

MUD HEN MARSH NATURE PRESERVE MANAGEMENT PLAN

2023



8742 BIG WALNUT RD, WESTERVILLE OH 43082

MUD HEN MARSH 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.

Mud Hen Marsh Nature Preserve

 **8742 Big Walnut Rd. Westerville, OH 43082**

Mud Hen Marsh Nature Preserve features 54 acres of upland forest, a high-quality 20 acre forested wetland, and numerous streams that feed into the Hoover Reservoir. Located adjacent to Hoover Reservoir and at the intersection of Sunbury and Big Walnut Roads, Mud Hen Marsh provides excellent birding opportunities, including established trails and a wildlife observation blind.



Features and Amenities

Features

- Mature upland forest with large diameter trees
- High-quality forested wetland
- Excellent birding opportunities. Birds include Bald Eagle, Hooded Merganser, Eastern Kingbird, and a variety of warblers and ducks
- Over 2,300 linear feet of streams

Amenities

- Mowed trails
- Wildlife observation blind
- Parking lot

Listed Species

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

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

Habitat



- Upland Forest (42%)
- Pond (9%)
- Reservoir (1%)
- Wetland (38%)
- Grassland/ Herbaceous (7%)
- Maintained Lawn (3%)

Recommendations

To maintain, conserve, and restore Mud Hen Marsh Nature Preserve:



Keep the Nature Preserve in its original state and limit activities to pedestrian trail use only. Mud Hen Marsh has a large mature forest containing a large high quality, forested wetland. This area was dedicated with the intent to preserve and protect rare and sensitive plant and animal communities.



Remove invasive Autumn Olive and other invasive plants. Autumn Olive is a quick-growing species that out-competes native plants and covers over 2-acres within the upland forest area. Removal of this species should be performed first, and remove other invasive plant species as resources allow.



Install additional signage. Provide signage about the Nature Preserve and its boundaries, educational signage on park features, and to prohibit feeding wildlife or conduct recreational fishing. Repair damaged fence areas that provide protection to the Preserve. Existing older signs, especially any safety-related signs, could be replaced.

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

Prepared By:

Stone Environmental Engineering & Science, a division of CAP-STONE & Associates, Inc.

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1 INTRODUCTION

1.1 Columbus Nature Preserves Overview

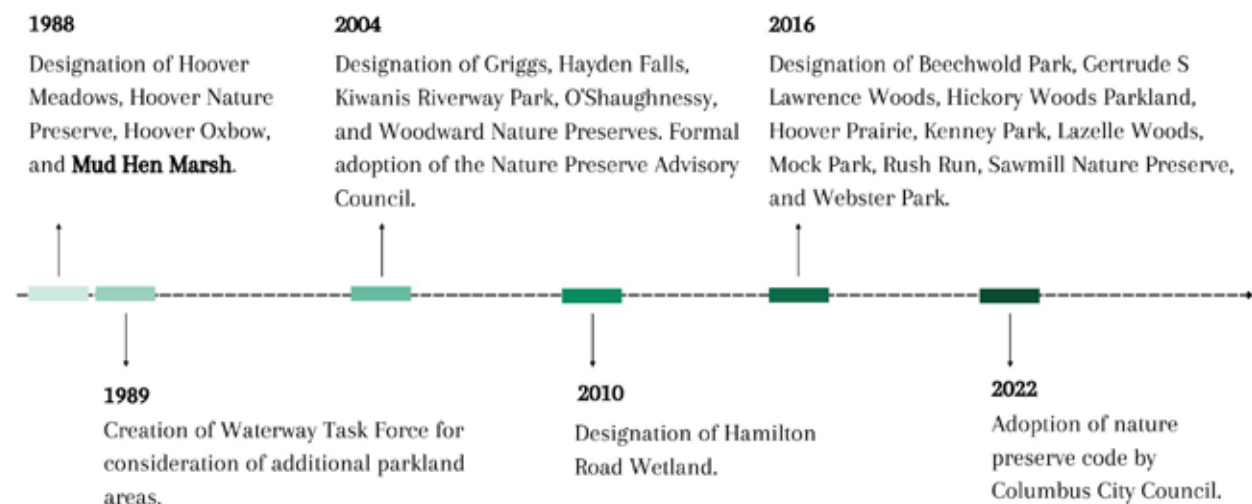
The Columbus Recreation and Parks Department (CRPD) works to preserve the local natural heritage for the Columbus community to enjoy. CRPD recognizes environmentally unique and sensitive areas as designated nature preserves. The Columbus Nature Preserve system is one of a few city nature preserve programs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

