

Little River Regional Park and Natural Area Management Plan



October 27, 2021



ORANGE COUNTY



Department of Environment,
Agriculture, Parks & Recreation

Little River Regional Park and Natural Area Management Plan

Table of Contents

	Page
I. Introduction	1
II. Strategic Direction	
A. Vision	3
B. Goals and Objectives	3
1. Protecting and Conserving Nature	
2. Connecting with Nature	
3. Providing Quality Recreational Experiences	
4. Collaboration and Cost-effective Management	
III. Description of Park Improvements and Management Areas	
A. Facilities and Improvements	5
1. Public Amenities	
2. Park Operations and Infrastructure	
B. Management Areas	10
1. Developed Park Area	
2. Low-Impact Natural Areas	
3. Natural Area and Wildlife Habitat	
4. Conservation Easement Area	
IV. Management Plan	
A. Overall Management Principles	13
1. Natural Area Conservation	
2. Cultural Heritage Management	
3. Visitor Opportunities	
4. Park Operations	
B. Facilities and Improvements Management Objectives	14
1. Hiking Trails	
2. Mountain Bike Trails	
3. Signage and Trail Marking	
C. Historic and Cultural Resources Management Objectives	17
1. Historical Resources	

	Page
D. Natural Resources Management Objectives	17
1. Natural Community Management	
2. Pollinator Habitat Management	
3. Invasive Species Management	
E. Park Facilities and Operations Management Objectives	20
1. Park Buildings	
2. Park Infrastructure	
3. Playground Monitoring	
4. Entrance and Parking Areas	
5. Historical Farm Structures Function and Assessment	
6. Property Boundaries	
7. Landscaping, Erosion and Drainage Issues	
8. Materials Storage and Waste Management	
9. Caretaker Residence	
10. Emergency Access	
V. Management Plan Priorities	23
A. Pave the existing entrance road and parking lot	
B. Re-pave and expand the existing accessible loop trail	
C. Obtain community input for design and replacement of existing play structure	
D. Complete the installation of interpretative park signage	
E. Establish permanent preservation areas within the park that will remain free from trails or other intrusions	
F. Construct new maintenance/storage facilities	
VI. Management Plan Monitoring	24
VII. List of Figures	
Figure 1. Plant Communities	
Figure 2. Park Developed Area	
Figure 3. Park Management Areas	
Figure 4. Site Constraints Map Park Trails Maps	
Figure 5. Park Trails Maps	
Figure 6. Pollinator Areas (Existing and Potential)	
Figure 7. Aerial Map (2017)	
Figure 8. Topographical and Hydrological Map	
Figure 9. Natural Features Map	
Figure 10. Soils Map	

I. Introduction

The Little River Regional Park and Natural Area (or “the Park”) opened to the public on December 5, 2004. It is a two-county partnership between Durham and Orange counties and is funded by both and managed by the Orange County Department of Environment, Agriculture, Parks and Recreation according to an Interlocal Agreement between the two counties. The Park is located at 301 Little River Park Way, along the east side of Guess Road, 1.1 mile north of the Orange County line and 11 miles north of the I-85 interchange at Guess Road. The Park straddles the Durham/Orange county line, with roughly 256 of the 391 acres in Durham County and 135 acres in Orange County.

The Park offers recreational opportunities with over seven miles of hiking trails, over eight miles of single-track mountain biking trails, a 1/3-mile paved accessible path with multiple picnic sites, two large-group picnic shelters, playground, large play meadow, pollinator garden, and Park Office with educational materials. The Park’s developed area covers less than 15 acres, while the remaining 376 acres boasts 1.5 mile of river frontage on the pristine North Fork Little River, as well as several forest types categorized as four distinct plant communities in Figure 1. Inventories of plant and animal species are relatively complete and include several regionally rare species (Master Plan Appendix G).



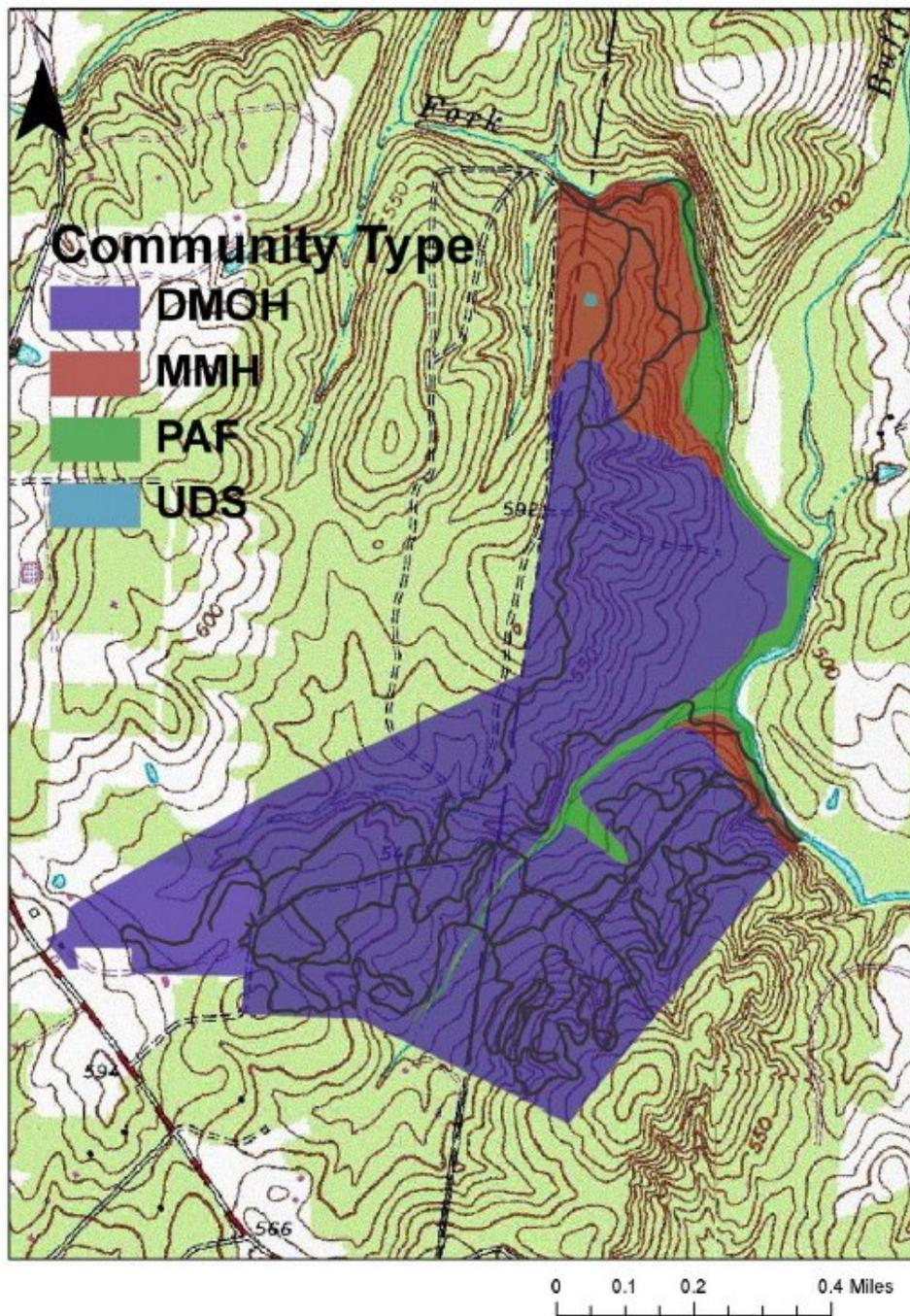


FIGURE 1. Plant Communities Identified at Little River Regional Park. Four communities were identified based the NC Natural Heritage Program classification¹: Dry-Mesic Oak-Hickory Forest (DMOH), Mesic Mixed Hardwood (MMH), Piedmont Alluvial Forest (PAF), and one Upland Depression Swamp Forest (UDS).

