

## 1. Auten Nature Preserve

### Existing Conditions

The terrain within the preserve is moderate to steep sloping. Elevations range from a low of about 650 feet along McDowell Creek at the northern end of the preserve to about 810 feet at the top of “Mt. Olive”, a hillock to the north of Neck Road. Steep slopes are associated with McDowell Creek and other small tributaries and ravines. The floodplain of McDowell Creek includes many potential wetland areas.

The 269.3 acre Auten Nature Preserve is undeveloped, and is surrounded on three sides by rural residential and agricultural/wooded lands, while to the east there is dense residential development. The McDowell Creek wastewater treatment plant occurs immediately west of the preserve.

Most of Auten Nature Preserve has been designated as a SNHA due to the Mount Olive Church Basic Forest that it shares with Rural Hill Nature Preserve. EOs on the preserve include Piedmont Levee Forest, and two state listed plant species. The Basic Forest includes an unusual 63 acre plant community that has a canopy of white oak (*Quercus alba*) and a sub-canopy of dogwoods (*Cornus florida*) growing over a shrub layer of pawpaw (*Assimina triloba*). Ground cover includes a local population of cancer-root (*Orobanche uniflora*). The site provides significant protection for the water quality of Mecklenburg County.

There are no known cultural or historical resources within the preserve.

<u>Threatened/Endangered Species (T&amp;E Species):</u>	<u>US Status</u>	<u>NC Status</u>
Glade wild quinine ( <i>Parthenium auriculatum</i> )	--	SR-T
Northern cup-plant ( <i>Silphium perfoliatum</i> )	--	SR-P

## 2. Berryhill Nature Preserve

### Existing Conditions

The preserve lies in west Mecklenburg County on the southeastern shoreline of Paw Creek and the east shore of the Catawba River (Lake Wylie). The preserve has some significant elevation changes, from 566 along the shoreline up to 724 near Walkers Ferry Road.

The 159.6-acre nature preserve is undeveloped, though significant unauthorized activity such as ATV trails persists. There are no amenities but the preserve is surrounded by a mobile home park to the north and low-density residential areas elsewhere. Marwick Road dissects the southern portion of the preserve. This is a gravel road that accesses private home sites along the Catawba River. An old home site can be accessed from Walkers Ferry Road and a dam on a Catawba River tributary fills a pond next to the site.

No Natural Heritage designation exists on Berryhill Nature Preserve. However, this preserve is located in the critical watershed and because it is flanked by the Catawba River and Paw Creek, preservation of this land is very important for water quality. Natural resources of significance include the oak-dominated forest that provides mast for wildlife. Preserving this site was a significant step in protecting undeveloped natural land and the water quality of the lake.

## 3. Big Rock Nature Preserve

### Existing Conditions

Big Rock Nature Preserve is named for the granite extrusions that lie at the heart of the preserve. It contains the largest example of this geology in Mecklenburg County. The land is gently sloping, from 564

to 634 feet in elevation. The preserve is also dissected by 4-mile creek which separates most of the preserve from I-485.

This 21.8 acre nature preserve is one of the smallest but provides preservation of a significant cultural feature in the granite formations. It is entirely forested with the last major disturbance occurring circa 1940.

No Natural Heritage designation exists on Big Rock Nature Preserve. A tributary to McAlpine Creek Tributary #1 flows across this preserve and provides habitat for numerous species and is home to some uncommon plant species. Considering its location off of I-485 and urban juxtaposition, it contains surprisingly few non-native invasive species.

Because archaeological evidence shows Native American habitation dating back 7,000 years, this site is designated as a Historic Landmark by the Charlotte Historic Landmarks Commission.

Big Rock Nature Preserve is significant because of its cultural and historical value to the county. It is also a notable geologic site and provides rare natural habitat in an urbanized area of Mecklenburg County.

#### **4. Clarks Creek Nature Preserve**

##### **Existing Conditions**

The terrain within Clarks Creek is gently sloping, with elevation ranging from 740 to 824 across its 98.5 acres. Most of Clarks Creek is in agricultural fields that are periodically mowed and being used as early successional habitat. About 27 acres of the preserve is forested with its last disturbance in 1975. The property contains a 1.5 acre pond as well on the southeastern side in one of the mowed areas.

No Natural Heritage designation exists on Clarks Creek Nature Preserve, however, Clarks Creek Tributary # 1 runs through the north side of the property. The creek and associated wetland were part of a NCEEP stream restoration project completed in 2013. Several large trees grow along the shore of the creek, including a swamp chestnut oak (*Quercus michauxii*).