Mud Hen Marsh Nature Preserve (“Mud Hen Marsh”) is approximately 54-acres in size, consisting of Delaware County Parcel ID #31713004001000. Mud Hen Marsh was designated a Preserve in 1988, as part of the Hoover Nature Preserve Resolution that also included Hoover Meadows, Hoover Nature Preserve, and Hoover Oxbow. The wetlands within Mud Hen Marsh were created in 1990 as wetland mitigation, required by the U.S. Army Corps of Engineers in response to loss of wetlands on the Medallion Club Golf Course, with the intent to preserve and protect rare and sensitive plant and animal communities.

2.2 Location Description

Mud Hen Marsh’s address is 8742 Big Walnut Road, Westerville, Ohio 43082. Mud Hen Marsh is located in Westerville, east of State Route 3 (North State Street), south and east of Hoover Reservoir, and north of Maxtown Road.

Mud Hen Marsh is situated within a forested wetland area adjacent to Hoover Reservoir and directly adjacent to the Medallion Club Golf Course, south of Big Walnut Road, west of Sunbury Road, north of Button Bush Lane, and east of Medallion Drive East. Surrounding land use includes Hoover Reservoir, golf course, forested areas, and residential development. See “Mud Hen Marsh Nature Preserve” location map.



Mud Hen Marsh Nature Preserve

Preserve Boundary
 Nearby CRPD Properties

8742 BIG WALNUT RD, WESTERVILLE OH 43082



3 AMENITIES AND NATURAL RESOURCES

3.1 Amenities

Several established maintained lawn trails exist within forested area and around the pond and reservoir area. These trails grant access to a majority of Mud Hen Marsh. A wildlife observation blind is adjacent to the pond and reservoir area.

Mud Hen Marsh also has a small parking lot.

3.2 Landscape Context

Mud Hen Marsh varying topography, with headwater stream valleys and natural and man-made depressional areas that hold water to sustain wetlands, ponds, and portions of Hoover Reservoir. Federal Emergency Management Agency (FEMA) 100-year floodplain exists along the stream valleys, pond, and reservoir area. These floodplain areas provide fish and wildlife habitat, recharge groundwater, and improve surface water quality.

The following soil is mapped within Mud Hen Marsh:

- **Udorthents, clayey-urban land complex** with minimal slopes, composed of several different soils, typically associated with glacial till, and are moderately to well drained.

3.2.1 Streams

Mud Hen Marsh is located in the Hoover Reservoir-Big Walnut Creek Watershed (Ohio Environmental Protection Agency Hydrologic Unit (HUC) #050600011308).

This watershed includes Hoover Reservoir, a major water source for Columbus, which was created by the Hoover Dam on Big Walnut Creek.



Maintained lawn path and an observation blind adjacent to the pond and reservoir area.



Perennial unnamed tributary to Hoover Reservoir flowing through a forested wetland.

Mud Hen Marsh includes one perennial stream, an unnamed tributary to Hoover Reservoir. The stream begins from the adjacent Medallion Club Golf Course pond outflow and flows through forested wetland within Mud Hen Marsh. The channel is braided in areas, flowing in and out of wetland areas, interacting hydrologically with the surrounding landscape. Several small fish and frogs were observed within reaches of the stream. The stream contains heavy amounts of muck and organic material from the adjacent forest and wetland area, as well as silt and algae.



A dry portion of an intermittent unnamed tributary to Hoover Reservoir.

Two unnamed smaller tributaries to the Big Walnut, one intermittent and one ephemeral, also exist within Mud Hen Marsh. In total, it is estimated Mud Hen Marsh contains approximately 2,330 linear feet of stream.

