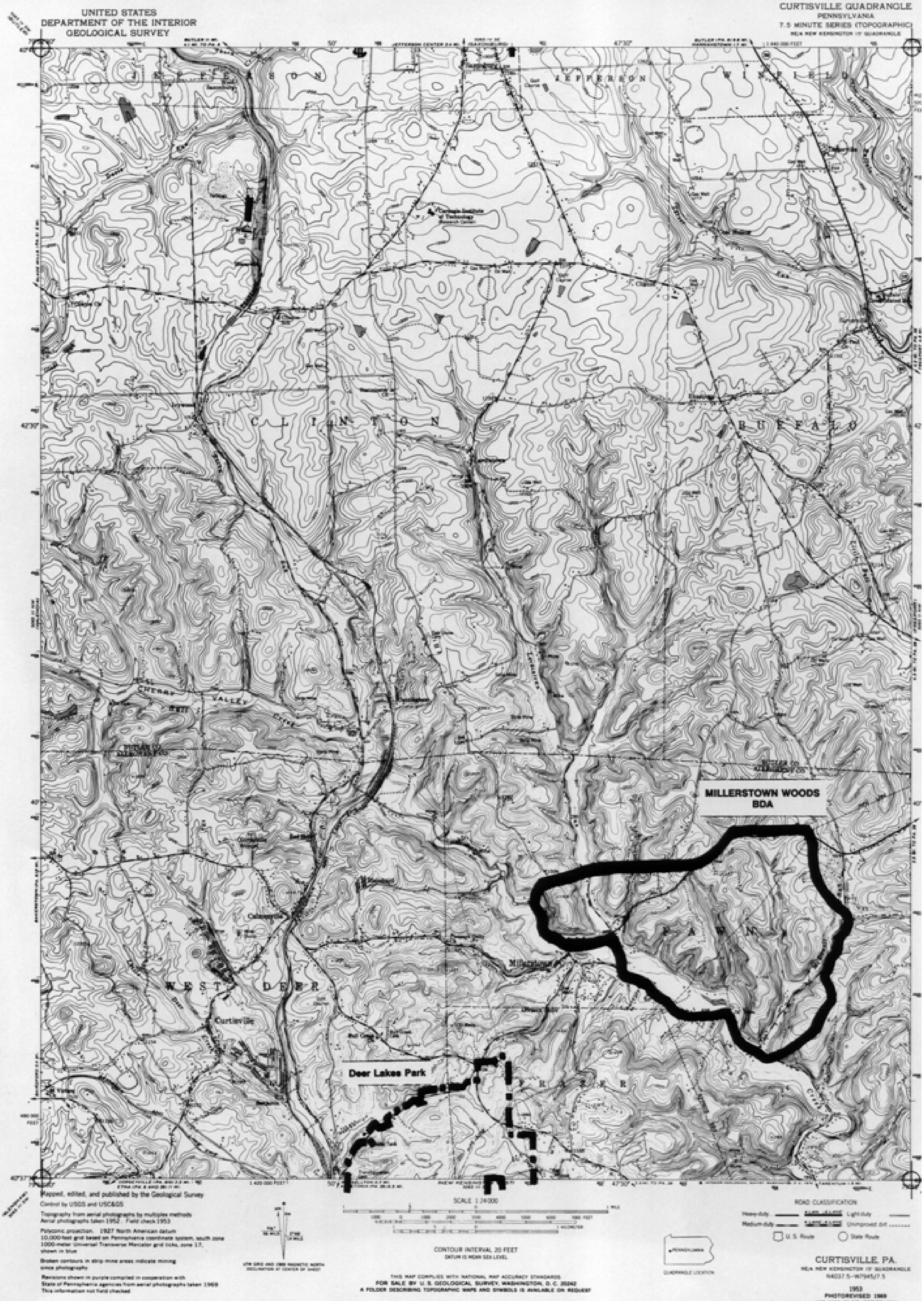
	PNDI Rank		Legal Status		Last
	Global	State	Fed.	State	Seen

NATURAL HERITAGE AREAS:

MILLERSTOWN WOODS BDA *Notable Significance*

NATURAL COMMUNITY:	NC001	?	?	?	?	5/93
NATURAL COMMUNITY:	NC002	?	?	?	?	5/93

MANAGED LANDS: Deer Lakes Park


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
CURTISVILLE QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
JEFFERSON
CLINTON
BUFFALO
WEST DEER
Curtisville
MILLERSTOWN WOODS
BDA
Deer Lakes Park
Mapped, edited, and published by the Geological Survey
SCALE 1:24 000
CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL
FOR SALE BY U. S. GEOLOGICAL SURVEY, WASHINGTON, D. C. 20242
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST
ROAD CLASSIFICATION
CURTISVILLE, PA.
1953
PHOTOREVISED 1969

CURTISVILLE QUADRANGLE

This quadrangle covers a section of the northeastern edge of Allegheny County. The landscape in this quadrangle is typical for northern Allegheny County. Agricultural land and reverting old fields on the uplands and gentle slopes with patches of forest on the steep slopes and stream valleys characterize this landscape. Much of this area, as well as the majority of the land north of the Allegheny and Ohio Rivers, is underlain by deep coal mines. Overall, this part of the county is fairly rural with residential development occurring in and around the small towns of Curtisville, Millerstown, and Culmerville, and along the roads connecting the towns.

Millerstown Woods BDA is a fairly large, somewhat contiguous tract of forest the majority of which is situated north of the confluence of Bull Creek and McDowell Run in Fawn Township. Aerial photographs and aerial reconnaissance reveal that the site has features that suggest that it is a High Diversity Area. These features include its large size, previously cleared areas on the uplands and floodplains that are now reverting back to forest land, and a number of forested valleys and steep slopes that appear to be maturing and recovering from past disturbances. Large crowns on the trees in the canopy of the valley forests especially suggest the age of the forest in portions of the site. At least two natural communities (**NC001** and **NC002**) are identified for this site. These natural communities are situated in the tributary stream valleys to Bull Creek and McDowell Run and on the south and west facing slopes along Bull Creek north of Millerstown. More specific information for these communities is not available at the present time. Future investigation of the site is required for additional information on NC001 and NC002 and may uncover other significant natural qualities of the site. This site is important since it represents a large relatively unbroken tract of forested land in an otherwise agricultural landscape. However, since the site was not field checked it has been assigned as a notably significant area pending future investigation.

Present threats include continued logging of the forest, A.T.V. use of old logging roads, agricultural activity in the uplands, residential development on the edges of the upland and bottomland areas, and the construction/maintenance of utility right-of-ways. Such activities could further fragment the forest and degrade the natural qualities that are presently recovering.

Recommendations for protecting the integrity of the site and encouraging recovery include eliminating factors such as logging and utility line construction. Further clearing for development could be detrimental to the natural qualities of the site. Agricultural practices in the upland areas are recommended to be conducive to protecting the forest community downslope (i.e., contour stripcropping methods could be implemented to avoid erosion, as well as reducing the amount or type of fertilizers, herbicides, and insecticides, etc.). In general, the integrity of the natural communities depends on the elimination or reduction of disturbance to the forested parts of the sites. The cleared areas, especially the upland and abandoned floodplain areas, need to revert back to forest so that they can better buffer and expand the natural communities being recognized.

Deer Lakes Park, one of the nine Allegheny County parks, is situated in the southern portion of this quadrangle. The majority of the park is located to the south on the New Kensington West quadrangle. See page 95 for a description of these managed lands.

FREEPORT QUADRANGLE

	PNDI Rank		Legal Status		Last
	Global	State	Fed.	State	Seen

NATURAL HERITAGE AREAS:

ALLEGHENY RIVER BDA *High Significance*

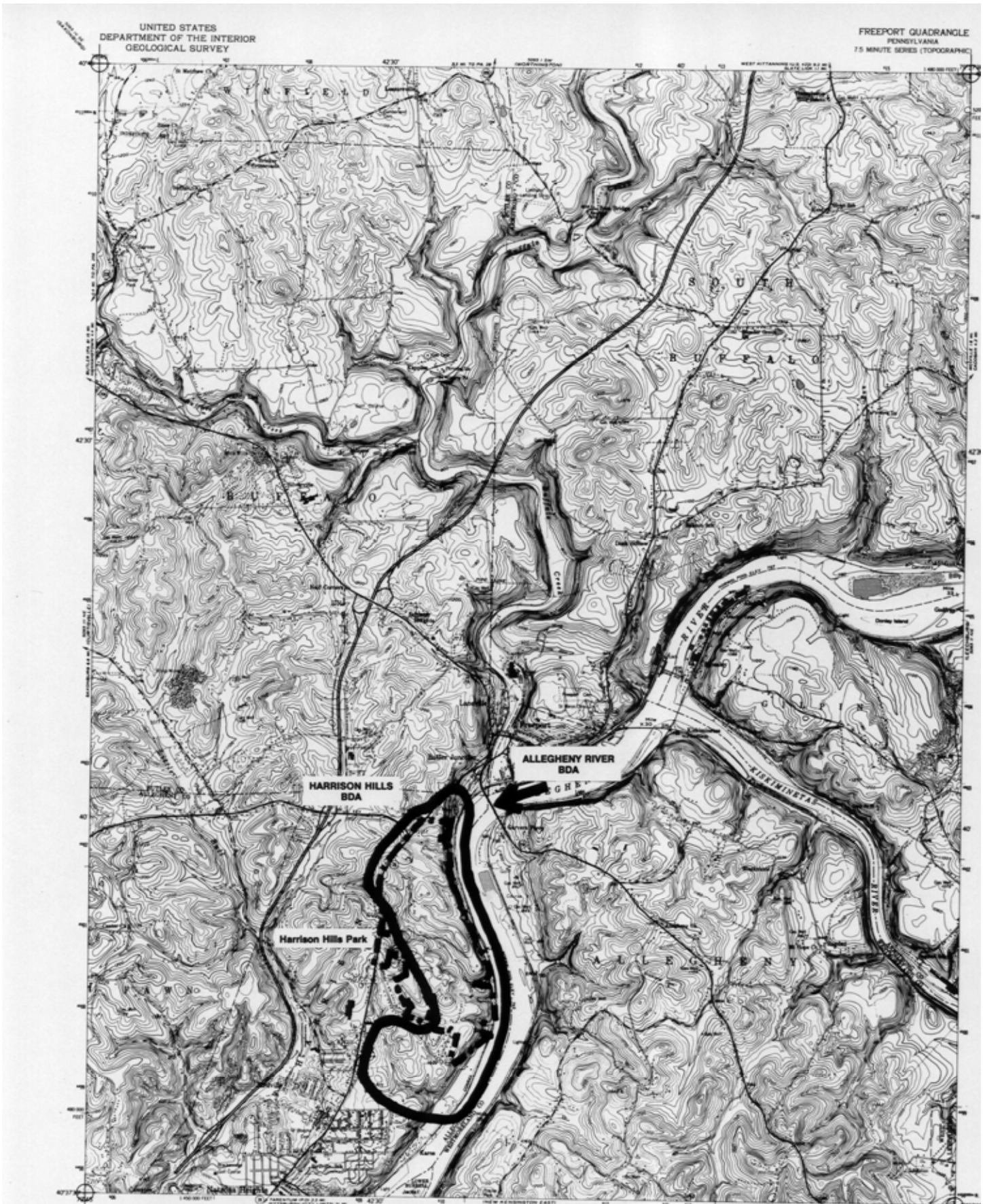
SPECIAL ANIMAL:	SA001	G4	S1	N	PC	5/91
SPECIAL ANIMAL:	SA002	G5	S2	N	PC	5/91
SPECIAL ANIMAL:	SA003	G5	S1	N	PC	4/91
SPECIAL ANIMAL:	SA004	G5	SH	N	PC	*1990's
SPECIAL ANIMAL:	SA005	G5	SH	N	PC	*1990's

HARRISON HILLS BDA *Exceptional Significance*

NATURAL COMMUNITY:	NC001	G?	S5	N	N	8/93
NATURAL COMMUNITY:	NC002	G?	S5	N	N	8/93
NATURAL COMMUNITY:	NC003	G?	S2	N	N	8/93

MANAGED LANDS: Harrison Hills Park

* Per personal conversation with Rick Lorson, Regional Fisheries Manager, PA Fish and Boat Commission, October 26, 1993.


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FREEPORT QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
HARRISON HILLS BDA
ALLEGHENY RIVER BDA
Harrison Hills Park
Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Topography from aerial photographs by multiplex methods
Aerial photographs taken 1952. Field check 1953
SCALE 1:24000
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
ROAD CLASSIFICATION
FREEPORT, PA.
N4037.5—W7937.5/7.5
1953
PHOTOREVISED 1979

FREEPORT QUADRANGLE

The northeast corner of Allegheny County including the escarpment above the western shores of the Allegheny River is depicted on this quadrangle. Cultural features, which comprise a large portion of this northeast portion of the county, include Natrona Heights and its suburbs, PA Route 28 (both old Route 28 and the new Allegheny Valley Expressway) and a number of farms. Natural features on this quadrangle are few with the exception of the Allegheny River. The steep slopes and tributary valleys adjacent to the river, all of which have been subjected to a variety of minor disturbances, represent unique features for Allegheny County since most areas similar to these along the river have been excavated or permanently altered.

The largest, most significant natural feature in this quadrangle is the lower section of the Allegheny River. This stretch of river takes a southwest route into the county just downstream of Freeport and its confluence with Buffalo Creek and then flows to its end where it meets the Monongahela River to form the Ohio River at the City of Pittsburgh. The Allegheny once supported the greatest biological diversity of any river in the state of Pennsylvania. This species richness, as indicated by fish and freshwater mussels (bivalve mollusks that are filter feeders with a very low tolerance for water pollutants or sediments), is presently more intact in the middle and upper Allegheny River above the navigational lock and dam system, than it is in this lower part of the river. This was not the case at one time, when the lower stretch of the river was documented to support a vast array of aquatic animals. As an indication of the river's quality in the early part of the century, Dr. A.E. Ortmann (1919) of the Carnegie Museum of Natural History, Pittsburgh, documented some forty species of freshwater mussels in the river below Kittaning just upstream of the Allegheny County boundary. Presently, the river in Allegheny County appears to support only about four species of freshwater mussels. The fact that few mussels have been collected since the early 1900's when industrialization and the growth of Pittsburgh continued to increase in the lower Allegheny River valley, illustrates the destruction that the river has undergone. In reference to the lowest stretch of the Allegheny before it meets the Monongahela, Ortmann (1909) stated that "Here the Allegheny is utterly polluted, and we have here possibly the greatest variety of pollution of any of the streams in the state".

In addition to the pollution caused by oil refineries, steel mills, salt works, and surface and deep mining, the river was also severely altered by the construction of navigational locks and dams. This activity, coupled with navigational channel dredging, made river transportation possible for large freight carrying boats and barges. Navigational pools were thus created along the first sixty-two river miles of the river. Such construction transformed the Allegheny from a free flowing river to a series of deep, slow moving pools which Also reduced biological diversity by destroying many habitats, such as floodplains, riffle communities, and islands by raising the water level and slowing the current. Dredging of the river bed, shoals and islands for gravel, sand, and cobblestone and removing sediment from the river channel is another activity that has served to destroy valuable habitat. In addition, dredging has impacted the biota of the river by releasing and

stirring up sediment and thereby inhibiting feeding and complicating physiological functions in fish, mussels, and aquatic insects.

The present day Allegheny River has improved on some of its ecological qualities since the mid 1900's. It is presently classified as a low to medium quality warm water fishery and serves as a Special Species Habitat for **SA001**, **SA002, SA003**, **SA004**, and **SA005**. The presence of these fish suggests an improvement in the water quality of the river. It is unknown at this point in time how far ranging these species are, as well as what portions of the river are especially important to their survival. Collections made by the PA Fish and Boat Commission suggest that some of these species are using the entire length of the river in Allegheny County to some degree. Since this is the case, the entire river within the county has been designated the **Allegheny River BDA**. Other indications of the improving water quality within the Allegheny exist. Three species of fish that were previously listed as species of special concern have been delisted because of their success in increasing their populations in the river to a sustainable level. A few other listed species, as well, are being monitored for their increasing populations and success at surviving in the river. Studies carried out by the PA Fish and Boat Commission suggest that the overall water quality for the Allegheny River has improved dramatically over the last 30 years (Lorson, 1990), enough so that a project to reintroduce a fish species of special concern into the Upper Ohio basin has been initiated. The paddlefish (Polyodon spathula) was part of the native fish fauna of the Allegheny and Ohio Rivers in Pennsylvania. Since it is a filter feeder and, therefore highly sensitive to water pollution, this species became extirpated from the Upper Ohio and Lake Erie portions of its range in the late 1800's and early 1900's as a result of the onset of the lock and dam navigation system, dredging, and deteriorated water quality in these systems. It is presently thought that the water quality of the Allegheny and Ohio has improved and will continue to improve to the point that reintroduction of the paddlefish will be successful.

Places in the river that may well be important to the survival of the fish species of special concern, as well as the other sensitive species that are mentioned, include those areas representing more natural habitat (pre-lock and dam, dredging, and pollution) such as the islands and shoals in the river and those rocky, freer-flowing sections immediately downstream of the navigational dams. The dams aerate not only these areas of the river, which is important for fish survival, but they mimic pre-dam currents of the natural free river. One example of such island habitat in this part of the county is Jacks Island which is situated in the lower portion of this quadrangle on the Westmoreland side of the river. Although the presence of these fish species of special concern may represent some recovery of the river, not enough information is available to determine their success. More research on these species and others is needed for the river. Protection of the Allegheny River BDA to encourage the continuance of existing attributes, improved water quality and the reintroduction of other native plants and animals is needed. This will mean continued and more stringent restrictions and regulations placed on industrial, residential, and commercial activities and development along the river and its tributary streams. Careful monitoring and enforcement of regulations concerning all activities on and along the river is recommended. Since the Allegheny River is already provided by the original topographic map and not enough data is available to draw accurate boundaries for the BDA, additional lines are not provided for this site and the entire river within the

county is included as part of the BDA. It should be noted, however, that the majority of the collection sites for the species of special concern are located in the vicinity of Lock and Dam #2 and #3, the river islands and the mouths of some major tributaries. All are areas where the river most resembles its historic condition of a free-flowing river.

Harrison Hills Park is situated high on the plateau overlooking the Allegheny River from the west where Allegheny, Butler, Westmoreland and Armstrong Counties can all be viewed. One of nine county parks, these 501 acres of managed land are comprised of gently rolling upland terrain grading west down to the steep slopes of the river tributary valleys and steep slopes along the Allegheny River. The uplands are mostly cleared and developed for recreational purposes, but not to the same degree as many of the other county parks. Some of the upland has been left forested, but with pavilions, trails, etc. integrated into the natural setting. One notable recreational feature in the park is the Rachel Carson Trail, part of which passes through the park along the upper edge of The steep river slope. The steep slopes along the river and in the tributary valleys within the park are forested mostly with young second growth, but also with more mature forest in some places. These areas comprise a Biological Diversity Area which will be discussed further.

The Harrison Hills BDA, part of which is situated within the boundaries of Harrison Hills Park, comprises the river tributary valleys, steep slopes, and remaining river floodplain along the western shores of the river. This site is recognized as a High Diversity Area and a Community/Ecosystem Conservation Area. Most of the steep slopes along the river have been disturbed by logging, although fire was also a probable disturbance since the slopes are situated adjacent to railroad tracks that are still in use. Fire may have been caused by hot embers which commonly escaped the coal burning engines on the trains that once traveled these tracks in the early part of the century. This was a common form of disturbance to forests similar to this one along river slopes that have railroad tracks situated at the base of the slope. Deep mining for coal is also believed to be a past land use in this area. Disturbance at the site is greatest at the base of the slopes and this is no doubt due to alteration of the land and manipulation during railroad construction and present day maintenance. The forest on the mid and upper slopes is a higher quality Dry-Mesic Acidic Central Forest Community (**NC001**) characterized by a dominance of white oak (Quercus alba), red oak (Q. rubra), black oak (Q. velutina), red maple (Acer rubrum), bitternut hickory (Carya cordiformes), shagbark hickory (C. ovata), sassafras (Sassafras albidum), and others. Trees are not sizeable in diameter, but this is no doubt due to the extreme growing conditions on this slope. Soils are fairly dry and acidic, and the steepness in many places is close to vertical. Along the steep sections of these slopes is another natural community, an Acidic Cliff Community (**NC002**). This community type is characterized by the large sandstone rock outcrops that occupy the middle and upper sections of the river slopes. Ferns, mosses, lichens, and other species that are suited to the dry, acidic conditions provided by the rocky substrate are located within **NC002**. Because of where this community is situated at this site, disturbance has been kept to a minimum. Interrupting the river slopes are a number of small, steep walled, deeply cut tributary stream valleys. The valleys are generally occupied by a Mesic Central Forest Community (**NC003**) characterized by red oak, black birch (Betula lenta),

basswood (Tilia sp.), sugar maple (Acer saccharum) and tulip poplar (Liriodendron tulipifera), as well as a number of fern species and other herbs that convey the rich, relatively undisturbed qualities of these areas. The best example of one of these river tributaries is the relatively large valley situated approximately 0.25 miles north of Sligo within the park boundaries.

This valley exhibits a maturing **NC003** and is characterized by steep slopes with a rich humus layer, a steep gradient stream that rushes over large sandstone boulders, and a somewhat fragmented upland oak forest which serves to buffer the valley. This valley, as well as the rest of this site is threatened by continued upland development. More protection is needed and to encourage this, a buffer zone has been included within the site boundaries. The area serving as a buffer zone includes areas that have been recently disturbed by logging or other activities, but have the potential to buffer the more significant forest from external influences. The floodplain situated downstream along the river from the park has been cleared in the past, but is now recovering from that disturbance. Since so many of the floodplains along the river have been developed and used for residential and industrial purposes, this remnant floodplain which is undeveloped is significant for the county. Although of poor natural quality presently, the area has potential to continue recovering if left alone to do so, naturally. Presently, this floodplain and the steep slopes along the river and in the tributary valleys represent the only forest within the site. This small size of the natural communities is a definite threat to the integrity of the BDA. Other threats to the natural communities include the invasion of exotic species, such as Japanese knotweed (Polygonum cuspidatum) and tree-of-heaven (Ailanthus altissima). These plants are growing in abundance at the base of the slope and on the lower slopes along the river where disturbance has been greatest.

Presently Harrison Hills Park, like all of the county parks, represents a large area of open space that is managed for its recreational values and, in part, natural values. If the county desires to protect natural resources in this area, then it is recommended that part of the management efforts of the county be focused on the protection of that portion of the Harrison Hills BDA that is situated within the park boundaries. Further study of the BDA would identify areas that could be considered for special designation under a county park conservation areas program. Investigation of these areas might focus on those places that are forested and roadless. Park conservation area designation and management could follow the recommendations that apply to Natural Areas given in the section titled General Recommendations for the Protection of Natural Heritage Areas. To better protect the natural qualities recognized by the BDA, the buffer needs to be enlarged and sections of the buffer needs to revert back to and remain in forest. The County may wish to consider supporting acquisition and preservation of, or conservation easements on, the adjacent forested BDA lands in order to permanently secure the natural values of this area.

NEW KENSINGTON EAST QUADRANGLE

	PNDI Rank		Legal Status		Last
	Global	State	Fed.	State	Seen

NATURAL HERITAGE AREAS:

ALLEGHENY RIVER BDA — High Significance

SPECIAL ANIMAL:	SA001	G4	S1	N	PC	5/91
SPECIAL ANIMAL:	SA002	G5	S2	N	PC	5/91
SPECIAL ANIMAL:	SA003	G5	S1	N	PC	4/91
SPECIAL ANIMAL:	SA004	G5	SH	N	PC	*1990's
SPECIAL ANIMAL:	SA005	G5	SH	N	PC	*1990's

* Per personal conversation with Rick Lorson, Regional Fisheries Manager, PA Fish and Boat Commission, October 26, 1993.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

NEW KENSINGTON EAST QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography from aerial photographs by multiplex methods
Aerial photographs taken 1952. Field check 1953

Polyconic projection. 1927 North American datum
10,000-foot grid based on Pennsylvania coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks, zone 17,
shown in blue

To place on the predicted North American Datum 1983
move the projection lines 4 meters south and
19 meters west as shown by dashed corner ticks

Red tint indicates areas in which only landmark buildings are shown

SCALE 1:24000

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

ROAD CLASSIFICATION

Heavy-duty ——— Light-duty ———
Medium-duty ——— Unimproved dirt - - - - -
U. S. Route ○ State Route

QUADRANGLE LOCATION

Revisions shown in purple compiled in cooperation with State of Pennsylvania agencies from aerial photographs taken 1977 and other source data. This information not field checked. Map edited 1979

NEW KENSINGTON EAST, PA.

N4030—W7937.5/7.5

1953
PHOTOREVISED 1979
DMA 5068 II SW—SERIES V851

NEW KENSINGTON EAST QUADRANGLE

The western portion of Westmoreland County occupies the majority of this quadrangle with two sections of eastern Allegheny County extending along the western edge of the map. The most prominent natural feature in this section of the county is the Allegheny River. The river and Pucketa Creek both serve as political boundaries for Westmoreland and Allegheny Counties. The northern shores of the Allegheny River are completely occupied by the towns of Tarentum, Brackenridge, Natrona, and Natrona Heights. Only a small section of disturbed forest along Little Bull Creek remains natural in this corner of the quadrangle. Pucketa Creek was noted by Ortmann (1909) as being in fairly good condition in the early 1900's. The present day condition of the creek is more degraded considering that the entire floodplain has been cleared and small residential communities now occupy both sides of the stream. The general character of the rest of the southwest section of the quadrangle is that of cleared uplands and patches of disturbed forested valleys and steep slopes. Deep coal mining and surface mining has played a role in both the past and present in the general condition of this landscape.

The **Allegheny River BDA** extends across the northwest corner of this quadrangle. It is significant as a Special Species Habitat for a number of fish species (**SA001**, **SA002**, **SA003**, **SA004**, and **SA005**), and as improving habitat for a number of other native aquatic animals. A discussion of the qualities of the Allegheny River is given on page 84 of the Freeport quadrangle description and recommendations for its protection in the General Recommendations for the Protection of Natural Heritage Areas.

NEW KENSINGTON WEST QUADRANGLE

	PNDI Rank		Legal Status		Last
	Global	State	Fed.	State	Seen

NATURAL HERITAGE AREAS:

ALLEGHENY RIVER BDA *High Significance*

SPECIAL ANIMAL:	SA001	G4	S1	N	PC	5/91
SPECIAL ANIMAL:	SA002	G5	S2	N	PC	5/91
SPECIAL ANIMAL:	SA003	G5	S1	N	PC	4/91
SPECIAL ANIMAL:	SA004	G5	SH	N	PC	*1990's
SPECIAL ANIMAL:	SA005	G5	SH	N	PC	*1990's

LOWER ALLEGHENY RIVER ISLANDS BDA *High Significance*

NATURAL COMMUNITY:	NC001	G?	S2	N	N	8/93

BARKING SLOPES BDA *High Significance*

NATURAL COMMUNITY:	NC002	G?	S2	N	N	3/86

PLUM CREEK VALLEY BDA *High Significance*

NATURAL COMMUNITY:	NC003	G?	S2	N	N	8/93
NATURAL COMMUNITY:	NC004	G?	S5	N	N	8/93
NATURAL COMMUNITY:	NC005	G?	S3S4	N	N	8/93

OAKMONT FLOODPLAIN BDA *Notable Significance*

NATURAL COMMUNITY:	NC006	G?	S2	N	N	8/93

DEER CREEK VALLEY BDA *Exceptional Significance*

NATURAL COMMUNITY:	NC007	G?	S2	N	N	4/93
NATURAL COMMUNITY:	NC008	G?	S2	N	N	4/93

NATURAL COMMUNITY:	NC009	G?	S2	N	N	4/93
NATURAL COMMUNITY:	NC010	G?	S5	N	N	4/93

CAMPBELL RUN VALLEY BDA *High Significance*

NATURAL COMMUNITY:	NC011	G?	S2	N	N	6/93

MANAGED LANDS: Dark Hollow Woods Park

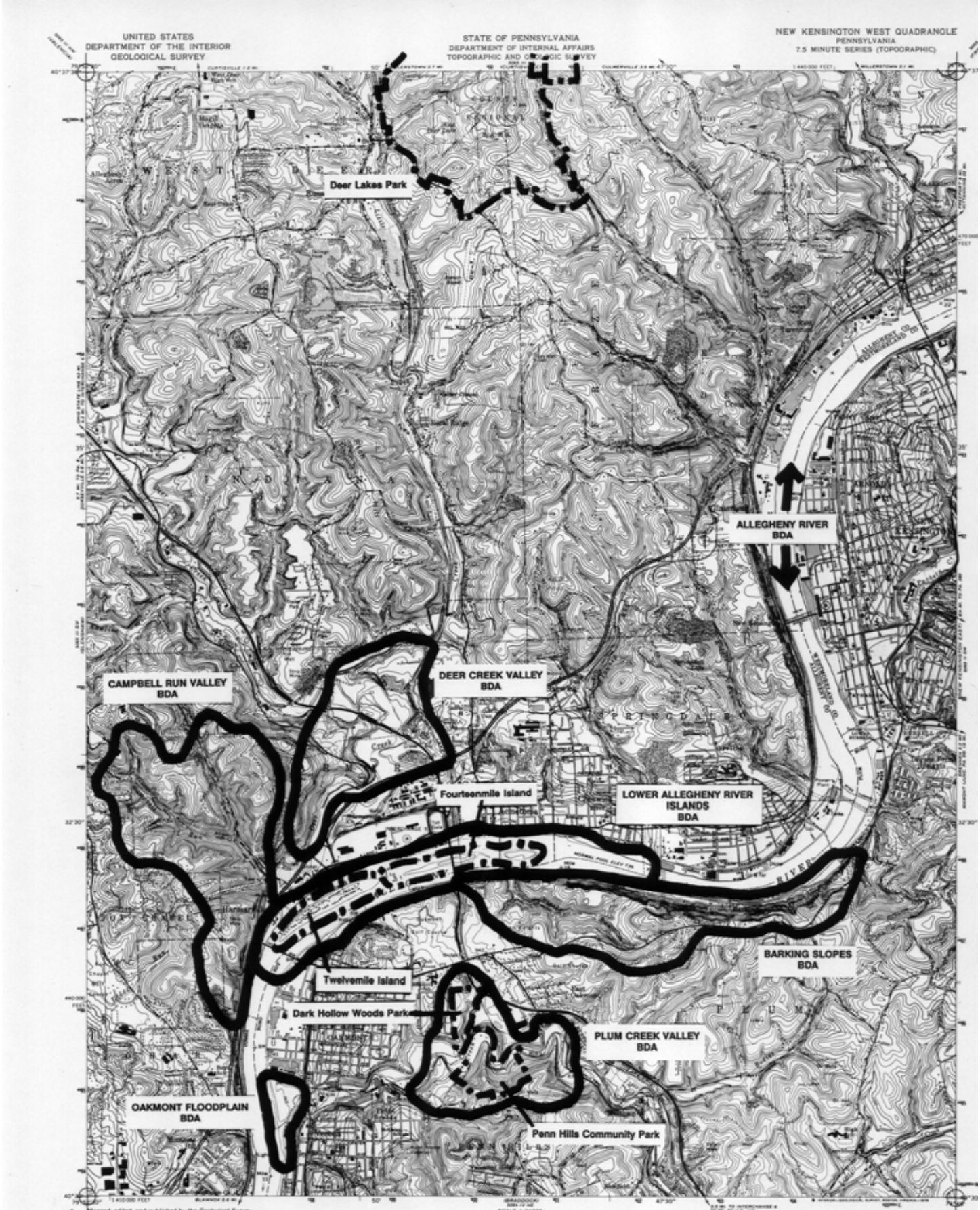
Deer Lakes Park

Fourteenmile Island

Penn Hills Community Park

Twelvemile Island

* Per personal communication with Rick Lorson, Regional Fisheries Manager, PA Fish and Boat Commission, October 26, 1993.