Clarks Creek Nature Preserve grasslands provide wildlife habitat for several declining bird species, and the water resources support aquatic species not found on other preserves.

#### **5. Cowan's Ford Wildlife Refuge**

##### **Existing Conditions**

The 878.3 acre Cowan's Ford Wildlife Refuge is a peninsula bounded on three sides by the Catawba River (Mountain Island Lake). Duke Energy owns all land below the high water line. Elevations across the Cowan's Ford Wildlife Refuge range from 648 feet at the river's edge to approximately 780 feet at several locations near the center of the site. Steep slopes occur on the sides of some of the more pronounced ridges.

Cowan's Ford Wildlife Refuge is a controlled access nature preserve. General access to the public is limited to the small parking area at the end of Neck Road and the wildlife viewing observation deck located here. Access to the remainder of the property is provided by Division staff for special group programs, research or events scheduled throughout the year. Researchers can apply for scientific research permits through the Natural Resources Section in order to gain access to the property for approved low impact studies.

All of Cowan’s Ford Wildlife Refuge has been designated as SNHA due to its proximity to Mountain Island Lake. The site provides significant protection for the water quality of Mecklenburg County. EOs include Dry-Mesic Oak-Hickory Forest, Basic Mesic Forest, Dry-Mesic Basic Oak-History Forest, and two state listed animal species. There are areas that can be singled out as notable for wildlife habitat. The area on the north side of the Refuge along Duck Cove contains high quality wetland habitat including bottomland hardwood forest, impoundment, and a north-facing slope located above the cove. The wetlands and their adjacent uplands provide a combination of flora not found elsewhere in the county.

Cultural and historic features includes the 19 acre Holly Bend site. This site is listed on the National Historic Registry and includes the Holly Bend house, built circa 1800, and associated out- buildings.

<u>Threatened/Endangered Species (T&amp;E Species):</u>	<u>US Status</u>	<u>NC Status</u>
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	--	E
Oldfield mouse ( <i>Peromyscus polionotus</i> )	--	SC

Like most property in Mecklenburg County, many of the features of the land here reflect the legacy of human agricultural and timber management of the property prior to its designation as nature preserve. Former agricultural fields have been converted to Piedmont grassland communities by enhancing native warm season grasses and forbs. Conversion of former pine plantations to natural communities is also in progress. Invasive species management is being implemented in non-forested areas but is needed throughout. Wetlands and manmade ponds have been managed for waterfowl and amphibians. Additionally, the land has been minimally developed in order to protect the water quality of Mountain Island Lake. Cowan’s Ford receives approximately 20,000 visitors annually.

**6.Evergreen Nature Preserve**

**Existing Conditions**

The 77.4 acre Evergreen Nature Preserve is undeveloped woodland with a few field areas kept open to provide wildlife watching opportunities. It is bordered on the north by Evergreen Cemetery, Eastway Middle School to the west, and Sheffield Park and Winterfield Elementary School to the east. Residential development borders the preserve to the south.

Evergreen Nature Preserve has been listed by Natural Heritage as a Managed Area, but is not a designated SNHA. Environmental features of significance include native canopy trees within the mesic-mixed hardwood forest, which grades into floodplain-dominated vegetation around Edwards Branch and its tributaries, all of which provide habitat for wildlife. Considering its urban location, the site is especially noted for its diversity of birds, primarily migrant species, using the area as stopover habitat during migration.

Elevations range from a low of about 700 feet along Edwards Branch on the southern boundary to a high of more than 730 feet on hilltops. Slopes are gradual and generally range from 8-15 percent. There are two small tributaries which flow south through the preserve into Edwards Branch, a stream that borders a portion of the southern edge of the preserve. A prominent remnant of the historic “Potter’s Road” is a significant historic feature that lies along the eastern boundary of the preserve.

Threatened/Endangered Species (T&E Species):

None

This property is a substantial forested area within an urban setting. The forest canopy provides cover and habitat for a variety of wildlife species and the field areas provide additional habitat and opportunities for wildlife viewing by the public. This preserve is an isolated natural area. It is surrounded by development and is heavily impacted by invasive plant species. Located between two schools, this preserve can play a vital role in providing outdoor experiences and environmental education opportunities for inner city school children.