See “Mud Hen Marsh Streams & Wetlands” map.

3.2.2 Wetlands

Mud Hen Marsh includes approximately 21-acres of wetland, including 0.8-acre of emergent wetland and 20.2-acres of forested wetland. The forested wetland is dominated by pin oak (*Quercus palustris*), American elm (*Ulmus Americana*), silver maple (*Acer saccharinum*), rice cut grass (*Leersia oryzoides*), sweet wood reed (*Cinna arundinacea*), and false nettle (*Boehmeria cylindrical*). The emergent wetland area is dominated by narrow-leaf cattail (*Typha angustifolia*), wool grass (*Scirpus cyperinus*), and shallow sedge (*Carex lurida*).



Forested wetland along the perennial unnamed tributary to Hoover Reservoir.

The forested wetland is a Category 3 wetland, using the Ohio EPA Rapid Assessment Method. Category 3 wetlands are the highest quality category of wetland in Ohio and possess superior habitat, hydrological, or recreational functions.

The wetlands receive water from streams and surrounding landscape drainage from the adjacent Medallion Club Golf Course, as well as backwater from Hoover Reservoir. These wetlands filter the water before it enters the Hoover Reservoir, an important source of drinking water for Columbus. Hoover Reservoir and Mud Hen Marsh provides habitat and

feeding opportunities for several birds. In addition, the wetlands provide refuge and breeding areas for fish from Hoover Reservoir, as well as breeding pools for several amphibians.

See “Mud Hen Marsh Streams & Wetlands” map.

3.2.3 Pond and Reservoir

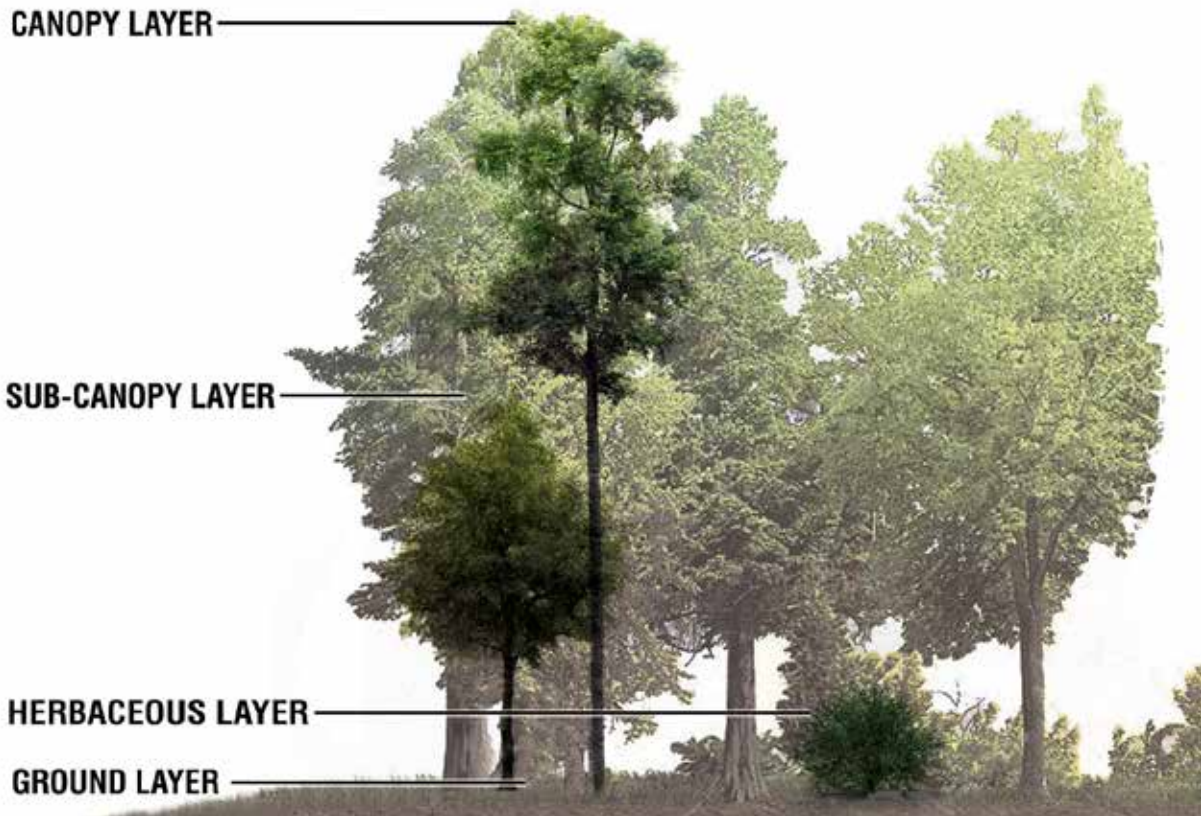
The western portion of Mud Hen Marsh includes a pond area and backwater from the Hoover Reservoir. These resources were created from the adjacent Medallion Club Golf Course pond outflow. The pond and backwater were historically a stream that was altered by the Medallion Club Golf Course, Hoover Reservoir, and the existing dam and weir structure within Mud Hen Marsh.



