

GERTRUDE S LAWRENCE WOODS NATURE PRESERVE MANAGEMENT PLAN 2023



4748 RED BANK RD, GALENA OH 43021

GERTRUDE S LAWRENCE WOODS NATURE PRESERVE

EXECUTIVE SUMMARY

Columbus Nature Preserves

The Columbus Recreation and Parks Department has 20 designated nature preserves that encompass over 2,850 acres across Franklin and Delaware County. Nature preserves provide for the conservation, protection, and enhancement of ecologically significant land through research, awareness, and education. The first city nature preserves were adopted in 1988 with additional preserves added in 2004, 2010, and 2016. In 2022, the designation process of nature preserves was added into Columbus City Code.

Gertrude S Lawrence Woods Nature Preserve

 4748 Red Bank Road Galena, OH 43021

Gertrude S Lawrence Woods Nature Preserve features 29 acres of varying topography, including hills, stream valleys, and steep bluffs abutting Hoover Reservoir. A loop trail includes two overlook points with views over the flooded ravines. In the fall, these areas drain and become mudflats. The property was acquired in 2011 and was named to honor Gertrude S Lawrence. Lawrence Woods was designated a Nature Preserve in 2016.



Features and Amenities

Features

- Mature upland forest with large diameter trees
- Over 2,300 linear feet of streams, including high-quality streams with deep water pools
- High bluffs looking over a Hoover Reservoir
- Northern dusky salamanders can be found in the headwater streams

Amenities

- Loop Trail
- Two overlooks
- Benches

Listed Species

- Indiana bat*
(*Myotis sodalist*)
- Northern long-eared bat*
(*Myotis septentrionalis*)
- Monarch butterfly^
(*Danaus plexippus*)
- Prothonotary warbler***
(*Protonotaria citrea*)

*Endangered **Threatened ***Species of Concern ^Candidate Species

Habitat



■ Upland Forest (99.6%)

■ Reservoir (0.4%)

Recommendations

To maintain, conserve, and restore Gertrude S Lawrence Woods Nature Preserve:



Keep the Nature Preserve in its original state and limit activities to pedestrian trail use only. Lawrence Woods has a mature forest containing high quality, streams overlooking Hoover Reservoir.



Remove invasive plants. Invasive species are present, most notably honeysuckle, privet, and multi-flora rose. These aggressive species can quickly overtake native species. Removal of all three species could be pursued at the same time.



Install additional signage. Provide signage about the Nature Preserve and its boundaries, educational signage on park features, and to prohibit feeding wildlife.

ACKNOWLEDGMENTS

This Nature Preserve Management Plan is the culmination of efforts of the Columbus community, individuals, and groups who devoted their time and energy to the future of the City of Columbus nature preserves. We sincerely appreciate everyone who made this plan possible through their enthusiasm, commitment, creative input, and support. A special thank you to the following organizations for their leadership throughout the planning process:

Columbus Recreation & Parks Department

Columbus City Council

Columbus Mayor's Office

Columbus Department of Public Utilities, Division of Water

Columbus Recreation and Parks Commission

Nature Preserve Advisory Council

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Lawrence Woods Known Species List (2022)

1 INTRODUCTION

1.1 Columbus Nature Preserves Overview

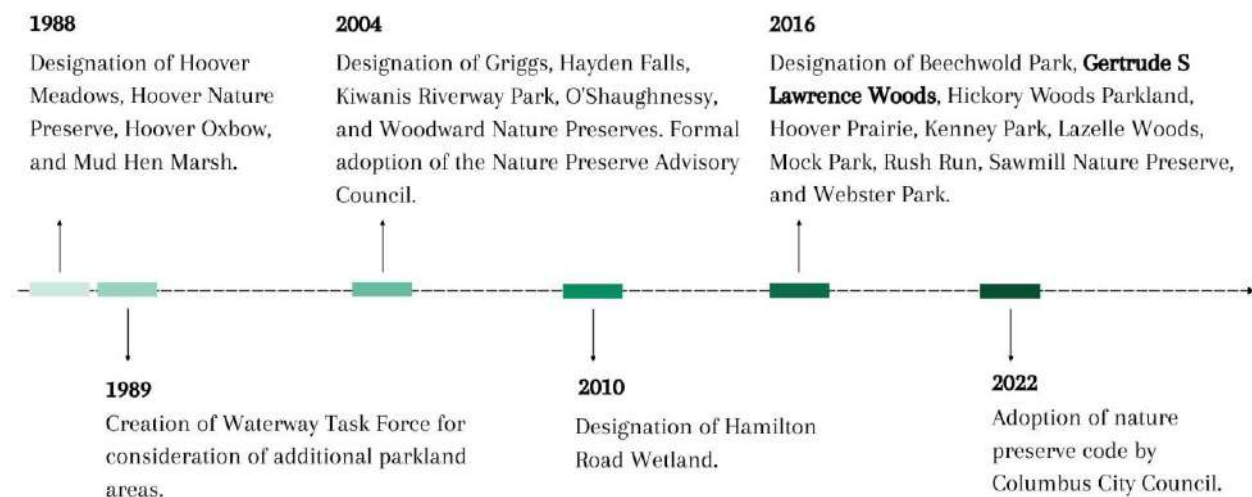
The Columbus Recreation and Parks Department (CRPD) works to preserve the local natural heritage for the Columbus community to enjoy. CRPD recognizes environmentally unique and sensitive areas as designated nature preserves. The Columbus Nature Preserve system is one of a few city nature preserve programs in the state of Ohio.