**7.Flat Branch Nature Preserve**

**Existing Conditions**

The 42.2 acre Flat Branch Nature Preserve is entirely undeveloped woodland and old field, and is bordered by residential development and roads. Flat Branch Elementary School and Flat Branch District Park are west of Tom Short Road. The terrain within the preserve is generally gradual and modestly sloping. Elevations range from a low of about 620 feet along Tom Short Road on the southwest boundary to a high of about 635 feet in the northeast corner of the site. It is unlikely that any relief exceeds 8 percent. There are no drainages within the preserve, and all surface water runoff flows to the southwest and into Flat Branch, a tributary of Six-mile Creek to the south (within the Catawba River watershed).

All of Flat Branch Nature Preserve is SNHA due to the Xeric Hardpan Forest located on the property. It also contains one EO, Upland Depression Swamp Forest, which covers about half of the preserve. This is one of the last remaining upland depression swamp forest communities in Mecklenburg County. Habitat at this preserve is suitable for species associated with ephemeral wet areas. There are no known cultural or historical resources within the preserve.

<u>Threatened/Endangered Species (T&amp;E Species):</u>	<u>US Status</u>	<u>NC Status</u>
Schweinitz’s sunflower( <i>Helianthus schweinitzii</i> )	E	E

This property protects much needed open space in a rapidly developing area of the county. Its proximity to a new elementary school and community park provide ideal educational and nature-based programming opportunities.

Any land within Flat Branch District Park that could be beneficial to the natural communities at the preserve should be managed as a natural resource.

The Support and Development Zone is being planned for construction of a picnic shelter for use by visiting groups and a partnership between Park and Recreation and Flat Branch Elementary School for funding should be pursued. A trail leading to the wetland area is also being planned for construction in FY15.

**8.Gar Creek Nature Preserve**

**Existing Conditions**

The 353.1 acre Gar Creek Nature Preserve is primarily undeveloped woodland and early successional habitat. Adjacent land uses include dense residential areas to the south and rural residential and agricultural elsewhere. The emergency propane gas supply for the county is located in a compound on the northern border but it is buffered by wooded habitat. The Catawba Lands Conservancy has a conservation easement on a portion of this property.

Elevations range from a low of about 670 feet along the west end of Gar Creek, by Beatties Ford Road, to a higher elevation of more than 770 feet at the southeast corner of the preserve. Slopes of ravines associated with the Gar Creek floodplain exceed 15 percent in the southeast part of the preserve. Slopes throughout the remainder of the preserve are generally moderate. Gar Creek is the primary watershed within the preserve, and its surface waters drain westward into Mountain Island Lake and the Catawba River.

Part of Gar Creek Nature Preserve includes a SNHA, the Gar Creek Rare Plant Site. Its EOs include a federally endangered plant, and a historic record (no longer found) of state listed Heller’s rabbit-tobacco (*Pseudognaphalium helleri*). Restoration of the McCoy prairie and savannah has emphasized protection of the rare plant species. The site provides significant protection for the water quality of Mecklenburg County.

<u>Threatened/Endangered Species (T&amp;E Species):</u>	<u>US Status</u>	<u>NC Status</u>
Schweinitz’s sunflower ( <i>Helianthus schweinitzii</i> )	E	E

Restoration of Piedmont Prairie habitat and savanna habitat is the primary management action being implemented within the preserve. Other portions of the preserve remain undeveloped for wildlife habitat. There is a great need to control non-native invasive plant species in this area.

**9. Haymarket Nature Preserve**

**Existing Conditions**

The 100.4 acre Haymarket Nature Preserve is primarily undeveloped woodland, though human disturbance is evident. Disturbance is also evident from boaters that access the preserve from the shoreline. A residential area lies east of the preserve, while NC 16/Brookshire Boulevard forms its western boundary. Dense residential areas occur west of the preserve. The preserve occurs immediately adjacent to Mountain Island Lake and its extensive watershed along the Catawba River. Elevations range from a low of about 648 feet at Mountain Island Lake to a high of more than 730 feet along portions of Haymarket Road. Ravines and slopes exceed 15% in some areas.

Environmental features of significance include the oak-dominated forest that provides mast for wildlife. The site is in the critical watershed and provides significant protection for the water quality of Mecklenburg County. Development restrictions are in place on the property because it was purchased using monies from the N.C. Clean Water Trust Fund. There are no known cultural or historical features within the preserve.

<u>Threatened/Endangered Species (T&amp;E Species):</u>
None

**10. Iswa Nature Preserve**

**Existing Conditions**

Iswa Nature Preserve (formerly Gateway) is a 136.6 acre preserve that protects 3800 feet of Catawba River shoreline. Most of the Iswa is forested, and has regenerated since the 1950’s. However some of the property in the northwest side contains high quality hardwood forest that is approximately 85 years old. About 34 acres are in early successional stages, most of which is power line ROW. From the banks of the river, the preserve sees significant elevation gain to the east. It ranges from 568 to 690 feet in elevation with the highest point flattening out in the middle of the property.