Emergent wetland adjacent to the pond area.

3.3 Vegetation and Habitat

Commonly observed native tree species include sugar maple (*Acer saccharum*) within the upland forest areas, while pin oak, American elm, and silver maple dominate the forested wetland areas.





Mud Hen Marsh Streams & Wetlands

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



The sub-canopy is approximately 80 to 90 percent open, and there are little to no sub-canopy species in a majority of Mud Hen Marsh. There are numerous areas along the adjacent Medallion Club Golf Course and residential development that is dominated by invasive species.

The herbaceous layer is dominated by sweet wood reed and false nettle. These species are typical of wetland areas, as well as mesic forests.

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

1. Upland Forest
2. Pond
3. Reservoir
4. Forested Wetland
5. Emergent Wetland
6. Grassland/Herbaceous
7. Maintained Lawn

The “Mud Hen Marsh Known Species List (2022)” is included as an attachment.

3.3.1 Upland Forest

Mud Hen Marsh consists of 23-acres of upland forest, which includes portions of mature forest dominated by large diameter trees. This forest serves as an important riparian area for numerous headwater streams, wetland, and Hoover Reservoir. The forest provides habitat for a number of plant and animal species, including potential habitat for protected bat species. Bats utilize forests during the summer to roost and often prefer to forage along riparian stream corridors like the one in Mud Hen Marsh.



Upland Forest



A mature tree located within the Upland Forest.

3.3.2 Pond

Mud Hen Marsh includes 4.7-acres of pond, created by a weir installed on a historic stream that flowed from the adjacent Medallion Club Golf Course. This pond area provides wildlife habitat for numerous birds, fish, mammals, and amphibians. Signs of the North American beaver (*Castor Canadensis*) were present around the pond. An observation blind is east of the pond.



Pond area where waterfowl were observed.



North American beaver activity around the pond.

3.3.3 Reservoir

Mud Hen Marsh includes 0.8-acres of Hoover Reservoir backwater. Hoover Reservoir is an important water source and provides drinking water for Columbus.



Reservoir

3.3.4 Wetland

Mud Hen Marsh includes forested and emergent wetland (see section 3.2.2 for details). The forested wetland area within Mud Hen Marsh is high quality (Category 3). Wetlands filter water and improve downstream water quality. They reduce flooding and store carbon. Wetlands also serve as wildlife habitat.



Forested Wetland



Emergent Wetland

3.3.5 Grassland/Herbaceous

Mud Hen Marsh includes 4-acres of grassland/herbaceous habitat around the pond/reservoir area and parking lot. This habitat is dominated by giant foxtail (*Setaria faberi*), deer tongue grass (*Dichanthelium clandestinum*), dogbane (*Apocynum cannabinum*), and milkweed (*Asclepias syriaca*). This area provides important pollinator habitat and suitable habitat for the federally endangered monarch butterfly.