All Columbus nature preserves are managed by CRPD and advised by the Nature Preserve Advisory Council (NPAC). The NPAC, previously known as the Hoover Nature Preserve Advisory Council, was formally created by City Resolution with the designation of Hoover Nature Preserve, in 1988. In 2004, it was formally renamed by Resolution. The council is composed of nine (9) members. Within the Columbus Nature Preserves, the purposes and objectives of the NPAC are to:

1. Advise and make recommendations to the Executive Director of CRPD concerning the management and wise use of the natural resources.
2. Advocate for the conservation, protection, enhancement, and wise use of the natural resources.
3. Foster the development and application of science-based resource policies and practices and to promote through education and example, and ethic that recognizes the interdependence of people and the environment.

The first city nature preserve was adopted in 1988, for the purpose of protecting and maintaining the drinking water supply at Hoover Reservoir. Additional preserves were designated in 2004, 2010, and 2016. The timeline below lists the year each nature preserve was designated. Note that these properties were acquired years prior to their designation. To date, the system includes over 2,850 protected acres across 20 nature preserves. Of the 20 nature preserves, ten are adjacent to Griggs, Hoover, or O'Shaughnessy Reservoirs and therefore, jointly managed by Columbus Department of Public Utilities (DPU) Division of Water.

Columbus Nature Preserve Timeline



Portions of Nature Preserves located adjacent to Hoover, Griggs, and O’Shaughnessy Reservoir qualify for inclusion in the city’s Land Stewardship Program. Any landowner participating in the Land Stewardship Program must comply with the standards regarding nature preserves in the Land Stewardship Design Standards (2020). The city’s Land Stewardship Program allows for authorized activities and limited access for adjacent landowners. The program provides a balanced approach to protect the long-term health of the reservoirs while maintaining public recreational access. DPU remains committed to maintaining the reservoirs for the primary function of providing a quality drinking water supply, while also providing the community with compatible recreational access.”

1.2 Management Plan Purpose

This management plan details the site history, amenities, landscape context, habitat types, plant and wildlife species, and recommendations. This plan fulfills Columbus City Code 919.27’s requirement for a management plan to provide the framework for management, restoration, and protection of the nature preserve. The intent is to ensure the long-term viability of the nature preserve’s natural resources while allowing visitors to experience nature.

2 SITE HISTORY AND DESCRIPTION

2.1 Preserve History

Gertrude S Lawrence Woods Nature Preserve (“Lawrence Woods”) is approximately 29-acres in size with a 7.2-acre conservation easement. The 29-acre property consists of Delaware County parcel #31714001057000 and #31714001061000. The property was acquired in 2011 and was named to honor Gertrude S Lawrence whose land was both donated and purchased to provide protection for intact ecosystems, water quality, rare wildlife, and environmental education. The property was designated a Nature Preserve in 2016.