¹ Guide to the Natural Communities of North Carolina, 4th Approximation (2012). Michael P. Schafale, North Carolina Natural Heritage Program, Department of Environment and Natural Resources

II. Strategic Direction

The Park is governed through an Interlocal Agreement between Orange and Durham counties. The Interlocal Agreement calls for a Master Plan, Management Plan, and Operating Guidelines to be adopted by both county boards of commissioners. This Management Plan document provides specificity on the management strategies and priorities needed to manage and operate the Park according to the vision presented in the Master Plan.

A. Vision

“Little River Regional Park and Natural Area is recognized as a valuable natural resource and community park. The park maintains the natural character along a portion of the North Fork Little River, providing a natural viewscape for those hiking through the woods. Further, it provides Orange and Durham residents and visitors opportunities to connect with nature and helps protect the Piedmont ecosystem. Together with nearby natural areas within the Little River Corridor, the regional park is part of a wider natural area network that facilitates a healthy community.”

B. Goals and Objectives

The following are Guiding Principles for the joint management of the Park:

- Protect the natural habitat, water quality and other unique cultural resources of this significant park and natural area
- Preserve the Park’s cultural and ecological heritage while highlighting these resources for the public where feasible
- Ensure the safety of all Park visitors
- Strive for the highest quality visitor experience through regular self-evaluation and within mutually agreed upon goals and budgets
- Implement the vision and goals of the Master Plan through collaboration and partnership of the two jurisdictions
- Evaluate financial and management options to achieve Park goals as creatively and cost effectively as possible
- Incorporate Orange County’s and Durham County’s sustainability goals and policies in everyday Park operations and long-term planning.

These Guiding Principles translate into the following goals and objectives:

1. Protecting and Conserving Nature

GOAL 1: Maintain the Park in a largely natural state.

Objective 1: Minimize development within the Park.

GOAL 2: Manage the Park in a way that respects and protects key natural values on-site.

Objective 1: Develop visitor opportunities in ways that consider natural area sensitivities.

Objective 2: Work with others to manage or maintain key values.

2. Connecting with Nature

GOAL 3: Create a connection between the public and the Park's natural and cultural values that fosters appreciation and respect. [Engage the public in the appreciation and respect for the Park's natural and cultural values.]

Objective 1: Provide opportunities for low-impact recreation that are based on, and linked to, experiencing the natural values of the Park.

Objective 2: Provide information on-site that connects visitors to the Park, its history, and its key values.

Objective 3: Promote awareness of ways the public can assist in the protection of nature and the Park.

3. Providing Quality Recreational Experiences

GOAL 4: Provide engaging recreational opportunities while protecting and conserving natural areas.

Objective 1: Work cooperatively with Park users to encourage respectful use of the trails.

Objective 2: Develop additional signage, both interpretative and informative, detailing the natural features of the Park, and the need to preserve them.

Objective 3: Maintain hiking and biking trails, along with other Park amenities, to minimize erosion and adverse impacts while still providing positive outdoor experiences.

4. Collaboration and Cost-effective Management

GOAL 5: Foster collaboration and partnership between Durham County and Orange County, Park Managers, and stakeholders, and seek ways to manage the Park with the most efficient use of public funds to create high quality recreational and conservation opportunities.

Objective 1: Work collaboratively to identify and secure additional funding sources to assist with development of park appropriate amenities or programs.

Objective 2: Identify conservation needs within the Park and seek funding opportunities and additional expertise to develop appropriate management priorities.

III. Description of Park Improvements and Management Areas

A. Facilities and Improvements

The Park includes two public access buildings; two picnic shelters; a paved, accessible loop path with five individual picnic sites; and seven staff-only maintenance structures.



FIGURE 2. Park Developed Area

1. Public Amenities

- a) **Parking Area:** The parking area is at the end of a long meandering entrance road, culminating in a teardrop-shaped circulation pattern with drop off along the outer edge and designated parking for 40 spaces in the interior. Included within this are three accessible parking spaces. Exiting the teardrop is an additional elongated space for parking a bus or a trailer. The driveway and parking area are covered in a chip and seal surface treatment.
- b) **Public Restrooms:** This newly built structure is of similar architectural style as the Park Office, with separate male and female facilities, and a supply room.
- c) **Large Meadow Picnic Shelter:** This open-sided structure holds 12 picnic tables (two are wheelchair accessible) located near the public restrooms and playground, all of which are connected by a paved path.
- d) **Small Forest Picnic Shelter:** This open-sided structure is located just inside the paved loop trail, and holds eight picnic tables (two are wheelchair accessible).

- e) **Playground:** This accessible structure is recommended for 5- to 12-year-olds and contains three slides, two overhead components, a sliding pole, and a safety surface of engineered wood fiber. Safety surfacing needs weekly attention in the busy seasons, and yearly replenishment. Total replacement of the surfacing is recommended every 7-10 years.
- f) **Pack House / Hiker Shelter:** This historical structure was relocated from the front of the Park to the main junction of hiking trails. The pack house serves as a shelter for park users during inclement weather. A kiosk with trail maps and interpretive information is located at the trail head adjacent to the shelter.
- g) **Corn Crib / Visitor Information Center:** This structure was relocated from the Park entrance to the trail-head next to the parking area. The historical Corn Crib serves as an informal visitor information center and/or meeting spot with maps, brochures, donor recognition signs, interpretive information, and logos.



Visitor information structure (former corn crib)

- h) **Group Campground:** A group camping area was added in 2006 as an Eagle Scout project. It is located 100 feet from the end of the paved interpretive loop trail heading towards the Pack House. The site consists of four tent pads, two fire rings, a field hydrant, and three picnic tables.
- i) **Accessible Loop Trail:** This paved, quarter-mile-long trail loops through the woods next to the small picnic shelter and is one of the most heavily used facilities in the Park. The trail is used by young families with strollers, elderly visitors, and young children learning to ride bicycles. The trail is in need of major renovations as tree roots are encroaching into the asphalt surface and damaging the tread.
- j) **Pollinator Garden:** In Spring 2005 the area between the public restrooms and the Large Meadow Shelter was developed into a pollinator garden. The garden consists of mainly native plantings that attract a variety of pollinators at different stages of their life cycle. An arbor and bench was built in the center of the garden as part of an Eagle Scout project and the wooden entrance gates were built and donated by a volunteer.

- k) **Birding Trail:** The half-mile long birding trail begins at the Park Office and ends at the pollinator garden. Birders are led through several habitats that attract a variety of bird species. Several benches along the trail enable birders to sit and observe. Improvements to the trail could be added, such as native plantings attractive to birds and bird hides.
- l) **Hiking Trails:** The Park has two separate trail systems: one for hikers and one for single-track mountain bikers (Figure 5b). The seven miles of hiking trails include over a mile along the North Fork Little River. The trails pass through areas that include 40-year-old pines with an understory of young hardwoods, typical of a Piedmont Loblolly forest in transition to an upland hickory forest. Hardwoods such as sycamore, red maple and river birch are found along the North Fork Little River. Several old logging roads were incorporated into the trail system resulting in stretches of wide, gravel-surfaced trail.
- m) **Mountain Bike Trails:** Mountain biking trails were built in progressive loops of increasing technicality, ranging from beginner to advanced (Figure 5a). The beginner loop is 1.2 miles in length, the intermediate loop is one mile, and the advanced loop is 4 miles. The mountain bike trails were designed and constructed by volunteers from the Durham-Orange Mountain Bike Organization (DOMBO). In 2012, DOMBO reorganized as the Triangle Off-Road Cyclists (TORC). TORC maintains the mountain bike trails in accordance with a memorandum of understanding (MOU) with the Park.
- n) **Mountain Bike Skills Course:** A new skills course is under construction by TORC, which will enable mountain bikers to hone and refine their biking abilities and skill levels. As of January 2021 the skills course was still undergoing a risk assessment and safety evaluation, and that area was not yet open to users.