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF PENNSYLVANIA
DEPARTMENT OF INTERNAL AFFAIRS
TOPOGRAPHIC AND GEOLOGIC SURVEY
NEW KENSINGTON WEST QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
Deer Lakes Park
ALLEGHENY RIVER BDA
CAMPBELL RUN VALLEY BDA
DEER CREEK VALLEY BDA
Fourteenmile Island
LOWER ALLEGHENY RIVER ISLANDS BDA
BARKING SLOPES BDA
Twelvemile Island
Dark Hollow Woods Park
PLUM CREEK VALLEY BDA
OAKMONT FLOODPLAIN BDA
Penn Hills Community Park
Mapped, edited, and published by the Geological Survey
Control by USGS, USC&GS, USCE, and the City of Pittsburgh
Topography from aerial photographs by photogrammetric methods
Aerial photographs taken 1952. Field check 1953. Revised 1960
Polyconic projection. 1927 North American datum
10,000-foot grid based on Pennsylvania coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks,
zone 17, shown in blue
Fine red dashed lines indicate selected fence and field lines where
generally visible on aerial photographs. This information is unchecked
Red tint indicates areas in which only landmark buildings are shown
There may be private inholdings within the boundaries of
the National or State reservations shown on this map
SCALE 1:24000
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST
ROAD CLASSIFICATION
Heavy-duty
Light-duty
Medium-duty
Unimproved dirt
Interstate Route
State Route
NEW KENSINGTON WEST, PA.
N4030—W7945/7.5
PHOTOREVISED 1979
AMS 5965 III SE—SERIES V851

NEW KENSINGTON WEST QUADRANGLE

A large portion of this quadrangle is covered by the Allegheny River. The river towns, commercial and industrial development, major expressways and numerous secondary roads, and suburban residential development make a significant mark on the landscape. However, a large percentage of this landscape remains forested. The general character of the landscape is that of a series of tributary streams and their associated valleys and uplands running generally north to south and east to west to the point where they empty into the Allegheny River. All but two of the tributary streams in the river's watershed are badly degraded and polluted as a result of acid mine drainage, chemical pollution released during industrial activities, residential, and commercial development. The headwaters of Squaw Run, a high quality-warm water fishery (D.E.R., 1992a), are situated in the southwest corner of this quadrangle.

Since a number of fish species of special concern (**SA001**, **SA002**, **SA003**, **SA004**, and **SA005**) have been found in the Allegheny River, it is imperative that the streams that are flowing into the river be targets for water quality improvement efforts. These streams are directly affecting the **Allegheny River BDA**, which is recognized as a Special Species Habitat, and as such, are not only important factors to be considered in the survival of SA001-SA005, but in the survival and potential future reintroduction of other native aquatic animals. A more detailed description of the history, condition, and threats to the Allegheny River BDA are given on page 84 of the Freeport quadrangle and general recommendations for the rivers protection are given in the section titled General Recommendations for the Protection of Natural Heritage Areas.

The Allegheny River is noted in this inventory not only for the habitat it provides to a number of animal species of special concern, but also for the island habitat and natural communities which are directly associated with this riverine system. As was mentioned on page 87, many of the natural islands and habitats that once existed in the river have been destroyed or severely altered by both dredging activity and the establishment of the navigational lock and dam system. One area on the river that was altered and disturbed by human use, but still remains the county's best example of the large river islands is the Lower **Allegheny River Islands BDA**. This site consists of Twelvemile Island and both Upper Fourteenmile and Lower Fourteenmile Islands, as well as the small sand bars in between each of these islands. These islands are also considered managed lands. **Twelvemile Island** is owned by the Western Pennsylvania Conservancy and **Fourteenmile Island** (considered here as two islands, Upper and Lower Fourteenmile Island) is owned by the PA General Services Administration. This BDA is recognized as both a High Diversity Area and a Community/Ecosystem Conservation Area. Although disturbed and altered by human activity, these islands represent the best examples of the island habitats and retain the most potential for native bivalve and fish habitat if the river's water quality continues to improve.

Upper Fourteenmile Island, the most upstream of the three islands, was at one time connected to Lower Fourteenmile Island. In the 1950's Lock and Dam Number Three was constructed which separated the large island into two parts. The dam is situated ca. 0.1 km downstream from Upper Fourteenmile Island. Because of the dam construction, the island is presently in the deep pool created by the dam and although it remains vegetated it has undergone some significant alterations. For example, only a small section of associated river shoal habitat exists at the upstream end of the island. This habitat is rarely found in the river since dredging and navigational dams and locks have covered them with silt and slow deep water. This is especially true for this example of the habitat since it is situated directly upstream of a dam. A less disturbed habitat is found along the edges of Twelvemile and Lower Fourteenmile Islands which are situated directly below the dam where the river is nearly free-flowing and the islands are not influenced by a navigational pool created by Lock and Dam Number Three. The river shoal areas are likely where the mussel fauna that Ortmann (1919) described for the Allegheny River once thrived. The role of these mussels is discussed in the Allegheny River description on page 86. The shores of Upper Fourteenmile Island, with the exception of the upstream end, consist of steep, eroding embankments resulting from the increase in water level. The terrestrial portion of the island is characterized by a disturbed Floodplain Forest Community (NC001) that has been impacted in some areas by cutting and clearing activities related to dam construction. Silver maple (Acer saccharinum) dominates the canopy of NC001, while black willow (Salix nigra) dominates the sub-canopy and some of the island edges. A number of other floodplain species that are adapted to the mesic, alluvial soils found on the island are silky dogwood (Cornus amomum), false nettle (Boehmeria cylindrica), wood nettle (Laportea canadensis), wingstem (Actinomeris alternifolia), Jerusalem artichoke (Helianthus tuberosus), and pale touch-me-not (Impatiens pallida). These plants, as well as others, tend to form a dense ground layer that is actually greater than 2 meters in some parts of the island. Another plant that plays a very dominant role in the vegetation of this island as well as the other islands, is Japanese knotweed (Polygonum cuspidatum). This tall herb grows in large colonies, is extremely prolific, well adapted to both the interior and exterior of the island, and generally responds to a disturbance or clearing in the ground layer. The species is an exotic weed since it is not native and it out-competes native vegetation. Therefore, Japanese knotweed is a threat to the Allegheny River Island BDA, as well as many other floodplain areas along the river.

Lower Fourteenmile Island is the second largest and most natural of all of the Allegheny or Ohio River Islands in the county. It also provides the best example of how a natural free flowing riverine system appeared in the Allegheny prior to lock and dam construction. This 34-acre island is the least disturbed of the Allegheny River islands, in part, since it is situated directly downstream of Lock and Dam Number Three, where the river is more free-flowing and the effects of a navigational pool are not apparent. The river shoal habitat is well represented here. The area around the head, or upstream end, of the island between this and Twelvemile Islands includes some of the best examples of river shallows habitat. Large patches of water willow (Justicia americana) line the shores and add to the diversity of the shoreline habitat. This area is also represented by smaller associated islands that are situated at the head of Lower Fourteenmile and between that and Twelvemile Islands. During the winter and spring when river water levels are high,

these small vegetated sandbars and islands are covered. One threat that presently exists to the associated shoreline habitats is dredging. Dredging is commonly performed not only as a method for extracting sand, cobble, and/or gravel, but to keep the main river channel open. When this occurs close to the heads of islands a major erosion problem occurs. Deposits of sand, gravel, and cobble serve to protect the islands from the water currents energy. When removed, the current causes the head of the islands to erode and eventually collapse. Some limited dredging has occurred near the head of Lower Fourteenmile Island in an attempt to provide a deep pool for recreational swimming.

The Floodplain Forest Community (**NC001**) on Lower Fourteenmile Island is somewhat different than that found above the dam on Upper Fourteenmile Island, in that common cottonwood (Populus deltoides) dominates the canopy while silver maple, and sycamore (Platanus occidentalis) subdominate. Black willow shares the subcanopy with large colonies of Japanese knotweed and patches of floodplain herbs, which exhibit a relatively high diversity in the least disturbed sections of the island. This island is almost completely forested with **NC001**, however, the upper half of the island is severely fragmented and disturbed by the bridge piers for a railroad trestle and the PA Turnpike (Route 76) bridge. Both of these corridors which run perpendicular to the length of the island are completely vegetated with Japanese knotweed. Since these structures influence the natural character of NC001, the most natural section of NC001 on this island is downstream on the half-way point of the island.

Twelvemile Island, the most downstream of the three islands, is almost completely occupied by cabins and vacation homes that tenants have been leasing for over fifty years. This island has been included as part of the site since it's upstream end is vegetated and will remain that way under present management plans. The vegetation on this end resembles that on Lower Fourteenmile Island and Japanese knotweed continues to be a threat. Because the island is developed and frequented by boaters, the river shoal habitats around the sides of the island are more disturbed due to dock construction. In addition to boat traffic and dock construction, another potential threat to the quality of the river shoal habitats at this site persists. Since the water covering this habitat between Twelvemile and Lower Fourteenmile Islands and along the shores of both islands is shallow, especially during the hot summer months, these areas are often used by swimmers and fisherman. Since more information is needed regarding the present condition and quality of riverine habitat and its associated flora and fauna, the question remains as to how such activity impacts the natural qualities of the area. At some point in the future, as water quality of the river continues to improve and native fish and bivalve mussels begin to move into these areas, a decision may need to be made regarding the activity of swimmers and fisherman in these areas. Some areas may need to be restricted for the protection of aquatic flora and fauna while other areas may need to be limited in the amount or degree of activity that it is able to withstand.

Although only the upper end of Twelvemile Island is significant for the natural qualities that it exhibits, the entire island has been included as part of the Allegheny River Islands BDA. The island is presently considered a managed land, referred to as **Twelvemile Island**, and is under the ownership of the Western Pennsylvania

Conservancy. Under the Conservancy's management plan the leases for tenants will expire at the turn of the century and at this point, all structures will be removed. Conditions which will enable or encourage natural succession will be restored to the island at this time. Aside from the structures on the island and the activity associated with the seasonal residences, one of the threats that is presently impacting the structural integrity of the island is the erosion that is occurring near the downstream end of the island along the backchannel. Deer Creek enters the Allegheny River at this point and since the channelization and bulkhead construction at the mouth of this stream has occurred, the stream enters the river perpendicular to its flow rather than at an angle facing downstream. During heavy rains the flow of the current on the stream causes the water to shoot directly across the backchannel and make contact with the side of the island, thus causing erosion.

The interspersion of terrestrial and aquatic habitats within the Lower Allegheny River Islands BDA helps to support a diverse assemblage of plants and animals that are endemic to the river and its floodplain. Aside from those activities that were previously addressed that threaten the integrity of the island ecosystems, a few others should be mentioned. Presently the Army Corp of Engineers, the federal agency responsible for activities on the river, has restrictions on such activities as mining or dredging of the river bottom, mooring or anchoring barges or boats to trees on the islands, which results in tree pulldowns and shoreline erosion, and construction of large fleeting, loading, or unloading facilities related to navigation. Although restrictions are in place near the river's shore and islands, more strict regulations need to be considered if the intent of the owners and the Army Corp of Engineers is to protect these county rare examples of island and river habitat. Wake action resulting from boats causes erosion along the shore of the island. A speed restriction on boats and other vessels in the vicinity of the islands, if it has not already been established, would aid in reducing that amount of erosion. An evaluation and limitation of the impact of recreation, or other human activity on the islands, is recommended, since the islands provide nesting habitat for a number of animal species and have the potential, with ongoing recovery, to provide habitat for animal and plant species of special concern that may someday return to use these habitats. To encourage the reestablishment of native plants and improve the quality of the islands natural communities, Japanese knotweed needs to be eliminated. Methods used to eradicate the plant that involve machinery or chemical pesticides are not conducive to maintaining the integrity of the site. Ecologically sensitive methods such as manual removal by pulling the above and below ground parts of the plant out of the ground are recommended. Natural, intact shorelines along rivers that lie in close proximity to islands are important buffer for the island habitats. Shoreline buffer for Twelvemile and Fourteenmile Islands is limited or non existent, since residential, commercial, and industrial development occupies the river shorelines. If these areas should ever become vacant, reversion to a more natural condition would be significant protection for this section of the river corridor. It is further recommended that the protection of the islands and their associated habitats be taken into consideration when any activity is planned to occur within the site boundaries.

The steep slopes and tributary valleys along the shores of the Allegheny River for the most part have been severely altered by road construction and development. These unique

areas often support rare natural communities. Presently, the only sections of steep slope remaining intact along the Allegheny River are at Harrison Hills Park (see the Freeport quadrangle description for the Harrison Hills BDA on page 88), West New Kensington, and between the PA Turnpike crossing and the town of Logans Ferry in the vicinity of Barking. The slopes at Barking represent the highest quality of these habitats in this quadrangle. The **Barking Slopes BDA**, as this site has been designated, is characterized by a relatively steep walled, forested, valley known as Blacks Run, which is contiguous with approximately 2.5 miles of a steep, forested, terraced, north and northwest facing slope. Information regarding the natural qualities of the site was obtained from an anonymous source, as well as aerial photographs and aerial reconnaissance flights. It appears to be significant as a High Diversity Area and its significance also lies in the fact that it serves as a buffer for the Lower Allegheny River Islands BDA.

The natural vegetation in the Blacks Run valley and on the north facing slopes is represented, in general, by a Mesic Central Forest Community (NC002), which varies from early successional forest to sections of maturing Mesic Central Forest. Blacks Run was selectively logged in the past fourteen years and so the forest occupying this valley is fairly disturbed, but recovering. The more mature and biologically diverse sections of NC002 are situated on the north facing slopes rising above the river. American beech (Fagus grandifolia), red oak (Quercus rubra), white oak (Q. alba), sugar maple (Acer saccharum), eastern hemlock (Tsuga canadensis), hop hornbeam (Ostrya virginiana), American basswood (Tilia sp.), hickory (Carya sp.), white ash (Fraxinus americana), and ironwood (Carpinus caroliniana), are some of the common tree species that form the canopy over a rich assemblage of herbaceous species such as large-flowered trillium (Trillium grandiflora), red trillium (Trillium erectum), blue cohosh (Caulophyllum thalictroides), hepatica (Hepatica sp.), jack-in-the-pulpit (Arisaema sp.), and wild columbine (Aquilegia canadensis). The overall diversity of the site is also enhanced by the wide range of exposed bedrock, soils, and moisture conditions that result from the varying elevational range of the slope (ca. 7801300 ft.). While mesic conditions persist throughout the lower and mid slopes, drier conditions prevail towards the upper edge of the slope and onto the upland areas, thus resulting in a change toward a drier forest with various oak species playing a more dominant role in the canopy. Certain sections of the forest where fairly dry, alkaline soils are exposed at the surface, represent suitable habitat for a rare plant species that is documented to have been found in the general area of Barking Slopes BDA. Although the species occurrence has not been confirmed at the site, potential habitat does exist which adds to the natural significance of the site. Other features that characterize the site include small sections of floodplain that extend upslope to large rock outcrops.

NC002 is fairly contiguous in Blacks Run and along the north facing slope. The majority of the upland has been cleared for various reasons. A golf course is situated at the far west end of the site above Blacks Run and a large substation, which is owned and operated by Duquesne Light Company, sits at the head of Blacks Run. Large powerlines related to this substation extend from the ridgetop down over the steep slopes and across the Allegheny River. The rightof- ways associated with these powerlines result in fragmentation of the forest on the slopes. Since the survival of the natural community and

the other significant natural features depend on how well they are buffered and protected from disturbance in the bordering upland, activities related to the golf course and/or the substation should be evaluated for their potential impact to the natural qualities of the site if the intent is protect the site. Other man-made features within or near the site which have caused disturbance to the forest in the past include the railroad and adjacent road that parallel the river at the base of the slope. Clearing and some excavation of the lower slope no doubt occurred during road and railroad construction. Lock and Dam Number Three on the Allegheny River is situated near the mouth of Blacks Run. Construction and operation of the dam has resulted in active use of the road at the base of the slope and has also encouraged use of the road as access to the lower elevational areas along the river. Dumping of construction materials and other such debris is an example of one activity that has occurred in the area as a result of increased human visitation. Such activities could be monitored more closely by borough officials and the Army Corp of Engineers (owners of the dam and adjacent property). Since the Barking Slopes BDA is restricted in size by the Pennsylvania Turnpike, Hulton Road, and the Allegheny River, opportunity of expansion or complete recovery of NC002 is questionable. If protection of this site is intended then every effort to minimize the degree of disturbance experienced by the natural community is encouraged. Where at all possible on the uplands, cleared land that might be permitted to revert back to forest would provide excellent buffer for the existing forest on the slopes and lower elevations in the valleys.

Plum Creek is a primary tributary to the Allegheny River that enters from the east between the towns of Oakmont and Verona. The stretch of the Plum Creek Valley between Milltown and Point Breeze has retained some of its natural qualities. This is unusual considering the amount of development that has occurred in this part of the county, which is evident along the last one mile of the stream where industry associated with the towns of Oakmont and Verona flank both sides of the creek. The part of the valley that has retained some of its natural character has been designated the **Plum Creek Valley BDA**. The site consists largely of privately owned land, however two managed lands within the boundaries comprise the highest quality sections of the site and add to the site's significance as a High Diversity Area. These managed lands are **Dark Hollow Woods Park** and **Penn Hills Community Park**. The overall character of the site is that of a meandering stream bordered to the south by gradual to very steep forested slopes that occupy a variety of aspects or exposures and to the north by an abandoned railroad and steep slopes that are less extensive than those across the creek. The largest portion of the forest is on the south side of Plum Creek, however, the tributary valley represented by Dark Hollow Woods Park Occupies a northern section of the valley. In general, the forest throughout this site has been disturbed and is considered second growth. Some areas, however, have been disturbed less or have recovered better than others and exhibit the qualities of relatively mature or maturing natural communities.

A high quality example of a Mesic Central Forest Community (**NC003**) occupies the northern tributary valley between Plum Creek and the Pennsylvania Turnpike. This valley and parts of the upland comprise the Dark Hollow Woods Park and represent a relatively protected section of forest. NC003 extends throughout the Plum Creek Valley BDA,

however, the most mature example of this community type exists in the tributary valley. Here, large, maturing red oak, white oak, sugar maple, American beech, tulip poplar (Liriodendron tulipifera), black cherry (Prunus serotina), and hickory dominate the canopy. Diversity in both the shrub layer and herb layer also remains high with characteristic species such as mapleleaf viburnum (Viburnum acerifolium), witch hazel (Hamamelis virginiana), sharp-lobed hepatica (Hepatica acutiloba), and mayapple (Podophyllum peltatum). Rich, relatively undisturbed soils in this area also support a wide array of vernal flora such as wild geranium (Geranium maculatum), large-flowered trillium, bloodroot (Sanguinaria canadensis), and perfoliate bellwort (Uvularia perfoliata). The intent of the management in this small valley appears to be geared towards protection of the natural environment. Unfortunately, the forest is restricted in this area by upland development, a major highway and railroad.

A second natural community is situated on the higher elevation slopes and upland areas adjacent to the east side of the valley and wraps out and around the slope onto the south facing slopes above Plum Creek. Maturing red and white oak, chestnut oak (Quercus prinus), red maple (Acer rubrum), shagbark hickory (Carya ovata), tulip poplar, and hornbeam dominate the canopy, while other indicator species such as blueberry (Vaccinium sp.), and wintergreen (Gaultheria procumbens) cover the ground in this Dry-Mesic Acidic Central Forest Community (**NC004**). This example of NC004 remains one of the few high quality examples in the county and, although it is small in size and unlikely to recover fully from past disturbance since it is restricted by a railroad, it does contribute significantly to the overall biological diversity of the Plum Creek Valley BDA. This forest has been subject to a good deal of disturbance. For the most part, the forest is recovering and, although use by the public is still evident, it appears to be limited to lower impact activities such as hiking. A.T.V. (allterrain vehicle) use is minimal, but evident in some sections. Presently, the real threat to the forest occupying the north facing slopes is upland development and the restriction of size and ability of the forest community to expand.

As was mentioned previously, NC003 does extend throughout the Plum Creek Valley. When compared to the NC003 in the Dark Hollow Woods area it is apparent that this forest has undergone more recent disturbance, which is indicated by the smaller tree size, lower diversity, and abundance of weedy and/or exotic species such as wild grape (Vitis sp.), garlic mustard (Alliaria officianalis), blackberry (Rubus sp.), poison ivy (Rhus radicans), and tree-of heaven (Ailanthus altissima) in some areas. One of the areas on the southern slopes that is not occupied by the younger NC003 is situated in a protected cove like area formed where Plum Creek makes a sharp bend. The cool, moist, northern conditions produced in this small area are suitable for the Northern Hardwoods Community (**NC005**) that persists there. Large, maturing sugar maples dominate this cove area. The tree size and biological diversity of this area suggest that disrupting activities have been kept to a minimum. One reason for minimal disturbance may be the fact that this community is located on the fairly steep lower slopes of this section of the valley. In this situation NC005 is fairly well buffered by the surrounding Mesic Central Forest Community, Thus lending to the community's significance.

Other qualities of the slopes along the south side of Plum Creek that make the site significant include the many microhabitats that have formed as a result of the action of the highly meandering Plum Creek. Sections along the stream where major downcutting has created near vertical slopes, mostly with eastern exposures, probably serve as special habitat for certain species and natural communities. These areas, as well as other parts of the site need to be examined more closely in order to determine more specifically their role in the functioning of the forest ecosystem. Presently, the significance of these areas lies in the biological diversity qualities that they provide to the overall site. The Plum Creek Valley BDA has been subject to a good deal of past disturbance mostly in the form of logging and clearing for recreational activities. The open ball fields, pavilions, roads, and parking areas associated with the two parks, as well as the former rail line along the stream, powerline right-of-ways and A.T.V. trails have served to fragment the forest, and as such, should be considered by planning authorities when future decisions regarding similar activities within or around the BDA are proposed. Further information regarding fragmentation and other deleterious effects of these specific land uses can be found in the Land-Uses and Potential Impacts to Natural Heritage Areas section. Some of the other threats to this site include continued upland development.

If the qualities of the natural communities at this site are to improve, it is recommended that the upland areas be permitted to revert to forest and future upland development or similar activity be evaluated based on its potential impact to the forested slopes and natural integrity of the site. Related to this is the threat of introducing non-native plants to the Dark Hollow Woods Valley through continued planting. Artificial introduction of plants is not part of the natural processes that occur in this valley. If plantings continue, it is recommended that only species that are native to the Plum Creek Valley be planted. Another threat at this site is the growing abundance of the exotic species tree-of-heaven. This species is a non-native tree that resembles sumac (Rhus sp.) and was introduced to Pennsylvania. It has since taken advantage of many habitats to regenerate itself. It is a prolific seeder and is known to out-compete native vegetation. A program to eradicate this plant might be considered for this site. The use of chemical herbicides or heavy machinery, however, is not conducive to maintaining the natural integrity of the site. Manual removal of the plants by pulling up roots is the recommended method for eradication of this plant. If it is desired to protect the Plum Creek Valley BDA, then efforts should be made to acquire and protect the private lands within the site that abut public property. Such action would further assure the chances of survival of the significant natural communities present in this valley.

Situated at the mouth of Plum Creek is a remnant of river floodplain that is one of the few examples of Allegheny River floodplain that has survived industrialization. The **Oakmont Floodplain BDA** represents a Floodplain Forest Community **NC006** that has survived somewhat from the development and destruction of the land that has occurred all along the river's edge in this part of Allegheny County. Although, relatively disturbed, the floodplain does have sections that have remained forested with a natural community that is similar in composition to that natural community found on Twelve- and Fourteenmile Islands, and as such is recognized as a Community/Ecosystem Conservation Area. Silver maple, common cottonwood, and sycamore dominate the forested areas of this floodplain.

Other common understory and herbaceous species include black willow, wingstem, jewelweed, false nettle, and green headed coneflower (Rudbeckia sp.). The mouth of the stream is a significant refuge for migrating waterfowl at certain times of the year, adding to the significance of the site.

Japanese knotweed is a problem species at this site as it is on the river islands. This plant has taken a dominant role in the understory and along the river's edge and the edge of Plum Creek, responding, in part, to the disturbance to the soil that has resulted from the active use of A.T.V.'s. Trails for these vehicles extend throughout the floodplain and have caused a significant amount of erosion and compaction of the soil. Vegetation is absent on these trail areas and the fragmentation of the forest that has resulted is a detriment to the recovery and integrity of the site. Other disturbances to the floodplain and the forest include a small powerline right-of-way that is presently being maintained and fill that is being dumped by the adjacent steel mill. Continued disturbance by A.T.V.s, activities related to the adjacent factories, and clearing of the floodplain for industrial use are the most immediate threats to the site. Some of the previously mentioned activities also impact the banks and waters of Plum Creek. Bank erosion resulting from A.T.V. use and also resulting from upstream disturbances such as channelization and rip-rapping are a problem on the stream, as well as general pollution resulting from factories along the banks of the stream.

Efforts must be made to reduce and avoid these types of activities if the Floodplain Forest Community and associated river gravel areas and tributary stream are to recover. Attempts by the mill personnel to reduce and eliminate the fill on the floodplain are presently underway. The land and waters included within this BDA should be considered for protection since they represent the best and last examples of important habitat along this major river in Allegheny County.

Deer Creek enters the Allegheny River from the north near the town of Harmarville. This sizable stream has been recognized as one of the more important streams in Allegheny County by the Fish and Boat Commission (Young, 1990). Having recovered, somewhat, from past pollution, **Deer Creek** presently supports a diversity of fish species which indicates improving water quality. More investigation of the stream and efforts to continue to improve its natural qualities are needed. The stream itself supports a number of natural communities that together comprise a unique site for Allegheny County, the Deer Creek Valley BDA. This site is recognized as both a High Diversity Area and a Community/Ecosystem Conservation Area. The site is significant for the county since it is represents isolated pockets of natural land that have survived the development and disturbance that has occurred to a high degree in the general area. The site is situated along a stretch of lower Deer Creek from a point approximately 0.75 miles from the mouth upstream to where the effects of coal mining, commercial development and major roads begin to impact the natural qualities of the aquatic and terrestrial habitats. The natural communities recognized at this site include a mature Robust Emergent Marsh (**NC007**), Mesic Central Forest (**NC008**), Floodplain Forest (**NC009**) and Dry-Mesic Acidic Central Forest (**NC010**). The least disturbed area within the site is located on the east side of the stream and is bordered by Route 910, Route 28, and the Pennsylvania

Turnpike. The area consists of a section of floodplain and associated lower slopes which provide suitable conditions for the three natural communities mentioned.

A small tributary stream that parallels Route 28 in the southern section of this area supports a Robust Emergent Marsh Community (NC007). In spite of NC007's close proximity to Route 28 and an adjacent powerline, the natural quality and diversity of this wetland are relatively high and represent some of the best wetland conditions in the county. Broad-leaved cattail (Typha latifolia) is the dominant plant, but is concentrated along the southern border where disturbance is more evident. Diversity of wetland indicator plant species increases as distance from the road increases. Skunk cabbage (Symplocarpus foetidus), sensitive fern (Onoclea sensibilis), touch-me-not (Impatiens sp.), green headed coneflower, silky dogwood (Cornus amomum), and black ash (Fraxinus nigra) dominate the low lying areas that are situated away from the road where the effects of disturbance and fragmentation are reduced. Other examples of NC007 exist throughout the site on the floodplain. Many of these, however, have been degraded by acid mine drainage resulting from coal mining in the watershed and also from alterations in the hydrology as a result of highway construction or stream flow manipulation. One such wetland, which appears to have formed as a result of turnpike construction activities and the backup of stream floodwaters onto this area, exists on the west side of the creek along the north side of the turnpike. Similar wetland communities have also formed in channel scars created at a time when Deer Creek ran a different course through the floodplain. Some of these channel scars provide significant habitat for reptiles, amphibians, and many invertebrates. They, therefore, also add to the overall character and biological diversity of the site.

Upstream on the small tributary that parallels Route 28 the character of the wetland changes. A transitional forest of mesic species such as box elder (Acer negundo), butternut (Juglans cinnerea), sweet viburnum (Viburnum lentago), and red maple (Acer rubrum), occupies the area upstream from NC007 and grades into a patch of mature Mesic Central Forest (NC008) on the low slopes bordering the bottomland. A high diversity and abundance of species such as black oak (Quercus velutina), white oak, sugar maple, shagbark hickory, white ash (Fraxinus americana), American basswood, mayapple, and cut-leaved toothwort (Dentaria laciniata) are characteristic of this forest community. NC008 at this site represents a picture of the way forests appeared in this area prior to European settlement. The problems faced by NC008 include its small size and its restricted habitat. Since the topsoil has been removed and disturbed on the open level area adjacent to the forest, the potential for regeneration or recovery is poor. In addition, logging is always a potential threat for this forest community, as well as the mature Floodplain Forest Community (NC009), which is situated between the slopes that NC008 occupies and the eastern edge of Deer Creek. Tree diversity is high in general, although large, old sycamores (Platanus occidentalis) dominate the canopy, while black cherry (Prunus serotina) and sugar maple subdominate. The subcanopy and shrub layer is sparse and the rich, moist, alluvial soils are covered with mats of false mermaid (Floerkia proserpinacoides) that are interspersed with patches of skunk cabbage and various spring wildflowers. This section of floodplain exhibits little evidence of flooding and would probably be considered a 100 year floodplain or greater. The more immediate floodplain

adjacent to the stream does show evidence of several floods in a year. Eventually this section of floodplain along Deer Creek diminishes at its upstream extent. At this point the stream makes a bend where, through years of erosion, large sandstone outcrops that border the stream have been formed. A more descriptive term given to these particular outcrops is a dripping cliff, since water percolates through the rock and drips off of the rock face into the water. The forest occupying the higher elevations above this rock outcrop is an example of a Dry-Mesic Acidic Central Forest (NC010).

This Dry-Mesic Acidic Central Forest is fairly small in size, but is nonetheless a significant representation of the biological diversity of the site. NC010 is characterized by maturing black, red, and white oak, black cherry, black gum (Nyssa sylvatica), and American beech. Bracken fern (Pteridium aquilinum) and blueberry (Vaccinium sp.), species which favor dry, acidic soils, dominate the shrub/herb layer and add additional character to NC010. A second example of NC010 exists at this site, however, it is situated north of the Pennsylvania Turnpike on the south facing slopes overlooking Deer Creek. The forest community on these steep slopes continues to be dominated by oaks, but associated species are white pine (Pinus strobus) and serviceberry (Amelanchier arborea). Other herbaceous species that characterize the forest include plantainleaved pussy-toes (Antennaria plantaginifolia), early saxifrage (Saxifraga virginica), sedge (Carex sp.), hawkweed (Hieraceum sp.), and aster (Aster sp.). The remainder of the site (those areas not recognized as significant natural communities) is characterized by recovering, second growth forest, but mostly floodplain, slopes, and upland that have been cleared for coal mining, agriculture, or proposed commercial development. One such area is the large floodplain along the downstream side of the turnpike on the west side of the stream. This area has been completely cleared within the past ten years in the anticipation of a commercial development project that failed to occur. Loss of significant natural qualities on this floodplain appears to have been substantial and thus impacted the ecological integrity of the site overall. If left untouched, this floodplain has the potential to recover over time. Some of the other, more apparent threats to the site include proposed logging, construction/maintenance of the turnpike, Route 910, and Route 28, fragmentation resulting from the utility R.O.W.'s, use of A.T.V.'s, size restriction, and commercial, residential, or industrial development. The most direct threat to the site presently is proposed logging. Such activity would take place on the majority of the site which is under single, private ownership. Based on the number and types of trees targeted, the logging would be a heavy selective cut and disturbance to the natural quality and integrity of the site could be substantial. This type of activity, which is not conducive to the protection of the natural qualities of the site, should be reconsidered if the intent of the owner is to protect the ecological integrity of the site. Aside from logging, fragmentation is a problem at this site. Deer Creek is a highly meandering stream and in many places the stream and associated streamside habitats are impacted by major road crossings. Within the Deer Creek Valley BDA the stream is crossed by Route 910, the PA Turnpike, which crosses it two times, and a secondary road. In addition, some of these roads and Route 28 run parallel and in close proximity to the stream. In some cases, this has required channelization of Deer Creek especially in the lower stretches of the stream where its course has been changed in order to accommodate commercial development. Construction and maintenance of these roads has resulted in permanent alteration of the stream and

associated terrestrial habitats. Bridges that cross the stream require associated structures and material such as large cement pylons, which are constructed for support, fill material for stabilization and rip-rap for bank stabilization and reduction of erosion.