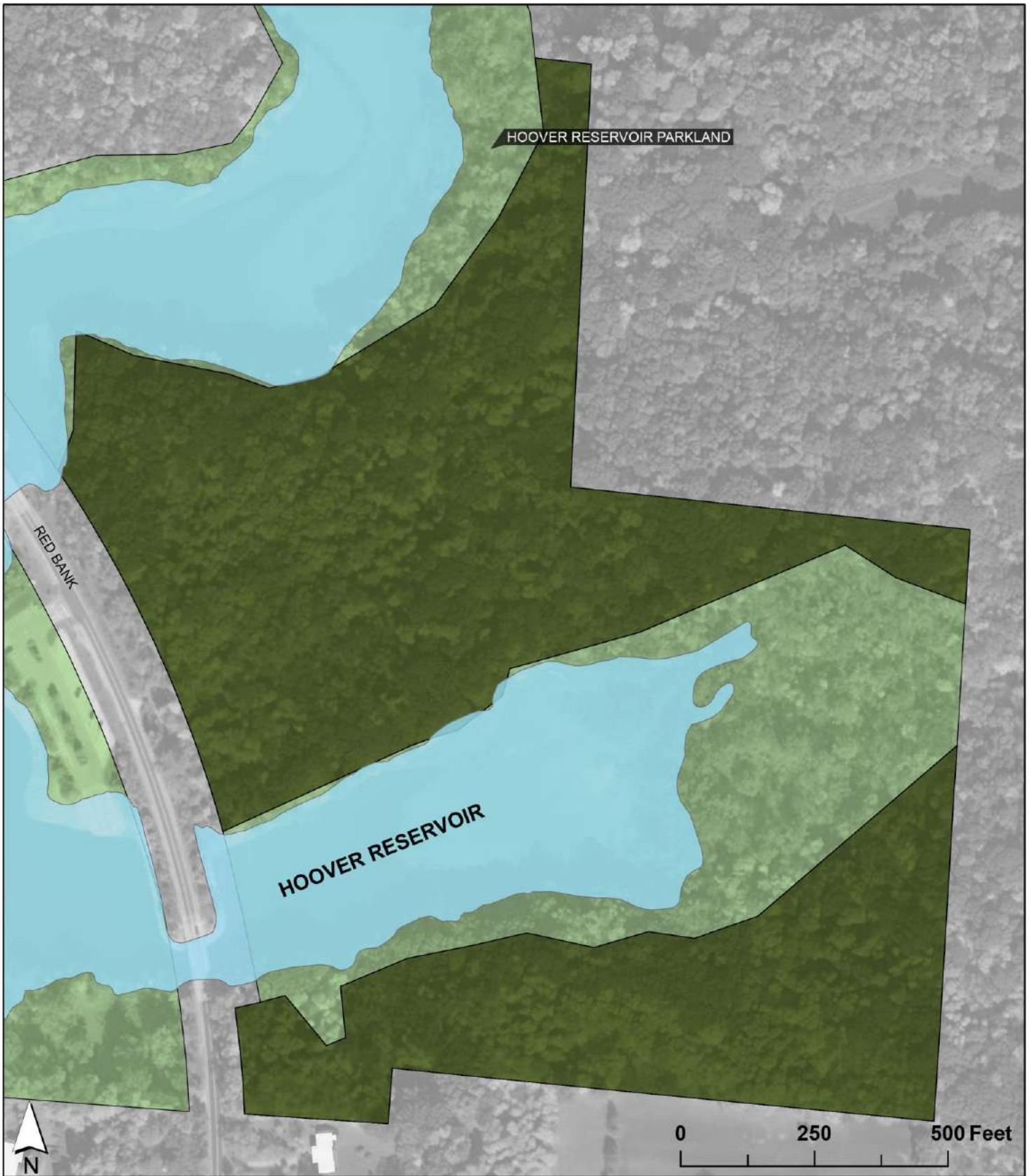
2.2 Location Description

Lawrence Woods’ address is 4748 Red Bank Road, Galena, Ohio 43021. Lawrence Woods is located in the northeastern portion of Columbus, north of Center Village Road, east of the Hoover Reservoir, and south and west of Harlem Road.

Surrounding land use includes scattered residential housing, the Hoover Reservoir, forest, and agricultural fields. See “Gertrude S Lawrence Nature Preserve” location map.



Winding trail through upland forest at Lawrence Woods.



Gertrude S Lawrence Woods Nature Preserve

Preserve Boundary
 Nearby CRPD Properties

4748 RED BANK RD, GALENA OH 43021



3 AMENITIES AND NATURAL RESOURCES

3.1 Amenities

Lawrence Woods contains a 4-foot wide crushed stone 1.5-mile trail loop, three bridges crossing streams, and two benches at overlook areas. One sign exists at the entrance to the northern portion along Red Bank Road, along with a general trail map. Additional signs exist within the far southeastern section of the northern portion.

A gate is present on Redbank Road at the entrance of Lawrence Woods. Fencing is present along Redbank Road and a split rail fence is present along a portion of the bluffs for safety.