2. Park Operations and Infrastructure

- a) **Park Office:** The Park Office contains a visitor reception desk; a visitor area with park information, educational materials, and wildlife displays; and staff facilities (office, workroom/kitchen, and restroom). In addition to serving as a staff office and visitor information area, the Park Office is used for programming during inclement weather. There are four parking spaces (one is wheelchair accessible) in front of the building.
- b) **Maintenance Shed (former Tobacco Drying Barn):** Located next to the Park Office, this historical building was substantially renovated in 2004 to repurpose the structure for use as a maintenance shed. Security fencing was added.
- c) **Well Pump House:** The well pump is located on the north side of the Park entrance driveway to the east of the Caretaker Residence. A new well was drilled because of recurring contamination issues in the old well.
- d) **Caretaker Residence:** This private residence was relocated to the Park in 2003 to serve as the caretaker residence. The house is occupied by a caretaker (part-time Park employee) responsible for closing the park on weekends, covering for other staff, and being available after the Park closes for campers or emergencies.
- e) **Wood Storage Tobacco Barn:** Located near the Caretaker Residence, this historical building has not been restored. It is a traditional tobacco drying barn.
- f) **Former Well Pump House:** The old well pump house is located next to the paved interpretive loop trail and was capped after the new well was installed. It is used for storage of fence posts and traffic cones.

- g) **Materials Storage and Waste:** Materials storage needed for Park operations presently include an area for large rock and materials storage, gravel storage, brush piles, and composting bins. A dumpster is located on the south side of the entrance drive, near the Park Office. A brush pile and other waste debris (old lumber, concrete, chairs, grills) are temporarily located adjacent to the main entrance road just east of the Caretaker Residence. Rock for road repairs is temporarily stored within an open area at the South River trail. Maintenance gravel for the parking area is occasionally stored at the entrance to the parking lot. The need for gravel and materials storage will diminish once the driveway is repaved. Care is taken to avoid permanent impacts to the State's conservation easement area.
- h) **Laws Farmhouse.** The former Laws family farmhouse is a historical farmstead structure located near the Park entrance, separated from the Park operations. The Laws farmhouse was built between the 1860s and 1880s, with a turn-of-the-19th-century addition, and was inhabited through the 1960s. The abandoned structure was in a state of neglect and disrepair when the Park property was purchased in 2001. The structure will receive future funding (as deemed appropriate) from Orange County.

At the time of Park development, the farmhouse was investigated for its potential to restore and integrate with the Park, either in its current location or relocated elsewhere within the Park. When it was determined that use of the structure as a park office or information center, cultural/historical museum, or caretaker residence was not feasible due to prohibitive cost or loss of historical significance if relocated, the house was potentially slated to be deconstructed. Orange County has opted to delay this, pending a future decision by that County regarding renovation. The exterior needs repainting and other maintenance to protect the structure. The building is currently used for the storage of lumber and roofing materials for use in the Park.



The former Laws family residence (unoccupied)

Park Management Areas for:

Little River Regional Park & Natural Area

A Durham County / Orange County Partnership

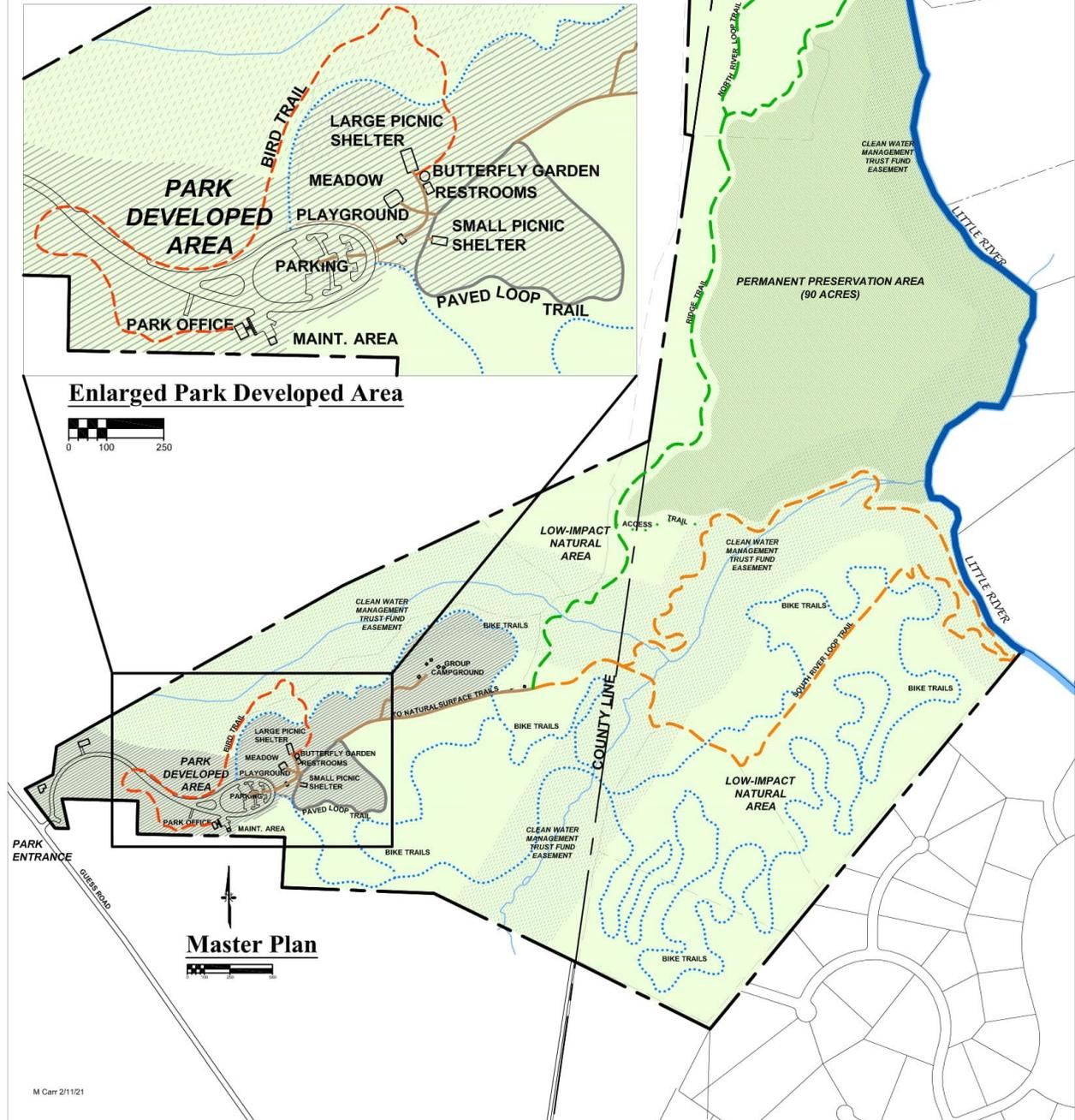


FIGURE 3. Park Management Areas

B. Management Areas

The Park consists of four management areas described below and shown in Figure 3.

1. Park Developed Area

The developed portion of the Park is where the bulk of the Park improvements and facilities are located (see also Figure 2).

The Management Objective for the so-called Park Developed Area is to provide safe facilities for the public to enjoy and to provide safe and adequate facilities for staff.

2. Low-Impact Natural Areas

The bulk of hiking and mountain biking trails are located within the area identified as the Low-Impact Natural Areas. The main stems of the hiking trails were developed from former logging roads, and consist of the Ridge / North River Trail and the South River Loop Trail (Figure 5b). Other trails were constructed for visitors to appreciate interior sections of the Park. All hiking trails are easy to moderate in difficulty and are clearly marked with numbers to aid in locating oneself on the Park brochure map.

The Management Objective for the Low-Impact Natural Area is to monitor and manage natural communities and provide meaningful, educational, natural space for the public through hiking and biking trails.

3. Permanent Preservation Area

A 90-acre portion of the Park located along an intact stretch of the North Fork Little River will remain as a preserved natural area and wildlife habitat, set aside from human visitation (Figure 3). Many key wildlife species, including reptiles, amphibians and ground nesting birds, utilize this core area of the park and avoid human interactions.² A map of significant natural features is provided as Figure 7.

The Management Objective for the Permanent Preservation Area is to monitor and manage natural plant and wildlife communities and to minimize access as much as possible. No development is to occur within this area of high ecological significance.

