BLAIR COUNTY
NATURAL HERITAGE INVENTORY

Prepared for:

The Blair County Planning Commission
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Copies of this report are available in electronic format through Western Pennsylvania Conservancy's web site – www.paconserve.org – and through the Blair County Planning Commission

PREFACE

The Western Pennsylvania Conservancy (WPC) served as the principal investigator and prepared the report and maps for this study. Established in 1932, Western Pennsylvania Conservancy is a private non-profit conservation organization headquartered in Pittsburgh. WPC's mission is to save the places we care about by connecting people to the natural world. As part of its mission, WPC works to sustain the natural heritage of the Commonwealth: its native plant, animal, and habitat resources. To reach its goals, WPC initiates conservation projects independently and establishes partnerships with agencies and organizations having similar interests.

Along with The Nature Conservancy (TNC) and The Department of Conservation and Natural Resources (DCNR), WPC is a partner in the Pennsylvania Natural Heritage Program (PNHP) that is responsible for collecting, tracking and interpreting information regarding the Commonwealth's biological diversity. County inventory projects are an important part of the work of PNHP. Additionally, PNHP is a member of NatureServe, the organization that coordinates Natural Heritage efforts through an international network of member programs (known as natural heritage programs or conservation data centers), operating in all 50 U.S. states, Canada, Latin America and the Caribbean.

The ability of a community to bring its vision for the future to fruition depends on its capacity to assemble information that will enable it to act effectively and wisely. Since 1989, county inventory projects have served as a way to both gather new information and to pass along new and existing information to those responsible for land use decisions as well as to all residents who wish to know more about the natural heritage of their county. This Natural Heritage Inventory focuses on the best examples of living ecological resources in Blair County. Historic, cultural, educational, water supply, agricultural and scenic resources are among the many that the county must address through other projects and programs.

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 Blair County's natural heritage. Further investigations could, and likely will, uncover previously unidentified areas of significance. Likewise, in-depth investigations of sites listed in this report could reveal features of further or greater significance than have been documented. We encourage additional inventory work across the county to further the efforts begun with this study.

Consider the inventory as an invitation for the people of Blair County to explore and discuss their natural heritage and to learn about and participate in the conservation of the living resources of the county. Ultimately, it will be up to the landowners and residents of Blair County to determine how to use this information. Some considerations of the application of this information for a number of groups follow:

Planners and Government Staff. Typically, the planning office in a county administers county inventory projects. Often, the inventories are used in conjunction with other resource information (agricultural areas, slope and soil overlays, floodplain maps, etc.) in review for various projects and in comprehensive planning. Natural Heritage Areas may be included under various categories of zoning, such as conservation or forest zones, within parks and greenways, and even within agricultural security areas. There are many possibilities to provide for the conservation of Natural Heritage Areas within the context of public amenities, recreational opportunities and resource management.

County, State and Federal Agencies. In many counties, Natural Heritage Areas lie within or include state or federal lands. Agencies such as the Pennsylvania Game Commission, the Pennsylvania Bureau of Forestry, and the Army Corp of Engineers can use the inventory to understand the extent of the resource. Agencies can also learn the requirements of the individual plant, animal, or community elements, and the

general approach that protection could assume. County Conservation Districts may use the inventories to focus attention on resources (e.g. high diversity streams or wetlands) and as a reference in encouraging good management practices.

Environmental and Development Consultants. Environmental consultants are called upon to plan for a multitude of development projects including road construction, housing developments, commercial enterprises and infrastructure expansion. Design of these projects requires that all resources impacted be known and understood. Decisions made with inadequate information can lead to substantial and costly delays. County Natural Heritage Inventories provide a first look at biological resources, including plants and animals listed as rare, threatened or endangered in Pennsylvania and in the nation. Consultants can therefore see potential conflicts long before establishing footprints or developing detailed plans and before applying for permits. This allows projects to change early on when flexibility is at a maximum.

Environmental consultants are increasing called upon to produce resource plans (e.g. River Conservation Plans) that must integrate a variety of biological, physical and social information. County Natural Heritage Inventories can help define watershed-level resources and priorities for conservation.

Developers. Working with environmental consultants, developers can consider options for development that add value and protect key resources. Incorporating greenspaces, wetlands and forest buffers into various kinds of development can attract homeowners and businesses that desire to have natural amenities nearby. Just as parks have traditionally raised property values, so too can natural areas. County Natural Heritage Inventories can suggest opportunities where development and conservation can complement one another.