3.2 Landscape Context

Lawrence Woods contains varying topography, including hills, stream valleys, and steep bluffs abutting Hoover Reservoir. Drainage flows to the north and south into Hoover Reservoir. The Federal Emergency Management Agency (FEMA) 100-year floodplain exists within the Preserve along the Hoover Reservoir. These floodplain areas provide fish and wildlife habitat, recharge groundwater, and improve surface water quality.



The following soils are mapped within Lawrence Woods:

- **Amanda silt loam** with steeper slopes are deep, well-drained soils composed of materials deposited by glaciers.
- **Bennington silt loam** are somewhat poorly drained soils formed in loamy till of medium lime content in relatively flat areas.
- **Centerburg silt loam** has minimal slopes and is associated with ground and end moraines.
- **Gallman silt loam, loamy substratum** is found in relatively flat terrain, with well drained soils associated with outwash terraces.
- **Latham-Brecksville complex** is associated with hills and has relatively steep slopes, comprised of silt loam, silty clay loam, and weathered bedrock.
- **Loudonville silt loam** is on relatively flat terrain comprised of till over residuum weathered from sandstone.
- **Sloan silt loam** is occasionally flooded and is associated with depressions on floodplains and includes loamy alluvium.

Gallman silt loam is the only soil unit listed as hydric, an indicator of wetlands, located along the floodplain of a perennial stream flowing into Hoover Reservoir.

3.2.1 Streams

Lawrence Woods is located in the Hoover Reservoir-Big Walnut Creek Watershed (Ohio Environmental Protection Agency (EPA) Hydrologic Unit (HUC) #050600011308). This watershed includes Hoover Reservoir, a major water source for Columbus that was created by the Hoover Dam on Big Walnut Creek.

Lawrence Woods also contains two perennial streams, four intermittent streams, and three ephemeral streams. In general, the streams contain high quality physical habitat. The two perennial streams are classified as Ohio EPA Headwater Habitat Evaluation Index Class 3, describing the highest quality of headwater stream based on physical habitat. These streams contain good quality physical habitat, with a mixture of coarse substrates (cobble and gravel), little siltation, and deep pools. In total, it is estimated Lawrence Woods contains around 2,400 linear feet of stream.

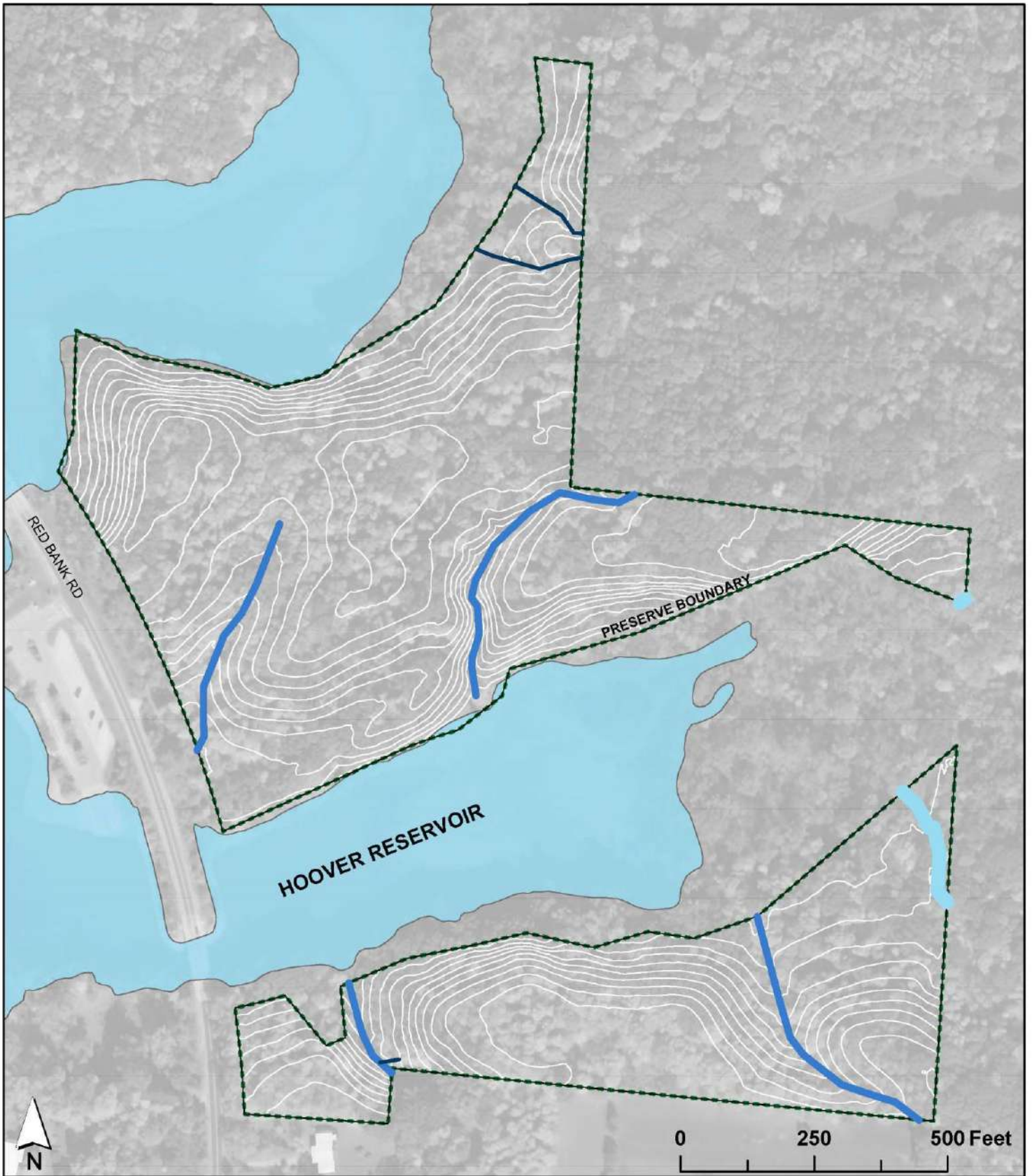
See “Lawrence Woods Streams” map.