Future maintenance or construction on any of the roads within the site, or upstream of the site, should be planned to avoid or minimize impact to the stream and the associated floodplains and uplands. In addition to road crossings and corridors, powerline and pipeline R.O.W.'s fragment the forest and wetland communities within this site. Threats and recommendations for maintenance and construction of utility R.O.W.'s are further discussed in the Land Uses and Impacts to Natural Heritage Areas section. All-terrain vehicle use at this site is largely concentrated on the floodplain upstream of the turnpike bridge. This activity contributes to the disturbance of the forest, as well as causing soil compaction, trampling of vegetation, and soil erosion. Some evidence of acid mine drainage exists in the small wetland areas, particularly at the base of the slopes where small seeps carry the pollution from underground seams exposed to groundwater as a result of mining activity. If water quality of the stream is to improve then efforts could be made at some point to alleviate the contamination caused by the acid, which is not only impacting the stream, but the soils and the natural quality of the wetland habitats. Closer to the upstream end of the site is an area of exposed rock outcrops that are adjacent to the stream. Seeping out of these rocks in a number of places is acid which is draining directly into the stream. More information on coal mining and the impacts of acid mine drainage can be found in the section titled Land-Uses and Potential Impacts to Natural Heritage Areas. The most prominent, overall threat to this site is its size. Since the Deer Creek Valley BDA is located in a part of the county that is rapidly developing, the natural qualities of the site have been restricted by roads. In order to be assured that the natural communities will be sustained into the future, adequate buffer is needed.

Presently the natural communities are not well buffered. To improve the buffer surrounding the natural communities it is important that any upland or bottomland areas that have been cleared, but are presently undeveloped, revert back to their natural forested condition. In addition, serious consideration of the significance of this site to the natural heritage of the county should be given to any future land-use plans within, or in close proximity to, the site. A large portion of the site is presently up for sale. Purchase for development purposes remains a significant threat to the site since some of the land is zoned for commercial use. Potential buyers should be informed of the natural significance of the site and zoning should be reconsidered by Harmar Township authorities.

The watershed bordering Deer Creek to the southwest is recognized as the **Campbell Run Valley BDA**. The forested slopes along Campbell Run and in parts of Guys Run have high significance as a High Diversity Area. The site's importance to the natural heritage of Allegheny County lies in the fact that it is a relatively large tract of maturing Mesic Central Forest (**NC011**) in an otherwise highly developed portion of the county. Diversity on the slopes is relatively high as a result of the variety of aspects, elevational ranges, soils, etc.. The composition of NC011 changes as these conditions change and in some cases, especially in the small protected, steep walled valleys. NC011 is quite mature. In general, composition of the forest canopy includes red oak, white oak, sugar

maple, American beech, and white ash. Spicebush (Lindera benzoin), mapleleaf viburnum (Viburnum acerifolium) and witch-hazel (Hamamelis virginiana), characterize the understory, while species such as mayapple (Podophyllum peltatum), Christmas fern (Polystichum acrostichoides), and wood fern (Dryopteris sp.) represent the ground layer. Lack of a highly diverse herbaceous layer may be attributed to the selective logging that has taken place in parts of this forest. Diversity is higher in those areas that have been more protected from such activity. Logging continues to threaten the site since many trees are presently sizable. Another threat to the site is the residential development that is occurring in the upland areas to the southwest of the Campbell Run valley. A highly disturbed edge on the upper slopes has resulted in the introduction of nonnative or weedy species, such as garlic mustard (Alliaria officianalis), multiflora rose (Rosa multiflora), poison ivy (Rhus radicans), and wild grape (Vitis sp.). These species out-compete and make conditions unsuitable for native vegetation. Related to this present development are disturbances that are caused by sewer line and power line construction in the valley which fragments the forest, groundwater infiltration that results in an alteration of the hydrology on the slopes and thus causes a change in vegetation composition, and construction of new roads. Presently, a proposal exists to build a road that would traverse the Campbell Run valley bottom for part of its length, as well as the slopes in order to accommodate residents in the upland housing development. Such a road would permanently alter the natural qualities of the Campbell Run Valley BDA by fragmenting NC011. For more discussion of the threats resulting from development and utility and road right-of-ways, see the Land-Uses and Potential Impacts to Natural Heritage Areas section.

If the natural qualities of the BDA are to continue to recover and be sustained into the future, this area needs to be protected. Logging within the boundaries of the site could severely damage the natural qualities of the forest and streams. Fragmentation of the site by future development such as housing, roads, and utility right-of-ways could be reduced if such development is limited to presently developed areas outside of the BDA lines and utility lines follow existing right-of-ways. Finally, NC011 can best be protected if left untouched and if an adequate buffer zone (included within the BDA lines) is maintained.

Deer Lakes Park encompasses 1,191 acres of reverting agricultural land and young, second growth forest in the northern portion of this quadrangle and the southern portion of the Curtisville quadrangle (see page 81). Much of this county owned and managed park land remains cleared and mowed for recreational purposes. Three man-made lakes in the western part of the park provide the main focus for recreational activity. The east facing slope running parallel to Bailey Run and Fairfield Road appears to have the most potential of all of the park land to become a high quality example of a natural community. Presently this section appears to have, in part, the qualities of a Dry-Mesic Acidic Central Forest. The remaining forest on this east facing slope is a young, early successional forest dominated by white oak, red oak, and tulip poplar. Evidence of past grazing activity exists on these slopes.

If the county chooses to manage some of the natural resources in the park as conservation areas, then it is suggested that management follow Natural Area guidelines for protection in the section titled General Recommendations for the Protection of Natural

Heritage Areas. The most likely place in Deer Lakes Park is the forest along Bailey Run or any other forest in the park that has not been too severely disturbed. Activities that would be conducive to the protection of the natural features might include such low impact activities as hiking. To further protect or buffer such natural qualities and encourage recovery from past disturbance, the county could acquire private lands in the Bailey Run area that are adjacent to the park boundary.

GLENSHAW QUADRANGLE

	PNDI Rank		Legal Status		Last
	Global	State	Fed.	State	Seen

NATURAL HERITAGE AREAS:

HEMLOCK GROVE BDA High Significance

NATURAL COMMUNITY:	NC001	G?	S2	N	N	4/93
SPECIAL PLANT:	SP001	G4	S3	N	PC	4/93

CROUSE RUN VALLEY BDA *Exceptional Significance*

NATURAL COMMUNITY:	NC002	G?	S2	N	N	4/93
SPECIAL PLANT:	SP002	G4	S3	N	PR	4/93

WILLOW RUN SLOPES BDA *High Significance*

SPECIAL PLANT:	SP003	G4	S3	N	PR	4/85

TRILLIUM TRAIL BDA *High Significance*

NATURAL COMMUNITY:	NC003	G?	S2	N	N	5/93

SALAMANDER PARK OHA *Notable Significance*

GUYASUTA RUN VALLEY BDA *High Significance*

NATURAL COMMUNITY:	NC004	G?	S5	N	N	7/93
NATURAL COMMUNITY:	NC005	G?	S3S4	N	N	7/93

BEECHWOOD FARMS NATURE RESERVE OHA *Notable Significance*

BLUE RUN VALLEY OHA *Notable Significance*

MANAGED LANDS: Beechwood Farms Nature Reserve

Blue Run Valley

Camp Guyasuta

Fall Run Park

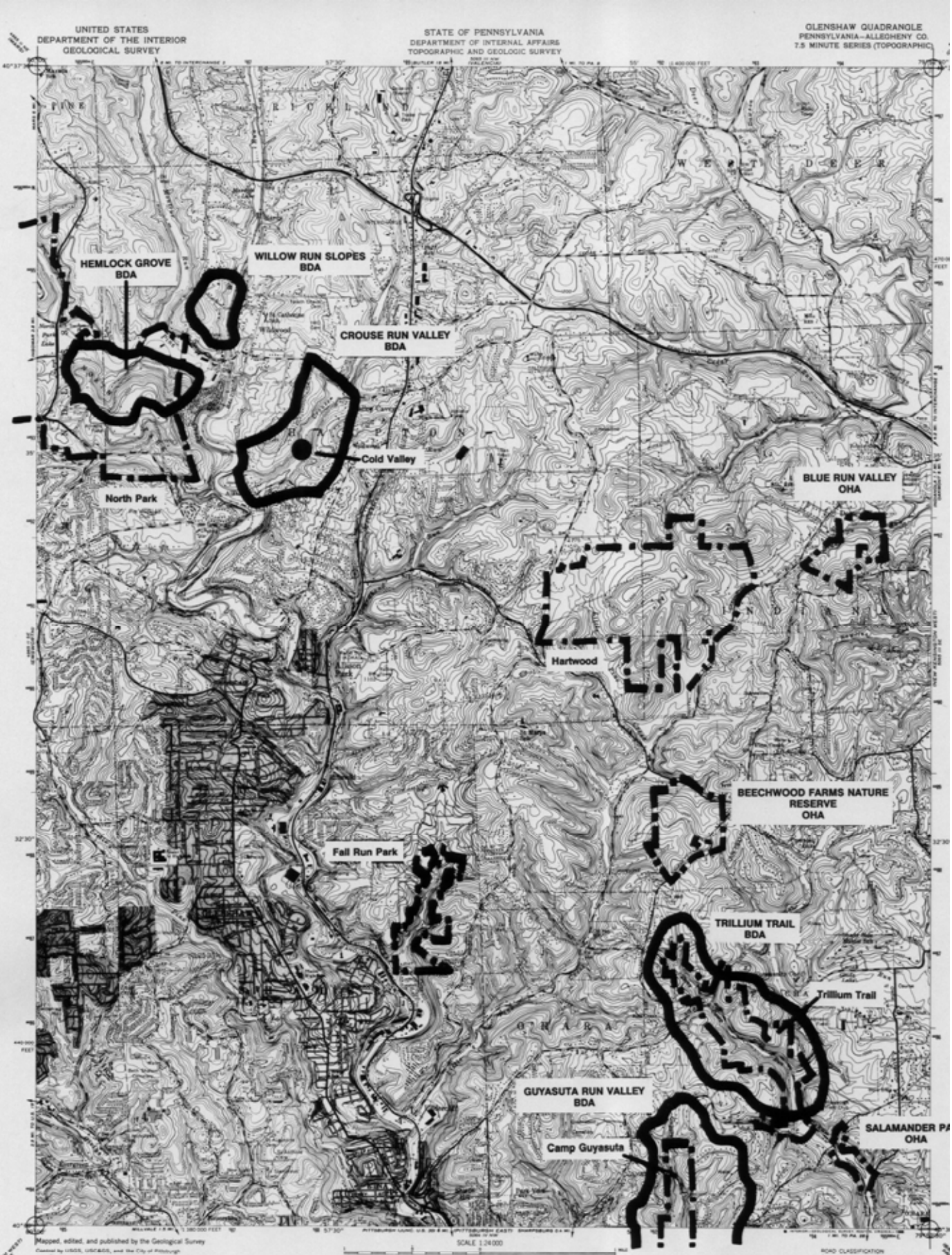
Hartwood

North Park

Salamander Park

Trillium Trail

GEOLOGIC FEATURES/FOSSIL LOCALITIES: Cold Valley


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF PENNSYLVANIA
DEPARTMENT OF INTERNAL AFFAIRS
TOPOGRAPHIC AND GEOLOGIC SURVEY
GLENSHAW QUADRANGLE
PENNSYLVANIA—ALLEGHENY CO.
7.5 MINUTE SERIES (TOPOGRAPHIC
HEMLOCK GROVE BDA
WILLOW RUN SLOPES BDA
CROUSE RUN VALLEY BDA
Cold Valley
North Park
BLUE RUN VALLEY OHA
Hartwood
BEECHWOOD FARMS NATURE RESERVE OHA
Fall Run Park
TRILLIUM TRAIL BDA
Trillium Trail
GUYASUTA RUN VALLEY BDA
Camp Guyasuta
SALAMANDER PA OHA
Mapped, edited, and published by the Geological Survey
SCALE 1:24 000
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
ROAD CLASSIFICATION
GLENSHAW, PA.
40079-E8-TF-024
1960
PHOTOREVISED 1979

GLENSHAW QUADRANGLE

The general character of this northcentral part of the county, commonly referred to as part of the North Hills, is that of a highly developed suburban landscape with pockets of green space. Most of the green space, or forested areas, are situated on steep slopes or in areas that are largely managed lands. Cultural features that dominate this landscape include the towns of Etna, Glenshaw, and Allison Park, large housing developments, and many roads, including two major roads, Route 8 and the Pennsylvania Turnpike. Most of the Squaw Run watershed is included in the southeast corner of this quadrangle. Squaw Run is one of the very few high quality waters in the county and as such has been designated as a high quality-warm water fishery (D.E.R., 1992a). The high quality water information reported for this stream suggests a good representation of aquatic life. Protection of this watershed is being sought by the Squaw Run Watershed Association. More investigation of this stream's qualities is needed.

A number of managed lands have been set aside in this part of Allegheny County. The largest of these managed lands is **North Park** which extends from this quadrangle onto the Emsworth quadrangle to the west. North Park is the largest of the nine county parks with its 3,010 acres mostly used for recreational purposes. The North Park Lake provides a central focus for activity and, like many of the county park lands, past land-use prior to the establishment of the park included intense agricultural activity. As a result of past and present use, very few areas in the park remain in a natural condition. Some areas such as the bottomlands along Irwin Run and the forested slopes and tributary valleys along Marshall Lake, Pearce Mill Road, Lake Shore Drive, and Pine Creek appear to be recovering from past grazing and logging activity. If the county desires to manage some of the park's natural resources as natural areas, then these places represent the most likely candidates for conservation area management. It is also recommended that the largest forested or undeveloped areas be given some consideration for protection from the high-impact types of activities that are common in the county parks such as mowing, construction and development, etc.. Guidelines for management of conservation areas in the county parks should follow those given for Natural Areas in the section titled General Recommendations for the Protection of Natural Heritage Areas.

Certain natural places in this part of Allegheny County provide habitat for a state rare plant species (**SP001**). The north facing slopes along the southern side of Pine Creek (Hemlock Grove BDA) and North Park Lake (North Park Lake BDA, see the Emsworth quadrangle on page 127) provide habitat for this species within the boundaries of North Park. The **Hemlock Grove BDA** is situated on this quadrangle. This Special Species Habitat is a maturing Mesic Central Forest Community (**NC001**) that appears to have undergone the least amount of disturbance of any area surveyed in the park. Past grazing pressures do not appear to have been as high, however, past logging is evident. SP001 is found along the lower north facing slopes above Pine Creek and in a small ravine, areas which appear to be fairly protected or less impacted by human use. A dilapidated pavilion and an actively used trail, however, are situated in close proximity to the habitat for SP001. Presently, the trail is used by hikers and some equestrians. Since the trail cuts through the population of SP001, impact is unavoidable. The survival of SP001 depends

on a reduction in the amount of foot, bike, and animal traffic on this trail or a closure or relocation of the trail all together. Moving the trail upslope to an area beyond the plant's habitat might be one way to reduce the present amount of impact to the plants. In addition, construction of a new pavilion or renovation of the old pavilion that is adjacent to the population of SP001 would be detrimental to the health of the plants since such action would encourage increased human activity in the area. If the intent of the county or park managers is to protect the population of SP001 and the integrity of the site, conservation area designation and management of the area might accomplish this, and any proposed activity should be evaluated for its impact to the site and SP001.

Crouse Run Valley BDA is another such place where the plant SP001 is located. Since this plant population is somewhat different from that found at Hemlock Grove BDA it has been designated **SP002** for this site. This BDA represents a Special Species Habitat, as well as a High Diversity Area. The Crouse Run Valley BDA is located along the lower portion of the stream before it enters Pine Creek. The valley is oriented north-south and is characterized by a flat valley bottom with steep slopes and occasional vertical rock ledges and faces. The forest community is a maturing Mesic Central Forest Community (NC002) which is dominated by sugar maple (Acer saccharum), basswood (Tilia sp.), and eastern hemlock (Tsuga canadensis). Red oak (Quercus rubra) becomes a larger component of the forest at higher elevations and in the upland areas. SP002 is found throughout the lower slope and floodplain areas of the site.

Presently, the most direct threat to the plant population and its habitat is the active use of A.T.V.'s (all-terrain vehicles) throughout the floodplain and lower slopes. Access for the vehicles is relatively easy since the sewer line in the valley bottom along the stream provides somewhat of a road. Trampling of plants, compaction and erosion of the soil directly threaten the survival of SP002 and its habitat. Another threat of disturbance to the site is from encroaching residential development. Presently, there is a large housing plan in the upland to the west of the valley. A number of proposals for homes to the east and even into the valley itself have been submitted. These attempts at development have failed so far, however, the threat increases as this part of the county continues to be faced with development pressures. Indirect threats to the natural community and special plant population related to development are improvements or maintenance of the existing sewer line, dumping of garbage, construction of utility right-of-ways, and an increase in general uncontrolled usage of the valley. If protection of the plants of special concern and their surrounding forest habitat is a concern of the land owners or local officials, it is recommended that efforts be made to restrict access by A.T.V.'s to the site. Educating the vehicle users about the threat that they pose to the natural qualities of the site might be another approach towards protecting SP002.

The Crouse Run Valley is also recognized as a significant geologic feature for Allegheny County. **Cold Valley**, as it is otherwise known, extends from Sample Road north to the vicinity of the Hampton Cemetery. Because of its geologic formation, the walls of this narrow valley channel and trap cool air currents and the valley bottom remains cool throughout the year.

A third site for the state rare plant that has been identified in North Park and Crouse Run is the **Willow Run Slopes BDA**, a Special Species Habitat. Located along Willow Run between North Park and Crouse Run, the slopes and small ravine where **SP003** is located are occupied by a small, somewhat disturbed sugar maple dominated forest. Red oak, black cherry (Prunus serotina) and basswood serve as associated dominant canopy species in this forest. The main population of SP003 is situated in one of the small east facing ravines and appears to be in relatively stable condition considering the small, restricted size of the habitat. Presently, a pasture and a private home are situated at the head of the ravine and a cleared floodplain and railroad tracks at the mouth of the valley are the disturbance factors that inhibit the recovery of the forest and the expansion of the SP003 population. Continued development within, or in the near vicinity, of the site could be detrimental to the survival of SP003. Clearing of the forest, logging, construction, or related disturbances within or adjacent to the site boundaries are not conducive to the survival of SP003 or to the recovery of its forest habitat. To best protect this plant, it is recommended that the forest be permitted to recover, cleared areas be encouraged to revert back to forest, and any activity within the site lines be evaluated for its potential impact on the natural qualities of the site.

The Stony Camp Run Valley in Fox Chapel Borough represents another natural heritage site for Allegheny County. Stony Camp Run, itself, is part of the headwaters of Squaw Run, a high quality-warm water fishery as designated by the Department of Environmental Resources (1992a). The slopes along the middle section of Stony Camp Run provide the setting for the **Trillium Trail BDA**, which represents a High Diversity Area for Allegheny County. A remnant of a mature Mesic Central Forest Community (NC003) which is dominated by sugar maple, red elm (Ulmus rubra), red oak, basswood, and white oak (Quercus alba) is included within the boundaries of the BDA. Tree diversity is high and the forest canopy composition changes somewhat with elevation and exposure. Herbaceous diversity is also high and significant for this part of the county. Large-flowered trillium (Trillium grandiflora) is abundant throughout the site and serves as the main attraction in late April and early May for visitors to the area. Other common species that indicate the rich, mesic soils at the site include trout lily (Erythronium sp.), white clintonia (Clintonia umbellata), bloodroot (Sanguinaria canadensis), red trillium (Trillium erectum), blue cohosh (Caulophyllum thalictroides), mayapple (Podophyllum peltatum), Solomon's-seal (Polygonatum sp.), jack-in-the-pulpit (Arisaema triphyllum), wild ginger (Asarum canadensis), cut-leaved toothwort (Dentaria laciniata), round-lobed hepatica (Hepatica americana), black snakeroot (Cimicifuga racemosa), wild geranium (Geranium maculatum), and perfoliate bellwort (Uvularia perfoliata). Diversity of plant species not only represents the undisturbed qualities of the forest, but also the variety of elevational ranges and aspects at the site. The small ravines on the southwest side of Stony Camp Run provide microhabitats suitable for certain species and as a result add to the overall diversity of the site.

The **Trillium Trail** is a 32 acre managed land situated, in part, within the boundaries of the BDA. This park is owned and managed by Fox Chapel Borough and is a focus for local hikers and wildflower enthusiasts. The park does receive a high degree of use, most of which is low impact with the exception of an increasing number of off-trail bike riders,

which has made its mark on the site. Impacts to the natural environment of the park, and thus the BDA, include disturbance caused by the large number of trails, soil compaction, erosion, and general trampling of vegetation along the trail edges. Other disturbances to the forest community include Squaw Run Road which runs through the bottom of the valley and causes fragmentation of the forest, residential development on the uplands above the valley which restricts and inhibits full recovery of NC003, and the increasing deer herd, which concentrates foraging on the forest floor in the Trillium Trail BDA.

All of these threats pose problems for the maintenance of the natural qualities of the BDA. Maintaining and improving the integrity of the forest community at this site requires a restriction or reduction of further development within the site's boundaries, or in the near vicinity of the site. Forested buffer that is critical for protecting the qualities of the natural forest community needs to remain intact and more buffer needs to be created in the upland areas by allowing cleared areas to revert back to forest. Investigation into the impact of the large deer herd on the herbaceous and woody vegetation is underway in Trillium Trail. This, as well as other inventory work, is important for making wise management decisions for this Natural Heritage Area.

Downstream of Trillium Trail on Squaw Run is another significant natural heritage site. The **Salamander Park OHA** is a small park owned and managed by Fox Chapel Borough which recognizes and uses the park as an Educational Area. **Salamander Park** is considered a managed land worthy of mention in this inventory since efforts have been made to keep the stream and adjacent floodplain and slopes in a natural condition for the purpose of providing habitat for native flora and fauna and for providing such features for environmental education purposes. The site includes a portion of Squaw Run, a designated high qualitywarm water fishery by the Department of Environmental Resources (1992a), that is bordered on the northeast bank by open floodplain and forest. A pond that is situated on the floodplain has long been recognized as an important habitat for amphibians, in particular the spotted salamander (Ambystoma maculatum).

To the west of Stony Camp and Squaw Run is Guyasuta Run. A large portion of this valley is known as **Camp Guyasuta** and is owned and managed by the Boy Scouts of America. This valley, with the exception of some of the bottomland in the lower half of the valley remains forested. The fact that a nearly mature forest has survived the pressures of residential development is surprising. Presently, the **Guyasuta Run Valley BDA** is recognized for its qualities as a High Diversity Area, which is represented by two county significant examples of natural communities. Most of the eastern slope in this valley from Route 28 to Hunt Road is covered with a Dry-Mesic Acidic Central Forest Community (**NC004**) characterized by a mature canopy of red oak, white oak, black oak (Quercus velutina), and American beech (Fagus grandifolia), a shrub/subcanopy layer of spicebush (Lindera benzoin), witch-hazel (Hamamelis virginiana), mapleleaf viburnum (Viburnum acerifolium), American beech saplings, scattered mountain laurel (Kalmia latifolia) and an herbaceous layer of forked chickweed (Paronychia canadensis), blueberry (Vaccinium sp.), and mosses. Much of the canopy is occupied by mature trees and the subcanopy and shrub layer is fairly dense in some parts of the site. At the upper end of the site where small tributary ravines have formed on the east side of the stream, small patches of a

Northern Hardwoods Forest Community (**NC005**) exist. Regenerating eastern hemlock (Tsuga canadensis) and American beech dominate the canopy and understory, as well as other species such as birch (Betula sp.), white oak and basswood. It is expected that much of the maturing western slopes in this valley have qualities similar to NC004 and NC005. Guyasuta Run itself is recognized as a high quality-warm water fishery (D.E.R., 1992a). This stream takes on an interesting character in that it cuts a deep ravine, characteristic of large river tributary streams. As a result of the downcutting and meandering nature of the stream, the lower slopes have many layers of exposed bedrock which serve as microhabitats for certain plants and animals in the valley and thus add to the overall biological diversity of the site.

Some of the problems or disturbances faced by this site include the construction of a sewer line which runs down through the stream bed and alters the flow of Guyasuta Run, residential development on the upland areas and the disturbance associated with that type of development (i.e., mowed lawns and cleared areas to the lip of the slope, erosion on the upper slope, dumping into the forest, exotic species along the edge of the development and the forest, etc.), development on the floodplain and lower slopes in the bottom half of the valley that comprises the scout's Camp Guyasuta (swimming pool, cabins, roads, etc.), and logging. Since this site represents some unique natural features for the county its protection is important. Presently, the forested slopes and valley bottom are not well buffered from development activity in the upland. Much of the development related to the Boy Scout camp results in a high degree of fragmentation and disturbance to NC004. This is indicated somewhat by the increase in weedy and exotic species such as wild grape (Vitis sp.) and garlic mustard (Alliaria officianalis) in the forest at the lower elevations.

If the natural qualities of the site are to be maintained and improved, then an evaluation of the impact of land use in both the upland and in the area of the Boy Scout Camp is needed. The threats posed by these land uses to the natural qualities of the valley may need to be eliminated or minimized in order to protect the forest and stream in this BDA. Because the site is relatively small and completely surrounded by development it has little potential to expand in size, therefore, it is critical that the existing qualities of the site be maintained or improved by eliminating the threat of further disturbances.

The **Beechwood Farms Nature Reserve** is located on Dorseyville Road in the southeastern corner of this quadrangle. This managed land is owned by the Western Pennsylvania Conservancy, but managed and operated as an environment education center by the Audubon Society of Western Pennsylvania. Approximately four of the 115 acres of the nature reserve are occupied by structures associated with the nature and education centers. These four acres are situated on the southeast edge of the reserve along Dorseyville Road. The remaining 111 acres comprise an Other Heritage Area recognized as the **Beechwood Farms Nature Reserve OHA** for its significance as both an Educational and Scientific Area. Presently the natural features of this land are recovering from past agricultural land use such as farming and grazing. A young, second growth forest which resembles the early successional stages of a Mesic Central Forest Community occupies the majority of the southern valley which at one time had been cropland. Pine plantations that are being replaced by hardwood trees, reverting fields and orchards, and

mowed fields further characterize this area. A small section of open field in the southern upland has been maintained for the purposes of bird observation.

The northern portion of the site referred to as the Spring Hollow valley has been designated a native plant sanctuary. Although this part of the reserve is manipulated to some degree to provide a diversity of habitats for educational purposes, its management is largely hands-off in that most of the site is recovering from past disturbance and undergoing natural succession on its own accord. Much of this northern section of the reserve is occupied by a recovering Mesic Central Forest Community, which is fragmented by an area that is being maintained as open field. Large,old, oak trees scattered throughout a dense layer of undergrowth characterize this valley forest. This forest structure suggests a disturbance such as grazing in which ground cover, including tree seedlings and saplings, was removed for a period of time, thus creating an age gap in the forest canopy. Most of these old oak trees are dead as a result of a heavy infestation of gypsy moth (Lymantria dispar). Mowing of fields in the upland and in the vicinity of the nature center is performed in order to provide a diversity of habitats to encourage a variety of plant and animal species.

Potential exists within this OHA for areas to be set aside for their ecological significance. Although the primary focus of this site is science and education, some attention could be given to the potential for areas within the site to be recognized and managed for their biological diversity qualities. It is recommended, therefore, that a management plan for the nature reserve be developed and in that, areas of potential or significant natural quality be focused on for future protection as natural areas. Such management could have both educational and scientific value and, therefore, fit in well with the present use of the site.

A final natural heritage area extending from this quadrangle to the east on the New Kensington West quadrangle is the **Blue Run Valley OHA**. The **Blue Run Valley** is also recognized as a managed land since natural resources that are used for educational and scientific purposes are being protected. The site is presently owned and used by the Fox Chapel School District as an outdoor classroom. Situated in the middle of the Blue Run watershed just south of Dorseyville Junior High School, this small section of valley is somewhat disturbed from a natural heritage inventory stand point, yet it retains some qualities that make it a significant environmental education area. The value of the site as an educational area lies in its significance as a haven for native plants, animals, and natural communities as well as its importance as green space. The general character of the property is that of steep forested slopes on both northern and southern exposures extending down to the floodplain where a highly disturbed open canopy, weedy, field-like condition persists as the result of sewer line construction and maintenance. This bottomland is largely dominated by weedy or exotic vegetation. The majority of the forest in the valley is young, second growth with the exception of the steeper slopes along Blue Run which exhibit the oldest and largest trees in the valley. This diversity of natural communities is certainly a key aspect of the significance of the site as an educational area. Since the site is small, defensibility of the natural qualities in a highly developing landscape is poor, therefore, the school district should make attempts to purchase adjacent

properties to expand the size of the area if the intent is to protect and improve upon the natural qualities of the site into the future.

Aside from North Park in the northwestern section of this quadrangle, three other managed lands are located in this part of the county. A second county park, Hartwood, has been established on land that at one time was in agricultural use. Much of the 639 acres comprising the park had been cleared at one time, but a large portion remained forested and was used as pastureland. Presently, large open fields in the western and southern portions of the park are maintained for recreational purposes, and the forested areas that have remained intact are recovering from past grazing pressures. It has been suggested that these forests were completely removed in the early 1800's and then used later as pasture after the forest grew back. Today white oak, red oak, and black oak mixed with tulip poplar (Liriodendron tulipifera), black cherry, chestnut oak (Quercus prinus), black gum (Nyssa sylvatica), red maple (Acer rubrum), and white ash (Fraxinus americana), characterize this second growth forest. If the intent of the county and park managers is to improve the natural qualities that exist at the park and at the same time contribute to the natural heritage of the county, then it is recommended that areas of forest, the most natural sections of the park, be set aside as park conservation areas and management follow that given for Natural Areas in the General Recommendations for the Protection of Natural Heritage Areas section of the report.

Fall Run Park is a managed land that has been recognized for its size and the role it plays in protecting the natural resources in the northern part of Allegheny County. Fall Run is a tributary to Pine Creek entering along Route 8 just north of Wittmer. The park is situated in a valley that is forested with the exception of the broader valley bottom near the mouth of the stream where recreational development exists, and on the upper edges of the slopes and uplands where residential development has occurred. The stream itself is rather poor quality due, in part, to a sewer line which runs through and adjacent to the stream. The character of the narrow ravine situated in the lower valley changes above a large waterfall located approximately 0.5 miles from the mouth of Fall Run. The lower valley is deep and, therefore, cool and moist since exposure to the sun and wind is minimized. Above the waterfall the valley widens and soils become drier and the temperature warmer than that of the lower valley. The slopes are characterized by a maturing Mesic Central Forest Community, the least disturbed of which is found in a southeast tributary to Fall Run. Although not a good example of this community type, the forest is maturing and the qualities seem to be somewhat protected by the park designation.

Present threats to the park and the forest include fragmentation and the introduction of exotic species resulting from the disturbance caused by sewer line construction on the floodplain of the stream. Native vegetation on this floodplain should be encouraged to grow and revert back to the original forested condition. Exotic species such as tree-of-heaven (Ailanthus altissima) need to be discouraged in order to give opportunities to native species to grow. Manual removal of such exotic species would minimize disturbance to the forest and stream communities. Since the valley is poorly buffered at the higher elevations, any activity occurring in the upland adjacent to the park could

further impact the natural qualities downslope and downstream. The forest in the park is contiguous with the forest on the slopes that extend along Pine Creek south of Fall Run Park. Acquisition by the Township of Shaler of the adjacent lands would help to buffer and enhance the natural qualities of the forest in Fall Run Park and thus provide a future natural heritage site for this part of the county. Park managers and township officials are encouraged to consider the potential significance of the natural features in this park and to make management decisions that will best protect these qualities.