The name Iswa is a Catawba word meaning “people of the river”. Mecklenburg County, particularly along the Catawba River, was historically part of the Catawba nation. The name Iswa creates potential for education regarding human connections to the river, both past and present.

The entire property of Iswa Nature Preserve is considered a Natural Heritage Site because of a large population of Georgia aster. EOs on the property include a Mesic Mixed Hardwood Forest and a Dry-Mesic Basic Oak-Hickory Forest. The western portion of Iswa borders the Catawba River and provides water quality protection among otherwise highly erodible steep wooded areas. A small tributary runs west to east along Wilkinson Boulevard and ends at the Catawba River.

Threatened/Endangered Species (T&E Species):	US Status	NC Status
Georgia aster ( <i>Symphyotrichum georgianum</i> )	C	E

Preserving this site was a significant step in protecting undeveloped natural land and the water quality of Lake Wylie. In addition, the protection of a large population of Georgia aster and high quality natural communities makes this property a high value natural resources site.

### 11. Latta Plantation Nature Preserve

#### Existing Conditions

Existing land uses within the 1478.3 acre Latta Plantation Nature Preserve include Historic Latta Plantation (a historic farm and plantation home), Carolina Raptor Center, Nature Center, Natural Resources Office, Equestrian Center, picnic area, two canoe access areas, power line rights-of-way, a maintenance facility, and 16 miles of hiking trails, of which 13 miles are open to equestrian use. The remainder of the preserve is undeveloped. Adjacent land use is predominately residential.

Topographic elevations across the site range from a lake elevation of around 647 feet to elevations of approximately 750 feet on ridge tops near the equestrian center and the Piedmont Prairie site. Slopes throughout the Preserve are moderate with a limited number of side slopes exceeding 20 percent. The Gar Creek and Beechwood Cove watersheds provide the largest drainages on the site, both draining into Mountain Island Lake. The majority of the preserve is wooded.

All of Latta Plantation Nature Preserve has been designated as a Significant Natural Heritage Area (SNHA). The Dry-Mesic Oak Hickory Forest, Piedmont Alluvial Forest, Mesic Mixed Hardwood Forest, Schweinitz’s sunflower site, and Georgia aster site have been designated as Element Occurrences (EOs). The site provides significant protection for the water quality of Mecklenburg County. The forest surrounding the Gar Creek watershed protects the City of Charlotte’s primary drinking water intake located at the mouth of Gar Creek. The 40 acre Piedmont Prairie restoration site harbors two federally listed plant species.

Threatened/Endangered Species (T&E Species):	US Status	NC Status
Schweinitz’s sunflower( <i>Helianthus schweinitzii</i> )	E	E
Georgia aster( <i>Symphyotrichum georgianum</i> )	C	E

### 12. McDowell Nature Preserve

#### Existing Conditions

Land use at the 1,126.0 acre McDowell Nature Preserve includes a 56-site campground suitable for both RV and tent campers, four picnic areas, seven miles of hiking trails, a nature center, canoe/kayak launch, three reservable picnic shelters that feature electricity, restrooms, and charcoal grills and fishing piers.

Visual access to the waterfront is provided by waterfront decks and a walkway along the shore. The majority of the property is wooded with the exception of a 150 acre Piedmont Prairie restoration site and a power line right-of-way. Adjacent land use is predominately residential.

Topography at McDowell Nature Preserve is comprised of a major ridgeline forming the approximate eastern and southern boundary of the site along York Road and Shopton Road and numerous lesser ridges, which are oriented toward the shoreline of Lake Wylie to the west. Elevations range from approximately 580 feet at the shoreline to over 720 feet at the tops of some ridges along York Road. Slopes are moderate across most of the site; however, some very steep side slopes occur along reaches of narrow stream valleys.

All of McDowell Nature Preserve has been designated as a SNHA. It is the home of many EOs, including Dry-Mesic Oak-Hickory Forest, Mesic Mixed Hardwood Forest, Dry-Mesic Basic Oak-Hickory Forest, Dry Basic Oak Hickory Forest, and Xeric Hardpan Forest.

The site provides significant protection for the water quality of Mecklenburg County. The Piedmont Prairie is the largest restoration site of this type in the county and the second largest in the region. Two Upland Depression Swamp Forests provide breeding habitat for spotted and marbled salamanders. Several mature hardwood stands are present with north facing slopes harboring unique plant communities and patches of diverse, spring ephemeral wildflowers.