Educators. Curricula in primary, secondary and college level classes often focus on biological science at the chemical or microbiological level. Field sciences do not always receive the attention that they deserve. Natural areas can provide unique opportunities for students to witness, first-hand, the organisms and natural communities that are critical to maintaining biological diversity. Teachers can use County Natural Heritage Inventories to show students where and why local and regional diversity occur and to aid in curriculum development for environment and ecology academic standards. With proper permission and arrangements, students can visit Natural Heritage Areas and establish appropriate research or monitoring projects.

Conservation Organizations. Organizations that have as part of their missions the conservation of biological diversity can turn to the inventory as a source of prioritized places in the county. Such a reference can help guide internal planning and define the essential resources that can be the focus of protection efforts. Land trusts and conservancies throughout Pennsylvania have made use of the inventories to do just this sort of planning and prioritization, and are now engaged in conservation efforts on highly significant sites in individual counties and regions.

ACKNOWLEDGEMENTS

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We want to recognize the Pennsylvania Natural Heritage Program and NatureServe for providing the foundation for the work that we perform for these studies. Additionally, this report has incorporated ideas and approaches developed for conservation science initiatives recently undertaken in other states, most notably the Massachusetts BioMap project and the Maryland Green Infrastructure project, and we gratefully acknowledge the vision of these projects for providing the basis for improved ways to represent conservation information in the County Natural Heritage Inventory reports.

Without the support and help from these people and organizations, the inventory would not have seen completion. We encourage comments and questions. The success of the report will be measured by the use it receives and the utility it serves to those making decisions about resources and land use throughout the county. Thank you for your interest.

Jessica McPherson
Ecologist
Western Pennsylvania Conservancy

EXECUTIVE SUMMARY

Introduction

A healthy natural landscape is vital to the quality of life in human communities and to the survival of the native biodiversity that is our natural heritage, connecting us to the past and the future of our communities and our cultural identity. For all of us, the natural landscape and the ecosystem processes it supports provide many services, such as clean water and clean air, and renew the resources from which we draw food, raw materials, and economic vitality. Industries that include forest products, fishing, outdoor recreation, and nature tourism depend upon a natural landscape that is well-stewarded and positioned for long-term sustainability.

The first steps in working towards stewardship of ecological health in our landscape are to characterize the ecosystems it hosts, understand how they function, and assess how they may be sensitive to human impacts. This report contributes to this endeavor by mapping the location and describing the character of many of the county's most significant ecological areas. Additionally, it provides information regarding their sensitivity to various land use activities.

The report focuses on identifying and documenting areas that support exemplary natural communities, broad expanses of intact natural ecosystems, and species of special concern. Its aim is to provide information to help county, state, and municipal governments, private individuals, and business interests plan development with the preservation of an ecologically healthy landscape for future generations in mind.

Maps are a key feature of the inventory, outlining the areas identified as supporting important ecological elements. The maps do not pinpoint the exact location of species of concern or natural communities but rather represent critical habitat and the surrounding area or landscape necessary to support critical habitats and the elements (plants, animals, natural communities) of concern. A summary table and a written description of the sites accompany each map. Potential threats and recommendations for protection of the sites are included for each of the individual site descriptions.

Natural Heritage Inventory Classification

To provide the information necessary to plan for conservation of biodiversity at the species, community, and ecosystem levels, two types of Natural Heritage Areas, as well as designations from two other sources, are included in the report.

Natural Heritage Areas

Biological Diversity Area (BDA):

Definition: An area containing plants or animals of special concern at state or federal levels, exemplary natural communities, or exceptional native diversity. BDAs include both the immediate habitat and surrounding lands important in the support of these special elements.

Conservation Planning Application: BDAs are mapped according to their sensitivity to human activities. "Core" areas delineate essential habitat that cannot absorb significant levels of activity without substantial impact to the elements of concern. "Supporting Natural Landscape" include areas that maintain vital ecological processes or secondary habitat that may be able to accommodate some types of low-impact activities.

Landscape Conservation Area (LCA):

Definition: A large contiguous area that is important because of its size, open space,

habitats, and/or inclusion of one or more BDAs. Although an LCA includes a variety of land uses, it typically has not been heavily disturbed and thus retains much of its natural character.

Conservation Planning Application: These large regions in relatively natural condition can be viewed as regional assets; they improve quality of life by providing a landscape imbued with a sense of beauty and wilderness, they provide a sustainable economic base, and their high ecological integrity offers unique capacity to support biodiversity and human health. Planning and stewardship efforts can preserve these functions of the landscape by limiting the overall amount of land converted to other uses, thereby minimizing fragmentation of these areas.