3.2.2 Wetlands

No wetlands were identified within Lawrence Woods.



A perennial stream which flows within the park for a short distance. This stream flows between the two park areas and into Hoover Reservoir.

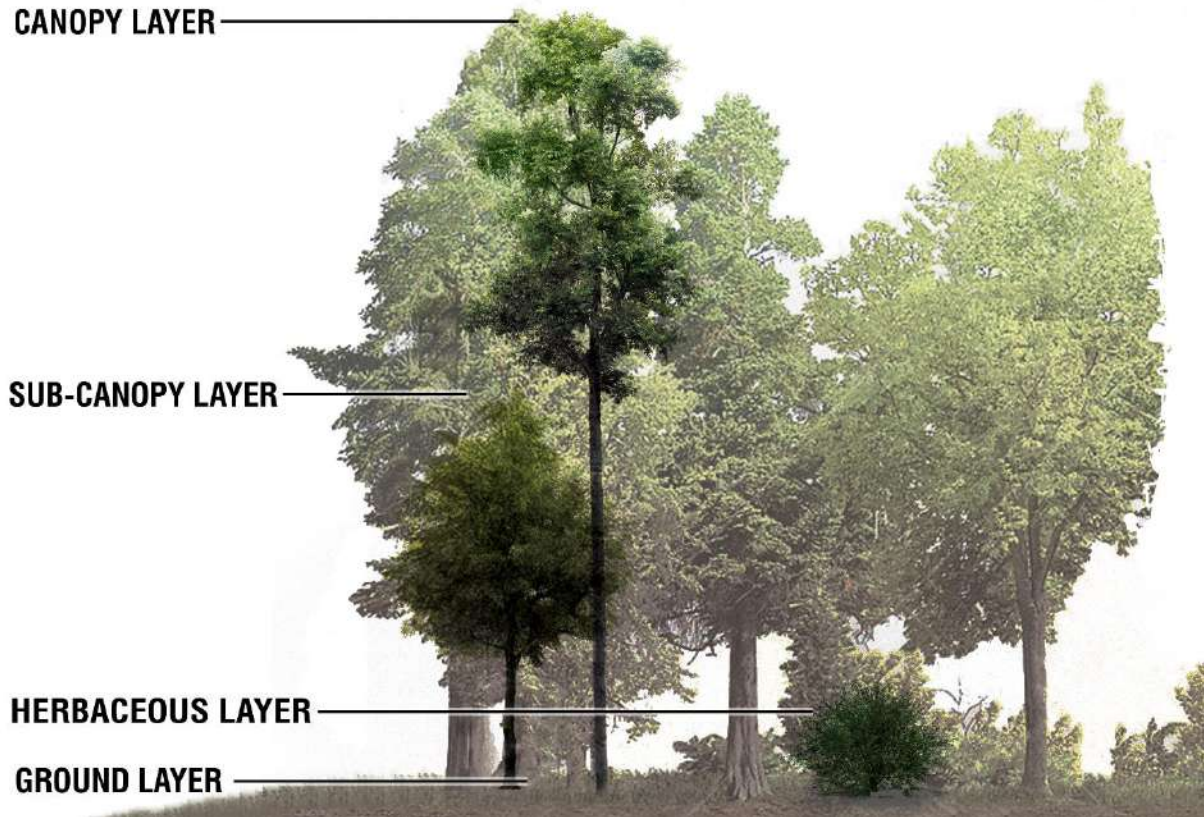


Lawrence Woods Streams

- Perennial Streams
- Intermittent Streams
- Ephemeral Streams
- 5' Contours

3.3 Vegetation and Habitat

Commonly observed native trees include sugar maple (*Acer saccharum*) and white oak (*Quercus alba*) within the upland forest habitat.



Commonly observed native sub-canopy species include spice bush (*Lindera benzoin*).

The herbaceous layer is dominated by mayapple (*Podophyllum peltatum*) and Virginia creeper (*Parthenocissus quinquefolia*), a deciduous climbing woody vine whose green leaves turn red in the fall.

See “Lawrence Woods Habitat Types & Invasive Species” map that illustrates the general vegetation coverage within Lawrence Woods. The following habitat types were identified:

1. Upland Forest
2. Reservoir

The “Lawrence Woods Known Species List (2022)” is included as an attachment.



Lawrence Woods Habitat Types & Invasives Species

Habitat Types:
 Upland Forest (29.1 acres)
 Reservoir (0.11-acre)

Invasive Species:
 Honeysuckle, Privet, and Multi-Floral Rose (29.2 acres)



3.3.1 Upland Forest

Lawrence Woods consists of 29-acres of upland forest that includes portions of mature forest. The forest within the Preserve is part of a larger, contiguous 77-acres of forest. This forest serves as an important riparian area, forested area surrounding streams, for the numerous headwater streams. The forest is habitat for a number of plant and animal species, including potential habitat for the Prothonotary warbler, a State Species of Concern with known records in the Preserve, and for protected bat species. Bats utilize forests during the summer to roost and often prefer to forage along riparian stream corridors that Lawrence Woods provides.

The upland forest offers numerous natural overlook areas, including high bluffs looking over a perennial stream, and a hilltop with a view of Hoover Reservoir. The local relief and views within the Preserve are unique to the Columbus, as a majority of the Columbus area is flat.



Upland Forest



Upland Forest

3.3.2 Hoover Reservoir