Grassland/Herbaceous

3.3.6 Maintained Lawn

Mud Hen Marsh includes 1.4-acres of mowed area that serve as the established trails throughout the preserve.



Maintained Lawn

3.3.7 Invasive Vegetation

More than 2-acres within the upland forest area adjacent to the Medallion Club Golf Course and residential development is dominated by autumn olive (*Elaeagnus umbellata*). Autumn olive grows quickly and out-competes native understory plants. It shades the forest floor, preventing a native and diverse herbaceous layer. Based on the extent of coverage and the multiple negative impacts from autumn olive, removal of this invasive plant species is a priority.

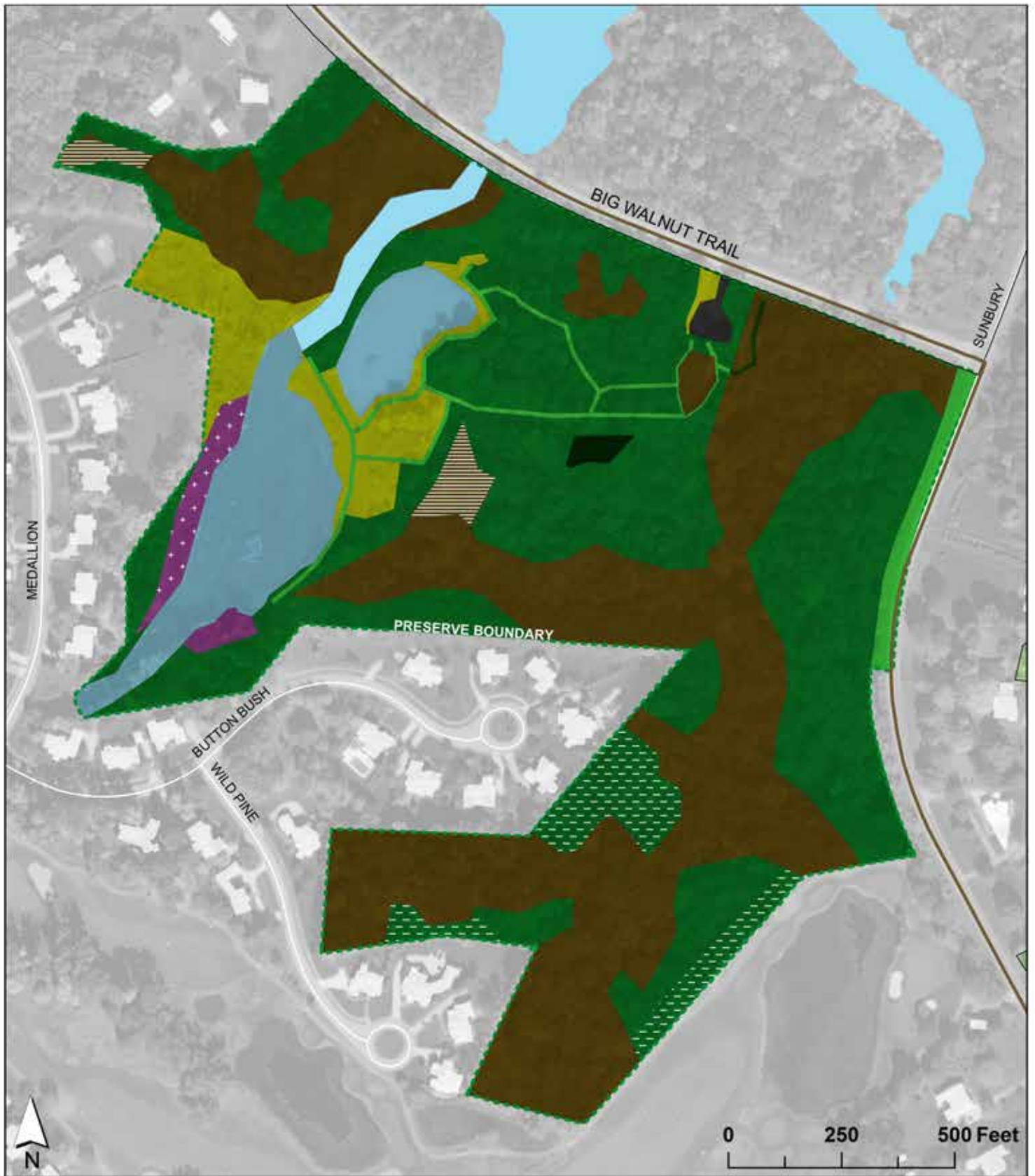
In addition, 0.6-acres each of narrow-leaf cattail and reed canary grass (*Phalaris arundinacea*), exists within the wetland area adjacent to the pond. See “Mud Hen Marsh Habitat Types & Invasive Species” map.