Important Bird Areas (IBA):

The Pennsylvania Audubon Society administers the Pennsylvania IBA Program and defines an IBA as "a site that is part of a global network of places recognized for their outstanding value to bird conservation." An IBA can be large or small, public or private and must meet one of several criteria (http://pa.audubon.org/Ibamain.htm).

Conservation Planning Application: Planning for these areas should consider how best to maintain their value as bird habitat. The value of some large-scale IBAs may be due to the forest interior habitat contained within them; thus, the recommendations for LCA stewardship to minimize fragmentation are applicable. Natural communities that have a particular habitat value for birds (e.g., wetland) are typically the basis for smaller-scale IBAs; therefore, a high degree of protection should be given to these sites. Conservation plans are in the process of being completed for all IBAs in the state.

Important Mammal Areas (IMA):

The Important Mammal Areas Project (IMAP) is being carried out by a broad based alliance of sportsmen, conservation organizations, wildlife professionals, and scientists. Areas nominated must fulfill at least one of five criteria developed by the Mammal Technical Committee of the Pennsylvania Biological Survey (http://www.pawildlife.org/imap.htm).

Conservation Planning Application: Planning for these areas should consider how best to maintain their value as mammal habitat. The value of these sites may be associated with high mammalian diversity, high-density populations, occurrence of species of special concern, or educational potential. Stewardship plans are in the process of being completed for all IMAs in the state.

Methods

Forty county inventories have been completed in Pennsylvania to date. The Blair County Natural Heritage Inventory followed the same methodologies as previous inventories, which proceeded in the following stages:

- site selection
- ground survey
- data analysis

Site Selection

A review of the Pennsylvania Natural Diversity Inventory (PNDI) database (see Appendix II) determined where sites for special concern species and important natural communities were known to exist in Blair County. Knowledgeable individuals were consulted concerning the occurrence of rare plants and unique natural communities in the county. Geological maps, USGS topographical maps, National Wetlands Inventory maps, USDA soil surveys, recent aerial photos, and published materials were

also used to identify areas of potential ecological significance (Reschke 1990). Once preliminary site selection was completed, reconnaissance flights over chosen areas of the county were conducted. Wetlands were of primary interest during fly-overs in Blair County.

Ground Survey

Areas identified as potential sites were scheduled for ground surveys. After obtaining permission from landowners, sites were examined to evaluate the condition and quality of the habitat and to classify the communities present. Field survey forms (Appendix III, pg. 127) were completed for each site. The flora, fauna, level of disturbance, approximate age of community and local threats were among the most important data recorded for each site. In cases where permission to visit a site was not granted, when enough information was available from other sources, or when time did not permit, sites were not ground surveyed.

Data Analysis

Data obtained during the 2002 and 2003 field seasons was combined with prior existing data and summarized. All sites with species or communities of statewide concern, as well as exceptional examples of more common natural communities were selected as Biological Diversity Areas (BDAs). Spatial data on the elements of concern were then compiled in a geographic information system (GIS) format using ESRI ArcView 3.2a software.

The boundaries defining each BDA were based on physical and ecological factors, and specifications for species protection provided by jurisdictional government agencies. The BDAs were then assigned a significance rank based on size, condition, rarity of the unique feature, and the quality of the surrounding landscape (see Appendix I, pg. 123 for further description of ranks). Landscape Conservation Areas were designated around landscape features that provide a uniting element within a collection of BDAs, or large blocks of contiguous forest identified using GIS-based spatial analysis. County municipalities served as the organizing unit for the data.

Results

Seventy-eight areas of ecological significance are recognized in the Blair County Natural Heritage Inventory (Table 1). This includes 57 Biological Diversity Areas and 21 Landscape Conservation Areas that are categorized according to their significance to the protection of the biological diversity and ecological integrity of the region (Table 1). Significance ranks are Exceptional, High, Notable, and County (for a full explanation of these ranks, see Appendix I, pg. 123.