Approximately 0.11-acre of Hoover Reservoir is present within Lawrence Woods.



Reservoir



Reservoir

3.3.3 Invasive Vegetation

Dominant invasive species includes privet (*Ligustrum* spp.), bush honeysuckle (*Lonicera* spp), and multi-flora rose (*Rosa multi-flora*). These species are sporadically present throughout a majority of the Lawrence Woods. Removal of these invasive species is a priority, as invasive species can quickly spread, crowding out native species, and disturbing the native ecological system.

See “Lawrence Woods Habitat Types & Invasive Species” map.

3.4 Listed/Protected Plant and Wildlife Species

Plant and wildlife species data below were requested from the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) data and the Ohio Department of Natural Resources (ODNR) Natural Heritage Data (NHD). Lawrence Woods is within the potential habitat ranges of the following endangered, threatened, or species of concern plants and/ or wildlife. Therefore, these species may be found within the Nature Preserve.

Plants

No USFWS federally listed plant species or ODNR state listed plant species ranges or records are known to exist within Lawrence Woods.

The following records or ranges for wildlife were identified within Lawrence Woods:

Mammals

The Federally endangered Indiana bat (*Myotis sodalists*) and northern long-eared bat (*Myotis septentrionalis*) are found in Ohio. These bats face extinction due to the range-wide impacts of white-nose syndrome, a deadly disease affecting cave-dwelling bats across the continent.

These species hibernate, therefore are not typically found in trees in the winter. However, when not in hibernation, they use the trees within forests for foraging, roosting, and raising their young in the summer, and often return to the same forests. The mature forest in Lawrence Woods provides suitable habitat for the bats.



Headwater perennial stream which contains Northern dusky salamanders.

Insects

The monarch butterfly (*Danaus plexippus*) is a candidate for being considered Federally Threatened or Endangered (due to the significant decline in their numbers). Monarchs seek milkweed plants for food and laying eggs as part of their annual migration from as far north as Canada down to central Mexico. Wildflowers present in Lawrence Woods provide suitable food sources for monarch butterflies.