4. Conservation Easement Area

Funding to acquire the Park was provided in part by the State of North Carolina's Land and Water Fund (formerly the NC Clean Water Management Trust Fund, or CWMTF). The grant required that a permanent conservation easement be recorded that restricts development along the North Fork Little River and an unnamed perennial stream that bisects the Park. The conservation easement encumbers a 300-foot-wide riparian buffer (Figure 4). The conservation easement area encumbers 131.1 acres of the 391-acre Park. A copy of the recorded conservation easement agreement is provided as Appendix D of the Master Plan; the specific requirements for managing the parkland subject to the conservation easement are summarized below:

² North Carolina Natural Heritage Program site survey form (2019-20); available from Park staff.

The CWMTF Conservation Easement* requirements are summarized as follows:

The Property shall be maintained in its natural, scenic, wooded and open condition and restricted from any development or use that would impair or interfere with the conservation purposes of this Conservation Easement set forth above. The following uses are considered compatible:

- Passive recreational uses and access to the easement area requiring only incidental alteration of the land and posing no threat to conservation values, including, walking, fishing, animal and plant observation; educational tours, and scientific study;
- Recreational trails are permitted, including but not limited to horseback riding and biking, subject to limitations spelled out in the easement

The following activities and uses are expressly prohibited or restricted in the easement area:

- Limited Disturbance of Natural Features, Plants and Animals. There shall be no timber harvesting, cutting or removal of trees, or the disturbance of other natural features except as needed for:
 - boundary marking, fencing, signage, construction and maintenance of nature trails and public access allowed hereunder;
 - manual vegetation removal for the control of non-native plants,
 - selective cutting and prescribed burning or clearing of vegetation
 - archeological research that disturbs no more than 5,000 square feet at any one time,
 - vegetation management, including mowing, to maintain the existing open areas as shown when the easement was recorded
- Construction of Buildings and Recreational Use. No new buildings, antenna, utility pole, dock or any other temporary or permanent structure or facility are generally permitted;
- Permitted improvements include fencing and recreational improvements such as trails, boardwalks, benches, tables and any incidental filling required to produce such improvements.
- Impervious surfaces. Concrete, asphalt, gravel, or other improved surfaces used for trail construction, access or related purposes is acceptable so long as it does not exceed one (1) percent of the easement area and is permitted by state and federal regulations.
- Signage. Most signage is prohibited, but trail signage is allowed.
- Mineral Use, Excavation. There shall be no filling, excavation, mining or drilling; no removal of topsoil, sand, gravel, rock, peat, minerals or other materials, and no change in the topography of the land in any manner except as necessary for the purpose of combating erosion or incidental to any conservation management activities otherwise permitted in this Conservation Easement.
- Wetlands and Water Quality. Pollution or alteration of water bodies is prohibited and no activities that would be detrimental to water purity or that would alter natural water levels, drainage, sedimentation and or cause soil degradation or erosion nor diking, alteration, draining, filling or removal of wetlands, except activities to restore natural hydrology or wetlands enhancement as permitted by state and any other appropriate authorities.
- Dumping. Dumping of soil, trash, ashes, garbage, waste, abandoned vehicles, appliances, or machinery, or other materials within the easement is prohibited.

* Program name changed to NC Land and Water Fund in 2021

Site Constraints for:
Little River Regional Park
& Natural Area

A Durham / Orange County Partnership

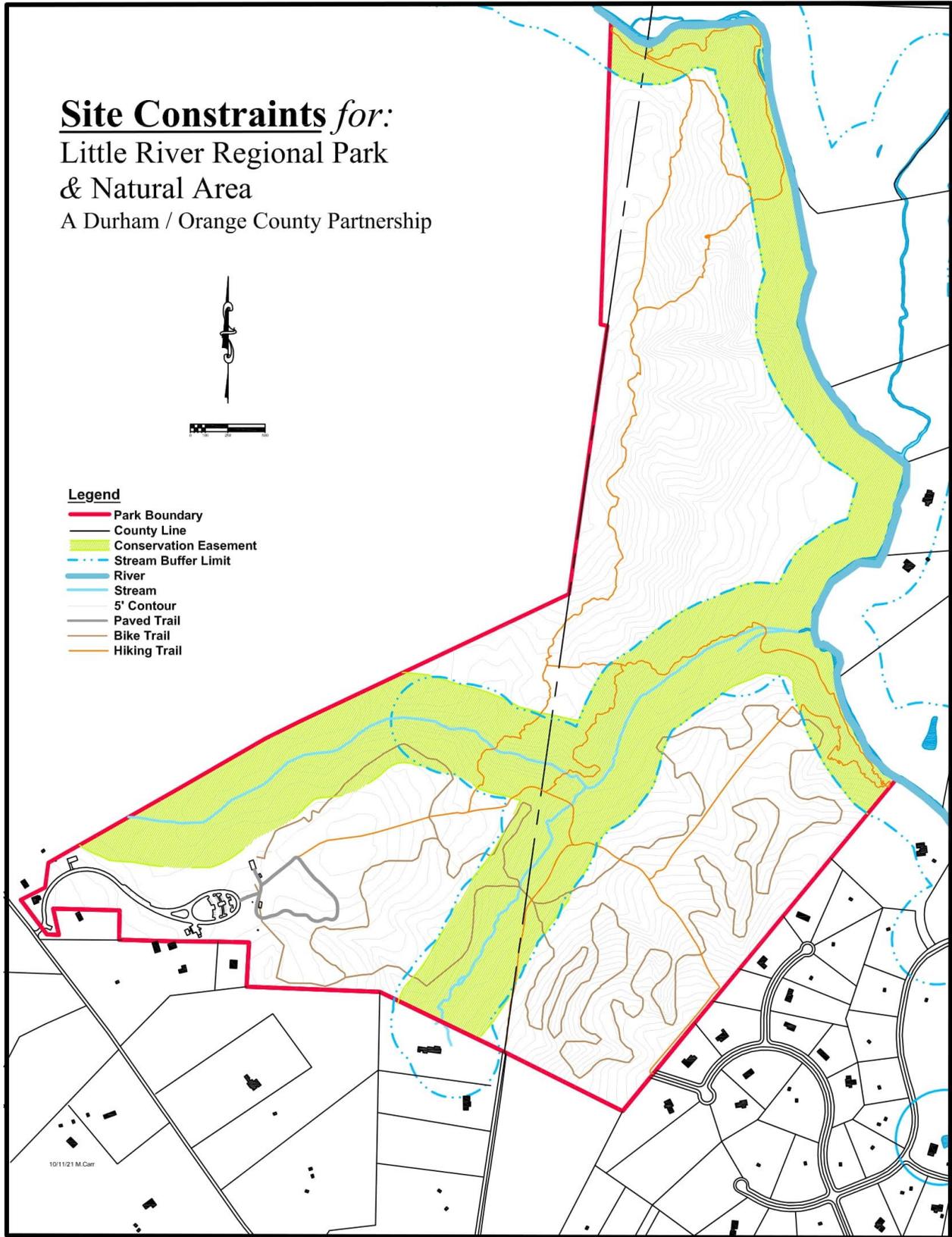


FIGURE 4. Site Constraints Map

IV. Management Plan

The purpose of the Management Plan is to provide direction for how the Park will be managed over time, consistent with the Master Plan. Visitor facilities and services will remain concentrated in the developed portions near the Park entrance, with the bulk of the Park left natural and experienced through the hiking and biking trails.

Hiking and off-road biking trail opportunities provide the primary means for the public to experience the Park. Park facilities will be maintained and replaced as needs and funds allow, but may not expand outside of the currently developed areas.

A. Overall Management Principles

The following management principles guide decision-making for the Little River Park.

1. Natural Area Conservation

- a) Environmental conservation will focus on protection of critical habitat for species at risk in the Park.
- b) Land management will abide by all provisions of the conservation easement held by the NC Land and Water Fund (formerly NC Clean Water Management Trust Fund) (Figure 4 and Master Plan Appendix D).
- c) Durham and Orange counties will consider partnership/stewardship agreements with appropriate groups to support ecological restoration or research in the Park.
- d) Visitor facilities will be maintained regularly. Renovations and replacement facilities will be planned and designed with conservation and operational sustainability in mind.