<u>Threatened/Endangered Species (T&amp;E Species):</u>	<u>US Status</u>	<u>NC Status</u>
Schweinitz's sunflower ( <i>Helianthus schweinitzii</i> )	E	E
Georgia aster ( <i>Symphyotrichum georgianum</i> )	C	E
Smooth coneflower ( <i>Echinacea laevigata</i> )	E	E
Carolina prairie-trefoil ( <i>Acmispon helleri</i> )	SC	SC-V
Prairie dock ( <i>Silphium terebinthinaceum</i> )	--	SR-P
Checkered white ( <i>Pontia protodice</i> )	--	SR

The developed area of McDowell is heavily used for drive-in and primitive camping, picnicking, hiking, and water-related activities, attracting approximately 200,000 visits per year. The shorelines are heavily used by pedestrian trail users as well as fishermen. Existing trails extending from the nature center offer accessible environmental education opportunities. The natural areas within the preserve protect the county's air and water quality as well as a wide variety of habitat types and plant and animal species that are rare in Mecklenburg County.

### **13. Oehler Nature Preserve**

#### **Existing Conditions**

Oehler Nature Preserve is a 142-acre preserve with an inholding in the middle. Its elevation varies from 644 feet to 742 feet, with its lowest point along North Prong Clarke Creek and the highest running parallel with Huntersville-Concord Road. Most (128 acres) of Oehler Nature Preserve is young forest, with the last disturbance occurring around 1980. Early successional habitat exists on the remainder of the property, some within a gas pipeline ROW and some within abandoned agricultural fields.

Because of North Prong Clarke Creek, Oehler provides potential habitat of the Carolina darter (*Etheostoma collis*), a North Carolina Special Concern Species. As such, the portion of the creek and its buffer that falls within the nature preserve is listed as an EO and falls on the eastern side of the preserve. This property is also important for general watershed protection.

#### 14. Providence Nature Preserve

##### Existing Conditions

Providence Nature Preserve is largely flat across its 49 acres, which much of the parcel existing as a wetland along 4-Mile Creek. At the center of the wetland, elevation is 574 feet above sea level. The property rises to 618 on the outer edge. The entire nature preserve is forested and is approximately 40 years old. Eight acres of the property are inundated by wetland, and the terrain is flat near the banks of 4-Mile Creek. There are no Natural Heritage Sites or Element Occurrences currently designated on this preserve, however, the eight-acre floodplain swamp provides quality habitat and a diverse ecological community. This preserve was formerly designated for Greenway use, but the ecological resource found in the eight-acre floodplain swamp deemed it ecologically significant enough to change its park use designation in 2013.

<u>Threatened/Endangered Species (T&amp;E Species):</u>	<u>US Status</u>	<u>NC Status</u>
Dissected toothwort ( <i>Cardamine dissecta</i> )	--	SC-V

#### 15. Reedy Creek Nature Preserve

##### Existing Conditions

The 737.3 acre Reedy Creek Nature Preserve is mostly forested with a few early successional areas under ROWs. Adjacent land uses are predominately residential, or undeveloped. Topography at Reedy Creek is predominantly gently rolling with a few areas of steeper slopes on the sides of broad ridges. The elevation ranges from approximately 650 feet at the floodplain of Reedy Creek along the eastern property line to over 800 feet on the ridge tops along Plaza Road Extension to the south. Slopes on this preserve are relatively gentle except for limited side slopes of narrow stream valleys, which can have very steep slopes for short distances.

Other park uses include the Reedy Creek Nature Center, the Dr. James F. Matthews Center for Biodiversity Studies, a Natural Resources office, approximately six miles of walking trails, and two culturally significant historic home sites. Reedy Creek Park, adjacent to the preserve, offers a dog park, picnicking, disc golf, ball fields, fishing, and playground recreation.

All of Reedy Creek Nature Preserve has been designated as SNHA. In addition, the Dry-Mesic Oak-Hickory Forest, Dry-Mesic Basic Oak-Hickory Forest, Basic Mesic Forest, Piedmont Alluvial Forest, and Mesic Mixed Hardwood Forest have been designated as EOs.

The headwaters of Reedy Creek, including streams within the preserve, have among the highest water quality of surface waters in Mecklenburg County. Noteworthy environmental features include rare sand ridge habitat along the boundary of the preserve, scattered patches of native wildflowers and broad beech ferns, floodplain wetlands along Reedy Creek, and a relict population of Georgia aster, a federal candidate species.