EMSWORTH QUADRANGLE

	PNDI Rank		Legal Status		Last
	Global	State	Fed.	State	Seen

NATURAL HERITAGE AREAS:

OHIO RIVER BDA *High Significance*

SPECIAL ANIMAL:	SA001	G4	S1	N	PC	1985

TOMS RUN VALLEY BDA *Exceptional Significance*

NATURAL COMMUNITY:	NC001	G?	S2	N	N	8/93
NATURAL COMMUNITY:	NC002	G?	S5	N	N	8/93

NORTH PARK LAKE BDA *Notable Significance*

SPECIAL PLANT:	SP001	G4	S3	N	PR	4/93

LOWRIES RUN SLOPES BDA *Notable Significance*

SPECIAL PLANT:	SP002	G4	S3	N	PR	4/85

MOON RUN SLOPES BDA *Notable Significance*

SPECIAL PLANT:	SP003	G5	S2S4	N	TU	10/93

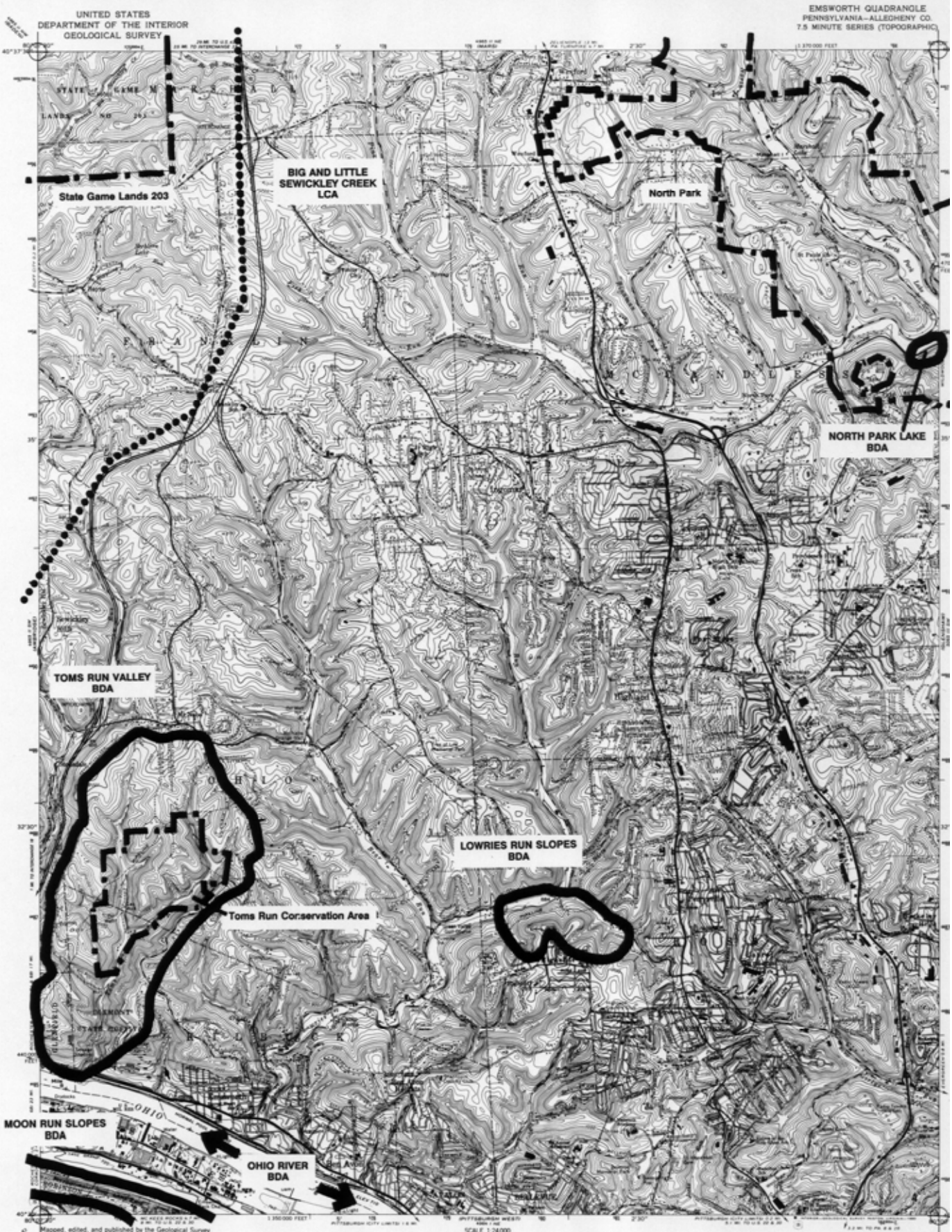
BIG AND LITTLE SEWICKLEY CREEK LCA *Exceptional Significance*

NATURAL COMMUNITY:	NC003	G?	S3	N	N	6/93

MANAGED LANDS: North Park

State Game Lands 203

Toms Run Conservation Area


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
EMSWORTH QUADRANGLE
PENNSYLVANIA—ALLEGHENY CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
State Game Lands 203
BIG AND LITTLE SEWICKLEY CREEK LCA
North Park
NORTH PARK LAKE BDA
TOMS RUN VALLEY BDA
LOWRIES RUN SLOPES BDA
Toms Run Conservation Area
MOON RUN SLOPES BDA
OHIO RIVER BDA
Mapped, edited, and published by the Geological Survey
SCALE 1:24000
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
ROAD CLASSIFICATION
EMSWORTH, PA.

EMSWORTH QUADRANGLE

The landscape depicted on this quadrangle is very similar to that covered by the Glenshaw quadrangle. Interstates 79 and 279, which run north-south in the western portion of this quadrangle, provide easy access to Pittsburgh and have helped encourage urban sprawl across the landscape. These expressways, the many other roads, housing developments, and commercial areas have fragmented the landscape. However, a number of places have managed to retain or recover their natural qualities. Some of these places are areas of steep slopes or valleys that are not suitable for development. These areas represent patches of green space and, although some have retained significant natural qualities, others have been disturbed by activities associated with nearby residential and commercial development such as sewer lines, utility right-of-ways, logging, and A.T.V. (allterrain vehicle) use. Other areas represent land that has been used in the past, but is now recovering from disturbance and is held as public land in the capacity of parks or conservation areas.

The Ohio River originates in Pittsburgh and flows north and west into Beaver County. Formed during the Wisconsin Glaciation, the river was at one time a high quality, pristine waterway as indicated by 43 mussel species that inhabited its waters (Ortmann, 1909 & 1919). This list of mussels includes five species presently listed as Endangered Species under the U.S. Endangered Species Act. Mussels are bivalve mollusks that are filter feeders with a very low tolerance for water pollutants or sediments. Therefore, they are excellent indicators of water quality. The fact that few to no mussels have been collected in the Ohio River since the early 1900's when the Ohio became the focus of industrialization in southwestern Pennsylvania, illustrates the destruction that the river has undergone. Coal fired power plants, various refineries, steel- making plants, as well as other similar industries lined, and still do to a lesser degree, the shores of the river. Pollution of the river due to poorly regulated industrial discharge, as well as sewage discharge, resulted in the loss of virtually all of the rivers biotic components. Serving as one of the nation's largest freight transportation channels, the Ohio River and associated habitats also suffered from the construction of navigational locks and dams, which altered the depths and slowed the currents of the river, and destroyed many river associated habitats such as floodplains, riffle communities and islands, by raising the water level. Another activity that has greatly impacted the Ohio is the commercial dredging of the river bottom to extract sand, gravel, and cobblestone, as well as to remove sediment from the river channel for the ease of transportation within the navigational channel. This type of activity has a major impact on the biota of the stream by removing the natural river bed. Additionally, the sediment that is released, or stirred up, inhibits feeding and complicates physiological functions in fish, mussels, and aquatic insects. Dredging also alters river hydrology, causes bank and shoal erosion, and creates deep, cold anoxic holes nearly devoid of life.

The present day Ohio River in Allegheny County is classified as a low to medium quality-warm water fishery. Its water quality has much improved since a federal mandate to clean the Ohio River was established about 25 years ago. Information collected by the

United State Fish and Wildlife Service (U.S.F.W.S.) (1985 and 1986) suggests that improvement of the river over the last decade has resulted in improvement of fish populations that were considered rare in the river. The fish composition in the river is changing from a dominance of pollutiontolerant species such as carp (Cyprinus carpio) and gizzard shad (Dorosoma cepedianum), to more pollution-sensitive species such as walleye (Stizostedion vitreum), sauger (Stizostedion canadense), and bass (Micropterus spp.). In addition, a project by the PA Fish and Boat Commission is underway to reintroduce the paddlefish (Polyodon spathula), a native filter feeding fish that once inhabited the Ohio and Allegheny Rivers in Pennsylvania, but was considered extirpated as a result of habitat destruction during the late 1800's and early 1900's. See page 87 of the Freeport quadrangle description for more information on the reintroduction of the paddlefish into the Ohio and Allegheny Rivers in western Pennsylvania. The improvement in water quality is due to a decline in certain industries and more effective constraints on industrial and sewage discharges.

Further evidence of the improvement in water quality is the return of one fish species of special concern **(SA001**). Since the river serves as habitat for this species it has been designated the **Ohio River BDA**, specifically a Special Species Habitat. The information on this species is incomplete. For example, it is unknown how far ranging it is, as well as what portions of the river are especially important to the species survival. However, places that may well be important to the survival of this species are areas that represent portions of the river as it appeared prior to locks, dams, dredging and navigation activity such as the downstream end of Neville Island and Davis Island, as well as rocky, shallow sections immediately downstream of navigational dams. These areas not only aerate the river habitat, but provide locations where currents mimic pre-dam currents of the natural free-river. Although the presence of the fish species of special concern may represent recovery of the river, not enough information exists to determine whether it is successfully reproducing in the river. Further downstream in Beaver County a number of other fish species of special concern have been found (Smith, 1993).

To protect the Ohio River BDA and the native animals and plants that occur within its boundaries, and to further encourage the reintroduction of other native species, the water quality in the river must improve. This will require continued and more stringent restrictions and regulations placed on industrial, residential, and commercial discharges along the river and its tributary streams. Careful monitoring and enforcement of regulations of all activities on and along the river is recommended. Since the Ohio River is already on the U.S.G.S. maps supplied with this report, and not enough data is available to draw more accurate boundaries for the Ohio River BDA, additional lines are not provided for this site. The entire river within Allegheny County is included as part of the BDA. The BDA continues downstream into Beaver County where it is recognized as habitat for a number of rare fish species. The Ohio River BDA is identified and discussed in the Beaver County Natural Heritage Inventory (Smith, 1993).

Toms Run is a northern tributary to the Ohio River entering just west of Emsworth. The majority of this watershed has been recognized for its large expanse of forest and the improving natural qualities that make it a High Diversity Area. This Natural Heritage Area is referred to as the **Toms Run Valley BDA** and the managed lands within its boundaries are considered the **Toms Run Conservation Area**. The Toms Run

Conservation Area, which is owned and managed by the Western Pennsylvania Conservancy, encompasses the most recovered, least impacted portion of the site. With the exception of four private residences in the main valley, some development related to the now abandoned Dixmont State Hospital at the mouth of the valley, and some surrounding residential development on the borders of the site, the Toms Run Valley BDA is relatively void of development. This is unusual for Allegheny County and certainly for this highly developed part of the county. Most of the site is in forest, with the exception of the some of the upland areas which are presently in a state of early forest succession and a few small places in the bottom of the valley where homesteads once existed and are now recovering from that disturbance. The forest occupies almost entirely the slopes in the main valley and its major northern tributary and small associated secondary tributaries. Logging has been an ongoing disturbance to the forest communities with the exception of the Conservancy land, which is less disturbed. The overall character of the forest at this site ranges from areas of young, second growth to mature forest. Some of the natural communities that are represented here include relatively undisturbed, maturing examples of Mesic Central Forest (NC001), Dry-Mesic Acidic Central Forest (NC002) and transitions between these two communities. Examples of NC001 persist on the cooler, more moist lower slopes, north and northwest facing slopes, and protected tributary valleys, while NC002 is situated on the drier, south facing slopes and higher, more exposed slopes, as well as the large upland area on the Conservancy property that has been altered by topsoil removal prior to Conservancy acquisition. The cool, moist slopes occupied by NC001 are characterized by a dominance of such species as sugar maple (Acer saccharum), American beech (Fagus grandifolia), white ash (Fraxinus americana), red oak (Quercus rubra), white oak (Q. alba), witch-hazel (Hamamelis virginiana), mayapple (Podophyllum peltatum). NC002 at the higher elevations is characterized by a prevalence of red oak, white oak, chestnut oak (Q. prinus), hickory (Carya sp.), tulip poplar (Liriodendron tulipifera), American beech, sassafras (Sassafras albidum), mountain laurel (Kalmia latifolia), and blueberry (Vaccinium sp.). Although the overall forest ranges in age and in disturbance history it does exhibit significant natural community qualities and certainly a significant size and contiguousness. The natural, relatively unique features at this site have also been recognized as supporting a rich diversity of forest insects, especially lepidopterans and as a result, the site is sometimes used for scientific monitoring and research. The disturbed upland area is reverting back to forest. A young forest of red maple (Acer rubrum), cherry (Prunus sp.), bracken fern (Pteridium aquilinum), and blueberry, as well as other species tolerant of dry, mineral and nutrient deficient soils, inhabits this area and is contributing to the humus layer and recovery of the soils.

At this point, it would be most beneficial to permit continued natural recovery of this upland portion of the managed lands. The Conservancy's present management is encouraging this and full recovery of the remainder of their property by taking a hands-off approach to the management of this land. Presently, the biggest threat to the Toms Run Valley BDA is increasing residential development in the surrounding uplands. Since two large parcels of land in this valley are under the ownership of the state and a private individual, the likelihood is good that these properties could end up in the hands of developers since this part of the county is under heavy development pressures. Other

impacts to Toms Run have occurred in the downstream end of the stream valley where road construction materials have been dumped and have filled in and altered the natural drainage of the stream. Other factors that threaten the site include logging and the presence of a sewage treatment plant at the head of the valley, which suggests the potential for a sewage line in the valley.

Two roads presently exist in the valley. They are Toms Run Road, which has been abandoned and is reverting to forest in the upper valley beginning at the confluence of the two major branches, and a road that branches off to the northwest of Toms Run Road approximately 0.5 miles from Route 65. Fragmentation is presently a problem created by two utility right-of-ways and the overuse of A.T.V.'s at the site. Both a powerline and a pipeline are situated in the upstream end of the main valley. The powerline creates a disturbance since it crosses the stream in two places and cutting has been done to maintain the right-of-way for this line. The pipeline crosses the stream at its upper reaches and then cuts over the upland and into the north branch of Toms Run. This pipeline not only fragments the site, but it provides an easy access for A.T.V.'s into the uplands and bottomlands of the site. Presently, the most direct disturbance to the natural qualities at this site is the erosion and compaction caused by the overuse of A.T.V.'s. Most of this disturbance is evident on the upland areas where the topsoil removal had occurred and in the main stream valley along Toms Run and where Toms Run Road was once situated. Overuse and abuse of these areas by quad runners, dirt bikes, and large, four-wheel drive trucks has resulted in large muddy areas that are unable to revegetate and increase sedimentation and pollution of Toms Run. For more information on the threats posed by utility and road right-of-ways and A.T.V.'s, see the section titled LandUses and Potential Impacts to Natural Heritage Areas.

If the natural qualities of the watershed are to continue to improve and sustain themselves into the future, then it is imperative that activities such as residential, commercial, or industrial development be avoided within the boundaries of the site or in adjacent areas. Activities related to the residential development that surround the site include the use of A.T.V.'s which has highly disturbed the site and is not conducive to the survival of the natural communities mentioned. Efforts by the Conservancy to protect their managed land might include restricting such activity within the area and acquisition of adjacent land that would ensure buffer and protection of NC001 and NC002 as well as other recovering natural communities. In addition, the development of a management plan that would designate this area a natural area is recommended. It is recommended that such management include continued hands-off management and a dedication to the protection of the natural qualities of this valley.

One of the larger managed lands in this part of Allegheny County is **North Park**. The western half of this county park extends onto this quadrangle and is characterized by North Park Lake and Marshall Lake, both of which are surrounded by mowed fields, a golf course, recovering forest, and recreational development. A discussion of this managed land is given on page 118 of the Glenshaw quadrangle. One of the two natural heritage sites that are situated in North Park is located on this quadrangle.

The **North Park Lake BDA** represents a Special Species Habitat for a small colony of a state rare plant species (**SP001**) along the southern shore of the southwest branch of North Park Lake. The particular site for this plant species is highly degraded and severely restricted in size and therefore raises concern as to the origin of this plant population. Typically, this plant does not grow in such disturbed areas and, furthermore, it is a plant that is known to have been transplanted from its natural habitat at sites in western Pennsylvania to less likely habitat elsewhere in this part of the state in an attempt to protect them from destruction. Individuals of SP001 are situated in a narrow forested patch of land that parallels Ingomar Road and the shore of North Park Lake. The canopy trees are predominantly white oak, but disturbance has played such a role in this site that a natural community classification is impossible. Threats to the plants include those related to road use and maintenance, such as the use of de-icing chemicals, heavy metals from gasoline, or asbestos released from car brake linings (see page 50 for further information on the threats to natural systems caused by road right-of-ways). Although the site is highly degraded, individuals of SP001 appear to be reproducing. Monitoring of the plant colony is needed in order to better evaluate the health of the plants. Since buffering the site would be extremely difficult, protection efforts might be aimed at alleviating any disturbance caused by road maintenance or construction and at encouraging individuals such as fisherman who need to access the lake to do so from a different direction.

The rare plant species found in the North Park Lake BDA also inhabits the **Lowries Run Slopes BDA**. Although not visited during the inventory, this site has been evaluated for its significance as a Special Species Habitat for a small population of SP001, which is referred to as SP002 at this site. The Lowries Run Slopes BDA is situated to the north of the town of Highcliff and encompasses a section of the lower, north facing slope along Lowries Run. The forest that provides habitat for SP002 is a relatively young Mesic Central forest which is dominated by sugar maple, basswood, red oak, and black birch (Betula lenta). Presently, the most direct threats to SP002 and its associated habitat include the small size of the plant population and the forest. Industrial development occupies the floodplain at the base of the slope and residential development on the uplands restricts the forest to the slopes. If SP002 is to be protected, then a buffer zone needs to be maintained. Any abandoned land within the site that is presently cleared would better buffer the core area of the site if it is permitted to revert back to woodland. The owners of the site should be made aware of the significance of the site so that disturbances such as logging or alteration of the habitat by other means might be avoided.

Another Special Species Habitat on this quadrangle is covered by the **Moon Run Slopes BDA**. This site occupies the steep northeast facing slopes along the southern shore of the Ohio River, which extend onto the Ambridge, Pittsburgh West and Pittsburgh East quadrangles. Since this site was not visited during the inventory little information exists regarding the natural community at the site. More investigation of this site, therefore, is needed. Information regarding a plant of special concern (**SP003**) at the site is available and suggests that this plant is growing quite prolifically throughout the lower slopes of the site. Habitat for the plant at this site includes the forested slopes that have been somewhat disturbed in the past as a result of construction of the railroad tracks that parallel the base

of the slope. SP003 grows as both an herb on the ground and as a vine hanging from the trees along the railroad tracks and into the higher elevation forest.

The pipevine swallowtail butterfly (Battus filenor), is a lepidopteran species that is associated with SP003 since it depends on the plant as a food source. It has been suggested that this herbivore is relatively uncommon and restricted in its range, although it is not presently listed as a special species of concern in Pennsylvania. Whether or not this species is present at this site is unknown. A potential threat to the pipevine swallowtail if it were present, however, is spraying pesticides for the control of gypsy moth (Lymantria dispar). This species is a lepidopteran like the gypsy moth and as such might be eradicated by insecticides if spraying were to occur. Therefore, it is recommended that spraying any type of pesticide for the control of insect pests be avoided at this site, as well as the other BDA sites along the Ohio River that are situated in Beaver County (Smith, 1993) that serve as habitat, or potential habitat, for the pipevine swallowtail.

Other threats to the site include logging, construction of utility right- ofways, and maintenance/construction on the railroad tracks. Logging at the site should be avoided completely and any future utility lines should follow existing right-of-ways if SP003 and the associated community are to be protected. An evaluation of the impact that any type of activity on the railroad tracks could have on SP003 is needed so as to best protect the qualities at this site.

State Game Lands 203, a managed land, is located, in part, in the northwest corner of this quadrangle. A large portion of the forested lands along the East Branch of Big Sewickley Creek in this 1247 acre tract is situated on this quadrangle and is further elaborated in the Mars quadrangle description on page 74. This managed land is situated in a large Landscape Conservation Area referred to as the **Big and Little Sewickley Creek LCA**. This LCA extends from this quadrangle onto the Ambridge, Baden, and Mars quadrangles and recognizes the Little Sewickley Creek, a Medium Gradient-Clearwater Creek Community (**NC003**). A description of the LCA is given in the Ambridge quadrangle description.

AMBRIDGE QUADRANGLE

	PNDI Rank		Legal Status		Last
	Global	State	Fed.	State	Seen

NATURAL HERITAGE AREAS:

OHIO RIVER BDA *High Significance*

SPECIAL ANIMAL:	SA001	G4	S1	N	PC	1985

BIG AND LITTLE SEWICKLEY CREEK LCA *Exceptional Significance*

NATURAL COMMUNITY:	NC001	G?	S3	N	N	6/93

CAMPMEETING WOODS BDA *Exceptional Significance*

NATURAL COMMUNITY:	NC001	G?	S3	N	N	6/93
NATURAL COMMUNITY:	NC002	G?	S2	N	N	6/93

MOON RUN SLOPES BDA *Notable Significance*

SPECIAL PLANT:	SP001	G5	S2S4	N	TU	10/93

MONTOUR RUN VALLEY LCA *High Significance*

MANAGED LANDS: Robin Hill Park

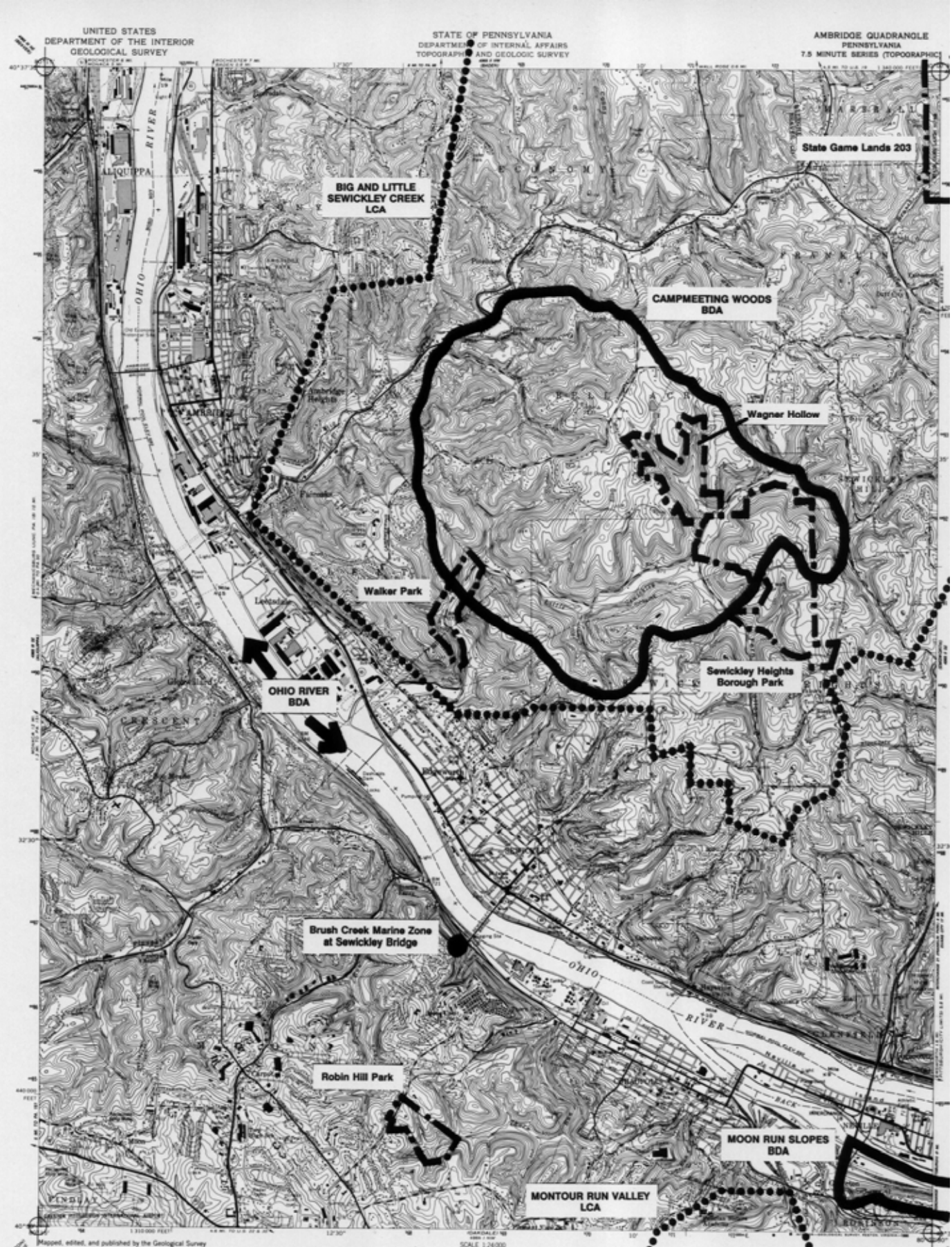
Sewickley Heights Borough Park

State Game Lands 203

Wagner Hollow

Walker Park

GEOLOGIC FEATURES/FOSSIL LOCALITIES: Brush Creek Marine Zone
At Sewickley bridge.


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF PENNSYLVANIA
DEPARTMENT OF INTERNAL AFFAIRS
TOPOGRAPHIC AND GEOLOGIC SURVEY
AMBRIDGE QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
State Game Lands 203
BIG AND LITTLE SEWICKLEY CREEK LCA
CAMPMEETING WOODS BDA
Wagner Hollow
Walker Park
Sewickley Heights Borough Park
OHIO RIVER BDA
Brush Creek Marine Zone at Sewickley Bridge
Robin Hill Park
MOON RUN SLOPES BDA
MONTOUR RUN VALLEY LCA
OHIO RIVER
ALIQUIPPA
AMBRIDGE
ECONOMY
FRANKLIN
MARSHALL
CRESCENT
Mapped, edited, and published by the Geological Survey
SCALE 1:24000
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
ROAD CLASSIFICATION
AMBRIDGE, PA.
40080-E2-TF-024
1960
PHOTOREVISED 1990

AMBRIDGE QUADRANGLE

The Ambridge quadrangle represents the most natural, contiguous forest in Allegheny County. The Big Sewickley Creek watershed and the Little Sewickley Creek watershed, both tributaries to the Ohio River, have maintained, with little exception, much of their natural forest character. The development that has occurred in these watersheds has been restricted to the areas along the Ohio River where the streams end and to some of the upland areas that have been zoned for large lots such as in Sewickley Heights Borough. Most of this green landscape is situated northeast of the Ohio River, which cuts across the southern portion of the quadrangle and heads in a northwest direction to where it enters Beaver County in the northwest quadrant of the map. The landscape south of the river is characterized by a few towns that flank the southern shores of the river and by upland areas that are developing at a rapid pace as a result of the construction of the new Pittsburgh International Airport, which is situated in the southwest corner of the quadrangle. Although development is occurring on the upland areas south of the river, the many deeply cut river tributary valleys have retained some of their natural character.

The Ohio River has been designated the **Ohio River BDA**, since it provides habitat for a fish species of special concern (**SA001**). It should be noted that this Special Species Habitat also extends into Beaver County where it was designated and noted in the Beaver County Natural Heritage Inventory (Smith, 1993). Some of the key features on this stretch of the river before it leaves Allegheny County and enters Beaver County near Leetsdale are the downstream end of Neville Island and the Dashields Dam, both of which are places where the fish species of special concern were actually collected. Neville Island, the largest of the Ohio River islands in Pennsylvania, is completely developed and severely altered by past land use activities and therefore provides little or no natural heritage significance. The backchannel of this island was noted by Ortman (1919) as having a diverse assemblage of mussel species. A detailed description of the river, its historical and present day significance, can be found in the Emsworth quadrangle description on page 130.

A large area north of the Ohio River that encompasses portions of the Big Sewickley Creek watershed and the entire Little Sewickley Creek watershed has been designated the **Big and Little Sewickley Creek LCA**. This Landscape Conservation Area is not only significant as the largest tract of a relatively contiguous, undeveloped "green space" in the county, but as an area that contains a large Biological Diversity Area and four managed lands. A large part of the protection focus of this LCA is the Little Sewickley Creek watershed. The Little Sewickley Creek has been designated a high quality-trout stocked fishery by the D.E.R (1992a). Presently, this stream is believed to be the highest quality stream in the county and is also the best example of a Medium-Gradient Clearwater Creek Community (**NC001**) of all of the river tributary streams in its size class in the county (D.E.R., 1992b). Although the stream is designated a trout stocked fishery, it is not stocked with fish. This is a benefit to the aquatic community since fish stocking almost always involves the introduction of non- native fish species such as brown trout which often results in the competition for resources with native species.

If stocking of this stream is to occur in the future, it is highly recommended that consideration be given to limiting the stocked fish to native species only. Further protection of the stream includes maintenance of a forested buffer, monitoring of water quality, and enforcement of discharge regulations. Although some of the land within the LCA has been moderately developed for residential use, the main disturbance that the land is recovering from is logging and some agricultural use. Nonetheless, this Landscape Conservation Area and the natural features contained in its boundaries represent some of the most mature, biologically diverse, and extensive forest in the county and therefore, merit protection and special consideration. See the LCA section under General Recommendations for the Protection of Natural Heritage Areas.

The southern portion of the Big and Little Sewickley Creek LCA includes a large Biological Diversity Area known as the **Campmeeting Woods BDA**. This BDA is recognized as both a High Diversity Area and a Community/Ecosystem Conservation Area which encompasses a significant forest and stream community on the north and south sides of Campmeeting Road in Bell Acres Borough and the Borough of Sewickley Heights. Portions of both the Big Sewickley Creek and Little Sewickley Creek Watershed are included in this BDA. The primary focus of the BDA is the Mesic Central Forest Community (**NC002**) that covers most of the area within the BDA boundary, however, also included within this BDA are sections of Little Sewickley Creek, a Medium-Gradient Clearwater Creek Community (NC001). The highest quality examples of the Mesic Central Forest Community exist in the more protected, steep walled valleys within the site. Some of the exceptional examples of this forest community are located in the stream valleys and some slope areas off of Turkeyfoot Road and off of Sevin Road. The north facing slopes and tributary valleys, as well as the north tributary known as Wagner Hollow along Little Sewickley Creek provide other highly significant examples of this forest community within the BDA. In general, the different examples of the Mesic Central Forest Community within the BDA are characterized by mature sugar maple (Acer saccharum), American beech (Fagus grandifolia), red oak (Quercus rubra), white oak (Quercus alba), basswood (Tilia sp.), tulip poplar (Liriodendron tulipifera), spicebush (Lindera benzoin), ironwood (Carpinus caroliniana), flowering dogwood (Cornus florida), witch-hazel (Hamamelis virginiana), and mapleleaf viburnum (Viburnum acerifolium) and a highly diverse herbaceous layer. Oak species take a more dominant role in the canopy of this natural community at higher elevations on the slope where conditions are drier and more exposed to sun and wind. The more mesic species such as sugar maple, tulip poplar and basswood are the more dominant species on the lower slopes and valley bottoms. Some of the herbaceous species that represent the rich mesic soils include bloodroot (Sanguinaria canadensis), wild ginger (Asarum canadensis), jack-in-the-pulpit (Arisaema atrorubens), mayapple (Podophyllum peltatum), wild geranium (Geranium maculatum), Christmas fern (Polystichum acrostichoides), hepatica (Hepatica americana), violets (Viola spp.), black snakeroot (Cimicifuga racemosa), marginal shield fern (Dryopteris marginalis), lady fern (Athyrium filix-femina), wild leek (Allium tricoccum), and large-flowered trillium (Trillium grandiflora). This diversity of herbaceous species suggests the quality and richness of the forest community at this site. Some of the upland areas to the north and south of Campmeeting Road and to the south of Little Sewickley Creek, the slopes along Turkeyfoot Road and along the north and south banks of Little Sewickley

Creek, and the bottomland/floodplain areas along Little Sewickley Creek that provide buffer for NC002 are generally forested and are characterized by younger successional stages of the Mesic Central Forest Community. The many topographic features, aspects, and elevational ranges provided within this large BDA add to the overall biological diversity and potential natural qualities of this site.

Of the past land uses and disturbances impacting the forest and streams in this BDA, logging and agricultural practices appear to be most prominent. A number of present threats to NC002 and the surrounding forest within this site exist. Since the highest quality examples of NC002 are sometimes located in small valleys and slopes, activity in the upland areas almost always has an impact on the forest community. This is true for a number of areas within the site where a golf course or housing development is situated in the upland or at the head of the valley. Aside from general restriction of the forest to the slopes and valleys, use of chemical fertilizers and herbicides related to the maintenance of the golf course turf could potentially impact the quality of the streams and associated soils in the forest. Evidence of some of the disturbances related to this type of upland development include erosion of stream beds which is due to increased runoff from pavement and storm water diversion both of which result in an unnatural influx of water into the valley. Erosion has resulted in tree falls and unstabilized stream banks.