Dense coverage of autumn olive within the upland forest subcanopy.



Narrow-leaf cattail along the edge of the pond.



Mud Hen Marsh Habitat Types & Invasive Species

Habitat Types:

 Forested Wetland (20.43 acres)	 Maintained Lawn (1.36 acres)	 Upland Forest (22.97 acres)	 Emergent Wetland (0.79-acre)
 Grassland/Herbaceous (2.93 acres)	 Pond (4.71 acres)	 Impervious (0.17-acre)	 Reservoir (0.78-acre)

Invasive Species:

 Autumn Olive (2.03 acres)	 Narrow-leaf Cattail (0.58-acre)
 Reed Canary Grass (0.60-acre)	



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). Mud Hen Marsh 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 Mud Hen Marsh.

The following records or ranges for wildlife were identified within Mud Hen Marsh:

Mammals

The Federally endangered Indiana bat (*Myotis sodalist*) 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.



Hoover Reservoir backwater area.

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 Mud Hen Marsh provides suitable habitat for the bats.

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 Mud Hen Marsh provide suitable food sources for monarch butterflies.

3.5 Wildlife

With the wide range of habitat types, Mud Hen Marsh supports healthy and diverse populations of mammals, birds, reptiles, amphibians, and fish. Numerous wildlife were observed, including fish species, northern green frog (*Lithobates clamitans melanota*), North American beaver, groundhog (*Marmota monax*), white-tailed deer (*Odocoileus virginianus*), mallard duck (*Anas platyrhynchos*), great blue heron (*Ardea Herodias*), and great egret (*Ardea alba*).

A species list of wildlife documented in Mud Hen Marsh is attached. A wide number of birds have been documented, including:

- Bald Eagle (*Haliaeetus leucocephalus*)
- Eastern Bluebird (*Sialia sialis*)
- Eastern Kingbird (*Tyrannus tyrannus*)
- House Finch (*Haemorhous mexicanus*)
- Hooded Merganser (*Lophodytes cucullatus*)
- Least Sandpiper (*Calidris minutilla*)
- Magnolia Warbler (*Setophaga magnolia*)
- Mud Hen (*Fulica americana*)
- Red-headed Woodpecker (*Melanerpes erythrocephalus*)
- Tree Swallow (*Tachycineta bicolor*)



Numerous Northern green frogs were observed throughout the forested wetland and perennial unnamed tributary to Hoover Reservoir.

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

Mud Hen Marsh Nature Preserve contains a high-quality forested wetland, mature upland forest, several streams, a pond, and a backwater area of Hoover Reservoir. These resources provide important ecological functions, such as water quality filtration and wildlife habitat. Mud Hen Marsh is a popular birding area, and numerous bird species have been documented. Continued protection of the natural resources within Mud Hen Marsh 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 Mud Hen Marsh.

It is important to understand the natural resources within Mud Hen Marsh in order to prioritize management activities. One consideration would be to update the listing of observed species of flora and fauna within Mud Hen Marsh 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.

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 autumn olive, narrow-leaf cattail, and reed canary grass, are dominant in areas of Mud Hen Marsh. 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 Mud Hen Marsh is pursued, removal of autumn olive should be the first priority. This is due to the extensive coverage of this species and the multiple negative impacts it has on native resources. Native herbaceous plants should be planted in areas where heavily dominated invasive species areas have been cleared.

Removal efforts may be accomplished by the 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 the Mud Hen Marsh's natural resources, manage visitor use, 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. Minimal impact from visitor use will allow for the native species to follow their natural progression.