Cultural and historical features, which occur on the site, include the Robinson Rock House homestead near the center of the site, as well as several out buildings.

The Reedy Creek Nature Center is the focal point for a diversity of environmental education and natural history programs and workshops. The nature center contains a classroom, exhibit hall, and gift shop. Outside the nature center there is a bird feeding station, butterfly/bird garden, garden pond, bog garden, and an outdoor composting demonstration area.



<u>Threatened/Endangered Species (T&amp;E Species):</u>	<u>US Status</u>	<u>NC Status</u>
Georgia aster ( <i>Symphyotrichum georgianum</i> )	C	E

Reedy Creek Nature Preserve receives approximately 100,000 visitors annually. This preserve remains mostly wooded and protects some of the most significant ecological resources and highest water quality streams in the county. Some of the most botanically significant areas of the preserve occur within its southwestern portion that includes a population of umbrella magnolia trees. Seven hiking trails have been established which are currently used by the Environmental Education staff for interpretive programs, which are based out of the nature center.

## **16. RibbonWalk Nature Preserve**

### **Existing Conditions**

The 190.0-acre RibbonWalk Nature Preserve is partially developed, with several hiking trails, parking and picnic areas, roads, two barns, and other buildings. Adjacent land uses include residential development on all sides except to the west, which borders Nevin Park. The southeast boundary of the preserve occurs along Nevin Road, from which a short segment of Hoyt-Hinson Road extends northward into the site.

The terrain within the preserve consists of moderate to steep slopes. Elevations range from a low of about 710 feet along Irwin Creek near Nevin Road to a high of about 807 feet on a hilltop at the northern tip of the site. Steep slopes, particularly those that exceed 15 percent are associated with the Irwin Creek tributary and the land in the northwest portion of the preserve. Irwin Creek flows along the southwest edge of the preserve. A western tributary and two small tributaries flow in from the north. Irwin Creek eventually enters Sugar Creek southwest of Charlotte.

A historic population of Carolina heelsplitter (*Lasmigona decorata*) in Irwin Creek is the only EO in RibbonWalk. An American beech (*Fagus grandifolia*) grove in the northern portion of the preserve has been designated a Mecklenburg County Treasure Tree site because of the number of large, old trees and its overall natural integrity.

Environmental features of note include mesic-mixed hardwood forest, which includes the American beech grove, dry oak-hickory forest, with piedmont bottomland forest along Irwin Creek. There are also wetland areas associated with the three ponds and adjacent streams.

### Threatened/Endangered Species (T&E Species):

None

## **17. Rocky River Bluff Nature Preserve**

### **Existing Conditions**

The 61.1 acre Rocky River Bluff Nature Preserve is entirely undeveloped woodland and is surrounded by rural farmland and residential areas. The Rocky River along the site's eastern edge also forms the boundary between Mecklenburg County and Cabarrus County, while Shearer Road/SR 2418 borders part of the southwest site boundary. All of the preserve is under a land conservation easement with the Davidson Land Conservancy.

The terrain within the preserve is relatively steep sloping. Elevations range from a low of about 680 feet along the eastern boundary at the Rocky River (the county line) to a high of about 800 feet along Shearer Road at the southwest edge of the site. Slopes of ravines are severe. Surface waters in the preserve primarily flow eastward into the Rocky River and its associated floodplain along the eastern

edge of the site. The Rocky River flows southward and eastward to eventually join the Yadkin Pee-Dee River.

A previous disc golf course and occasional ATV damage and impacts from horse traffic has been noted within the preserve. A major encroachment issue is an adjacent landfill that has been closed due to violation of environmental regulations. **Litigation regarding this site and its cleanup is in progress.**

All of Rocky River Bluff Nature Preserves falls within the boundaries of the designated SNHA. In addition, one EO, a Basic Mesic Forest with steep bluffs, has been designated on the site and falls in the northwest part of the preserve. Environmental features of significance include the Piedmont acidic cliff and low elevation seep natural communities as well as the mesic-mixed hardwood forest along the steep, rocky bluff at the northern part of the preserve. The extreme relief and extensive forested nature of this preserve provide high quality habitat that benefits a diversity of wildlife. In addition, there are several high elevation vantage points to observe the scenic attributes of the Rocky River valley to the east, including the bluffs that overlook the seasonal wetland. There are no known cultural or historical resources within the preserve.