The natural qualities exhibited within the Campmeeting Woods BDA can best be protected by allowing the forest and stream to continue through successional stages without alteration or disruption caused by future logging, development or infrastructural development related to residential development (i.e., sewer lines, utility right-of-ways, roads, etc.). Maintenance of a buffer zone is recommended which should include any upland or upper slope area that is presently forested or has the potential to revert back to forest.

A number of managed lands, or portions of, are situated within the boundary of the BDA. One of these is **Wagner Hollow**. This managed land is owned by the Little Sewickley Creek Watershed Association and is presently managed for the protection of the natural resources that are present in the valley. Although a hands-off management approach is being implemented no management plan has been developed for this area. It is recommended, therefore, that the watershed association continue to manage the site by allowing natural succession to occur, restricting the construction of structures, maintaining the low impact use of the site, and developing a management plan or document that will give guidance to this type of management. See Natural and Dedicated Areas under the section titled General Recommendations for the Protection of Natural Heritage Areas for ideas on how the management of this site should occur. Presently the only use of the valley appears to be that by equestrians on a main trail that runs along the floodplain next to the stream. This trail, as well as the floodplain, has suffered substantially from overuse. Use during wet weather has caused a good deal of erosion and compaction of the soil. Further, the stream itself has no doubt been subject to greater sediment loads resulting from the erosion that is occurring along the stream bank. It is recommended that activity resulting in erosion be reduced and kept to a minimum and be limited to one trail on the floodplain instead of many.

Some of the high quality examples of the Mesic Central Forest Community are situated on lands owned by the Borough of Sewickley Heights. The **Sewickley Heights Borough Park** is located on the south side of Little Sewickley Creek near the intersection of Little Sewickley Creek Road and Fern Hollow Road. This managed land consists of forested slopes, uplands, and floodplain, as well as cleared upland areas that are mowed or reverting forest. The north facing slopes along Little Sewickley Creek within this managed land provide some of the best examples of NC002. It appears that some of the forest and bordering uplands are being permitted to undergo natural succession processes. The only apparent disturbances to the forest are fragmentation that has resulted from pipeline construction and past logging and possible grazing that has occurred. It is recommended that the borough continue to allow natural processes to occur and continue to permit only low impact use such as hiking and horse back riding inthe forested sections of the park. Maintenance of a forested buffer on the uplands within the park is critical for the recovery of the forest community on the slopes.

Another managed land, partly within the boundaries of the Campmeeting Woods BDA is **Walker Park**. This small parklet is owned by Leet Township and comprises a section of cleared floodplain along Little Sewickley Creek, as well as some of the lower slopes along the creek. In order to better protect the natural qualities in the park and, at the same time, expand and better protect the Campmeeting Woods BDA from future development and disturbances, Leet Township could acquire lands adjacent to Walker Park.

The southwest corner of **State Game Lands 203** is situated in the northeast corner of this quadrangle within the boundaries of the Big and Little Sewickley Creek LCA. Much of the forested land adjacent to this 1247 acre managed land in this quadrangle would be a suitable addition to the Game Commission owned tract. Such an acquisition would help to protect more green space in this rapidly developing corner of the county. A more in-depth look at State Game Lands 203 is provided in the Mars quadrangle description on page 74.

The **Moon Run Slopes BDA** is situated along the southern shore of the Ohio River in this quadrangle. This site is recognized as a Special Species Habitat for a large special plant population, **SP001**. A discussion of this site is given in the Emsworth quadrangle description on page 135.

Robin Hill Park provides yet another managed land in this part of the county that is recognized for its natural resource management. This small township park is situated south of the Ohio River in Moon Township. A section of the disturbed, but forested Thorn Run valley is protected within the boundaries of this park. Hiking trails and some interpretive trails have been established throughout the forest which encourage recreational activity in a natural setting. Since the park abuts the relatively large Thorn Run valley, and since the valley has remained void of roads and development, the township might consider acquisition of more of the forest so as to protect the natural qualities and see them into the future.

The northern edge of the **Montour Run Valley LCA** extends onto this quadrangle. The majority of this site and a description of its natural qualities are located on the Oakdale quadrangle on page 156.

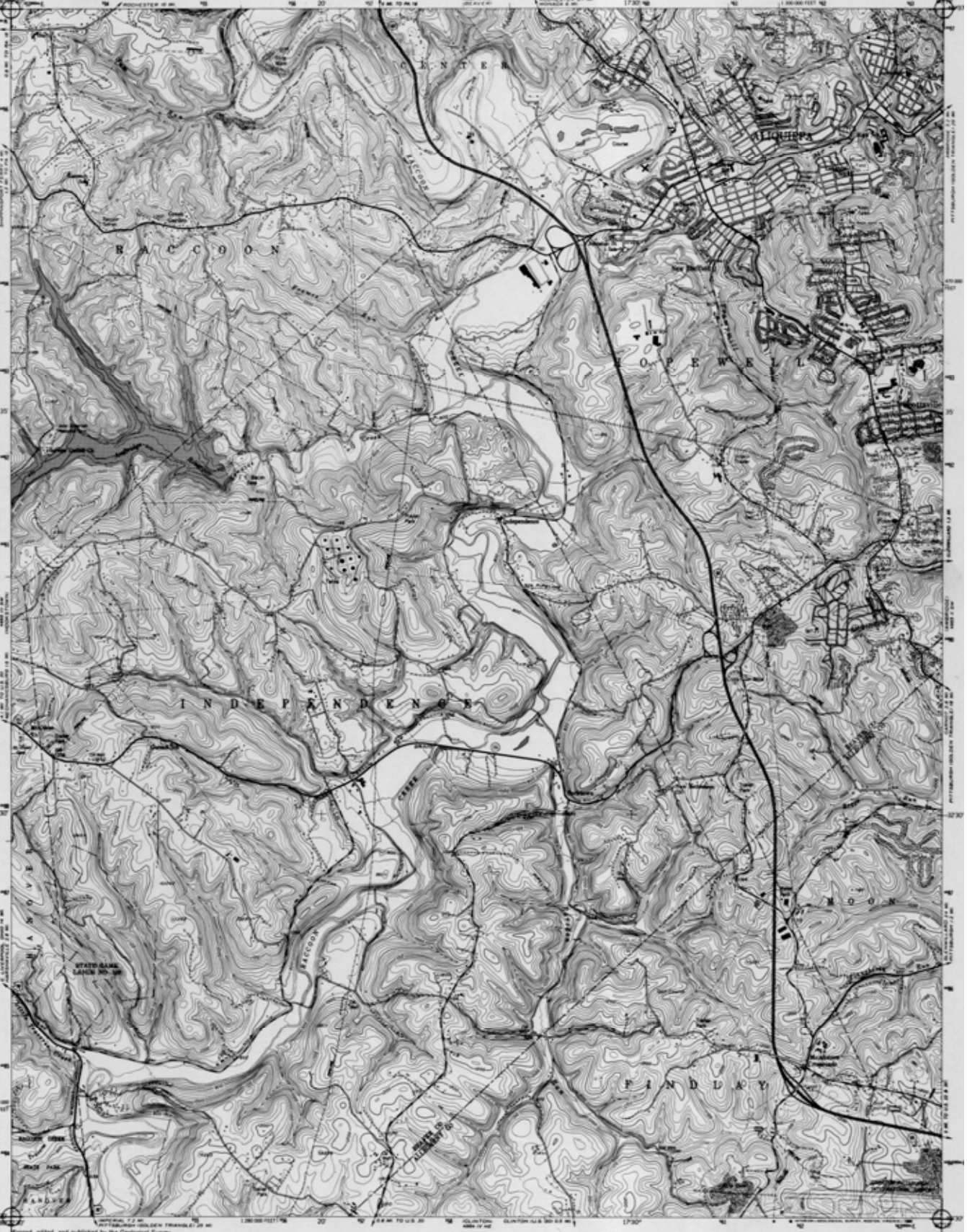
The only recognized fossil locality in Allegheny County is the **Brush Creek Marine Zone at Sewickley Bridge** (Hoskins, et al., 1983). Recognized for its diversity of marine fossils, this site is a roadcut on the south side of the Ohio River just across the river from Sewickley.

ALIQUIPPA QUADRANGLE

	PNDI Rank	Legal Status	Last
	Global State	Fed. State	Seen

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ALIQUIPPA QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)



Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography from aerial photographs by multiplex methods
Aerial photographs taken 1952. Field check 1954

Polyconic projection. 1927 North American datum
10,000-foot grid based on Pennsylvania coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks, zone 17, shown in blue

To place on the predicted North American Datum 1983 move the projection lines 4 meters south and 17 meters west as shown by dashed corner ticks

There may be private inholdings within the boundaries of the National or State reservations shown on this map

Red tint indicates area in which only landmark buildings are shown

SCALE 1:24000

1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY
DENVER, COLORADO 80225 OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

UTM GRID AND 1982 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

ROAD CLASSIFICATION

Heavy-duty ——— Light-duty ———
Medium-duty ——— Unimproved dirt - - - - - -
U. S. Route ○ State Route

PENNSYLVANIA
QUADRANGLE LOCATION

Revisions shown in purple and woodland compiled in cooperation with Commonwealth of Pennsylvania agencies from aerial photographs taken 1988 and other sources. This information not field checked
Map edited 1990

Purple tint indicates extension of urban areas

ALIQUIPPA, PA.
40080-E3-TF-024
1954
PHOTOREVISED 1990
DMA 4065 II SE—SERIES V831

ALIQUIPPA QUADRANGLE

This quadrangle encompasses a small section of western Allegheny County. The landscape is generally that of rolling hills and gently sloped valleys. Little is known to exist in the way of significant natural land. A large portion of the landscape covered by this quadrangle is now occupied by the large Pittsburgh International Airport complex. Related to the airport are other man-made structures which have altered and fragmented the landscape. These include the Route 60 Expressway and the main powerlines that traverse the area. The forested valleys that remain in this section of Moon and Findlay Townships have been impacted by logging and indirect impacts related to development and construction. At the present time there are no recognized Natural Heritage Areas in the Aliquippa quadrangle.

CLINTON QUADRANGLE

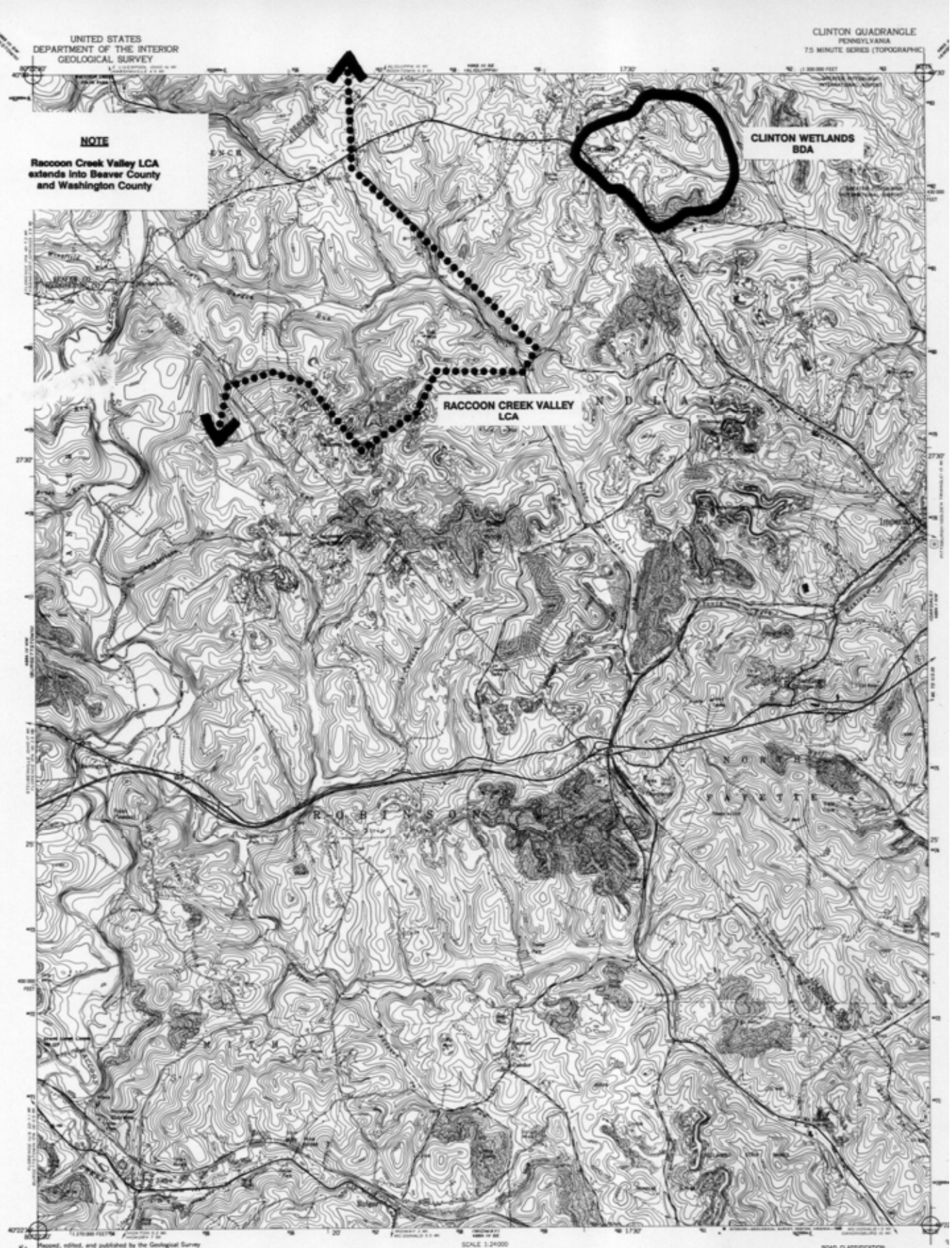
	PNDI Rank		Legal Status		Last
	Global	State	Fed.	State	Seen

NATURAL HERITAGE AREAS:

CLINTON WETLANDS BDA *High Significance*

NATURAL COMMUNITY:	NC001	G?	S2	N	N	9/93

RACCOON CREEK VALLEY LCA Notable Significance


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
CLINTON QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
NOTE
Raccoon Creek Valley LCA
extends into Beaver County
and Washington County
CLINTON WETLANDS
BDA
RACCOON CREEK VALLEY
LCA
ROBINSON
NORTH FAYETTE
Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Topography from aerial photographs by multiplex methods
Aerial photographs taken 1952. Field check 1954
Polyconic projection. 1927 North American datum
10,000-foot grid based on Pennsylvania coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks, zone 17, shown in blue
To place on the predicted North American Datum 1983 move the projection lines 4 meters south and 17 meters west as shown by dashed corner ticks
There may be private inholdings within the boundaries of the National or State reservations shown on this map
Contours in strip mine areas may not accurately represent present topography
SCALE 1:24000
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY
DENVER, COLORADO 80225 OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST
ROAD CLASSIFICATION
Heavy-duty
Light-duty
Medium-duty
Unimproved dirt
U.S. Route
State Route
PENNSYLVANIA
QUADRANGLE LOCATION
Revisions shown in purple and woodland compiled in cooperation with Commonwealth of Pennsylvania agencies from aerial photographs taken 1988 and other sources. This information not field checked. Map edited 1990
Light purple tint indicates reclaimed strip mine areas
CLINTON, PA.
40080-G3-TF-024
1954
PHOTOREVISED 1990
DMA 4864 IV NE-SERIES V851

CLINTON QUADRANGLE

This quadrangle encompasses that area that forms the western point of Allegheny County where Allegheny, Beaver, and Washington Counties meet. This landscape has been severely altered, mostly by coal mining activity, but Also by the construction of the Pittsburgh International Airport and the airport's related infrastructure, such as the major expressway and roads that provide access to the airport, as well as the utility right-of-ways that provide the needed energy sources for airport operations. Very little in the way of significant natural land exists in this highly disturbed and fragmented landscape.

One small area that has managed to survive and recover from surrounding disturbance is the **Clinton Wetlands BDA**. This site encompasses a Robust- Emergent Marsh Community (**NC001**) that is situated along a small tributary stream that forms the upper reaches of Montour Run just east of the town of Clinton. It is recognized as a Community/Ecosystem Conservation Area for the county. Broad-leaved cattail (Typha latifolia) dominates this wetland, however plants such as sensitive fern (Onoclea sensibilis), swamp milkweed (Asclepias incarnata), sallow sedge (Carex lurida), spotted touch-me-not (Impatiens capensis), soft rush (Juncus effusus), steeplebush (Spiraea tomentosa), and sphagnum moss (Sphagnum sp.), also play a dominant role in the structure of the wetland and serve as indicators of a wetland community. A large patch of black willow (Salix nigra) and red-osier dogwood (Cornus stolonifera) are situated towards the upstream end of the site. The northeastern border of the marsh is buffered by more disturbed wetland and a young, second growth forest of silver maple (Acer saccharinum), swamp white oak (Quercus bicolor), red maple (Acer rubrum), bitternut hickory (Carya cordiformis), and a dense undergrowth of bladdernut (Staphylea trifolia). A thinner strip of more disturbed forest between the wetland edge and the road provides somewhat of a buffer for the marsh community, although threats resulting from road construction and/or maintenance persist. Fortunately, this road is a secondary dirt road and does not appear to be heavily used, which suggests that threats such as the use of de-icing chemicals and other impacts created by roads (see Land-Uses and Potential Impacts to Natural Heritage Areas) are not a significant issue when it comes to the protection of this wetland. The upstream reaches of NC001 are bordered to the southwest by the mowed backyards of a number of local residents.

Obvious threats to the aquatic system of the wetland include the use of chemical fertilizers, insecticides, and herbicides, as well as the edge effect created by mowing up to the wetland edge. At this transition point weedy species such as multiflora rose (Rosa multiflora) grow dense in response to disturbance. Other, less direct, impacts to NC001 include the strip mining that occurred in the upland areas within the watershed and the acid mine drainage that could potentially result if such activity continued. New development in response to the new Pittsburgh International Airport complex is also a potential threat to the quality of the site.

If the qualities of this wetland are to improve, then disturbances that are occurring within the immediate watershed need to be minimized or eliminated. Natural succession is needed to occur without interference by fragmentation, exotic species, mowing, etc.. Any

future activity related to the adjacent road could impact the integrity of NC001 and should, therefore, be evaluated. Exotic species have entered into the community as a result of past disturbance, but mainly as a result of the mowing that is occurring at the edge of the wetland. A greater buffer area is needed in the area of this mowing. This can be accomplished by moving the mow line upslope toward the houses so that a larger core is created and at the same time mowed areas can remain, but are decreased in size. Such an action would improve the integrity of the wetland system.

The **Raccoon Creek Valley LCA** is a relatively large, minimally developed, largely forested patch of land that encompasses parts of Allegheny, Washington, and Beaver Counties. This area is also recognized in the Beaver County Natural Heritage Inventory (Smith, 1993) and in the Washington County Natural Heritage Inventory (Wagner, in press). The boundaries for this LCA in Allegheny County include a large portion of the Potato Garden Run watershed. The lower Potato Garden Run valley is forested, although logging and past agricultural practices have taken their toll on the natural quality of the valley. The forest is presently young, second growth with patches of maturing forest. Continued recovery of the Potato Garden Run valley, as well as the entire LCA is possible if development is limited to those areas that are already disturbed. However, disturbances should be eliminated from the BDA's in Beaver and Washington Counties that reside within the boundaries of the LCA. New roads and utility right-of-ways would further fragment the site and, therefore, are not recommended within the boundaries of the site. Proposed utility right-of-ways are recommended to follow existing right-of-ways if they are necessary. Buffer for and expansion of the forest in this site are important to the survival of the natural qualities that are present. Abandoned agricultural lands within the site should be permitted to revert back to forest so that the forest that is present is better buffered. These recommendations lend to the preservation of the sparsely developed and minimally fragmented character of the site and encourage the recovery and improvement of the ecological qualities at the site.

OAKDALE QUADRANGLE

	PNDI Rank	Legal Status	Last
	Global State	Fed. State	Seen

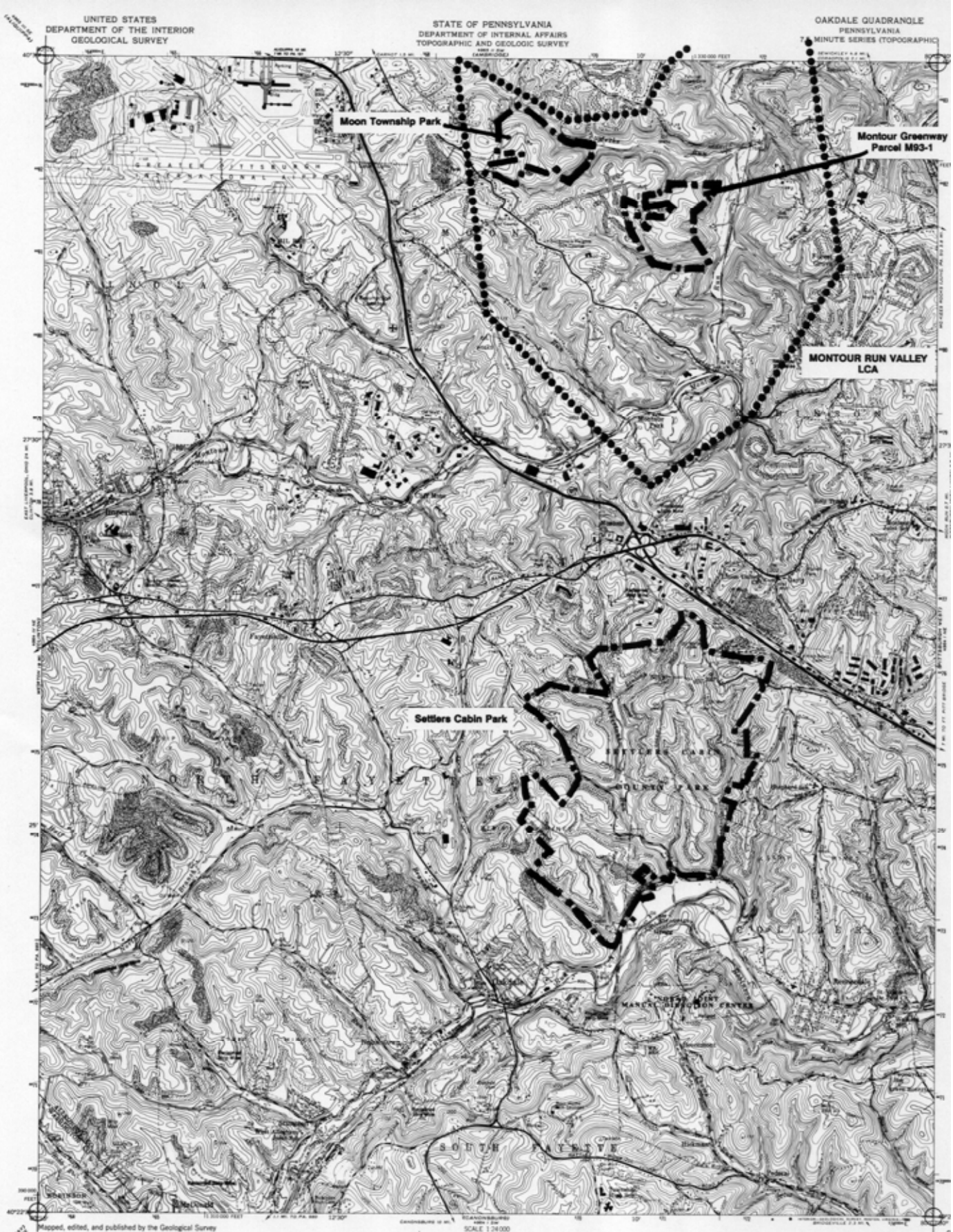
NATURAL HERITAGE AREAS:

MONTOUR RUN VALLEY LCA *High Significance*

MANAGED LANDS: Montour Greenway Parcel M93-1

Moon Township Park

Settlers Cabin Park


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF PENNSYLVANIA
DEPARTMENT OF INTERNAL AFFAIRS
TOPOGRAPHIC AND GEOLOGIC SURVEY
OAKDALE QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
Moon Township Park
Montour Greenway
Parcel M93-1
MONTOUR RUN VALLEY
LCA
Settlers Cabin Park
NORTH FAYETTE
SOUTH FAYETTE
COLLEGE
SETTLERS CABIN
COUNTY PARK
Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Topography from aerial photographs by photogrammetric methods
Aerial photographs taken 1952. Field check 1953. Revised 1960
Polyconic projection. 1927 North American datum
10,000-foot grid based on Pennsylvania coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks,
zone 17, shown in blue
To place on the predicted North American Datum 1983
move the projection lines 4 meters south and
18 meters west as shown by dashed corner ticks
Fine red dashed lines indicate selected fence and field lines where
generally visible on aerial photographs. This information is unchecked
Red tint indicates areas in which only landmark buildings are shown
There may be private inholdings within the boundaries of
the National or State reservations shown on this map
SCALE 1:24 000
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
UTM GRID AND 1986 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET
Contours in strip mine areas may not accurately
represent present topography
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY
DENVER, COLORADO 80225 OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST
PENNSYLVANIA
QUADRANGLE LOCATION
Revisions shown in purple and woodland compiled in cooperation
with Commonwealth of Pennsylvania agencies from aerial
photographs taken 1988 and other sources. This information
not field checked. Map edited 1990
Light purple tint indicates reclaimed strip mine areas
ROAD CLASSIFICATION
Heavy-duty
Light-duty
Medium-duty
Unimproved dirt
U.S. Route
State Route
Interstate Route
OAKDALE, PA.
40080-G2-TF-024
1960
PHOTOREVISED 1990
DMA 4864 I NW-SERIES V851

OAKDALE QUADRANGLE

This part of Allegheny County has experienced a mixture of industrial, commercial and residential development partly as a result of the Pittsburgh International Airport, which has served as a focus for such development. The airport itself, as well as a number of large industrial parks, a mall, housing developments, military sites, a few abandoned strip mines, two major expressways, and a few small towns are some of the cultural features that fragment this otherwise forested landscape. Route 22/30 and Route 60 have provided access between the airport and the city of Pittsburgh for commuters and the majority of the development in this area has occurred along this corridor. Montour Run and Robinson Run are the most notable natural features on this landscape. These streams have been a focal point for the establishment of several towns (Imperial, Oakdale, Noblestown, Sturgeon, and Rennerdale) and the floodplains of these streams have provided suitable land for industrial development in this part of the county. These streams are also associated with one of the Natural Heritage Areas on this quadrangle.

A large part of the Montour Run valley between Route 60 and Sharon Grade (Hassam) Road is minimally developed, open space. Referred to as the **Montour Run Valley LCA**, this natural heritage site is a rarity in this rapidly developing part of the county. Forested slopes and tributary stream valleys, which are oriented on the eastern and western sides of Montour Run, characterize the more natural portions of the site. The degree of disturbance that the forest has undergone varies amongst the slopes and tributary valleys along Montour Run. The site is mostly in private ownerships and as such, has experienced different land uses at different times in the past. The most apparent land uses or disturbances include logging and agricultural activity (grazing and farming). Farming was restricted to the floodplain along Montour Run and the flat upland areas on both sides of the valley. The forest overall is relatively young, but maturing in most cases and recovering from logging and grazing. The most mature forest within the site is found on the western side of Montour Run on the southern slopes of the Meeks Run valley and on the slopes of the small tributary stream valley that is west of the "R" in "Run" on the accompanying Oakdale quadrangle map. In addition, the peninsula formed where Montour Run becomes highly meandering at the area designated as "Montour Park" exhibits a maturing example of a northern forest community. These areas are significant for the LCA, but presently lack the qualities necessary to qualify them alone as Biological Diversity Areas. The qualities of the forest in these recognized areas are noticeably improving as indicated by the diverse herbaceous flora and size and increasing diversity of trees. The floodplain along Montour Run is the most disturbed part of the site. Much of this area has been cleared for past land uses, but the present condition is improving and in some areas wetlands are beginning to form. The major cultural feature in this valley is the Montour Trail, a Railsto-Trails project. This trail accommodates walkers and bicycles. Other cultural features within the site include some upland residential development, a powerline which extends along the railroad grade, a pipeline right-of-way which extends across the western uplands, floodplain, and northern part of the valley, and a sportsman's club, which is located on the floodplain in the northern part of the site. These features have created disturbance in the form of fragmentation.

If any future development is to occur within this LCA it is recommended that it be limited to those areas that are presently developed. It is recommended that protection efforts be aimed at maintaining the sparsely developed, minimally fragmented character of the site by discouraging such activities that could further fragment the site such as construction of utility right-of-ways or roads. It is recommended that new lines follow existing right- of-ways. Abandoned agricultural lands and forests that have been heavily logged or grazed are important for buffering the forested, more natural sections of the site if they are permitted to revert back to their natural forested condition.

Two managed lands are located within the boundaries of the Montour Run Valley LCA. The **Moon Township Park**, situated near the headwaters of Meeks Run, is owned by Moon Township. This small managed land is significant since it represents land that has been set aside by the municipality as open space and as land that has the potential to be protected for its natural qualities. The township is encouraged to focus acquisition efforts on those lands bordering the park in the Meeks Run valley so that more of the large, contiguous forest in the LCA can be protected into the future.

Situated to the southeast of Moon Township Park in the southern uplands overlooking Meeks Run is the **Montour Greenway Parcel M93-1**, an 80 acre parcel recently acquired by the Hollow Oak Land Trust (H.O.L.T.). The management intent of H.O.L.T. for this particular property is to protect the natural resources of the Montour Run valley. A similar recommendation is made for this site as was made for Moon Township Park. Future acquisition efforts should focus on enlarging this parcel and at the same time protecting more of the land encompassed by the Montour Run Valley LCA.

Settlers Cabin Park is situated in the eastern portion of this quadrangle along the north side of Montour Run. This 1,589 acre county park is predominantly land that had been strip mined at one time. Some of the reclamation efforts involved the creation of open fields and picnic areas. Much of the park however, has been recovering naturally from the mining activity. The general character of the landscape is that of large open space that is predominantly young, second growth forest fragmented by patches of open, mowed fields and picnic areas. The intense recreational development has largely been concentrated in the northeast corner of the park. The area with the most potential to recover some of the natural qualities that once existed is the Pinkerton Run valley in the western portion of the park. Presently, the reverting fields and young, second growth forested areas that have been inundated with weedy species such as multiflora rose (Rosa multiflora) and garlic mustard (Alliaria officianalis) characterize the poor natural condition of this valley. It is however, the largest area of open space in the park that has been left undeveloped and undisturbed since the acquisition of the land by the county. Some of the problems that the valley is presently encountering, aside from the competition created for the native plants by the multiflora rose and garlic mustard, include the overuse of A.T.V.'s (all-terrain vehicles) which have caused a good deal of fragmentation, erosion, and compaction of the soil on the floodplain. These vehicles appear to be entering the site from Pinkerton Run Road at the point where this road crosses the stream. See the Land-Uses and Potential Impacts to Natural Heritage Areas section for more

information on the impacts created by A.T.V. use. At least one pipeline and a number of roads run throughout this section of the park and have highly fragmented the landscape.

If the intent of the county or its park managers is to protect some of the natural resources of Settlers Cabin Park, then it is recommended that the Pinkerton Run Valley be the focus for such protection efforts. The site, in this situation, could be designated as a park conservation area in which management would follow that recommended for Natural Areas under the section titled General Recommendations for the Protection of Natural Heritage Areas. Future utility lines or roads would be detrimental to maintaining the integrity of the site since they fragment the landscape. It is recommended that any future right- of- ways follow existing lines. Many of the roads through the Pinkerton Run area are in poor condition. Such roads could be abandoned and permitted to become part of the natural landscape in an attempt to reduce the number of unnatural corridors in the park. In an attempt to naturalize these corridors, road improvements such as asphalt, guard rails, etc. would need to be removed. If the natural qualities of the valley are to improve, then A.T.V. activity needs to be restricted in the area.