Signs of off-trail use, including fishing and deer feeding, were present. The fence surrounding the Mud Hen Marsh perimeter was damaged in several areas and it is recommended repairs to the fence be made.

4.2.2 Community Involvement

Engage neighbors and community members around Mud Hen Marsh through volunteer event signs posted in Mud Hen Marsh 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

Install signs identifying Mud Hen Marsh as a Nature Preserve, along with a summary of the Nature Preserve regulations, at the main access point at the parking lot at Big Walnut Road. Due to Mud Hen Marsh being surrounded by a golf course and residential development, additional signage could be considered to clearly demarcate the Mud Hen Marsh Nature Preserve boundaries. Educational signage may also be installed regarding some of the Mud Hen Marsh resources. Several no trespassing signs and danger signs around the pond and reservoir weir area appear weathered and faded and could be replaced.



ATTACHMENTS

Mud Hen Marsh 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>Anser caerulescens</i>	Snow Goose
<i>Anthus rubescens</i>	American Pipit
<i>Ardea alba</i>	Great Egret
<i>Ardea Herodias</i>	Great Blue Heron
<i>Aythya americana</i>	Redhead
<i>Aythya collaris</i>	Ring-necked Duck
<i>Aythya marila</i>	Greater Scaup
<i>Baeolophus bicolor</i>	Tufted Titmouse
<i>Branta canadensis</i>	Canada Goose
<i>Bubo virginianus</i>	Great Horned Owl
<i>Calidris alpina</i>	Dunlin
<i>Calidris melanotos</i>	Pectoral Sandpiper
<i>Calidris minutilla</i>	Least Sandpiper
<i>Calidris pusilla</i>	Semipalmated Sandpiper
<i>Cardinalis cardinalis</i>	Northern Cardinal
<i>Cathartes aura</i>	Turkey Vulture
<i>Chaetura pelagica</i>	Chimney Swift
<i>Charadrius semipalmatus</i>	Semipalmated Plover
<i>Charadrius vociferus</i>	Killdeer
<i>Chroicocephalus philadelphia</i>	Bonaparte's Gull
<i>Colaptes auratus</i>	Northern Flicker
<i>Corthylio calendula</i>	Ruby-crowned Kinglet
<i>Corvus brachyrhynchos</i>	American Crow
<i>Cyanocitta cristata</i>	Blue Jay
<i>Cygnus buccinator</i>	Trumpeter Swan
<i>Dolichonyx oryzivorus</i>	Bobolink
<i>Dryobates pubescens</i>	Downy Woodpecker
<i>Dumetella carolinensis</i>	Gray Catbird
<i>Empidonax minimus</i>	Least Flycatcher
<i>Fulica americana</i>	Mud Hen
<i>Haemorhous mexicanus</i>	House Finch
<i>Haliaeetus leucocephalus</i>	Bald Eagle
<i>Hydroprogne caspia</i>	Caspian Tern
<i>Icteria virens</i>	Yellow-breasted Chat
<i>Icterus spurius</i>	Orchard Oriole