Threatened/Endangered Species (T&E Species):

None

**18. Rozzelle's Ferry Nature Preserve**

**Existing Conditions**

Rozzelle's Ferry Nature Preserve consists of 4.6 acres on Mountain Island Lake. Elevation ranges from 646 feet to 666 feet. This site is currently heavily disturbed from use as a mobile home park. There is a historic home site on the property. This preserve is in the critical watershed of the Catawba River Basin and as such, it is important for watershed protection in Mountain Island Lake.

This preserve could be developed for access to Mountain Island Lake Catawba River for Outdoor Recreation. Due to its proximity, consideration might be given to merging this preserve with Haymarket Nature Preserve (keeping the Rozzelle's Ferry name).

**19. Rural Hill Nature Preserve**

**Existing Conditions**

The 496.5 acre Rural Hill Nature Preserve is largely undeveloped and is surrounded by rural residential and agricultural/wooded lands. The McDowell Creek wastewater treatment plant occurs immediately east of the preserve at its northeast edge. The preserve is leased by the Historic Rural Hill and serves as the host site for numerous events including the Amazing Maize Maze, the Scottish Games, and the Rural Hill sheep dog trials. A historic home and outbuildings are included on the site.

The terrain within the preserve consists of moderate to steep slopes. Elevations range from a low of less than 650 feet along the edge of the southern peninsula to a high of more than 790 feet on a hilltop at the southeast corner of the site. Slopes along the shoreline of Mountain Island Lake and the floodplain of McDowell Creek and ravines are moderate to steep. McDowell Creek cuts through the east side of the preserve and has some of the poorest water quality in the county.

The Mount Olive Church Basic Forest is the only SNHA on Rural Hill Nature Preserve. It spreads from the west boundary eastward to include most of Auten Nature Preserve. EOs on Rural Hill include Dry-Mesic Basic Oak-Hickory Forest, Basic Mesic Forest, Dry Basic Oak-Hickory Forest, and Xeric Hardpan Forest, although most of these Natural Heritage areas are leased to Historic Rural Hill. The fields of Rural Hill

are the only documented nesting areas of grasshopper sparrows that are protected as nature preserve in Mecklenburg County. Additional features of note include the floodplain forest along McDowell Creek and the forested uplands on the peninsula. This property provides critical habitat and habitat connectivity between Auten Nature Preserve and Cowan’s Ford Wildlife Refuge.

Cultural resources on the preserve include the historic Rural Hill or “Davidson Plantation”, which includes several structures and foundations of the “mansion house” and its outbuildings. These are located in the northeast corner of the preserve north of Neck Road. The Davidson family cemetery occurs as an inholding along the south side of Neck Road. There are also two historic schoolhouses located along the south side of Neck Road. Rural Hill, Inc. manages the cultural-historic zone as a private, non-profit partner with the county. This partner organization hosts many large events at the site, attracting in excess of 150,000 visitors annually.

Threatened/Endangered Species (T&E Species):

None

**20. Shuffletown Prairie Nature Preserve**

**Existing Conditions**

The 18.1 acre Shuffletown Prairie Nature Preserve is entirely undeveloped woodland and prairie habitat/power line ROW. Adjacent land uses include dense residential immediately to the south and wooded rural residential to the north. The preserve is bounded by Old Carolina and Winding River Drives to the south and Hart Road to the north, both of which are west of Rozzelles Ferry Road.

The terrain within the preserve is generally gradual and modestly sloping. Elevations range from a low of about 690 feet at the western end of the preserve to a high of about 760 feet along the utility line ROW near the center of the site. Most of the slopes throughout the preserve are less than 8 percent. There are no perennial streams within the preserve. Surface water runoff drains into Mountain Island Lake.

Much of Shuffletown Prairie Nature Preserve has been designated as SNHA. The preserve has five EOs, all of which are plant species. Environmental features of significance include what is considered perhaps the best example of a Piedmont Prairie habitat remnant in North or South Carolina. Two federally-listed and one candidate plant species occur at the site. This prairie remnant within the preserve occurs on 10 acres of maintained power line ROW. There are no known cultural or historical resources within the preserve.

Due to its floral diversity, including several federal and state-listed species, this Natural Heritage site is one of the best with regard to plant species diversity of any county-owned prairie site. Duke Power had kept the prairie remnant along the power line open through bush-hogging and selective herbicide use for many years. As this site has been acquired by the county, management continues to control pioneer woody and exotic vegetation in combination with the planting of native grasses and forbs. Controlled burns have also been considered, but is not feasible due close proximity to residential areas and location within city limits.