PITTSBURGH WEST QUADRANGLE

	PNDI Rank		Legal Status		Last
	Global	State	Fed.	State	Seen

NATURAL HERITAGE AREAS:

OHIO RIVER BDA *High Significance*

SPECIAL ANIMAL:	SA001	G4	S1	N	PC	1985

ALLEGHENY RIVER BDA *High Significance*

SPECIAL ANIMAL:	SA002	G4	S1	N	PC	5/91
SPECIAL ANIMAL:	SA003	G5	S2	N	PC	5/91
SPECIAL ANIMAL:	SA004	G5	S1	N	PC	4/91
SPECIAL ANIMAL:	SA005	G5	SH	N	PC	*1990's
SPECIAL ANIMAL:	SA006	G5	SH	N	PC	*1990's

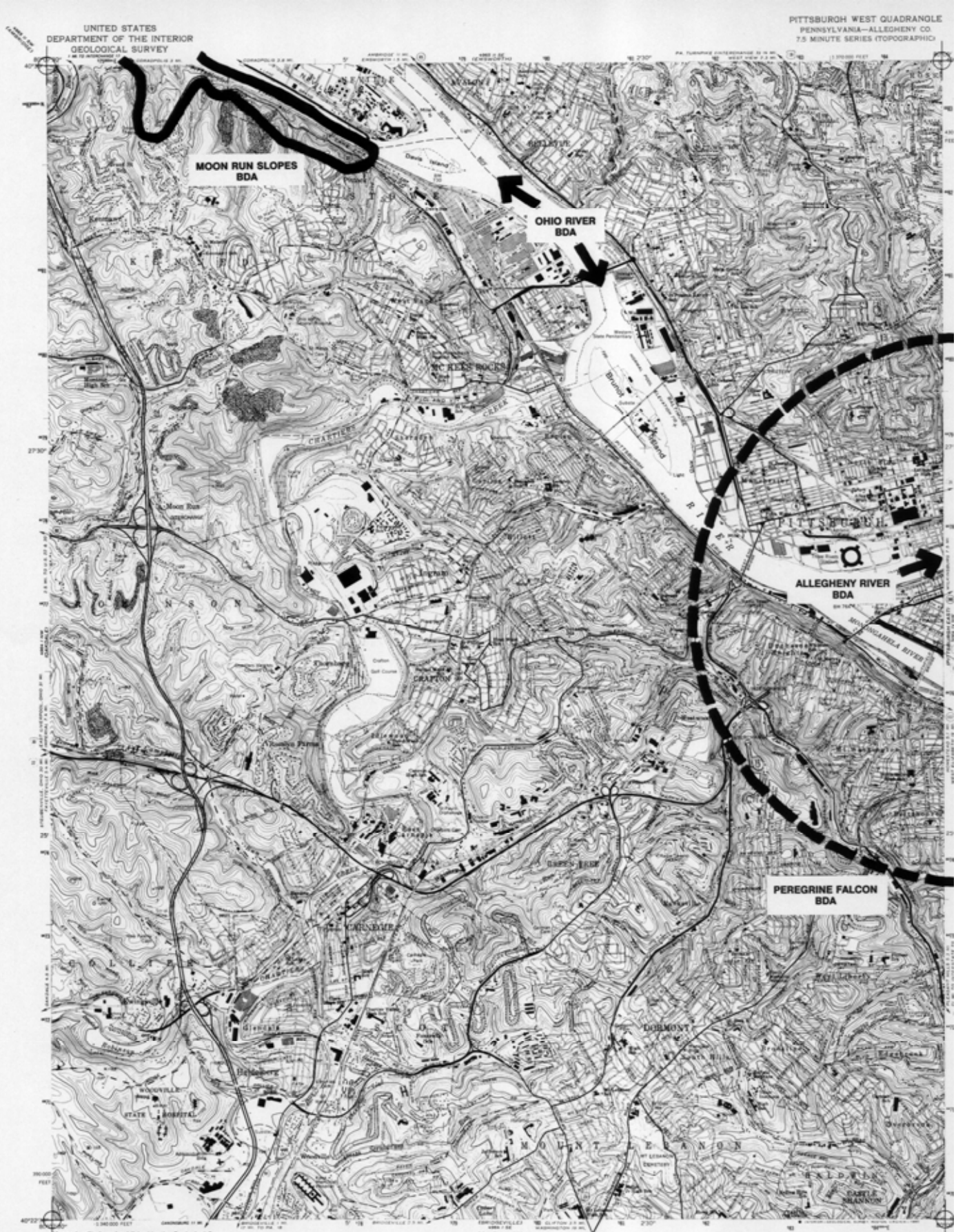
PEREGRINE FALCON BDA *High Significance*

SPECIAL ANIMAL:	SA007	G3	S1	LE	PE	11/93

MOON RUN SLOPES BDA Notable Significance

SPECIAL PLANT:	SP001	G5	S2S4	N	TU	10/93

- Per personal communication with Rick Lorson, Regional Fisheries Manager, PA Fish and Boat Commission, October 26, 1993.


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
PITTSBURGH WEST QUADRANGLE
PENNSYLVANIA—ALLEGHENY CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
MOON RUN SLOPES BDA
OHIO RIVER BDA
ALLEGHENY RIVER BDA
PEREGRINE FALCON BDA
SCALE 1:24000
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
ROAD CLASSIFICATION
PITTSBURGH WEST, PA.
1960
PHOTOREVISED 1979

PITTSBURGH WEST QUADRANGLE

The highly urbanized landscape depicted on this quadrangle includes that area to the south and partially to the north of the Ohio River near its origins at the confluence of the Allegheny and Monongahela Rivers. As the quadrangle name suggests, the western portion of the City of Pittsburgh and its suburbs are situated here. Within the limits of the City of Pittsburgh are a number of city parks, some of which include Riverview Park, McKinley Park, and Grandview Park. Although these parks are not of the size or natural quality to be recognized as natural heritage sites, they do lend significance to the landscape in that they provide important open space in an otherwise completely developed part of the county. The small patches of forest that exist in these parks serve as habitat for plants and animals and also for such uses as nature study.

The upstream end of the **Ohio River BDA**, a site recognized for the habitat that it provides for a fish species of special concern **(SA001**), is located in the northern portion of this quadrangle. The site is described in further detail on page 130 of the Emsworth quadrangle. Also on this quadrangle is the lower end of the **Allegheny River BDA** where it enters the Ohio River. This site provides habitat for a number of fish species of special concern (**SA002, SA003, SA004, SA005, and SA006**) and is further discussed on page 86 of the Freeport quadrangle description.

The Monongahela River meets the Allegheny River at the City of Pittsburgh and together they form the Ohio River. This river has experienced some of the same pollution/navigation problems as the lower Allegheny and upper Ohio Rivers, but to a greater degree (see page 38). Pollution resulting from factories, furnaces, refineries, gas wells, mining, and sewage from the towns along the river had caused serious problems for the river in the past (Ortman, 1909; Rhoads, 1899; Tolin, 1987). Today, some of these same types of pollution persist, but none are impacting the river more than acid mine drainage resulting from coal mining activity in the river's watershed. Destruction of the free flowing character of the river and associated habitats by the construction of locks and dams has also taken place on the Monongahela. The river has been subject to such alteration for almost its entire length. Another factor affecting the condition of the river is the large amount of development along its shorelines. Unlike the Allegheny and the Ohio Rivers, very little land along the Monongahela has been left undeveloped. The water quality of the Monongahela has improved somewhat since the implementation of such laws as the Clean Water Act of 1977 and the decline of the coal and steel industries, and it presently provides habitat for some native fish. However, coal mining remains an active land-use in much of the river's watershed and many factories still exist and contribute to the chemical and thermal pollution of the water. Efforts to improve the quality and condition of this river need to continue if habitat for SA001 and other native species is to be maintained and improved upon. See the section titled General Recommendations for the Protection of Natural Heritage Areas for further information regarding protection of riverine systems.

A third Natural Heritage Area that provides habitat for another animal species of special concern is referred to as the **Peregrine Falcon BDA**. The central focus of this BDA is the City of Pittsburgh where **SA007** nests. A description of this bird of special concern and the BDA which provides a nesting site is given on page 166 of the Pittsburgh East quadrangle description.

The **Moon Run Slopes BDA** is situated along the southern shore of the Ohio River in this quadrangle. This site is recognized as a Special Species Habitat for a large special plant population, **SP001**. A discussion of this site is given in the Emsworth quadrangle description on page 135.

PITTSBURGH EAST QUADRANGLE

	PNDI Rank		Legal Status		Last
	Global	State	Fed.	State	Seen

NATURAL HERITAGE AREAS:

ALLEGHENY RIVER BDA *High Significance*

SPECIAL ANIMAL:	SA001	G4	S1	N	PC	5/91
SPECIAL ANIMAL:	SA002	G5	S2	N	PC	5/91
SPECIAL ANIMAL:	SA003	G5	S1	N	PC	4/91
SPECIAL ANIMAL:	SA004	G5	SH	N	PC	*1990's
SPECIAL ANIMAL:	SA005	G5	SH	N	PC	*1990's

GUYASUTA RUN VALLEY BDA *High Significance*

NATURAL COMMUNITY:	NC001	G?	S5	N	N	7/93
NATURAL COMMUNITY:	NC002	G?	S3S4	N	N	7/93

PEREGRINE FALCON BDA *High Significance*

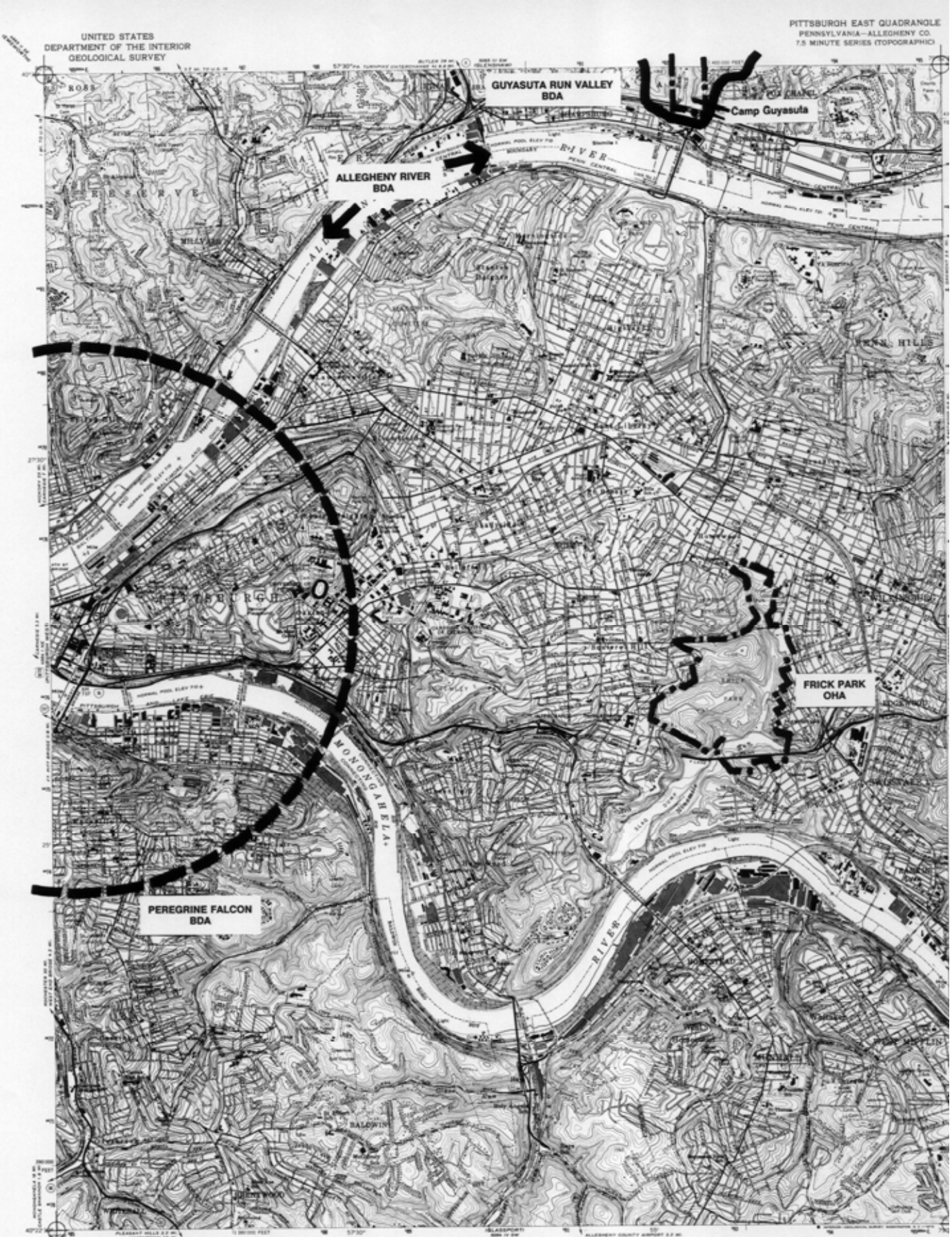
SPECIAL ANIMAL:	SA006	G3	S1	LE	PE	11/93

FRICK PARK OHA *Notable Significance*

MANAGED LANDS: Frick Park

Camp Guyasuta

- Per personal communication with Rick Lorson, Regional Fisheries Manager, PA Fish and Boat Commission, October 26, 1993.



Mapped, edited, and published by the Geological Survey

Control by USGS, USC&GS, USCE, and the City of Pittsburgh

Topography by planetable surveys 1925–1941, and 1948

Culture revised by photogrammetric methods from aerial photographs taken 1959. Field check 1960

Polyconic projection. 1927 North American datum

10,000-foot grid based on Pennsylvania coordinate system, south zone

1000-meter Universal Transverse Mercator grid ticks, zone 17, shown in blue

Red tint indicates areas in which only landmark buildings are shown

Revisions shown in purple compiled from aerial photographs taken 1969. This information not field checked

Purple tint indicates extension of urban areas

UTM GRID AND 1969 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS

FOR SALE BY U. S. GEOLOGICAL SURVEY, WASHINGTON, D. C. 20242

A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

PITTSBURGH EAST QUADRANGLE

Centrally situated in Allegheny County, the City of Pittsburgh and its surrounding suburbs make up this quadrangle. As was mentioned in the Pittsburgh West quadrangle on page 162, the City of Pittsburgh has a number of city parks which have been established to satisfy the recreational needs of city and suburban residents. Although the parks are not recognizable as Natural Heritage Areas or significant managed lands, they do possess qualities that make them significant for the open space that they provide in an otherwise urbanized area. The patches of forest that are located in Schenley Park, Frick Park, Highland Park, McKinley Park, and Grandview Park should be maintained for the urban wildlife habitat that they provide as well as the role that they play in nature study.

The Allegheny and Monongahela Rivers dissect this highly urbanized landscape, with the former recognized as a county Natural Heritage Area. The **Allegheny River BDA** presently provides habitat for a number of fish species of special concern (**SA001, SA002, SA003, SA004**, and **SA005**). A full description of the river, its history, and its significant features is given on page 86 of the Freeport quadrangle description.

Perhaps the most unusual and atypical Natural Heritage Area in Allegheny County occurs on this and the Pittsburgh West quadrangles. Situated in the City of Pittsburgh, this Special Species Habitat is recognized for an animal species of special concern (**SA006**) and is referred to as the **Peregrine Falcon BDA**. This animal is presently listed as a state and federally endangered species and has taken up residence on tall buildings in the city. The tall building where a pair of this endangered species nests is a typical choice when nesting in city environments since the building resembles the sheer cliffs where it nests in the wild. The animal has reproduced successfully over the past three years in Pittsburgh as a result, in part, of the construction of two nest boxes. These nest boxes were constructed as a means of encouraging the nesting.

Presently, the animal faces a number of problems or threats, most of which are associated with living in such a highly urbanized area. Disturbance of the nest site by people is a problem and a threat to SA006. Other threats that the animal faces are poisoning, disease, and physical injury. Physical injury from flying into buildings has proven to be a significant threat. Many large buildings are constructed with reflective glass that gives the animal the impression of open sky. Offspring from the nest of SA006 have been killed as a result of flying into windows. Unfortunately, no suggestions can be made at this time to avoid building crashes. Pigeon poisoning is commonly used in cities, especially where these birds have become a nuisance. SA006 feeds quite regularly on pigeons and, as such, is potentially subject to indirect poisoning. There are pigeon control agents that do not cause secondary poisonings in animals that feed on poisoned pigeons. It is recommended that such an agent be used if needed within the feeding range of SA006. Any pigeon control program should be reviewed in light of the potential for some agents to be harmful to SA006. It is highly recommended that any poison program take place outside of the nesting period for SA006, especially during early June through August which is early flight time for fledglings.

Air conditioning units situated on the tops of many of the buildings in the city present a more subtle threat. Associated with these air conditioning units are reservoirs or pools of water that SA006 can drink from, or bathe in, if left uncovered. Microorganisms that can cause disease in the birds may reside in these waters. In addition, the pools of water have been suggested as being a threat to young SA006, that may clumsily fall into the pools and drown. The specific degree of these threats in Pittsburgh has yet to be evaluated.

The protection of this endangered animal is critical, and with the efforts of the Western Pennsylvania Conservancy, the building managers of the nesting site and other involved individuals, nesting has been a success for three years. Efforts to continue protection include providing a safe nesting site where human disturbance can be reduced or eliminated and continued monitoring of adult and juvenile use of city habitat. Since the majority of the foraging of SA006 is thought to occur within two miles of the nest site, a two mile radius circle has been drawn on the map and centered on the nest site. This circle is drawn in a different manner from other BDA sites (a dashed line is used instead of a solid line) since this site is unlike other BDA's. The presence of an endangered animal in an urban environment is indeed an unusual situation, however, other than the management considerations outlined above, there are no reasons to otherwise alter the regular daily activities of a thriving metropolitan center.

The **Guyasuta Run Valley BDA** extends onto the northern portion of this quadrangle in the vicinity of Sharpsburg and includes **Camp Guyasuta**, a managed land owned by the Boy Scouts of America. This valley is noted for the significant example of natural forest communities (**NC001** and **NC002**) that it exhibits on its eastern and western slopes and valley bottom. Since the majority of the site is situated on the Glenshaw quadrangle, a full description can be found on page 122.

A final heritage site on this quadrangle is the **Frick Park OHA**. Frick Park is the largest, least developed of the Pittsburgh city parks. Although it is used extensively for recreational purposes, it is also used as a place for environmental studies by local school groups. A nature center has been constructed which serves as an attraction for those interested in outdoor studies. The areas of the park that remain most natural include the forested slopes in the Ninemile Run valley on the eastern side of the park. Frick Park also provides a relatively large patch of green space in an otherwise totally urban area. Park managers should be aware of the significance that such a green space has, not only as habitat for native flora and fauna, but as a place for nature study by city residents and other interested individuals. Efforts should be made, therefore, to maintain and improve the natural qualities that exist in the park.

BRADDOCK QUADRANGLE

	PNDI Rank Global State	Legal Status Fed. State	Last een

NATURAL HERITAGE AREAS:

ALLEGHENY RIVER BDA *High Significance*

SPECIAL ANIMAL:	SA001	G4	S1	N	PC	5/91
SPECIAL ANIMAL:	SA002	G5	S2	N	PC	5/91
SPECIAL ANIMAL:	SA003	G5	S1	N	PC	4/91
SPECIAL ANIMAL:	SA004	G5	SH	N	PC	*1990's
SPECIAL ANIMAL:	SA005	G5	SH	N	PC	*1990's

BULLOCK-PENS PARK OHA *Notable Significance*

MANAGED LANDS: Boyce Park

- Per personal communication with Rick Lorson, Regional Fisheries Manager, PA Fish and Boat Commission, October 26, 1993.


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF PENNSYLVANIA
DEPARTMENT OF INTERNAL AFFAIRS
TOPOGRAPHIC AND GEOLOGIC SURVEY
BRADDOCK QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
ALLEGHENY RIVER
BDA
BULLOCK-PENS PARK
OHA
Boyce Park
PENN HILLS
MONROEVILLE
NORTH BRADDOCK
WILKINSBURG
WEST MIFFLIN
NORTH HUNTINGDON
MONONGAHELA
RIVER
Mapped, edited, and published by the Geological Survey
Control by USGS, USC&GS, and the City of Pittsburgh
Topography from aerial photographs by photogrammetric methods
Aerial photographs taken 1952. Revised by photogrammetric methods
from aerial photographs taken 1959. Field check 1960
Polyconic projection. 1927 North American datum
10,000-foot grid based on Pennsylvania coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks,
zone 17, shown in blue
To place on the predicted North American Datum 1983
move the projection lines 4 meters south and
18 meters west as shown by dashed corner ticks
Fine red dashed lines indicate selected fence and field lines where
generally visible on aerial photographs. This information is unchecked
Red tint indicates areas in which only landmark buildings are shown
SCALE 1:24000
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
ROAD CLASSIFICATION
Heavy-duty
Light-duty
Medium-duty
Unimproved dirt
Interstate Route
U. S. Route
State Route
FOR SALE BY U. S. GEOLOGICAL SURVEY
DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST
Revisions shown in purple compiled in cooperation with State of
Pennsylvania agencies from aerial photographs taken 1977 and other
source data. This information not field checked. Map edited 1979
Purple tint indicates extension of urban areas
BRADDOCK, PA.
N4022.5—W7945/7.5
1960
PHOTOREVISED 1979
AMS 5064 IV NE—SERIES V831

BRADDOCK QUADRANGLE

This quadrangle encompasses the City of Pittsburgh's eastern suburbs. Little in way of natural forest exists in this landscape. Small portions of the Allegheny and Monongahela Rivers flow through the northwest and southwest corners of this quadrangle.

The Allegheny River is recognized as the **Allegheny River BDA**. This river is significant as habitat for species of special concern (**SA001, SA002, SA003, SA004**, and **SA005**). Turtle Creek is another significant natural feature on this landscape. This creek, like other streams its size in this part of the county, has been heavily impacted by pollution resulting from acid mine drainage at its headwaters and by industrial activity along the midstream and downstream shorelines.

A relatively large managed land, which extends from this quadrangle into the Murrysville quadrangle (see page 175), provides a significant open space in this part of the county. The western edge of **Boyce Park** is situated along the eastern border of this quadrangle. This 1,096 acre county park has little to offer in the way of significant natural features since, like many of the other eight parks, it has been established on land that was largely cleared for strip mining operations and/or for agricultural use. The park is largely developed for recreation with only a small portion of the land reverting to forest, or in recovering forest, compared to the other county parks. Many roads are situated throughout the park and recreational development (picnic groves, basketball and tennis courts, baseball fields, etc.) appears to be scattered across the landscape rather than concentrated in one area of the park. The area with the most potential for recovery of its original natural condition is the forested slopes and semi- forested or reverting uplands in the Piersons Run headwaters along Piersons Run Road.

Recommendations for park managers are similar to those made for previously discussed county parks. If the county and its park managers intend to manage for the natural resources of the county, then consideration should be given to allowing as much forested land and reverting field to recover as possible. To encourage the recovery of the more natural sections of the park such as the Piersons Run valley, it is recommended that future recreational development, roads, utility right-of-ways, and any other necessary cultural features be limited to one section of the park. One corner or edge of the park is preferable considering a larger tract of remaining parkland could then be left to recover as a large, minimally impacted, contiguous forest. Efforts of the county could also focus on the acquisition and conservation of lands adjacent to the Piersons Run valley which would buffer and promote the recovery of natural communities in this area.

Bullock-Pens Park, located in Churchill Borough, is recognized as the **Bullock-Pens Park OHA** for its significance as an Educational Area in Allegheny County. Situated along Chalfant Run, this 24 acre park is predominantly forested with areas along the stream and south of the stream set aside for picnic pavilions. The forest is a recovering Mesic Central Forest Community which is characterized by a fairly mature red oak (Quercus rubra), sugar maple (Acer saccharum), and black cherry (Prunus serotina) canopy, and a fairly disturbed understory and herbaceous layer. Many non-native and

weedy species such as Japanese knotweed (Polygonum cuspidatum), garlic mustard (Alliaria officianalis), honeysuckle (Lonicera sp.), multiflora rose (Rosa multiflora), and wild grape (Vitis sp.) are abundant along the edge of the forest where disturbance is great and also in the forest, which suggests that the forest has been disturbed and that it is possibly having a difficult time recovering from this disturbance. The park itself is relatively small and poorly buffered. It is surrounded by a golf course, residential development, and a highway system, therefore, the chances of the forest recovering and sustaining itself into the future as a significant biological area are poor unless the park is enlarged and the forest better buffered. It is recommended to the borough managers that development in the park be concentrated in the presently developed area and that development be kept to a minimum if the forest is to be permitted to recover to its full capacity.

MURRYSVILLE QUADRANGLE

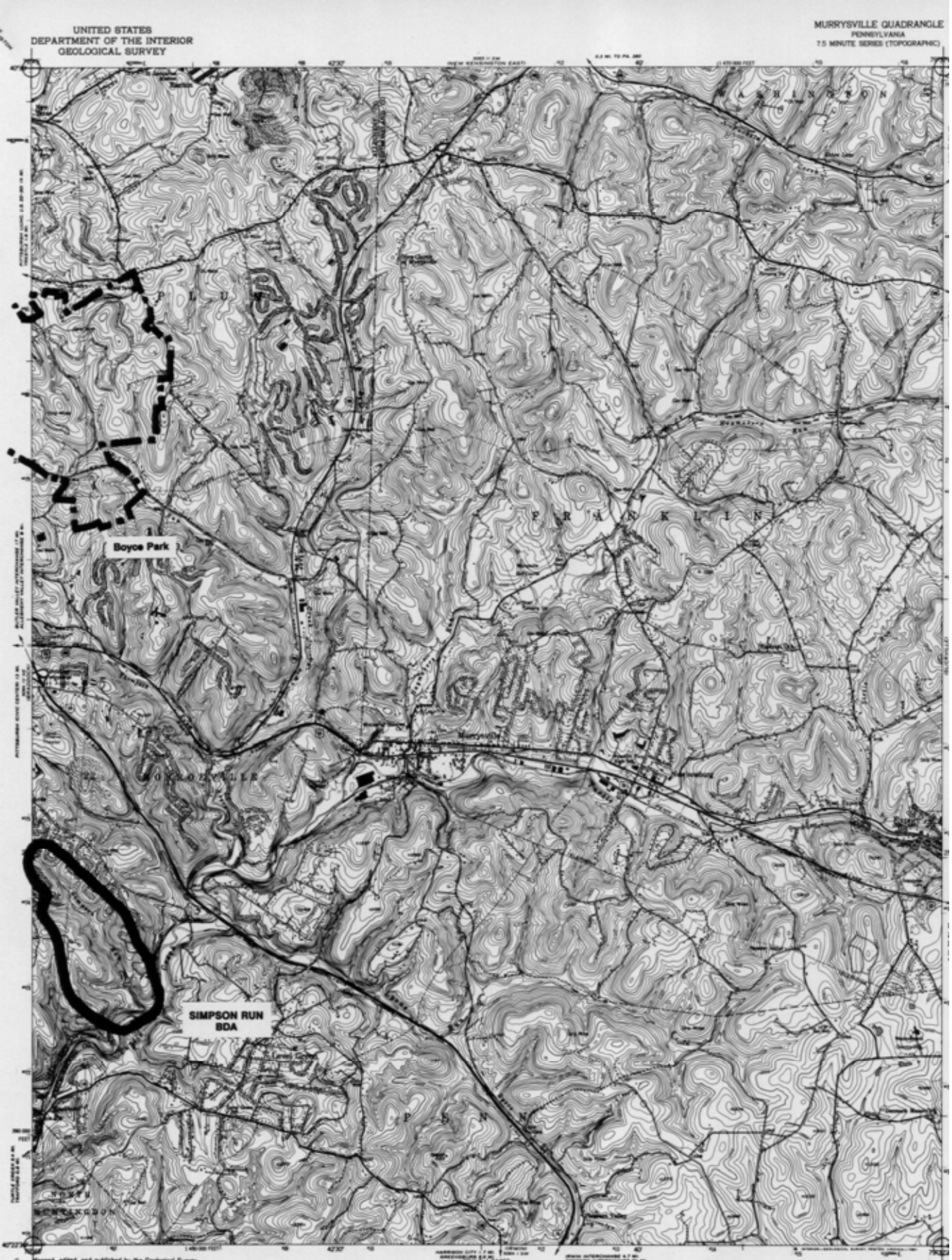
	PNDI Rank Global	State	Legal Status Fed.	State	Last Seen

NATURAL HERITAGE AREAS:

SIMPSON RUN BDA *High Significance*

NATURAL COMMUNITIES:	NC001	G?	S2	N	N	4/85
SPECIAL PLANT:	SP001	G4	S3	N	PR	4/85

MANAGED LANDS: Boyce Park


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
MURRYSVILLE QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
Boyce Park
SIMPSON RUN
BDA
SCALE 1:24000
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
ROAD CLASSIFICATION
MURRYSVILLE, PA.
N4022.5—W7937.5/7.5
PHOTOINSPECTED 1977
1953
PHOTOREVISED 1969

MURRYSVILLE QUADRANGLE

Westmoreland County occupies the majority of this quadrangle and eastern Allegheny County covers a large part of the western portion of the quadrangle. One noticeable difference across the landscape of the two counties is that the Allegheny County part of the quadrangle is heavily marked with residential development, which ends at the county line. This development, as well as past clearing for agriculture and some strip mining, has eliminated all but a few patches of green space in this part of the County. Most of the remaining green space is situated in the small tributary valleys that feed Turtle Creek in the southern section of this quadrangle. This stream serves as a political border for the counties of Westmoreland and Allegheny and is an important tributary to the Monongahela River. The most natural lands bordering Turtle Creek are represented in this quadrangle. Conservation efforts in this area would be most effective if they are focused on maintaining and protecting those forested slopes and floodplain areas in the vicinity of the Pennsylvania Turnpike crossing and Abers Creek so that the stream can be provided some buffer for its protection.

The most significant Natural Heritage Area in this eastern part of the county is Simpson Run, a northern tributary to Turtle Creek, entering the creek just downstream of the Saunders Station Road crossing. The **Simpson Run BDA** is recognized as a Special Species Habitat. Although this site was not visited for the inventory, past investigation uncovered a population of a state rare plant, **SP001** in the valley. SP001 is situated on the lower southwestern slopes of the valley which are occupied by a maturing Mesic Central Forest Community (**NC001**) and has a canopy that is characterized by tulip poplar (Liriodendron tulipifera), sugar maple (Acer saccharum), American beech (Fagus grandifolia), and eastern hemlock (Tsuga canadensis). The understory is predominantly saplings of these larger trees, as well as black birch (Betula lenta), elm (Ulmus sp.), and white ash (Fraxinus americana). Although the survey was done in early spring when SP001 is in bloom, a diverse representation of the prevernal flora was evident.

Upon aerial reconnaissance investigation in the spring of 1993 it was noted that SP001 and its associated habitat, NC001, is presently threatened by a housing development that is being constructed on the southwest uplands just above the population of SP001. What appears to be an A.T.V. (all-terrain vehicle) trail or a road used as another access to the construction site traverses the northeast facing slopes, beginning at the railroad tracks at the mouth of the valley. This trail or road is in close proximity to the southern edge of SP001's population. Habitat destruction resulting from clearing, logging, erosion, general infrastructure development are a few of the threats faced by SP001. Threats to SP001 and NC001 also include the loss or disturbance created by a sewer line on the floodplain along Simpson Run, which was laid prior to the present upland development and a small building whose construction appears to have destroyed habitat and possibly plants of SP001, as well as encouraged increased use of this sensitive area. Owners and developers of the housing plan should be made aware of the sensitivity of the Simpson Run valley.

If the special plants and their habitat are to be protected, then efforts should be made to assure that unnecessary clearing does not occur in the upland and that erosion resulting from the development is kept to a minimum. A.T.V.'s are a problem in the valley for the plants, natural forest community, and the stream. Protection of these natural resources will depend on the elimination of A.T.V.'s in this valley. Logging in the forest at this site would be detrimental to SP001 since light, soil, and moisture changes, as well as physical damage to plants would result from such activity. Further development within the site boundaries could result in further habitat loss for SP001, increased erosion, and the general need for infrastructure to accommodate development. Protection of the species could best be achieved if the forest is permitted to revert to a mature community on its own and disturbance is kept to a minimum.