2. Cultural Heritage Management

- a) The recommendations included in the 2001, 2003, and 2009 reports of cultural resource investigations (by Legacy Research Associates) shall be reviewed and, where feasible, implemented in the next five years.
- b) Park Staff will work with Orange and Durham county experts to gather cultural and ecological information for display on park information kiosk panels.

3. Visitor Opportunities

- a) The public will experience nature in the Park through hiking trails, mountain biking trails, and a bird watching trail.
- b) Trails will be developed with consideration of user safety, natural and cultural protection, and operational sustainability.
- c) The public will be encouraged to follow “Leave No Trace” principles.

4. Park Operations

- a) All aspects of Park operations will follow the guidelines established in the Operational Guidelines adopted by both counties’ respective boards of commissioners.

- b) Park operations and development will be limited to that which is necessary to minimize visitor impacts to the environment and to maintain designated visitor facilities.

In addition to the priority management plan actions previously described, additional management of Park facilities will be performed on a routine basis.

B. Facilities and Improvements Management Objectives

1. Hiking Trails

- a) **Trail Sustainability and Maintenance.** Trail sustainability must be of the highest priority in terms of natural areas management. Trail sustainability means ensuring that the trails are safe and enjoyable for users, while minimizing impacts on the natural environment.

Hiking trails, markers, benches, boardwalks, bridges and signs are to be maintained by Park staff using best practices established by the National Park Service, the U.S. Forest Service, and the Student Conservation Association. Findings from regular inspection should be addressed within a reasonable time (a month or less). Bridges and boardwalks should be monitored during routine trail inspections, leaves and debris removed, and repairs made as needed. Trees that pose safety hazards should be removed by staff or by contracted experts when needed. Washouts and rock armoring should be monitored seasonally; leaves and built-up soil should be removed and small trees grubbed out.

When trail renovations are needed the work should occur in the following priority order:

- i. Re-route the trail to avoid chronic areas of erosion, drainage, soggy areas;
 - ii. Renovate or replace existing boardwalk, preferably elevated at least one foot to allow for small wildlife movement underneath;
 - iii. Construct new boardwalks, again preferably elevated at least one foot to allow for small wildlife movement underneath;
 - iv. Armor trails with rock or other hardened treatments as a last resort where less-intrusive options are not viable
- b) **Trail Inspections and Safety.** Trail inspections by Park staff should occur on a weekly, monthly, and seasonal basis, as well as after major storms. Safety hazards should be removed or identified, including:
 - i. Safety hazards within close proximity to trails should be removed.
 - ii. Stumps on trails should be trimmed to the ground or spray painted for visibility to reduce preventable tripping hazards.
 - iii. Holes within or adjacent to trails should be filled.
 - iv. Temporary hazards such as stinging insect nests should be marked to assist public safety (e.g., use of chicken wire cages with an educational note).
 - v. Overhanging trees that pose safety risks should be removed.

2. Mountain Biking

- a) **Trail Sustainability and Maintenance.** Mountain biking trails are to be maintained and improved, as necessary, by both Park staff and volunteers from TORC following guidelines established by the International Mountain Biking Association (IMBA). Trail closures are determined by Park staff based on precipitation and subsequent ground conditions. A copy of the trail closure protocol is available from the staff at the Park office. A bi-monthly maintenance schedule is to be monitored by staff and carried out by TORC volunteers. Volunteer monitoring of hiking and biking trails should be encouraged, including filling out trail inspection forms.

3. Signage and Trail Markings

Park and trail signage and informational kiosk materials should be inspected and replaced when broken, faded, outdated, or as otherwise necessary. Ideas for additional signage should be brought to the Park management team (Orange and Durham county staff) to coordinate the placement, design and wording.

- a) All signage (permanent and temporary) should be neutral and professional in tone.
- b) Directional signage should be evaluated to ensure it clearly communicates the visitor's location, which trail they are on, and how to return to the parking lot.
- c) Park signage should be cleaned on a regular basis.
- d) New signage is to be approved by Orange and Durham county staff.
- e) Trail markings should utilize an easily understood color-coded system.

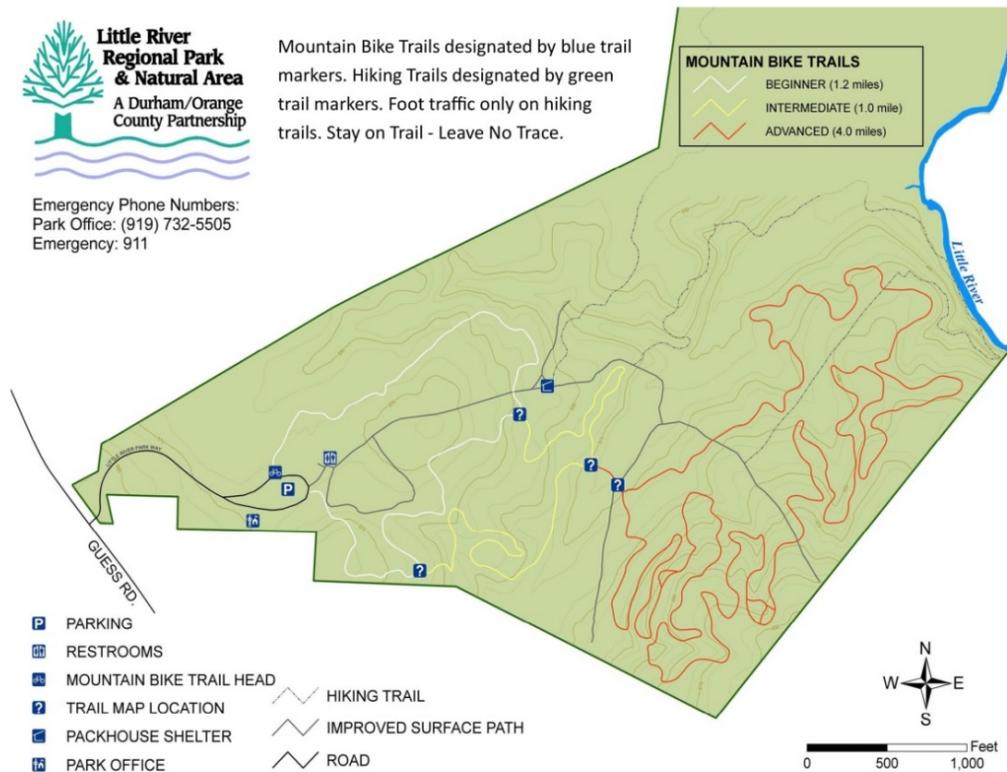


FIGURE 5a. Mountain Bike Trails Map



Emergency Phone Numbers:
 Park Office: (919) 732-5505
 Emergency: 911

Hiking Trails

-  Ridge Trail (0.84 mi)
-  North River Loop (1.2 mi)
-  Homestead Trail (0.2 mi)
-  South River Loop (1.4 mi)
-  Bird Trail (0.5 mi)
-  Mountain Bike Trail

-  PARKING
-  RESTROOMS
-  HIKING TRAIL
-  HIKING TRAIL MAP
-  PARK OFFICE
-  PACKHOUSE SHELTER
-  GROUP CAMPING
-  MOUNTAIN BIKE TRAIL
-  BIKE TRAIL MAP



Hiking Trails designated by green trail markers. Foot traffic only on hiking trails.

Mountain Bike Trails designated by blue trail markers. Stay on Trail - Leave No Trace.

FIGURE 5b. Hiking Trails Map

C. Historic and Cultural Resources Management Objectives

1. Historical Resources

Several cultural and archaeological assessments of the Park property have been completed since the land was acquired in 1999. Those studies have identified several areas of historical significance and areas that would benefit from additional study.

County staff maintain maps showing the locations of archaeological significance, marked as “special resource areas.” These maps are consulted prior to making any site improvements or adding new park amenities, including trails, to help ensure that sensitive resources are protected from being damaged or destroyed.

Staff will determine which “special resource areas” are appropriate for public access and interpretation. Signage will be developed to educate and engage the public.

D. Natural Resources Management Objectives

- 1. Natural Community Management** – The distinct forest types found within the Park vary in age and vegetation type and will be managed to encourage a mosaic of species and habitat diversity (Figure 1). As staff time and resources allow, less densely-vegetated areas around the developed portion of the Park will be tended to support uneven-age forest stands and diverse wildlife habitats.