Mud Hen Marsh Known Species List (2022)	
Birds	
Scientific Name	Common Name
<i>Larus argentatus</i>	Herring Gull
<i>Leiothlypis peregrina</i>	Tennessee Warbler
<i>Lophodytes cucullatus</i>	Hooded Merganser
<i>Mareca strepera</i>	Gadwall
<i>Megaceryle alcyon</i>	Belted Kingfisher
<i>Melanerpes carolinus</i>	Red-bellied Woodpecker
<i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker
<i>Mergus merganser</i>	Common Merganser
<i>Molothrus ater</i>	Brown-headed Cowbird
<i>Myiarchus crinitus</i>	Great Crested Flycatcher
<i>Nannopterum auritum</i>	Double-crested Cormorant
<i>Oxyura jamaicensis</i>	Ruddy Duck
<i>Passerculus sandwichensis</i>	Savannah Sparrow
<i>Piranga olivacea</i>	Scarlet Tanager
<i>Podilymbus podiceps</i>	Pied-billed Grebe
<i>Poecile carolinensis</i>	Carolina Chickadee
<i>Poocetes gramineus</i>	Vesper Sparrow
<i>Progne subis</i>	Purple Martin
<i>Protonotaria citrea</i>	Prothonotary Warbler
<i>Regulus satrapa</i>	Golden-crowned Kinglet
<i>Riparia riparia</i>	Bank Swallow
<i>Scolopax minor</i>	American Woodcock
<i>Setophaga citrina</i>	Hooded Warbler
<i>Setophaga coronata</i>	Yellow-rumped Warbler
<i>Setophaga magnolia</i>	Magnolia Warbler
<i>Setophaga palmarum</i>	Palm Warbler
<i>Setophaga ruticilla</i>	American Redstart
<i>Setophaga striata</i>	Blackpoll Warbler
<i>Sialia sialis</i>	Eastern Bluebird
<i>Sitta carolinensis</i>	White-breasted Nuthatch
<i>Spatula clypeata</i>	Northern Shoveler
<i>Spatula discors</i>	Blue-winged Teal
<i>Spinus tristis</i>	American Goldfinch
<i>Spizelloides arborea</i>	American Tree Sparrow
<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow
<i>Sterna forsteri</i>	Forster's Tern
<i>Sturnella magna</i>	Eastern Meadowlark
<i>Sturnus vulgaris</i>	European Starling

Mud Hen Marsh Known Species List (2022)	
Birds	
Scientific Name	Common Name
<i>Tachycineta bicolor</i>	Tree Swallow
<i>Thryothorus ludovicianus</i>	Carolina Wren
<i>Toxostoma rufum</i>	Brown Thrasher
<i>Tringa flavipes</i>	Lesser Yellowlegs
<i>Tringa melanoleuca</i>	Greater Yellowlegs
<i>Tringa solitaria</i>	Solitary Sandpiper
<i>Turdus migratorius</i>	American Robin
<i>Tyrannus tyrannus</i>	Eastern Kingbird
<i>Vireo olivaceus</i>	Red-eyed Vireo
<i>Zenaida macroura</i>	Mourning Dove
<i>Zonotrichia albicollis</i>	White-throated Sparrow
<i>Zonotrichia leucophrys</i>	White-crowned Sparrow

Mud Hen Marsh Known Species (2022)	
Mammals	
Scientific Name	Common Name
<i>Castor canadensis</i>	North American Beaver
<i>Marmota monax</i>	Groundhog
<i>Odocoileus virginianus</i>	White-tailed Deer

Mud Hen Marsh Known Species (2022)	
Amphibians	
Scientific Name	Common Name
<i>Lithobates clamitans melanota</i>	Northern Green Frog

Mud Hen Marsh Known Species (2022)	
Insects	
Scientific Name	Common Name
<i>Mantis religiosa</i>	European Mantid
<i>Polytonia interrogationis</i>	Question Mark Butterfly

Mud Hen Marsh Known Species List (2022)	
Plants	
Scientific Name	Common Name
<i>Acer saccharinum</i>	Silver Maple
<i>Acer saccharum</i>	Sugar Maple
<i>Apocynum cannabinum</i>	Dogbane
<i>Asclepias incarnata</i>	Swamp Milkweed
<i>Asclepias syriaca</i>	Common Milkweed
<i>Boehmeria cylindrica</i>	False Nettle
<i>Carex lurida</i>	Shallow Sedge
<i>Cinna arundinacea</i>	Wood Reed Grass
<i>Dichanthelium clandestinum</i>	Deertongue
<i>Elaeagnus umbellata</i>	Autumn Olive
<i>Leersia oryzoides</i>	Rice Cutgrass
<i>Phalaris arundinacea</i>	Reed Canary Grass
<i>Quercus palustris</i>	Pin Oak
<i>Scirpus cyperinus</i>	Whoolgrass
<i>Setaria faberi</i>	Giant Foxtail
<i>Typha angustifolia</i>	Narrow-leaf Cattail
<i>Ulmus americana</i>	American Elm