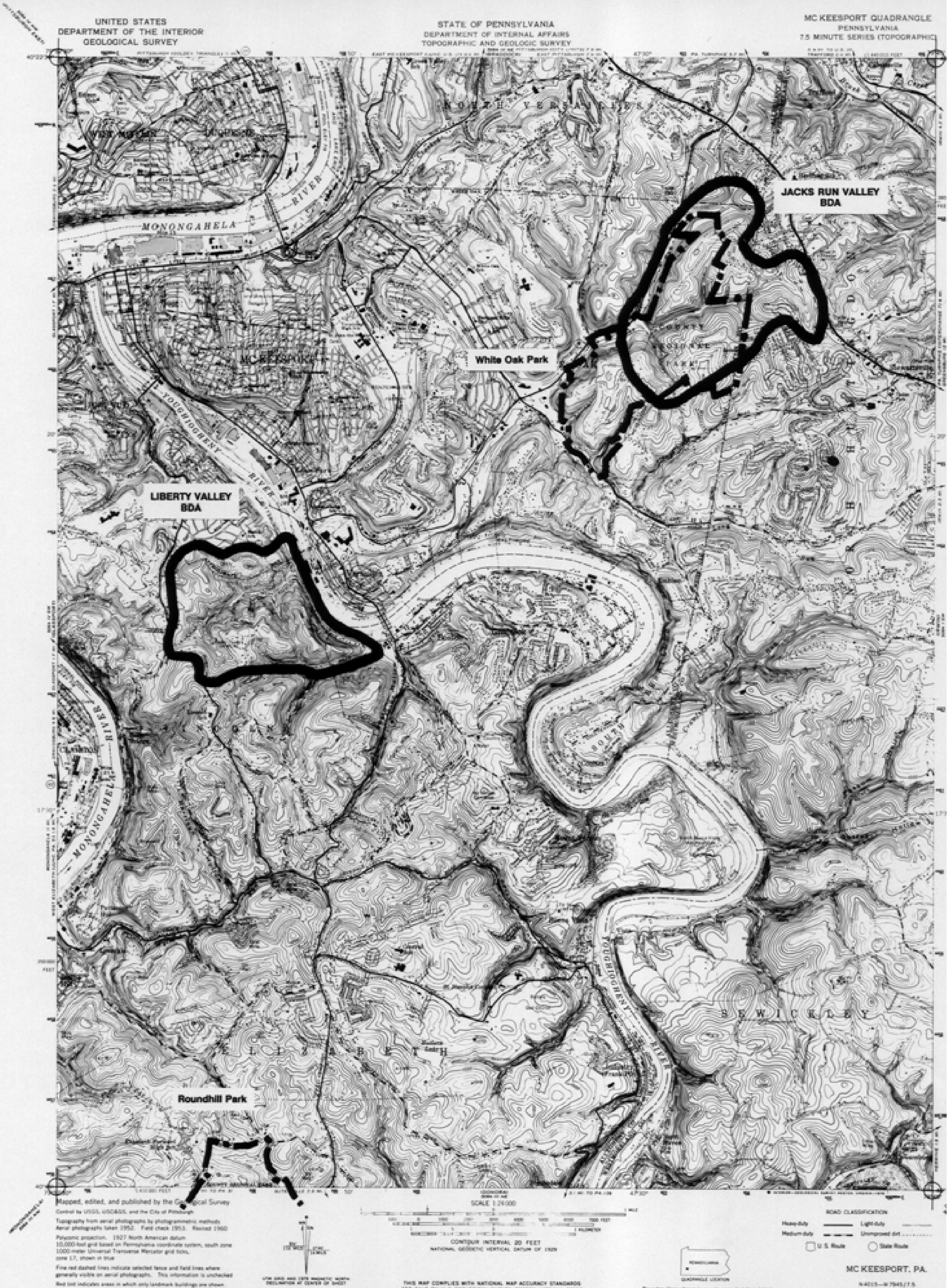
A large part of **Boyce Park**, which is discussed on page 172 of the Braddock quadrangle description, extends onto this quadrangle. Boyce Park is one of nine county parks in Allegheny County and shares this eastern portion of the county with White Oak and Roundhill Parks.

McKEESPORT QUADRANGLE

	PNDI Rank Global	State	Legal Status Fed.	State	Last Seen
NATURAL HERITAGE AREAS:					
LIBERTY VALLEY BDA *High Significance*					
NATURAL COMMUNITY:	NC001 ?	?	?	?	5/93
JACKS RUN VALLEY BDA *High Significance*					
NATURAL COMMUNITY:	NC002 G?	S2	N	N	6/93

MANAGED LANDS: Roundhill Park

White Oak Park



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF PENNSYLVANIA
DEPARTMENT OF INTERNAL AFFAIRS
TOPOGRAPHIC AND GEOLOGIC SURVEY
MC KEESPORT QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
JACKS RUN VALLEY
BDA
White Oak Park
LIBERTY VALLEY
BDA
Roundhill Park
MONONGAHELA
RIVER
YOUGHIOGHENY
SEWICKLEY
SCALE 1:24 000
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
ROAD CLASSIFICATION
MC KEESPORT, PA.
1960
PHOTOREVISED 1979

McKEESPORT QUADRANGLE

Allegheny County shares the eastern portion of this quadrangle with Westmoreland County. The Youghiogheny River, a prominent natural feature in this landscape, provides a part of the political boundary for the two counties. Much of the area in the northwest corner of the quadrangle, where the Monongahela and Youghiogheny Rivers meet, is urbanized and industrialized. The landscape covered by the remainder of the quadrangle map has been fragmented by such cultural features as residential development, roads, utility right-of-ways, strip mines, etc.. This highly fragmented landscape contains two county parks and patches of green space situated on steep, undevelopable slopes and small stream valleys. One such green space is referred to as the **Liberty Valley BDA.**

The Liberty Valley BDA consists of the largely forested river tributary valley that enters the Youghiogheny River from the west just upstream of the town of Liberty. This site was not field checked, but was studied using aerial photographs and aerial reconnaissance methods. Both methods suggest that the valley has qualities that may make it significant as a High Diversity Area. The qualities of the site include its size and contiguous nature of the forest, its relatively undisturbed qualities and the fact that it is the only Youghiogheny River tributary valley in Allegheny County that is not fragmented by roads or utility right-of-ways. At least one significant natural community (**NC001**) is present at the site. The nature of this natural community needs further investigation and until this is possible, the site has been assigned a notable significance designation. Some of the upland areas that buffer the steep slopes and forest at the lower elevations appear to be reverting forest which is encouraging for the future protection of this site. Increasing residential development in the upland areas however, does threaten the overall integrity of the site. Protection of the natural qualities of this site requires efforts by land owners and local municipal officials to recognize and protect the qualities of the forest by maintaining an appropriate buffer zone in the upland, as well as limiting any land use activities within the boundaries given for the site. See the Biological Diversity Area section under General Recommendations for the Protection of Natural Heritage Areas.

White Oak Park is situated along the western border of Allegheny County between the Monongahela and Youghiogheny Rivers. This county park is 810 acres in size, a large percentage of which is second growth forest or reverting forest. Some recreational development exists on the upland areas that had, at one time been strip mined and farmed. Development appears to be kept to a minimum relative to many of the other county parks. For this reason, some of the forest that remains intact within the park has qualities that give it a Natural Heritage Area designation. The **Jacks Run Valley BDA** includes the eastern tributary valleys to Jacks Run, as well as the reverting uplands and slopes on the east side of Jacks Run in the vicinity of Route 48 and Round Hill Road. The forest in this High Diversity Area is recognized as a maturing and sometimes mature Mesic Central Forest Community (**NC002**) which is characterized by large examples of sugar maple (Acer saccharum), American beech (Fagus grandifolia), and red oak (Quercus rubra), as well as smaller, but maturing hickory (Carya sp.), white ash (Fraxinus americana), tulip popular (Liriodendron tulipifera), and black cherry (Prunus serotina). Diversity of species

and age of trees in the canopy and subcanopy suggests that the forest is recovering well from whatever disturbance it was subject to in the early part of the century. Shrub and herbaceous layers represented in NC002 are also highly diverse and indicative of the community type. Upland areas that had been cleared at one time appear to be reverting to forest. If permitted to continue, this process will help to improve the natural integrity of the site.

Two streams in this quadrangle, Jacks Run and Long Run, are recognized as two of only three high quality-trout stocked fishery streams in the county (D.E.R., 1992a). Since a large portion of the site which includes part of these county significant watersheds is contained within the park boundaries, protection of the natural qualities are more likely. If protection of these natural qualities is intended by the county, then consideration should be given to the dedication of the Jacks Run Valley BDA as a park conservation area. Some useful guidelines in the management of such an area include those given for Natural Areas in the section titled General Recommendations for the Protection of Natural Heritage Areas. The qualities of this site are important to the natural heritage of Allegheny County and as such, could be preserved as an example of recovering natural forest and stream communities that existed prior to European settlement. Protection could further be enhanced if those parts of the site that remain in private ownership are considered for future acquisition and conservation by the county.

Roundhill Park is a second county park situated on this quadrangle. This park is approximately 1,100 acres in size and is situated on land that, at one time, was intensively farmed. Presently, a significant percentage of the park remains in cleared land or land that is in early stages of reverting forest. Douglass Run, which is located on the Donora quadrangle, has the most mature forest. This forest is a relatively young second growth Mesic Central Forest that appears to be in the early stages of recovery from past logging activity. A northern tributary valley to Douglass Run is recognized as having been the site for a state listed plant species of special concern at one time. This plant has not been found recently, but habitat for the plant may still exist and continued future surveys for the plant are recommended. Roundhill Park is a large, significant piece of somewhat protected open space in southern Allegheny County. If the county and its park managers intend to protect some of the natural resources in Roundhill Park, then efforts would best be focused on minimizing disturbance in and designating the Douglass Run valley as a park conservation area. Specific management of such an area may follow Natural Area guidelines given in the section titled General Recommendations for the Protection of Natural Heritage Areas.

GLASSPORT QUADRANGLE

	PNDI Rank		Legal Status		Last
	Global	State	Fed.	State	Seen

NATURAL HERITAGE AREAS:

PETERS CREEK WETLAND BDA *Exceptional Significance*

NATURAL COMMUNITY:	NC001	G?	S2	N	N	7/93
SPECIAL PLANT:	SP001	G4	S1	N	PE	7/93

MANAGED LANDS: South Park


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF PENNSYLVANIA
DEPARTMENT OF INTERNAL AFFAIRS
TOPOGRAPHIC AND GEOLOGIC SURVEY
GLASSPORT QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
South Park
PETERS CREEK WETLAND
BDA
MONONGAHELA RIVER
SCALE 1:24000
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
ROAD CLASSIFICATION
GLASSPORT, PA.
N4015—W7952.5/7.5
1960
PHOTOREVISED 1979

GLASSPORT QUADRANGLE

This quadrangle represents some of the southern suburbs of the city of Pittsburgh, as well as many of the heavily industrialized towns of the Mon Valley. Overall, the landscape in this southern part of the county is highly fragmented by roads, towns, and generally disturbed areas. The Monongahela River and Peters Creek are two natural features, Peters Creek being the focus of a Natural Heritage Area.

Peters Creek has largely been impacted by strip mining and other similar activities that have occurred in the watershed. Presently the stream and the adjacent floodplain and steep slope habitats are recovering from past land uses. The **Peters Creek Wetland BDA** is one such area in the vicinity of Waterman Road and the unimproved road that parallels the creek that had once been a railroad grade. This wetland is characterized by a Robust Emergent Marsh Community (**NC001**) which serves as habitat for a population of a state endangered plant species (**SP001**). The wetland, which is recognized as both a Special Species Habitat and a Community/Ecosystem Conservation Area, appears to be situated in an old channel scar that was formed in the past when Peters Creek flowed along the base of the northern slope. Runoff and seeps along the adjacent hillside appear to be the main source of water supporting the wetland. It is somewhat altered however, by the presence of the railroad grade which now serves as a road and which separates the wetland from the stream. The least disturbed section of the wetland is in the southeast corner where SP001 is located. Diversity is highest here and is represented by such plants as cattail (Typha latifolia), sensitive fern (Onoclea sensibilis), spike-rush (Eleochris sp.), bull-rush (Scirpus sp.), willow (Salix sp.), boxelder (Acer negundo), and ninebark (Physocarpus opulifolius). Much of the remainder of the wetland is in earlier stages of recovery from past disturbance. Evaluation of soils in this wetland suggest that mucky, wetland type soils overlay mine spoils. This, plus the fact that acid mine drainage is evident in some areas at the site, suggests that the site is recovering from disturbance related to mining that occurred in this watershed. The presence of mining spoils and acid mine drainage especially pose problems for the full recovery of this wetland.

Maintenance and improvement of the natural qualities of the wetland depend on the forested slopes that surround the wetland to the north for buffer and, therefore, any disturbance such as further logging in this buffer area could impact the wetland and SP001. Maintenance of the hydrology of this wetland is critical to its survival. Any activity such as upland development, alteration of storm water runoff in the upland, manipulation or alteration of the stream, road construction/maintenance, etc. could impact the hydrology in this area. It is recommended that an evaluation of the impact to the site be made before such activities take place in the area. Treatment of the acid mine drainage should be considered, but such treatment must be reviewed in light of potential impact to SP001. The creation of a buffer zone between the road and the wetland would improve the natural qualities of the wetland. Other hazards related to the presence of the road adjacent to the wetland are addressed in the section titled Land-Uses and Potential Impacts to Natural Heritage Areas.

South Park is situated on the western edge of this quadrangle and extends onto the Bridgeville quadrangle to the west. This large, 1,999 acre county park provides recreational opportunities and open space for the residents of the southern part of the county. Similar to North Park in its large percentage of land that is developed for recreational purposes, little area remains forested in this park. Agriculture appears to have been the primary land use in the past on this landscape. Areas such as the lower end of the Sleepy Hollow valley and the small valleys west of the Girl Scout Camp have remained somewhat forested, although disturbed. If the intent of the county and its park managers is to focus efforts on conservation of park lands then sections of the park, such as those just mentioned or any other green space that is recovering from past disturbance, should be considered a park conservation area. Activities that have the potential to impact the recovering natural qualities in these areas should be avoided in this case and use should be limited to low impact activities such as hiking and nature study. If protection of these areas is desired then management might follow that suggested for Natural Areas in the section titled General Recommendations for the Protection of Natural Heritage Areas.

BRIDGEVILLE QUADRANGLE

	PNDI Rank		Legal Status		Last
	Global	State	Fed.	State	Seen

NATURAL HERITAGE AREAS:

MAYVIEW VALLEY BDA *Notable Significance*

NATURAL COMMUNITY:	NC001	G?	S2	N	N	7/93
NATURAL COMMUNITY:	NC002	G?	S5	N	N	7/93

PAINTER RUN SLOPES BDA *Notable Significance*

SPECIAL PLANT:	SP001	G4	S3	N	PR	7/93

GILFILIN WOODS OHA *Notable Significance*

MANAGED LANDS: Gilfilin Woods

South Park


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF PENNSYLVANIA
DEPARTMENT OF INTERNAL AFFAIRS
TOPOGRAPHIC AND GEOLOGIC SURVEY
BRIDGEVILLE QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
PAINTER RUN SLOPES
BDA
GILFILIN WOODS
OHA
MAYVIEW VALLEY
BDA
South Park
BETHEL
PARK
UPPER ST. CLAIR
PETERS
NORTH STRABANE
NOTTINGHAM
Mapped, edited, and published by the Geological Survey
Control by USGS, USC&GS, and the City of Pittsburgh
Topography from aerial photographs by photogrammetric methods
Aerial photographs taken 1952. Revised by photogrammetric methods
from aerial photographs taken 1959. Field check 1960
Polyconic projection. 1927 North American datum
10,000-foot grid based on Pennsylvania coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks,
zone 17, shown in blue
To place on the predicted North American Datum 1983
move the projection lines 4 meters south and
18 meters west as shown by dashed corner ticks
There may be private inholdings within the boundaries of
the National or State reservations shown on this map
Fine red dashed lines indicate selected fence and field lines where
generally visible on aerial photographs. This information is unchecked
UTM GRID AND 1975 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET
Red tint indicates areas in which only landmark
buildings are shown
SCALE 1:24 000
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY
DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST
QUADRANGLE LOCATION
Revisions shown in purple compiled in cooperation with State of
Pennsylvania agencies from aerial photographs taken 1977 and other
source data. This information not field checked. Map edited 1979
Purple tint indicates extension of urban areas
ROAD CLASSIFICATION
Heavy-duty
Light-duty
Medium-duty
Unimproved dirt
U.S. Route
State Route
Interstate Route
BRIDGEVILLE, PA.
N4015—W8000/7.5
1960
PHOTOREVISED 1979
AMS 4964 I SE—SERIES V81

BRIDGEVILLE QUADRANGLE

Allegheny and Washington Counties share the northern and southern portions of this quadrangle, respectively. This area of Allegheny County is occupied by Pittsburgh's southern suburbs. Chartiers Creek, the most prominent natural feature in this section of the county, and its associated floodplain are developed and altered for most of the length of the stream within the county. A small section of steep slope and recovering floodplain in the vicinity of Mayview State Hospital however, does provide an indication of how the Chartiers valley's slopes and floodplain appeared at an earlier time.

The **Mayview Valley BDA** represents a High Diversity Area with notably significant examples of Mesic Central (**NC001**) and Dry-Mesic Acidic Central Forest (**NC002**) Communities. Both of these forest communities are small in size and are presently limited to the northwest facing slopes and uplands of the tributary valley that is situated to the east of Chartiers Creek. NC001 is situated on the lower northwest facing slopes along Chartiers Creek and on the lower slopes in the branches of the tributary valley along Morton Road. Sugar maple (Acer saccharum), white ash (Fraxinus americana), hackberry (Celtis occidentalis), American elm (Ulmus americana), and basswood (Tilia sp.) characterize the forest canopy while bladdernut (Staphylea trifolia), sessile trillium (Trillium sessilifolia), wild ginger (Asarum canadensis), bloodroot (Sanguinaria canadensis), Virginia waterleaf (Hydrophyllum virginianum), mayapple (Podophyllum peltatum), and violets (Viola spp.) characterize the diversity and richness of the shrub and ground layers. This forest community gradually changes as elevation increases and soils become drier and more exposed to the elements. NC002 characterizes these upper slope and upland areas with a dominance of red oak (Quercus rubra), white oak (Q. alba), black oak (Q. velutina), American beech (Fagus grandifolia), and shagbark hickory (Carya ovata). Herbaceous vegetation in this part of the site is sparse as is the shrub layer which suggests that past land-use involved grazing by domestic animals. Further evidence of this is suggested by the presence of a dilapidated barbed wire fence which actually forms somewhat of a boundary between the lower slope and upper slope communities. In addition, the prevalence of garlic mustard (Alliaria officianalis) throughout the site is an indication of past disturbance. This plant is somewhat of a threat to the integrity of the plant communities since it has the ability to outcompete native vegetation. Sections of the site along Chartiers Creek include a small island that appears to have been disturbed by agricultural activity in the past. This island, as well as the recovering floodplains and wetlands that were mitigated by the PA Department of Transportation and are situated on the large floodplain on the southern shore of the creek directly south of the hospital add to the overall diversity of the site.

Protection of the natural qualities of the site will be difficult considering the small size of the site and the fact that the forest is restricted to the valley slopes and small sections of valley bottom. One benefit to the site is the Upper St. Clair municipal park that is situated to the south of the steep slopes. This park provides open space and a potential buffer for the forested slopes identified by the Mayview Valley BDA. Municipal officials should be made aware of the significance that this park has for buffering NC001

and NC002 and should consider further protection by allowing the adjacent upland areas to revert back to forest. Protection of the BDA will require that the forested areas be permitted to succeed without intervention of such activities as logging and/or construction of utility right-of-ways. General guidelines for protection of BDA's are given in the section titled General Recommendations for the Protection of Natural Heritage Areas.

A second BDA in this quadrangle, the **Painter Run Slopes BDA**, provides habitat for a population of a state rare plant species (**SP001**). This Special Species Habitat is a small, maturing Mesic Central forest which is located on the steep north facing slopes along Painters Run, a eastern tributary to Chartiers Creek in the northern section of this quadrangle. Sugar maple and basswood dominate the canopy of the forest. Diversity in the shrub and herbaceous layer is lacking as a result of past disturbance and small size of the site. SP001 is threatened by the small size of its habitat and by the upslope land use which includes a man made pond surrounded by agricultural fields. Activity in the upslope area which presently threatens SP001 and its habitat includes grazing by livestock and logging which has opened the canopy somewhat. An earthen dam was created near the upslope limit of the plant population as part of the pond construction. Creation of this dam appears to have destroyed part of the population of SP001 and further threatens the plants since erosion is occurring on the slope below the dam which may have already washed away some of the plants. Owners should be made aware of the occurrence of this special plant. If protection of the plants is the intent of the owner, then efforts should be made to avoid further trampling of livestock by restricting them from the small area where the plants grow and by allowing more of the upper edge of the slope which is presently in field to revert back to forest.

Southeast of the Painter Run Slopes BDA is an Educational Area referred to as the **Gilfilin Woods OHA**. This Natural Heritage Area is owned and managed by the municipality of Upper St. Clair Borough and is used as an outdoor classroom for school groups, local scout troops, etc., as well as by local residents for recreational purposes. This fourteen acre tract is occupied by a remnant of Mesic Central Forest that is characterized by scattered, mature oaks, maples, basswood, and American beech. Since the forest is small in size and surrounded by residential development and open field, it has been impacted by the invasion of weedy and non-native species such as garlic mustard, wild grape (Vitis sp.), poison ivy (Rhus radicans), and blackberry briar (Rubus sp.), which are outcompeting native vegetation. In order for the forest to remain an example of a mature forest, eradication of some of these species is necessary. Eradication should involve environmentally sensitive methods such as manual removal so that negative impact to the soil, stream, and other vegetation is avoided.

The largest portion of **South Park** is depicted on this quadrangle. One of nine county parks, South Park represents a significant amount of open space that is protected from residential, commercial, and industrial development. For more information on this park see page 187 in the Glassport quadrangle description.

CANONSBURG QUADRANGLE

	PNDI Rank		Legal Status		Last
	Global	State	Fed.	State	Seen

NATURAL HERITAGE AREAS:

MILLERS RUN BDA *High Significance*

NATURAL COMMUNITY:	NC001	G?	S2	N	N	3/85
SPECIAL PLANT:	SP001	G4	S3	N	PR	3/85


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF PENNSYLVANIA
DEPARTMENT OF INTERNAL AFFAIRS
TOPOGRAPHIC AND GEOLOGIC SURVEY
CANONSBURG QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
MILLERS RUN
BDA
SCALE 1:24000
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
ROAD CLASSIFICATION
CANONSBURG, PA.
N4015—W8007.5/7.5
1960
PHOTOREVISED 1979

CANONSBURG QUADRANGLE

Northeastern Washington County occupies the majority of this highly agricultural landscape. However, South Fayette Township and McDonald Borough of southwestern Allegheny County are located in this quadrangle. Millers Run is the most prominent natural feature in the Allegheny County portion of this quadrangle. It is along the northwest facing slopes that flank this stream that a population of a state rare plant (**SP001**) exists. **The Millers Run BDA**, as this Natural Heritage Area is referred to, is recognized as a Special Species Habitat. Information for the site was not collected during this inventory, but in the past by local naturalists. The forest which this woodland herb inhabits is a sugar maple (Acer saccharum) and witch-hazel (Hamamelis virginiana) dominated Mesic Central Forest Community (**NC001**). This maturing forest occupies the lower slopes along Millers Run where SP001 is situated and then grades into a more mature oak (Quercus sp.)-American beech (Fagus grandifolia) forest on the upper slopes. The larger size of the trees upslope of NC001 suggests that logging may be a threat to both SP001 and NC001 in the future. Removal of the canopy, erosion, and trampling resulting from such activity could be detrimental to the population of SP001. The special plant population extends down to the floodplain area in close proximity to the stream. Any manipulation of the stream or alteration to the recovering floodplain forest could also threaten the survival of SP001. Landowners should be made aware of the plant occurrence and significance of the site so that activities such as logging, stream alteration, utility right-of-way construction, etc. can be avoided. The forest areas surrounding NC001 and SP001 should remain intact and areas upslope should be permitted to revert to forest if this species is to be protected.

MONONGAHELA QUADRANGLE

	PNDI Rank	Legal Status	Last
	Global State	Fed. State	Seen

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MONONGAHELA QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography from aerial photographs by multiplex methods
Aerial photographs taken 1952. Field check 1954

Polyconic projection. 1927 North American datum
10,000-foot grid based on Pennsylvania coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks, zone 17, shown in blue

To place on the predicted North American Datum 1983 move the projection lines 4 meters south and 18 meters west as shown by dashed corner ticks

Red tint indicates areas in which only landmark buildings are shown

Revisions shown in purple compiled in cooperation with State of Pennsylvania agencies from aerial photographs taken 1977 and other source data. This information not field checked. Map edited 1979

SCALE 1:24000

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY
DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

ROAD CLASSIFICATION
Heavy-duty — Light-duty
Medium-duty — Unimproved dirt
U.S. Route — State Route
Interstate Route

MONONGAHELA, PA.

N4007.5—W7952.5/7.5

1954
PHOTOREVISED 1979

MONONGAHELA QUADRANGLE

That portion of southern Allegheny County that forms a peninsula on the east side of the Monongahela River as it makes a bend is depicted on this quadrangle. Much of this landscape is characterized by cleared rolling uplands that grade into steep river tributary valleys or steep slopes associated with the river. At the present time, no Natural Heritage Areas have been recognized on the landscape covered by this quadrangle.

DONORA QUADRANGLE

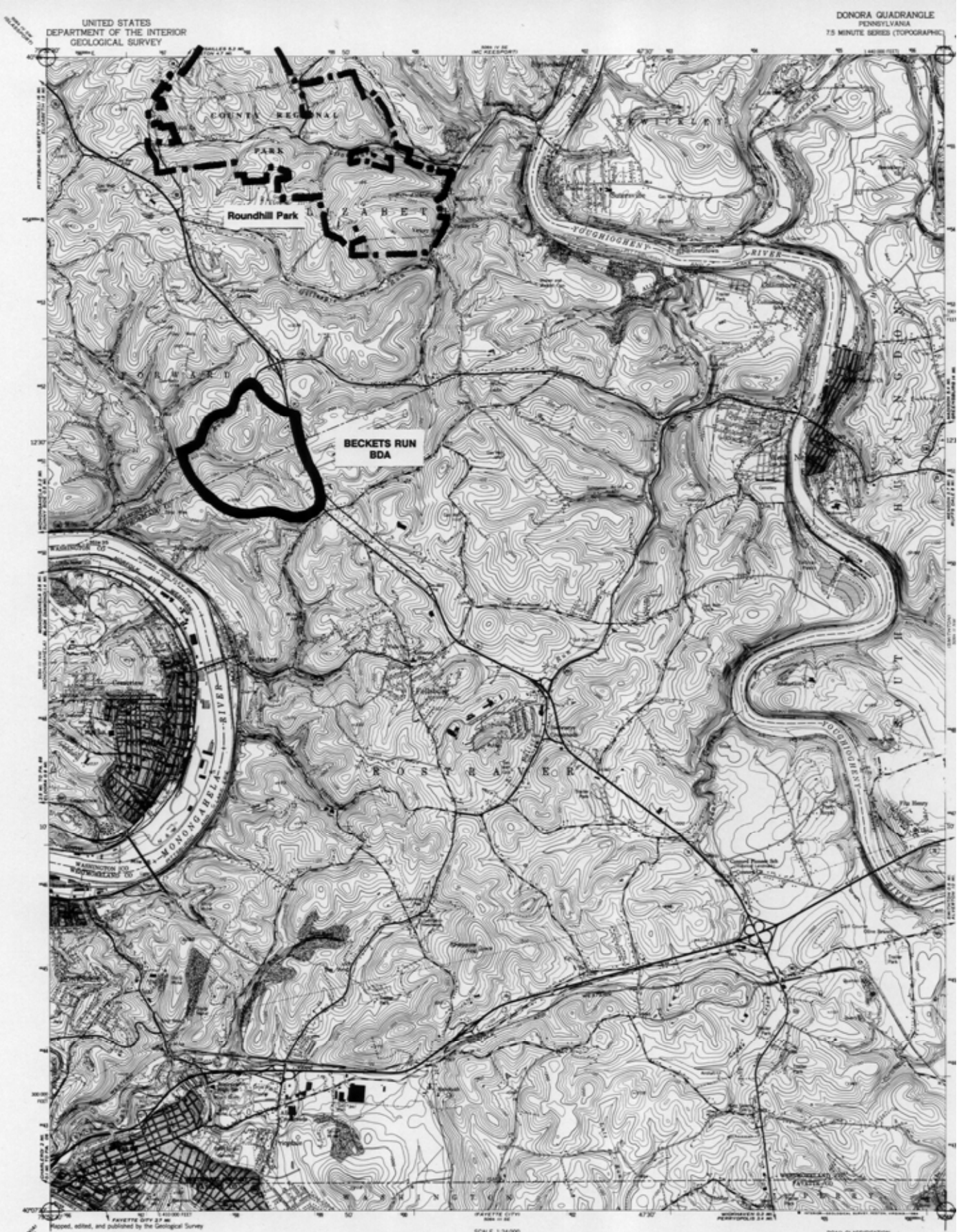
	PNDI Rank		Legal Status		Last
	Global	State	Fed.	State	Seen

NATURAL HERITAGE AREAS

BECKETS RUN BDA *Notable Significance*

SPECIAL PLANT:	SP001	G4	S3	N	PR	4/85

MANAGED LANDS: Roundhill Park


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
DONORA QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
COUNTY REGIONAL
PARK
Roundhill Park
BECKETS RUN
BDA
YOUGHIOGHENY RIVER
MONONGAHELA RIVER
FOREST
ROSTRAVER
Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Topography from aerial photographs by multiplex methods
Aerial photographs taken 1952. Field check 1954
Polyconic projection. 1927 North American datum
10,000-foot grid based on Pennsylvania coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks, zone 17
shown in blue
To place on the predicted North American Datum 1983
move the projection lines 4 meters south and
19 meters west as shown by dashed corner ticks
Red tint indicates areas in which only landmark buildings are shown
Revisions shown in purple compiled in cooperation with State of
Pennsylvania agencies from aerial photographs taken 1977 and other
source data. This information not field checked. Map edited 1979
UTM GRID AND 1979 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET
SCALE 1:24 000
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST
PENNSYLVANIA
QUADRANGLE LOCATION
ROAD CLASSIFICATION
Heavy-duty
Light-duty
Medium-duty
Unimproved dirt
U.S. Route
State Route
Interstate Route
DONORA, PA.
N4007.5—W7945/7.5
1954
PHOTOREVISED 1979
AMS 5064 III NE—SERIES V851

DONORA QUADRANGLE

Allegheny, Washington, and Westmoreland Counties share boundaries on this quadrangle. The southern border of Allegheny County that is represented here is bounded on the east by the Youghiogheny River. Areas of cleared upland interspersed with patches of forested slopes characterize the landscape in this quadrangle.

Beckets Run is a tributary to the Monongahela River and is situated in close proximity to the Allegheny-Westmoreland County line. The **Beckets Run BDA** is recognized for its significance as a Special Species Habitat. A population of a state rare woodland wildflower (**SP001**) is located in this valley. The habitat for this plant population in the Beckets Run valley is a highly disturbed, but recovering forest which is dominated by pole sized sugar maple (Acer saccharum) trees. Logging has been a continual disturbance in this valley with the last heavy selective cut occurring approximately twelve years ago. SP001 has managed to survive the aftermath of the logging, opening of the canopy, erosion resulting from heavy A.T.V. (all-terrain vehicle) use on the logging roads, competition from exotic species such as tree-of-heaven (Ailanthus altissima) which has benefitted greatly from the disturbance. Trail bikes have apparently destroyed part of the population of SP001. Other threats to the plant include the fragmentation caused by the pipelines and powerlines that extend throughout this valley. It has been suggested that SP001 has maintained its population as a result of the unusually rich, highly organic, moist soils that are present at the site which provide the plants with the conditions necessary for survival. Nonetheless, activities such as logging, utility right-of-way construction and maintenance, and A.T.V. use are not conducive to survival of the plant population. Such activities need to be eliminated from the area included within the lines drawn for the site if SP001 is to be preserved.

Roundhill Park is situated in the northern section of this quadrangle. This county park extends onto the McKeesport quadrangle where it is discussed in more detail (page 181).

REFERENCES

Allen, J.D. and A.S. Flecker. 1993. Biodiversity Conservation in Running Water. BioScience. 43:1. 99. 32-37.

Anonymous, 1985. A Preliminary Inventory of Natural Areas of the Hoosier National Forest. Indiana Department of Natural Resources, Indianapolis, Indiana. Unpublished report. 197 p.

Bogin, A.E. 1993. Freshwater Bivalves (Mollusca: Unionidae) of the Monongahela River Basin and Direct Tributaries to the Ohio River in Pennsylvania. Draft report submitted to U.S. Fish and Wildlife Service.