Staff will seek opportunities to support early-successional areas within the Park as they occur naturally while prioritizing native plant and animal communities. Any management considerations and planned activities will be made annually, incorporated in the annual work plan, and budgeted as resources permit.

A number of low-cost management activities will be used to support the health and sustainability of the Park’s natural areas with the primary goal to create a wild and natural habitat. Damaged or dead trees will be mitigated for safety reasons, but otherwise left in situ for habitat services.

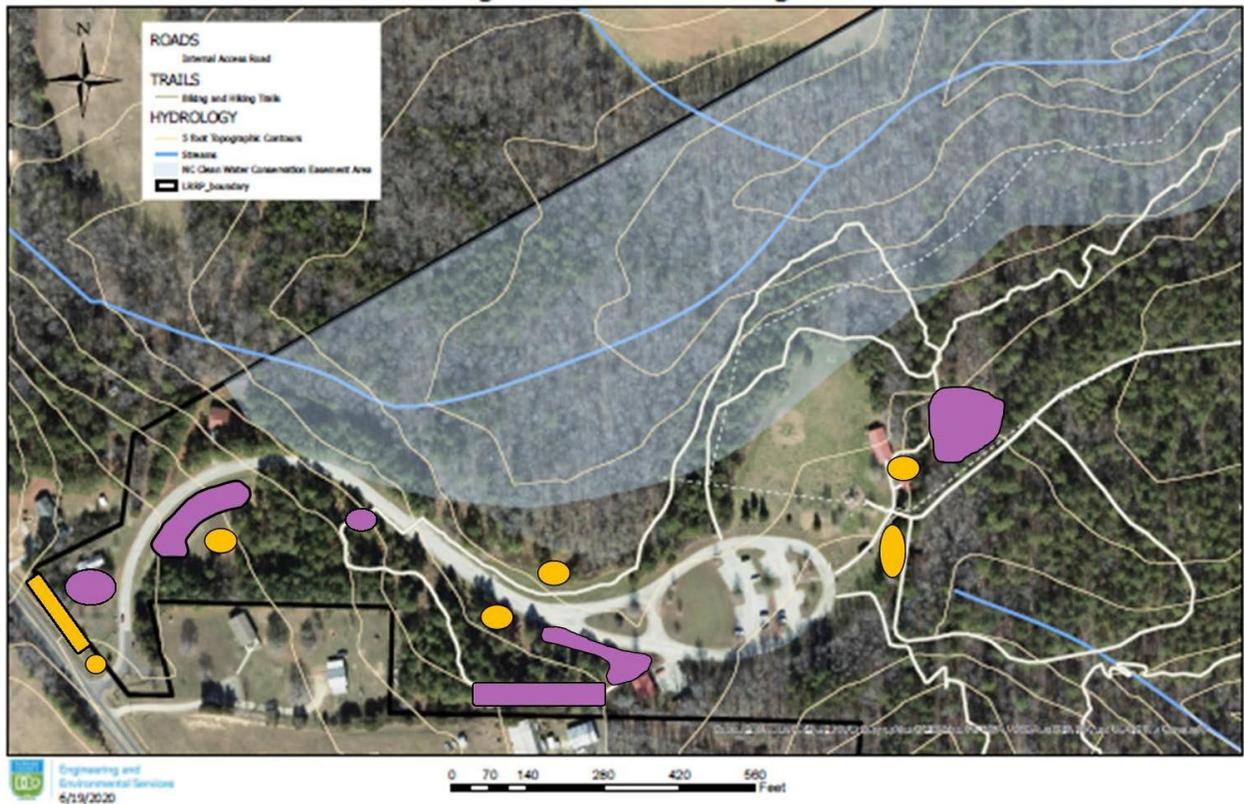
Dead trees provide important nesting sources for many cavity dwelling species, including woodpeckers, bluebirds, and barred owls. To support the varied wildlife in the park, dead trees should not be removed unless they are endangering buildings or threatening trail safety. In addition, fallen tree biomass should be left on site as it provides additional habitat for many types of reptiles and amphibians.

- 2. Pollinator Habitat Management** – The pollinator garden was created in 2005 between the public restrooms and large shelter. The garden contains over 60 species of plants, over 50 of which are native to the region. Plantings around the front entrance sign and the corn crib also provide some small pollinator habitats. In addition, several areas of milkweed growing naturally in the developed area are maintained to allow the plants to spread. These “milkweed waystations” are used in several Citizen Science projects involving Monarch butterfly populations. Other areas in the developed area could be

utilized as potential pollinator habitats including along the entrance driveway and around the two septic fields (Figure 6).

Pollinator habitats should follow a sustainable approach in their location, selection and management.

- a) New and existing habitat areas should use native species whenever possible
- b) Pollinator habitats will be maintained using organic or biological pest control and organic fertilizers or other treatments
- c) New habitats areas will be developed in manageable sizes depending on plant needs and available staffing
- d) Plant species within the pollinator habitat should be selected to provide year-round benefits to pollinators.



● Existing Pollinator Areas ● Potential Pollinator Areas

FIGURE 6. Pollinator Areas (Existing and Potential)

- 3. Invasive Species Management** -- Several varieties of non-native, invasive plants threaten the Park's natural plant communities and should be located, documented, monitored, removed and/or treated when possible. These plants include Japanese honeysuckle (*Lonicera japonica*), Chinese privet (*Ligustrum sinense*), Japanese stiltgrass (*Microstegium vimenium*), Japanese honeysuckle (*Lonicera japonica*) and multiflora rose (*Rosa multiflora*). Over the years, Park staff have treated and managed invasive plants where feasible, focusing primarily on areas along hiking and biking trails. Invasive plants can impact the natural regeneration of native plants, particularly non-woody understory perennials, but they also impact seed germination of woody shrubs and trees. Invasive plants displace native plants, impact ecosystem processes, reduce biodiversity, and disrupt wildlife populations. Aquatic areas are also monitored for problematic aquatic invasive plants like hydrilla. Although native to this region, poison ivy (*Toxicodendron radicans*) and common greenbriar (*Smilax rotundifolia*) are nuisance plants that are identified and managed in publicly accessible areas.

Management Objectives

- a) Prevent introduction and spread of invasive plants by prioritizing native plants for landscaping, minimizing soil disturbance, and cleaning vehicles to minimize seed spread.
- b) Map invasive plant locations and maintain records that include species, location, date and description of any removals and/or treatment.
- c) Prioritize and review areas for management every 2-3 years, focusing on areas within the State's conservation easement area and the low-impact natural areas.
- d) Work with local technical experts/resources on using best management practices for removal and/or treatment (e.g., NC Cooperative Extension, NC Wildlife Resources Commission, and NC Forest Service) recognizing that priorities and treatment strategies change.
- e) Leverage citizen scientists and other volunteers to assist with locating, identifying, removal and/or treatment.
- f) For management try to (1) remove plant physically (digging, weed wrench, etc.), (2) cut and spray/brush remaining stump with herbicide, and then (3) broadcast foliar spray. The use of Roundup (glyphosate) is not permitted.

E. Park Facilities and Operations Management Objectives

1. Park Buildings

- a) Routine inspections of buildings and shelters occur monthly to ensure the safe operation of the Park. Needed repairs or improvements will be addressed through identification and budgeted through annual budgets and capital improvement plans for more substantial upgrades.

2. Park Infrastructure

- a) The Park's well and septic systems are inspected every three years by Orange County Planning and Inspections staff. The well water is inspected quarterly by Orange County Environmental Health Services staff. Septic tanks should be serviced every three to five years.
- b) Areas around the well house, electric hot box, and septic tanks should be kept clear of plants and debris.

3. Playground Monitoring

- a) Routine inspections of the playground equipment and safety surfacing occur monthly. A full annual audit is performed according to the National Playground Safety Institute guidelines for playground safety inspectors. Staff will maintain Certified Playground Safety Inspector credentials and be responsible for documenting results of all inspections. Monthly Inspection reports and annual audits are available for review in the Park Office upon request.
- b) Safety surfacing requires weekly attention during busy seasons, and yearly replenishment. Total replacement of the surfacing is recommended every 7-10 years.