Birds

The Prothonotary warbler (*Protonotaria citrea*) is a State Species of Concern. These birds prefer forested habitat along rivers, wetlands, and large body of waters. They nest in the holes of standing dead trees and in nest boxes. Lawrence Woods includes suitable habitat and is adjacent to Hoover Reservoir, which provides over 2,000-acres of potential suitable habitat and includes several nest boxes.

3.5 Wildlife

Lawrence Woods supports populations of mammals, birds, reptiles, amphibians, and fish. The streams may also support freshwater mussels. A species list of wildlife documented in Lawrence Woods is attached.



Northern dusky salamander identified within a headwater perennial stream.

4 RECOMMENDATIONS

In 2022, Columbus City Code was amended by enacting Section 919.27 - Nature Preserve Code, to designate portions of parks as nature preserves for the benefit of present and future residents of the City of Columbus. The purpose of the Nature Preserve Code is to identify, protect, and manage Nature Preserves. The management of Nature Preserves includes ensuring it is maintained in its existing, near-natural, or restored state. In order to continue to benefit the residents of Columbus and follow Nature Preserve Code, the following actions are recommended.

4.1 Protection

4.1.1 Maintain Pristine, Native Habitat

Lawrence Woods Nature Preserve contains a mature forest containing high quality, free-flowing streams. Continued protection of the natural resources within Lawrence Woods is vital, to ensure these resources remain for future generations. Visitor impacts should be limited to pedestrian trail use only. It is recommended that park users have a “leave no trace” mentality when visiting Lawrence Woods.

It is important to understand the natural resources within Lawrence Woods and the rarity of these resources, in order to prioritize management activities. One consideration would be to update the listing of observed species of flora and fauna within Lawrence Woods once every five years. This update should include a thorough survey of species through multiple seasonal field visits. Documenting the specific location of sensitive species and habitat in GIS could be used to protect the most rare or sensitive resources.



Mature upland forest within the park.

4.1.2 Plant Management

All native plants are to be left alone in their original state. If trees naturally fall, they are to remain where they land to provide habitat for wildlife. If trees are designated as a severe risk, trees should be cut to the remainder of a 20-to-30-foot stump of standing dead habitat.

4.1.3 Invasive Species Removal

Invasive plant species, including honeysuckle, privet, and multi-flora rose are prevalent throughout a majority of Lawrence Woods. Although eradication of invasive species is desirable to preserve the native biological diversity, extensive time and effort, as well as costs, are involved with this goal.

If addressing the invasive species at Lawrence Woods is pursued, all three identified species could be removed during the same effort because they are present in similar numbers and respond to the same control methods. These species spread aggressively and dominate the subcanopy, crowding out native species and eliminating herbaceous vegetation. Native herbaceous plants should be planted in areas where heavily dominated invasive species areas have been cleared.

Removal efforts may be accomplished by organization of volunteer events. The application of pesticide should follow the standards described in the CRPD Integrated Pest Management Policy Statement. In some cases, planting of native species may be required once invasive plants are removed.

4.2 Conservation

4.2.1 Visitor Management

To provide a safe and enjoyable visitor experience while protecting Lawrence Woods' natural resources, CRPD will use strategies to achieve resource protection. These practices may include visitors having minimal impact on the natural area by respecting plant and wildlife, disposing of waste properly, and being considerate of others.

4.2.2 Community Involvement

Engage neighbors and community members around Lawrence Woods through volunteer event signs posted in Lawrence Woods and posted on social media. Events may include education on encroachment, invasive species removal, litter pick-up events, plantings, and others.

4.3 Enhancement

4.3.1 Signage

One sign exists at the Lawrence Woods entrance to the northern portion along Red Bank Road. Additional signs exist within the far southeastern section of the northern portion. Install signs identifying Lawrence Woods as a Nature Preserve at all access points, along with a summary of the Nature Preserve regulations. Additional signage along the preserve boundaries is recommended to aid in limiting encroachments. Educational signage may also be installed, regarding some of the unique natural resources.