<u>Threatened/Endangered Species (T&amp;E Species):</u>	<u>US Status</u>	<u>NC Status</u>
Schweinitz’s sunflower( <i>Helianthus schweinitzii</i> )	E	E
Georgia aster( <i>Symphyotrichum georgianum</i> )	C	E
Smooth coneflower ( <i>Echinacea laevigata</i> )	E	E
Glade wild quinine ( <i>Parthenium auriculatum</i> )	--	SR-T

## 21. Stephens Road Nature Preserve

### Existing Conditions

Although most of the 351.6 acre Stephens Road Nature Preserve is undeveloped, a lift station occupies a small area. The property consists of marsh, woodlands, and successional growth. Adjacent land use is predominately undeveloped although some agricultural or residential land use occurs to the north and east. A new subdivision has been developed northeast of the site.

Topography at the Stephens Road site is comprised of three major ridgelines, which are oriented toward the marshes and shoreline of Mountain Island Lake to the west. Elevations range from approximately 650 feet at the shoreline to over 750 feet at the tops of some ridges. Slopes are moderately steep across most of the site and very steep side slopes occur along reaches of narrow stream valleys and on slopes near the shore. A few areas of relatively gentle slopes occur on ridge tops. Very high quality wetlands can be found along streams, headwater basins, and in the marshes and shoreline covers of the site.

Stephens Road Nature Preserve is relatively steep terrain, and the lower portions, about half of the property, is designated as a SNHA due to its proximity to Mountain Island Lake (known as Mountain Island Lake Forest). The preserve has many significant environmental features including extensive river marshes, several small wetland areas, and mature hardwood stands. High quality wetlands can be found along streams, headwater basins, and in the marshes and shoreline covers of the site. The site provides significant protection for the water quality of Mecklenburg County.

The absence of other competing land uses provides the opportunity for encouraging wildlife species that require isolation from development and activity. The extensive marsh and wetland resources on this property provide valuable stopover and nesting sites for neo-tropical migrants and migratory waterfowl.

### Threatened/Endangered Species (T&E Species):

None

## 22. Stevens Creek Nature Preserve

### Existing Conditions

Stevens Creek Nature Preserve is 229.5 acres and consists mostly of mixed pine and mixed pine hardwoods that were planted or originated within the last 50 years. This ranges from 626 to 724 feet in elevation. Portions of Stevens Creek and their tributaries run through the preserve.

All of Stevens Creek Nature Preserve is designated as a Significant Natural Heritage Area due to its proximity to Stevens Creek, head waters of Goose Creek, and their respective protected species. Two listed species, Eastern creekshell (*Villosa delumbis*) and Carolina creekshell (*Villosa vaughaniana*) are found in and below Stevens Creek, although not on the preserve property. Other EOs on the preserve include three natural communities, Mesic Mixed Hardwood Forest, Piedmont Alluvial Forest, and Dry Oak-Hickory Forest. The preservation of this property provides protection of Stevens Creek and thus the Goose Creek Sub-basin.

## 23. West Branch Nature Preserve

### Existing Conditions

All of West Branch Nature Preserve's 91 acres is forested, except where perennial standing water prevents trees from becoming established. It is surrounded by agricultural fields to the north and residential areas to the south, east and west. A one mile natural surface trail was created in 2012, which is also part of the Carolina Thread Trail. Overlooks to the wetlands were also constructed. This preserve falls in Yadkin River Basin and ranges from 632 feet to 742 feet in elevation.

Most of West Branch Nature Preserve is designated as SNHA for its 16 acre Piedmont Semi-permanent Impoundment. An EO exists to designate the wetland portion of that habitat. This wetland, created by beaver activity in the river floodplain since 1993, may be the most ecologically important wetland in the county. Nearly every species of amphibian in Mecklenburg County has been documented in West Branch Nature Preserve. The wetland also harbors a great diversity of plants and other animals.

#### **24. Winget Nature Preserve**

##### **Existing Conditions**

The 52 acre preserve ranges from 590 to 646 feet in elevation, and is mostly early successional habitat (agricultural fields) but also contains some young mixed hardwood pine forest.

A small portion of Winget Nature Preserve is designated as SNHA for its natural population of Schweinitz's sunflower and early successional habitat. This preserve also falls within the protected watershed of the Catawba River Basin. Winget Nature Preserve lies to the east of Lake Wylie, helping to protect a tributary of the Catawba River watershed. A recent acquisition, this preserve has not been thoroughly surveyed for all significant biological or cultural features.

<u>Threatened/Endangered Species (T&amp;E Species):</u>	<u>US Status</u>	<u>NC Status</u>
Schweinitz's sunflower ( <i>Helianthus schweinitzii</i> )	E	E