4. Entrance and Parking Areas

- a) The entrance to the property welcomes visitors and is the first impression they have of the Park. Staff will insure the landscaping, park signage, and entrance road are in good repair. Any needed improvements outside of the normal maintenance will be proposed and approved during the annual budget process.
- b) The parking areas will be maintained to provide safe access and egress to and from the Park. All traffic signs will be maintained and replaced as needed. Any landscaping necessary to provide adequate site lines will be performed on a routine schedule. Cross walks will be clearly delineated and repainted as needed.
- c) The top priority for the driveway and parking area is to pave them in their entirety. Staff will determine if any additional parking can be created through paving. Staff will also investigate the possibility of incorporating additional paved walking/biking paths around the perimeter of the parking area.
- d) Staff has identified areas in the open field that may be used as overflow parking during certain large events.

5. Historical Farm Structures Function and Assessment

- a) The pack house was moved to its present location near the Ridge Trail trailhead and serves as a hiker shelter during inclement weather. A small sign describes the historic use of the building when the Laws family farm was in operation. Possible improvements to the area include: utilizing the open area around the building as pollinator habitat, improving daylighting if practical and cost-efficient, freshening signage explaining the previous use as a pack house, trail head interpretative signage describing what can be found on the different trails, as well as difficulty, seasonal plants, etc.
- b) The maintenance shed (a former tobacco curing barn) was renovated in 2004, with an addition built in 2009. It was built from roughhewn oak logs chinked with cement with a cement pad floor. The building does not have running water or HVAC. Possible improvements include building a more modern structure for park operations equipment and chemical storage utilizing the historical building for the storage of lumber, fencing and hand tools. A small interpretive sign is posted on the security fence surrounding the building that describes the building's use during the operation of the Laws farm. Updated signage may be desirable.
- c) The Laws family farmhouse has had no money budgeted for its upkeep nor has any decision been made on its fate. It will need some maintenance soon including repainting the exterior and addressing the roof seam between the original structure and the back addition. The farmhouse sits at the park entrance and may not serve to create a good first impression of the park. The building could be dismantled and the materials repurposed. The space could be used as a location for an outdoor classroom, more pollinator habitat or materials storage for park operations.

6. Property Boundaries

- a) Property lines should be walked once annually to check on encroachments; boundary signs should be posted and freshened as needed
- b) Buffers should be maintained to reduce views into adjoining residential areas where possible (not possible by Park Office)

7. Landscaping, Erosion and Drainage Issues

- a) Park landscaping should be with native species whenever possible
- b) The use of deer resistant and drought tolerant species is preferable
- c) Areas of grass that must be mowed frequently should be reduced, converting to more native grasses and flowers that are drought tolerant and support pollinator habitats to improve sustainability
- d) Any areas of soil erosion, including on fields and in drainage swales, should be addressed with rip-rap, re-seeding, etc. Drainage problems should be addressed through grading, top-dressing, and construction of swales and drainage pipes. Trail erosion should be addressed through the re-routing of problem sections and by following the Park's protocol for trail closings.

8. Materials Storage and Waste Management

- a) Park operation and maintenance requires places to store construction materials, gravel/rock for improvements, weedy debris and limbs, and vegetative composting materials. Although these are an essential component of internal park operations they can be unattractive for park visitors and incompatible with the CWMTF conservation easement restrictions. Locations for these activities should be sited carefully to minimize unsightly views outside of the CWMTF conservation easement stream buffer areas.
- b) The construction of a pole barn or similar storage area for landscaping materials (e.g., gravel, dirt and mulch) would greatly aid in organization and distribution of those materials. A central location would be ideal, such where the Law's house is located or near the current maintenance shed.
- c) A dumpster for most refuse is located on the south side of the entrance drive in close proximity to the Park Office. Wood, metal, electronics and solvents are prohibited and must be taken to the Orange County solid waste convenience center, and a tipping fee paid each time.
- d) A dump site along the north side of the entrance drive should be limited only to organic brush. Other kinds of refuse (e.g., chairs, grills, lumber, concrete) should be hauled off site when enough has been collected to warrant paying the tipping fee at the convenience center or when a river clean-up is organized.

9. Caretaker Residence

- a) The caretaker residence is managed by the Orange County Parks Division. Inspections of the building and grounds occur annually by the Division Superintendent as per the rental agreement.
- b) Maintenance issues are reported to the park manager. Issues are resolved in-house when possible. The park manager arranges for a repair service when needed.

10. Emergency Access

- a) Several routes are designated for emergency access vehicles should a visitor become injured on the trails. A lockbox with the key to the front gate is available to emergency services personnel if entry is needed after hours.
- b) Access routes should be maintained to a clearance of 15 feet overhead and 20 feet on both sides for emergency vehicles.
- c) Downed trees and debris should be removed immediately from emergency access routes.
- d) Emergency access route maps are reviewed and updated annually. Updated maps are available in the Park Office and filed with Orange County Emergency Services.

V. Management Plan Priorities

A. Pave the existing entrance road and parking lot

The 2004 chip and seal surface treatment of the Park driveway has a life expectancy of 8 to 15 years. The roadway has worn away in many places and developed potholes beneath the original aggregate layer. Repeated applications of pea gravel are needed to keep them filled. Paving or other sustainable alternative would improve the overall appearance of the park and enhance a visitor's experience. Grading and design should take into account the use of overflow parking on the areas of grass along the driveway and parking area.

B. Re-pave and expand the existing accessible loop trail

The paved accessible loop trail is in need of major renovations due to tree roots that have been damaging the asphalt steadily for many years. As part of this renovation, plans should be made to expand the paved trail with an additional loop around the perimeter of the driveway or in the forested area adjacent to the current loop trail.

C. Obtain community input for design and replacement of existing play structure

The play structure was installed in 2004 when the Park originally opened; however this type of equipment is nearing the end of its normal life expectancy. Surveys from the Master Plan questionnaire show respondents favor the installation of swings and a sun shade if upgrades or replacement were done. Another option for future play areas is the development of a natural playground.

D. Complete the installation of interpretative park signage

Several areas of the Park could benefit from permanent interpretive signage including the historic buildings, pollinator garden, birding trail and areas of cultural significance like the old wagon road, homestead sites and mill operation.

E. Establish permanent preservation areas within the park that will remain free from trails or other intrusions

The formal establishment of designated "no development" areas within the Park ensures the preservation of important habitat for wildlife and plant communities along the North Fork Little River corridor. Bank erosion is often a consequence of trails located along waterways as humans and pets naturally want to explore these wet areas. Human activity has also been shown to reduce the use of natural areas by wildlife.

F. Construct new maintenance/storage facilities

When the Park was designed and built in 2004, several of the existing tobacco farm buildings were repurposed including the tobacco drying barn, which is used for equipment storage and maintenance. This is a log structure with a metal roof and a concrete pad that replaced the dirt floor. There is no HVAC system or running water in the building. Equipment such as lawn mowers, generators, and power tools as well as chemicals like gasoline, herbicides and paints, are stored in the barn and are subject changes in temperature and humidity. The closest safety wash station is in the Park Office located approximately 20 yards away. To protect the large investment in equipment and provide a

safer work environment, a new maintenance facility should be constructed using sustainable building practices.

VI. Management Plan Monitoring

Durham County and Orange County staff will monitor jointly the implementation of the management plan through the Annual Report and Annual Objectives.

An amendment or update to the management plan will be considered if unexpected circumstances, significant issues, or critical new information arise that warrant substantive changes to the plan. Durham and Orange county staff will work collaboratively to amend or update the management plan. Any substantive changes to the management plan must be approved by both counties' respective board of commissioners.

Prior to initiating a comprehensive update to this management plan, staff will undertake an evaluation of the current plan that will consider the following:

- Have the vision, goals and objectives been useful in guiding park management and are they still relevant?
- Has the strategic direction adequately addressed all or most of the major issues and management considerations that arose over the lifespan of the management plan?
- To what extent were the management actions implemented and are any outstanding actions still relevant?
- Have the requirements of the conservation easement been adhered to?
- Are changes to the plan's direction needed?