Braun, E.L. 1950. Deciduous forests of eastern North America. The Free Press, MacMillan Publ. Co., New York. 596 pp.

Brown, M.T. and J. Schaefer et al. 1987. Buffer Zones for Water, Wetlands, and Wildlife. Center for Wetlands. University of Florida. Gainesville, FL. 163 p., plus appendices.

Council on Environmental Quality. 1981. Environmental Trends. U.S. Government Printing Office. Washington, D.C. 346 p.

Darnell, R.M. 1976. Impacts of Construction Activities in Wetlands of the United States. EPA-600/3-76-045. U.S. Environmental Protection Agency, Office of Research and Development. Corvallis Environmental Research Laboratory. Corvallis, OR. 392 p.

Davis, A.F., et al. 1990. A Natural Areas Inventory of Lancaster County, Pennsylvania. Pennsylvania Science Office of the Nature Conservancy, Middletown, Pennsylvania. 165 p.

Department of Environmental Resources. 1979. Rules and Regulations. D.E.R.. Protection of Natural Resources. Water Resources. Chapter 93: Water Quality Standards. Division of Water Quality and Bureau of Water Quality Management. 141 pp.

Department of Environmental Resources-Bureau of Water Quality Management. 1992a. Environmental Quality Board, 25 PA Code Ch. 93, Reformatting of Stream Drainage Lists. Pennsylvania Bulletin. 22:10. p.1158.

Department of Environmental Resources-Bureau of Water Quality Management. 1992b. Report: Little Sewickley Creek, Allegheny County. 4 pp.

Droege, M.. Maryland Chapter of The Nature Conservancy. Personal Communication. November 22, 1992.

Erie County Metropolitan Planning Commission. 1977. Environmental Protection Plan for Erie County Areas having Natural Significance. Erie, PA. 32 p., plus maps.

Geyer, A.R. and W.H. Bolles. 1979. Outstanding Scenic Geological Features of Pennsylvania. Environmental Geology Report 7. Pennsylvania Department of Environmental Resources. Bureau of Topographic and Geologic Survey. 508 p.

Geyer, A.R. and W.H. Bolles. 1987. Outstanding Scenic Geological Features of Pennsylvania Part 2. Environmental Geology Report 7. Pennsylvania Department of Environmental Resources. Bureau of Topographic and Geologic Survey. 270 p.

Ghiselin, J. 1980. Preparing and Evaluating Environmental Assessments and Related Documents. In S.D. Schemnitz (ed.). Wildlife Management Techniques Manual. The Wildlife Society. Washington, D.C. 686 p.

Guldin, R.W. 1989. An Analysis of the Water Situation in the United States: 1989-2040. USDA Forest Service. General Technical Report RM-177. 178 p.

Harris, L.D. 1984. The Fragmented Forest: Island Biogeography Theory and the Preservation of Biotic Diversity. The University of Chicago Press. Chicago and London. 211 p.

Hoskins, D.M., J.D. Inners, and J.A. Harper. 1983. Fossil Collecting in Pennsylvania. General Geology Report 40. Pennsylvania Geological Survey, Harrisburg, Pennsylvania. 215 p.

Jennings, O.E. 1927. Classification of the plant societies of central and western Pennsylvania. Proceedings of the Pennsylvania Academy of Science 1:23-55.

Jennings, O.E. 1953. Wildflowers of Western Pennsylvania and the Upper Ohio Basin. University of Pittsburgh Press. Pittsburgh, PA. 573 p.

Kline, N.L. 1993. Erie County Natural Heritage Inventory. Western Pennsylvania Conservancy. Pittsburgh, PA.

K□chler, A.W. 1964a. Manual to Accompany the Map: Potential Natural Vegetation of the Conterminous United States. Special Publication Number 36. American Geographical Society, N.Y. 156 p.

--------- 1964b. Potential Natural Vegetation of the Conterminous United States. Special Publication Number 36. American Geographical Society, N.Y.

Kunz, R.F. 1970. An Environmental Glossary. In D.F. Kellerman et al. New Webster's Dictionary of the English Language. Delair Publishing Co., Inc. 1158 p., plus appendices.

Langdon, K.. U.S. Park Service. Personal Communication. November 22, 1992.

Lorson, R. 1990. Paddlefish Restoration Plan for the Ohio and Allegheny Rivers in Pennsylvania, 1991-2000. Pennsylvania Fish Commission. Bureau of Fisheries. Fisheries Management Division. Bellefonte, Pennsylvania. 9 p.

Lorson, R.. PA Fish and Boat Commission. Personal Communication. October 26, 1993.

Lull, H.W. 1968. A Forest Atlas of the Northeast. Northeastern Forest Experiment Station. Forest Service. U.S. Dept. of Agriculture. Upper Darby, PA.

Michaud, D.C. and C.J. Richardson. 1989. Relative Oxygen Loss in Five Wetland Plants. In D.A. Hammer (ed.). Constructed Wetlands for Wastewater Treatment: Municipal, Industrial, and Agricultural. Lewis Publishers, Inc. Chelsea, MI. 830 p.

The Nature Conservancy. 1988. Natural Heritage Operations Manual. The Nature Conservancy. Arlington, VA.

Nelson, J.. PA Department of Environmental Resources-Bureau of Forestry. Personal Communication. December 16, 1993.

Newbury, R.L., D.J. Belz, and R.G. Grubb. 1981. Soil Survey of Allegheny County, Pennsylvania. U.S. Department of Agriculture. Soil Conservation Service. Washington, D.C.

Newton, R.B. 1989. The Effects of Stormwater Runoff on Freshwater Wetlands: A Review of the Literature and Annotated Bibliography. University of Massachusetts. Amherst, MA. 77 p.

Nichols, J.O. 1980. The Gypsy Moth. Pennsylvania Bureau of Forestry. Harrisburg, PA. 33 pp.

Noss, R.F. and L.D. Harris. 1986. Nodes, Networks, and MUM's: Preserving diversity at all scales. Environmental Management. 10:3. pp. 299-309.

Noss, R.F. 1992. Ancient Forest Legislation Dialogue. Wild Earth. Summer. p. 47.

Ortman, A.E. 1909. The destruction of the freshwater fauna in Western Pennsylvania. Proceedings of the American Philosophical Society. 48(191).

Ortman, A.E. 1919. A monograph of the Naiades of Pennsylvania, Part III. Systematic account of the genera and species. Memoirs of the Carnegie Museum. 8:1. pp. 1-384.

Reese, G.A., et al.. 1988. A Natural Areas Inventory of Oakland County, Michigan. Volume I: Technical Report: Michigan Natural Features Inventory, Lansing, Michigan. 242 p.

Schweitzer, D. 1988. Element Stewardship Abstract for Lymantria dispar. The Nature Conservancy. Arlington, VA. 33 pp.

Schweitzer, D.. Entomologist for The Nature Conservancy. Personal Communication. December 21, 1993.

Society of American Foresters. 1980. Forest Cover Types of the United States and Canada. F.H. Eyre (ed.). Washington, D.C. 148 pp.

Socolow, A.A. 1980. Geologic Map of Pennsylvania. Bureau of Topographic and Geologic Survey. Harrisburg, PA.

Soul,, M.A. and B.A. Wilcox. 1980. Conservation Biology: An Evolutionary Ecological Perspective. Sinauer Associates, Inc. Sunderland, MA. 395 p.

Smith, L.L., et al.. 1991. Butler County Natural Heritage Inventory. Western Pennsylvania Conservancy. Pittsburgh, Pennsylvania. 152 pp.

Smith, L.L., 1993. Beaver County Natural Heritage Inventory. Western Pennsylvania Conservancy. Pittsburgh, Pennsylvania. 189 pp.

Smith, T.L. 1983. Classification of Natural Communities in Pennsylvania (draft). The Nature Conservancy. Middletown, PA. 23 pp.

Stack, L., et al.. 1991. Centre County Natural Heritage Inventory. Western Pennsylvania Conservancy. Pittsburgh, Pennsylvania. 209 p.

Terrell, C.R. and P.R. Perfetti. 1989. Water Quality Indicators Guide: Surface Waters. USDA Soil Conservation Service. 129 p.

Todd, W.E. 1940. Birds of Western Pennsylvania. University of Pittsburgh Press. Pittsburgh, PA. 710 p., with plates.

U.S. Fish and Wildlife Service. 1985. Planning Aid Report: Fish and Wildlife Resources of the Upper Ohio River. State College, PA.

U.S. Fish and Wildlife Service. 1986. Planning Aid Report: Fish and Wildlife Resources of the Upper Ohio River. State College, PA.

Urban, D.L., et al. 1987. Landscape Ecology: A hierarchical perspective can help scientists understand spatial patterns. Bioscience. 37. pp. 119-127.

Wagner, J.D., et al.. 1993. Clinton County Natural Heritage Inventory. Western Pennsylvania Conservancy. Pittsburgh, Pennsylvania. 212 pp.

Wagner, J.D.. in press. Washington County Natural Heritage Inventory. Western Pennsylvania Conservancy. Pittsburgh, Pennsylvania.

Wagner, W.R. 1975. Greater Pittsburgh Region Geological Map. PA Geologic Survey. Williams and Heintz Map Corp. Washington, D.C.

Young, L.M.. 1990. Letter to G. Greiner, PA Fish Commission. American Refining Group Pollution Investigation, Deer Creek, Allegheny County. PA Fish and Boat Commission. Bellefonte, Pennsylvania.

APPENDIX I

COUNTY SIGNIFICANCE RANKS

The Natural Heritage Areas that have qualified for inclusion in this report are ranked according to their significance as areas of importance to the biological diversity and ecological integrity of the county. The three county significance ranks are: Excellent, High, and Notable significance. These ranks have been used to prioritize all identified sites and suggest the relative attention that sites should receive for the amount, degree and rate of protection.

Significance Rank	Explanation
EXCEPTIONAL	Exceptional county significance Sites that represent areas of great importance for the biological diversity and ecological integrity of the county, state and/or region. One or more occurrences of state or national species of special concern, a rare natural community type, a relatively undisturbed natural area, or high quality biological diversity area, are present at the site. Sites of exceptional county significance merit quick, strong and complete protection
HIGH	High county significance Sites that represent vital areas of the county's biological and ecosystem resources and have not been overly disturbed by human activities. Also occasionally included are sites that have less important occurrences of state or nationally imperiled species and/or natural communities These sites represent areas harboring important natural resources that merit complete protection in the near future.
NOTABLE	Notable county significance. Sites that harbor many of the flora, fauna and natural community resources in the county, and although somewhat disturbed by human activities, still represent areas that provide habitat, open space, educational lands and general landscape and/or watershed protection. These sites will be increasingly important to the future quality of the county's overall environment, and merit the attention of planners and conservationist so that their present condition can be maintained and improved.

APPENDIX II

PENNSYLVANIA NATURAL DIVERSITY INVENTORY

The Pennsylvania Natural Diversity Inventory (PNDI) was established in 1982 as a joint effort of the Western Pennsylvania Conservancy, the Pennsylvania Department of Environmental Resources (D.E.R.)-Bureau of Forestry, and the Pennsylvania Science Office of The Nature Conservancy. PNDI is part of a network of "Natural Heritage Programs" that utilize methodology developed and constantly refined by The Nature Conservancy. Heritage Programs have been established in each of the 50 United States, as well as in Canada and Latin America.

This computer indexed data base contains location and baseline ecological information about rare plants, rare animals, unique plant communities, significant habitats and geologic features in Pennsylvania. Presently, PNDI is Pennsylvania's chief storehouse of such information with approximately 9,000 detailed occurrence records that are stored in computer files and denoted on 7.5minute United States Geologic Survey (USGS) topographic maps. Additional data are stored in extensive manual files covering over 150 natural community types, over 800 plant and animal species, and about 1100 managed areas. Separate files are maintained for each of Pennsylvania's 881 7.5-minute USGS quadrangle maps.

As part of the information maintained by PNDI, a system of "global ranks" and "state ranks" is used to describe the relative degree of rarity for species and natural communities. This system is especially useful in understanding how imperiled a resource is throughout its range, as well as understanding the state rarity for resources that do not have official state status such as invertebrate animals and natural communities of organisms. A summary of global and state ranks can be found in Appendix VI. Note that the ranking system operates at global (range-wide) and state levels and does not provide insight as to the county significance of biotic resources. A separate ranking system is provided to accomplish this in Appendix I.

PNDI is valuable for its ability to supply technically sound data that can be applied in making natural resource decisions, thereby streamlining the decision making process. Information on the occurrences of elements (species and natural communities) of special concern has been gathered from museums, universities, colleges, and recent field work by professionals throughout the state. This approach has also been used by the Conservancy to identify the areas of highest natural integrity and significance in Allegheny County. See Appendix VII for a PNDI contact.

APPENDIX III

ALLEGHENY COUNTY NATURAL HERITAGE INVENTORY
NATURAL HERITAGE SITE RECOMMENDATION FORM

Your Name:_____ Phone:_____
Address:_____

A natural heritage site is an important biotic (living) resource such as an exemplary natural area (e.g., and old-growth forest community, habitat for endangered, threatened or rare plants or animals, or areas that are important for open space, wildlife habitat, and recreation.

Site Name:_____
Exact Location of Site (please be specific and include a map or sketch):_____
_____

Size of Site (approximate acres):_____ Date of Observation:_____
Site Description:
__ Mature or Old-Growth Forest
__ Forested Swamp
__ Shrub Swamp
__ Marsh
__ Bog
__ Natural Pond or Lake
__ High Quality Stream
__ Habitat for Species of Concern
__ Other

Written Description of Site: Try to convey a mental image of the sites features by including vegetation, significant plants and animals, aquatic features, land forms, geologic features, etc.:_____
_____
_____
Evidence of Disturbance (logging, mining, erosion, sedimentation, filling, draining, grazing, etc.):_____
_____
_____
Please attach any additional information, species list, maps, etc.. Send completed report forms to Lisa Smith, Western Pennsylvania Conservancy, 316 Fourth Ave., Pittsburgh, PA 15222, (412)288-2777.
Additional forms may be obtained from this office. Thank you for your contribution to the Allegheny County Natural Heritage Inventory.

APPENDIX IV

ALLEGHENY COUNTY NATURAL HERITAGE INVENTORY
SITE SURVEY FORM

Site Name:_____
County: Allegheny Municipality:_____
Quad Name:_____ Quad Code:_____ 10,10:_____
Reference:_____
Land Owners (include best method of contact, date contacted, and method of permission):
_____
_____
Directions to Site:_____
_____
Site Elevation:_____ Site Size:_____Aspect:_____
Aerial Photo Int. Air Photo #:_____ Photo Type: _____
Comments from Aerial Photo Interpretation: _____
_____
_____
_____
Aerial Reconnaissance Date:_____ Team: _____
Comments from Aerial Survey:_____
_____
_____

Ground Survey Date: _____ Team:_____
Community(s) Type:_____
Setting of Community(s):_____
Conditions:_____
Description of site (quality, vegetation, significant species, aquatic features, notable landforms, natural hazards, age, etc.):_____
_____
_____
_____
_____

Evidence of Disturbance (logging, grazing, mining, past agriculture, erosion, sedimentation, filling, draining, exotic flora, etc.):_____
_____
_____

APPENDIX IV (CONT.)

ALLEGHENY COUNTY NATURAL HERITAGE INVENTORY
SITE SURVEY FORM (CONT.)

Recovery Potential:
Surrounding Land Use:
Threats to Site and Management/Protection:

Previously Identified EO's:

Species:

****

Accepted for inclusion in report: Rejected: Date:
Reason:

APPENDIX V

CLASSIFICATION OF NATURAL COMMUNITIES
IN PENNSYLVANIA
(DRAFT)

COMMUNITY NAME	GLOBAL RANK	STATE RANK
ESTUARINE COMMUNITIES		
Deepwater Subtidal Community	G?	S1
Shallow-Water Subtidal Community	G?	S1
Freshwater Intertidal Mudflat	G3G4	S1
Freshwater Intertidal Marsh	G3G4	S1
RIVERINE COMMUNITIES		
Low-Gradient Ephemeral/Intermittent Creek	G?	S5
Low-Gradient Clearwater Creek	G?	S3S4
Low-Gradient Clearwater River	G?	S2S3
Low-Gradient Brownwater Creek	G?	S2S3
Medium-Gradient Ephemeral/Intermittent Creek	G?	S5
Medium-Gradient Clearwater Creek	G?	S3
Medium-Gradient Clearwater River	G?	S?
Medium-Gradient Brownwater Creek	G?	S3
High-Gradient Ephemeral /Intermittent Creek	G?	S5
High-Gradient Clearwater Creek	G?	S3
High-Gradient Clearwater River	G?	S?
High-Gradient Brownwater Creek	G?	S?
Waterfall and Plungepool	G?	S3S4
Spring Community	G?	S1S2
Spring Run Community	G?	S1S2
LACUSTRINE		
Glacial Lake	G?	S1
Nonglacial Lake	G?	S2
Artificial Lake	G?	S?
Natural Pond	G?	S2S3
Artificial Pond	G?	S?
Stable Natural Pool	G?	S?
Ephemeral/Fluctuating Natural Pool	G?	S1
Artificial Pool	G?	S?
Ephemeral/Fluctuating Limestone Sinkhole	G?	1

APPENDIX V (CONT.)

COMMUNITY NAME	GLOBAL RANK	STATE RANK
PALUSTRINE COMMUNITIES		
Acidic Broadleaf Swamp	G5	S1S2
Circumneutral Broadleaf Swamp	G?	S2S3
Boreal Conifer Swamp	G?	S2
Northern Conifer Swamp	G?	S3S4
Broadleaf-Conifer Swamp	G?	S3S4
Floodplain Swamp	G?	S1
Calcareous Seepage Swamp	G?	S1
Acidic Shrub Swamp	G5	S3
Circumneutral Shrub Swamp	G?	S3
Graminoid Marsh	G?	S3
Robust Emergent Marsh	G?	S2
Mixed Graminoid-Robust Emergent Marsh	G?	S2S3
Calcareous Marsh	G?	S1
Glacial Bog	G?	S2S3
Nonglacial Bog	G?	S3
Reconstituted Bog	G?	S?
Shrub Fen	G2G3	S1
Basin Graminoid-Forb Fen	G?	S1
Hillside Graminoid-Forb Fen	G?	S1
Circumneutral Seep Community	G?	S3?
Calcareous Seep Community	G?	S1
Acidic Seep Community	G?	S3?
Riverside Seep Community	G?	S2?
TERRESTRIAL COMMUNITIES		
Boreal Forest	G?	S?
Northern Conifer Forest	G5	S3S4
Northern Hardwood Forest	G?	S3S4
Northern Hardwood-Conifer Forest	G?	S3
Xeric Central Hardwood Forest	G?	S5
Xeric Central Conifer Forest	G?	S3S4
Xeric Central Hardwood-Conifer Forest	G?	S3
Pitch Pine-Scrub Oak Barrens	G2G3	S1S2
Dry-Mesic Acidic Central Forest	G?	S5
Dry-Mesic Calcareous Central Forest	G?	S2S3
Mesic Central Forest	G?	S2

APPENDIX V (CONT.)

COMMUNITY NAME	GLOBAL RANK	STATE RANK
Talus Slope Forest	G?	S2?
Coastal Plain Forest	G?	S1
Floodplain Forest	G?	S2
River Gravel Community	G?	S4S5
Eastern Serpentine Barrens	G2	S1
Appalachian Shale Barren	G?	S1
Appalachian Sand Barren	G?	S?
Boulder Field	G?	S5
Calcareous Cliff Community	G?	S2
Acidic Cliff Community	G?	S5
Shale Cliff Community	G?	S2
Riverside Outcrop Community	G?	S2S2
Calcareous Riverside Outcrop Community	G?	S1
Acidic Rocky Summit Community	G?	S1S2
Calcareous Rocky Summit Community	G?	S1
SUBTERRANEAN COMMUNITIES		
Solution Cave Terrestrial Community	G?	S3
Solution Cave Aquatic Community	G?	S3
Tectonic Cave Community	G?	S3S4
Talus Cave Community	G?	S2S4
DISTURBED COMMUNITIES		
Bare Soil	G?	S?
Meadow/Pastureland	G?	S?
Cultivated Land	G?	S?
Successional Field	G?	S?
Young Miscellaneous Forest	G?	S?
Conifer Plantation	G?	S?

APPENDIX VIa

FEDERAL AND STATE ENDANGERED SPECIES CATEGORIES,
GLOBAL AND STATE ELEMENT RANKS

Several federal and state legislative acts have provided the authority and means for the designation of endangered, threatened, rare, etc. species lists. Those acts and status summaries follow. However, not all of the species or natural communities considered by conservation biologists (e.g., Pennsylvania Biological Survey) as "special concern resources" are included on the state or federal lists. In this county inventory report, "N" denotes those special concern species that are not officially recognized by state or federal agencies. Therefore: N = No current legal status, but is considered to be of special concern in Pennsylvania, or is under review for such consideration, by conservation biologists. Contact the Pennsylvania Natural Diversity Inventory for more information.

FEDERAL STATUS

All Plants and Animals: Legislative Authority: U.S. Endangered Species Act (1973), U.S. Fish and Wildlife Service, February 21, 1990, Federal Register.

LE = Listed Endangered - Taxa in danger of extinction throughout all or a Significant portion of their ranges.

LT = Listed Threatened - Taxa that are likely to become endangered within the foreseeable future throughout all or a significant portion of their ranges.

PE = Proposed Endangered - Taxa already proposed to be listed as endangered.

PT = Proposed Threatened - Taxa already proposed to be listed as threatened.

C1 = Candidate 1 - Taxa for which the Service has on file enough substantial information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species. Taxa of known vulnerable status in the recent past that may already have become extinct.

C2 = Candidate 2 - Taxa for which there is some evidence of vulnerability but For which there are not enough data to support listing proposals at this time.

APPENDIX VIa (CONT.)

C3 = Candidate 3 (See 3A, 3B, 3C below) - Taxa that once were considered for listing as threatened or endangered but are no longer under such consideration. Such taxa are further divided into three subcategories, to indicate the reason(s) for their removal from consideration.

3A = Taxa for which the Service has persuasive evidence of extinction.

3B = Names that, on the basis of current taxonomic understanding (usually as represented in published revisions and monographs) do not represent distinct taxa meeting the Act's definition of "species".

3C = Taxa that have proven to be more abundant or widespread than was previously believed and/or those that are not subject to any identifiable threat.

{N = No current legal status, but is considered to be of special concern in Pennsylvania, or is under review for such consideration, by conservation biologists. Contact the Pennsylvania Natural Diversity Inventory for more information.}

APPENDIX Vib

PENNSYLVANIA STATUS

Native Plant Species:Legislative Authority: Title 25 Chapter 82, Conservation of Native Wild Plants, January 1, 1988; Pennsylvania Department of Environmental Resources.

PE = Pennsylvania Endangered - Plant species which are in danger of extinction throughout most or all of their natural range within this Commonwealth, if critical habitat is not maintained or if the species is greatly exploited by man. This classification shall also include any populations of plant species that have been classified as Pennsylvania Extirpated, but which subsequently are found to exist in this Commonwealth.

PT = Pennsylvania Threatened - Plant species which may become endangered throughout most or all of their natural range within this Commonwealth, if critical habitat is not maintained to prevent their future decline, or if the species is greatly exploited by man.

PR = Pennsylvania Rare - Plant species which are uncommon within this Commonwealth because they may be found in restricted geographic areas or in low numbers throughout this Commonwealth.

PX = Pennsylvania Extirpated - Plant species believed by the Department to be Extinct within this Commonwealth. These plants may or may not be in existence outside the Commonwealth.

PV = Pennsylvania Vulnerable - Plant species which are in danger of population Decline within this Commonwealth because of their beauty, economic value, use as a cultivar, or other factors which indicate that persons may seek to remove these species from their native habitats.

TU = Tentatively Undetermined - A classification of plant species which are believed to be in danger of population decline, but which cannot presently be included within another classification due to taxonomic uncertainties, limited evidence within historical records, or insufficient data.

{N = No current legal status, but is considered to be of special concern in Pennsylvania, or is under review for such consideration, by conservation biologists. Contact the Pennsylvania Natural Diversity Inventory for more information.}

APPENDIX VIb (CONT.)

Wild Birds and Mammals - Legislative Authority: Title 34 Chapter 133, Game and Wildlife Code, revised Dec. 1, 1990 Pennsylvania Game Commission.

PE = Pennsylvania Endangered - Species in imminent danger of extinction or Extirpation throughout their range in Pennsylvania if the deleterious factors affecting them continue to operate. These are: 1) species whose numbers have already been reduced to a critically low level or whose habitat has been so drastically reduced or degraded that immediate action is required to prevent their extirpation from the Commonwealth; or 2) species whose extreme rarity or peripherality places them in potential danger of precipitous declines or sudden extirpation throughout their range in Pennsylvania; or 3) species that have been classified as"Pennsylvania Extirpated", but which are subsequently found to exist in Pennsylvania as long as the above conditions 1 or 2 are met; or 4) species determined to be "Endangered" pursuant to the Endangered Species Act of 1973, Public Law 93-205 (87 Stat. 884), as amended.

PT = Pennsylvania Threatened - Species that may become endangered within the foreseeable future throughout their range in Pennsylvania unless the casual factors affecting the organism are abated. These are: 1) species whose population within the Commonwealth are decreasing or have been heavily depleted by adverse factors and while not actually endangered, are still in critical condition; 2) species whose populations may be relatively abundant in the Commonwealth but are under severe threat from serious adverse factors that have been identified and documented; or3) species whose populations are rare or peripheral and in possible danger of severe decline throughout their range in Pennsylvania; or 4) species determined to be "Threatened" pursuant to the Endangered Species Act of 1973, Public Law 93-205(87 Stat. 884), as amended, that are not listed as "Pennsylvania Endangered".

{N = No current legal status, but is considered to be of special concern in Pennsylvania, or is under review for such consideration, by conservation biologists. Contact the Pennsylvania Natural Diversity Inventory for more information.}

APPENDIX VIb (CONT.)

Fish, Amphibians, Reptiles, and Aquatic Organisms - Legislative Authority: Title 30 Chapter 75, Fish and Boat Code, revised February 9, 1991; Pennsylvania Fish and Boat Commission

PE = Pennsylvania Endangered - All species declared by: 1) the Secretary of the United States Department of the Interior to be threatened with extinction and appear on the Endangered Species List or the Native Endangered Species List published in the Federal Register; or 2) have been declared by the Pennsylvania Fish and Boat Commission, Executive Director to be threatened with extinction and appear on the Pennsylvania Endangered Species List published by the Pennsylvania Bulletin.

PT = Pennsylvania Threatened - All species declared by: 1) the Secretary of the United States Department of the Interior to be in such small numbers throughout their range that they may become endangered if their environment worsens, and appear on a Threatened Species List published in the Federal Register; or 2) have been declared by the Pennsylvania Fish and Boat Commission Executive Director to be in such small numbers throughout their range that they may become endangered if their environment worsens and appear on the Pennsylvania Threatened Species List published in the Pennsylvania Bulletin.

Internal Fish and Boat Commission Status Category:

PC = Pennsylvania Candidate - Species that exhibit the potential to become Endangered or Threatened in the future. Pennsylvania populations of these taxa are: 1) "rare" due to their decline, distribution, restricted habitat, etc.; 2) are "at risk" due to aspects of their biology, certain types of human exploitation, or Environmental modification; or, 3) are considered "undetermined" because adequate data is not available to assign an accurate status.

This category is unofficial and has no basis in any law (i. e., Chapter 75, Fish and Boat Code), as do the Endangered and Threatened categories.

{N = No current legal status, but is considered to be of special concern in Pennsylvania, or is under review for such consideration, by conservation biologists. Contact the Pennsylvania Natural Diversity Inventory for more information.}

APPENDIX VIb (CONT.)

Invertebrates - Pennsylvania Status: No state agency has been assigned to develop regulations to protect terrestrial invertebrates, although a federal status may exist for some species. Aquatic invertebrates are regulated by the Pennsylvania Fish Commission, but have not been listed to date.

Although no invertebrate species are presently state listed, numerous state status and/or state rank designations have been unofficially assigned by conservation biologists. NOTE: Invertebrate species are regularly considered under the U.S. Endangered Species Act for federal status assignments.

{N = No current legal status, but is considered to be of special concern in Pennsylvania, or is under review for such consideration, by conservation biologists. Contact the Pennsylvania Natural Diversity Inventory for more information.}

APPENDIX Vic

GLOBAL AND STATE RANKING

Global and State Ranking is a system utilized by the network of 50 state natural heritage programs in the United States. Although similar to the federal and state status designations, the ranking scheme allows the use of one comparative system to "rank" all species in a relative format. Unlike state or federal status designation guidelines, the heritage ranking procedures are also applied to natural community resources. Global ranks consider the imperilment of a species or community throughout its range, while state ranks provide the same assessment within each state. Although there is only one global rank used by the heritage network, state ranks are developed by each state and allow a "onesystem" comparison of a species or communities imperilment state by state. For more information, contact the Pennsylvania Natural Diversity Inventory.

Global Element Ranks

G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.

G2 = Imperiled globally because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extinction throughout its range.

G3 = Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range or because of other factors making it vulnerable to extinction throughout its range; in terms of occurrences, in the range of 21 to 100.

G4 = Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.

G5 = Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.

GH = Of historical occurrence throughout its range, i.e., formerly part of the established biota, with the expectation that it may be rediscovered (e.g., Bachman's Warbler).

GU = Possibly in peril range-wide but status uncertain; need more information.

GX = Believed to be extinct throughout its range (e.g., Passenger Pigeon) with virtually no likelihood that it will be rediscovered.

G? = Not ranked to date.

NOTE: The study of naturally occurring biological communities is complex and natural community classification is unresolved both regionally and within Pennsylvania. The Global and State Ranking of natural communities also remains difficult and incomplete. Although many natural community types are clearly identifiable and have been ranked, others are still under review and appear as G? and/or S?.

APPENDIX VId

State Element Ranks

S1 = Critically imperiled in state because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extirpation from the state

S2 = Imperiled in state because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extirpation from the state.

S3 = Rare or uncommon in state (on the order of 21 to 100 occurrences).

S4 = Apparently secure in state, with many occurrences.

S5 = Demonstrably secure in state and essentially ineradicable under present conditions. SA = Accidental (occurring only once or a few times) or casual (occurring more regularly although not every year) in state, including species which only sporadically breed in the state.

SE = An exotic established in state; may be native elsewhere in North America (e.g., house finch or catalpa in eastern states).

SH = Of historical occurrence in the state, perhaps having not been verified in the past 20 years, and suspected to be still extant

SN = Regularly occurring, usually migratory and typically nonbreeding species For which no significant or effective habitat conservation measures can be taken in the state.

SR = Reported from the state, but without persuasive documentation which would provide a basis for either accepting or rejecting (e.g., misidentified specimen) the report.

SU = Possibly in peril in state but status uncertain; need more information.

SX = Apparently extirpated from the state.

SZ = Not of significant conservation concern in the state, invariably because there are no (zero) definable element occurrences in the state, although the taxon is native and appears regularly in the state.

S? = Not ranked to date.

NOTE: The study of naturally occurring biological communities is complex and natural community classification is unresolved both regionally and within Pennsylvania. The Global and State Ranking of natural communities also remains difficult and incomplete. Although many natural community types are clearly identifiable and have been ranked, others are still under review and appear as G? and/or S?

APPENDIX VII

RESOURCE AGENCIES FOR ALLEGHENY COUNTY

PENNSYLVANIA NATURAL DIVERSITY INVENTORY:

PA Department of Environmental Resources
Bureau of Forestry
(717)787-3444

MINERAL EXTRACTION:

PA Department of Environmental Resources
Bureau of Mining and Reclamation
(412)442-4000

PA Department of Environmental Resources
Bureau of Oil and Gas Management
(412)442-4000

DEVELOPMENT:

PA Department of Environmental Resources (412)442-4000

Allegheny County Conservation District (412)921-1999

Allegheny County Planning Department (412)355-5960

AGRICULTURE:

U.S. Department of Agriculture
Agriculture Stabilization and Conservation Service
(412)775-2369

U.S. Department of Agriculture
Soil Conservation Service
(412)922-4448

AGRICULTURE (CONT.):

Allegheny County Conservation District (412)921-1999

Co-op Extension Service
(412)392-8540

UTILITY AND ROAD RIGHT-OF-WAYS:

U.S. Department of Agriculture
Soil Conservation Service
(412)922-4448