*******see map and table 1, next page*******

Mountain bugbane
Cimicifuga americana

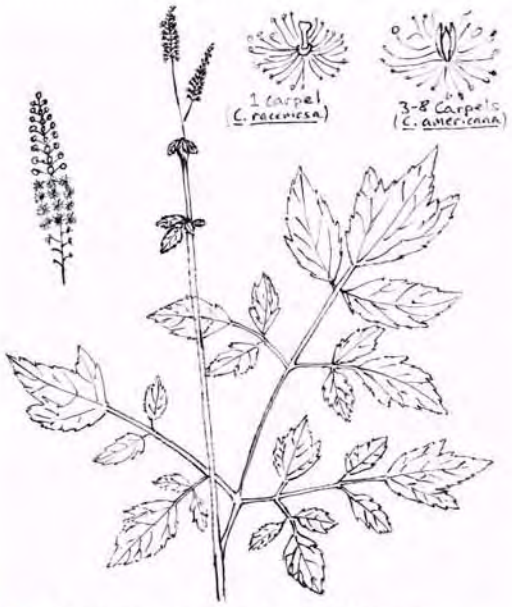
What it looks like:

Mountain bugbane, *Cimicifuga americana*, is a perennial herb that grows from one to one and a half meters (three to four feet) tall.

Leaves are compound, with terminal leaflets large, toothed, and deeply cleft; other leaflets oval to wedge-shaped with sharply defined teeth. All leaflets are less than 10 centimeters (four inches) long.

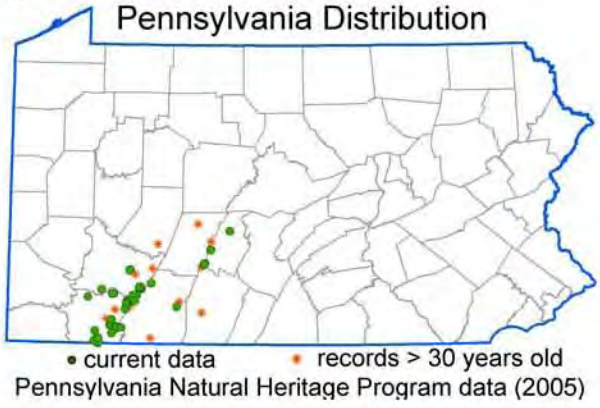
Flowers: a slender raceme (up to 1 ft. tall) of tiny white flowers; no petals; short-lived sepals; most conspicuous feature is the spray of many white stamens; strong foul odor attracts flies for pollination; flowers open from base upward on spike.

Can be distinguished from the very similar looking species black cohosh (*Cimicifuga racemosa*) because it has three or more carpels instead of only one, and its seed pods are stalked.



Where it is found:

Mountain bugbane grows in rich hardwood forests, often in the same habitat as hemlock, on north-facing mountainsides or the wooded corridors that follow mountain streams. It is restricted to the central Appalachians, from Pennsylvania south to Georgia and as far west as Illinois.

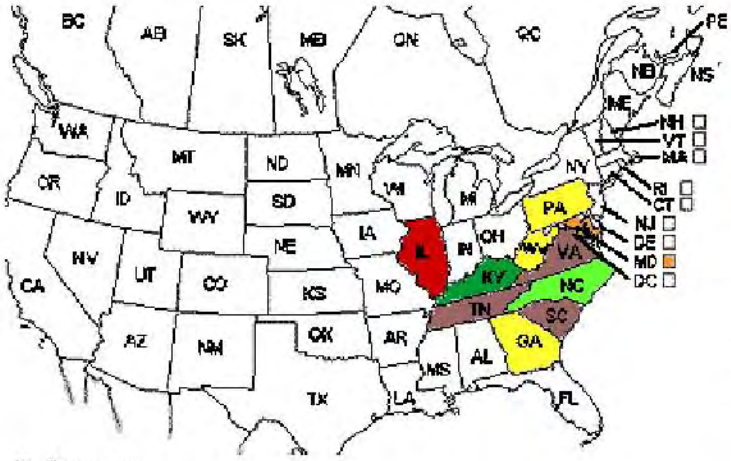


Why it is rare:

Mountain bugbane is primarily endangered by development and clearcutting of its habitat, but populations have also suffered from harvesting pressure. Although mountain bugbane is not particularly valuable in itself, its similar-looking relative black cohosh is a highly sought-after medicinal herb. Between 300,000 and 500,000 pounds of black bugbane were collected from the wild for sale in 1999, and some of this was almost certainly mountain bugbane.

North American State/Province Conservation Status

Map by NatureServe



State/Province Status Ranks

- **SX** – presumed extirpated
- **SH** – possibly extirpated
- **S1** – critically imperiled
- **S2** – imperiled
- **S3** – vulnerable
- **S4** – apparently secure
- **S5** – secure
- Not ranked/under review

NatureServe conservation status ranks:

G4 – apparently secure worldwide

S3 – vulnerable within Pennsylvania

Conservation considerations:

Much is still unknown about where mountain bugbane grows and how secure its existing populations are. Information about how often it is collected with black bugbane would greatly aid conservation efforts. Given present information, habitat conservation is what this species most requires.

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