ATTACHMENTS

Lawrence Woods Known Species List (2022)	
Plants	
Scientific Name	Common Name
<i>Acer saccharum</i>	Sugar Maple
<i>Diphasiastrum digitatum</i>	Groundcedar
<i>Geranium maculatum</i>	Wild Geranium
<i>Hepatica nobilis</i>	Hepatica
<i>Ligustrum vulgare</i>	Common Privet
<i>Lindera benzoin</i>	Spicebush
<i>Lonicera maackii</i>	Amur Honeysuckle
<i>Monotropa uniflora</i>	Ghost Plant
<i>Parthenocissus quinquefolia</i>	Virginia creeper
<i>Podophyllum peltatum</i>	Mayapple
<i>Quercus alba</i>	White Oak
<i>Rosa multiflora</i>	Multiflora Rose

Lawrence Woods Known Species List (2022)	
Mammals	
Scientific Name	Common Name
<i>Odocoileus virginianus</i>	White-tailed Deer
<i>Sciurus carolinensis</i>	Eastern Gray Squirrel
<i>Vulpes vulpes</i>	Red Fox

Lawrence Woods Known Species List (2022)	
Amphibians	
Scientific Name	Common Name
<i>Desmognathus fuscus</i>	Northern Dusky Salamander

Lawrence Woods Known Species List (2022)	
Birds	
Scientific Name	Common Name
<i>Agelaius phoeniceus</i>	Red-winged Blackbird
<i>Aix sponsa</i>	Wood Duck
<i>Anas platyrhynchos</i>	Mallard
<i>Ardea herodias</i>	Great Blue Heron
<i>Baeolophus bicolor</i>	Tufted Titmouse
<i>Bombycilla cedrorum</i>	Cedar Waxwing
<i>Branta canadensis</i>	Canada Goose
<i>Bucephala albeola</i>	Bufflehead
<i>Buteo jamaicensis</i>	Red-tailed Hawk
<i>Buteo platypterus</i>	Broad-winged Hawk
<i>Cardinalis cardinalis</i>	Northern Cardinal
<i>Cathartes aura</i>	Turkey Vulture
<i>Chroicocephalus philadelphia</i>	Bonaparte's Gull
<i>Contopus virens</i>	Eastern Wood-Pewee
<i>Coragyps atratus</i>	Black Vulture
<i>Corvus brachyrhynchos</i>	American Crow
<i>Cyanocitta cristata</i>	Blue Jay
<i>Dryobates pubescens</i>	Downy Woodpecker
<i>Dumetella carolinensis</i>	Gray Catbird
<i>Empidonax virens</i>	Acadian Flycatcher
<i>Fulica americana</i>	American Coot
<i>Haemorhous mexicanus</i>	House Finch
<i>Icterus galbula</i>	Baltimore Oriole
<i>Lophodytes cucullatus</i>	Hooded Merganser
<i>Melanerpes carolinus</i>	Red-bellied Woodpecker
<i>Meleagris gallopavo</i>	Wild Turkey
<i>Melospiza melodia</i>	Song Sparrow
<i>Mergus serrator</i>	Red-breasted Merganser
<i>Mniotilta varia</i>	Black-and-white Warbler
<i>Molothrus ater</i>	Brown-headed Cowbird
<i>Passer domesticus</i>	House Sparrow
<i>Passerina cyanea</i>	Indigo Bunting
<i>Petrochelidon pyrrhonota</i>	Cliff Swallow
<i>Phalacrocorax auritus</i>	Double-crested Cormorant
<i>Piranga olivacea</i>	Scarlet Tanager
<i>Poecile carolinensis</i>	Carolina Chickadee
<i>Polioptila caerulea</i>	Blue-gray Gnatcatcher
<i>Protonotaria citrea</i>	Prothonotary Warbler

Lawrence Woods Known Species List (2022)	
Birds	
Scientific Name	Common Name
<i>Regulus satrapa</i>	Golden-crowned Kinglet
<i>Setophaga ruticilla</i>	American Redstart
<i>Setophaga striata</i>	Blackpoll Warbler
<i>Sitta carolinensis</i>	White-breasted Nuthatch
<i>Spinus tristis</i>	American Goldfinch
<i>Strix varia</i>	Barred Owl
<i>Tachycineta bicolor</i>	Tree Swallow
<i>Thryothorus ludovicianus</i>	Carolina Wren
<i>Tringa flavipes</i>	Lesser Yellowlegs
<i>Troglodytes aedon</i>	House Wren
<i>Turdus migratorius</i>	American Robin
<i>Tyrannus tyrannus</i>	Eastern Kingbird
<i>Vireo gilvus</i>	Warbling Vireo
<i>Vireo olivaceus</i>	Red-eyed Vireo
<i>Zonotrichia albicollis</i>	White-throated Sparrow