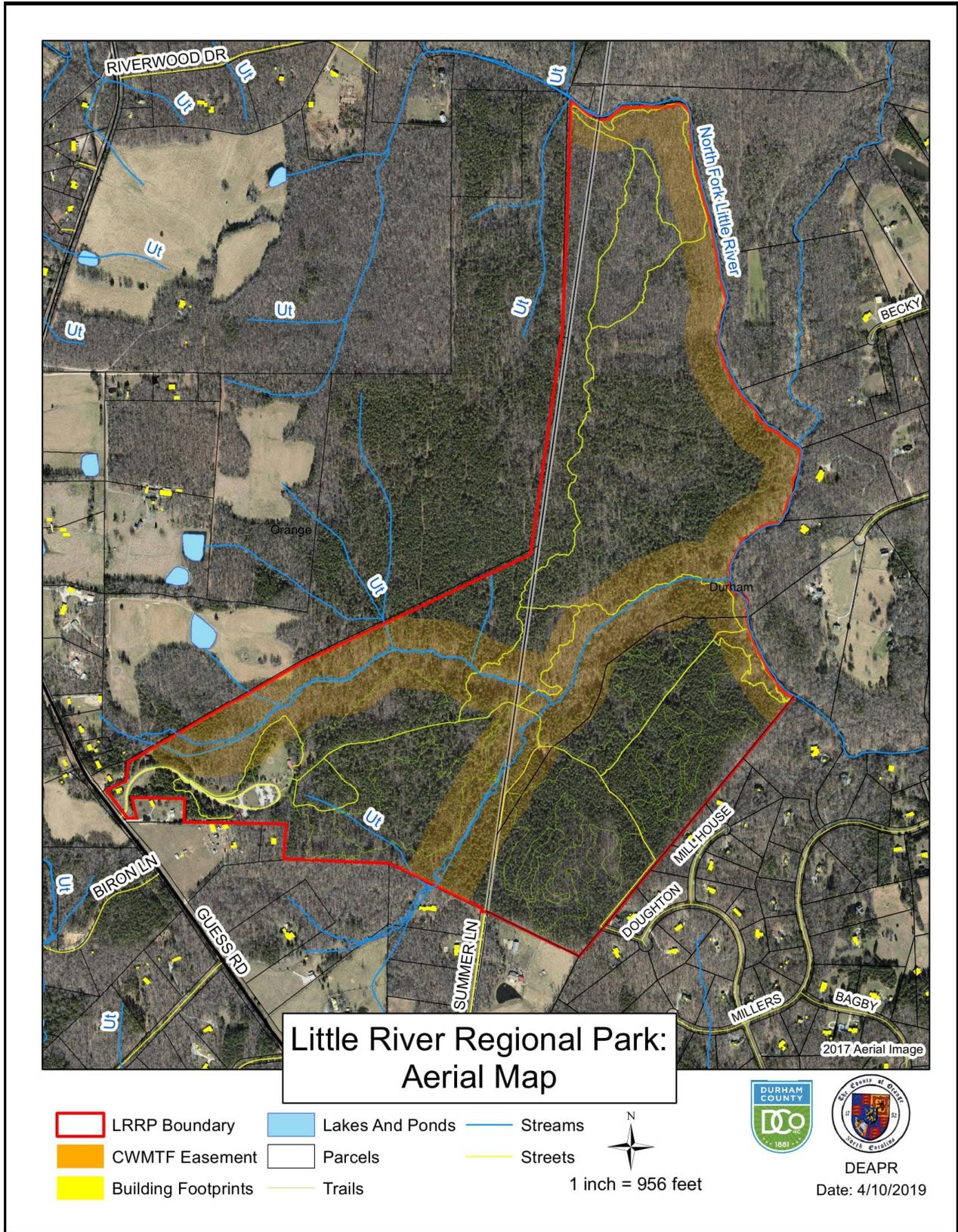
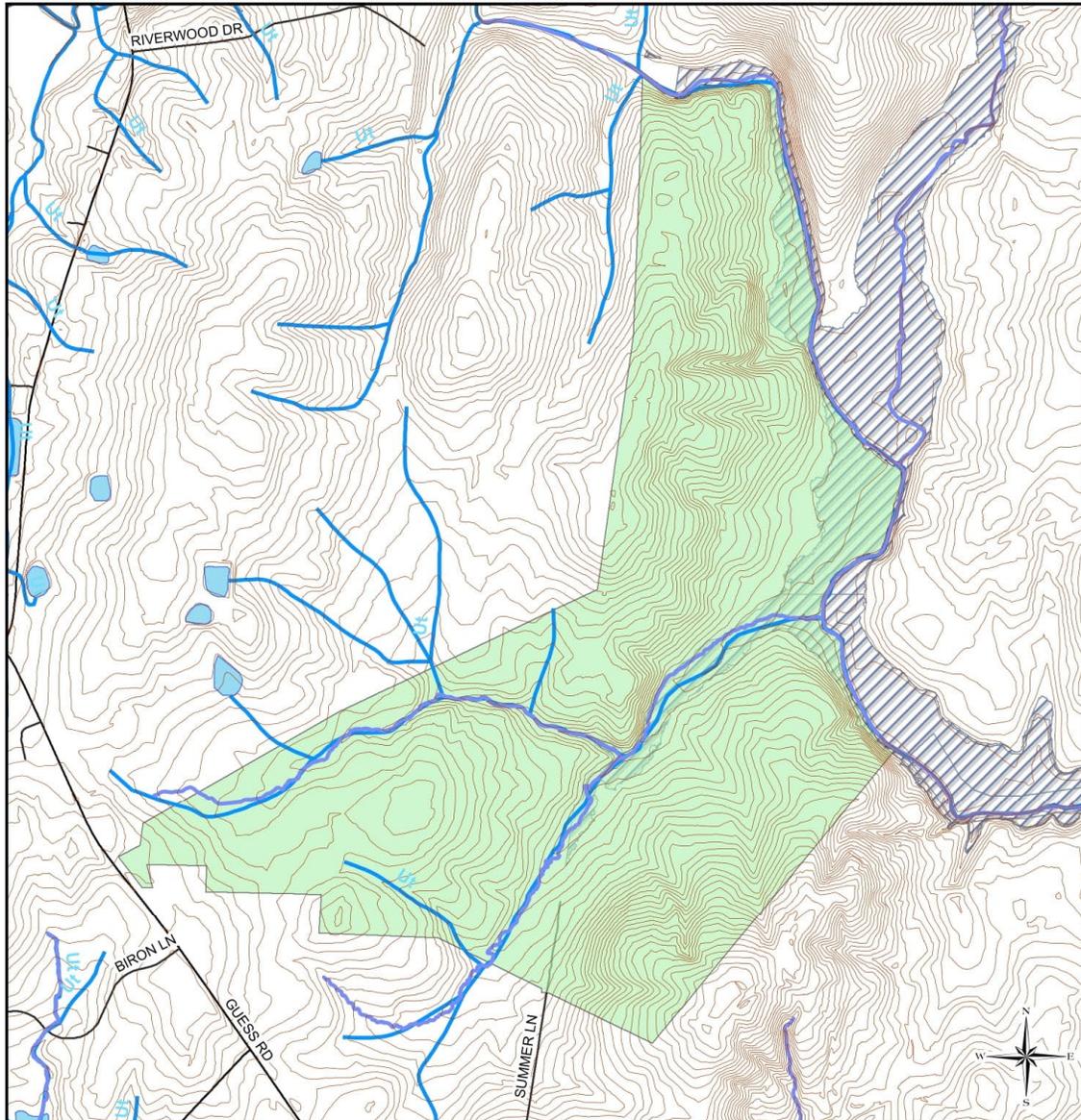
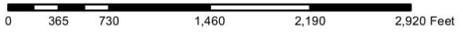


FIGURE 7. Aerial Map (2017)

Little River Regional Park-Topographical and Hydrological Map



Tract Information:
 Lat: 36' 09.81"
 Long: 78' 57.64"
 Date: 10/13/2021
 Image: 2017 Aerial Photo
 Created By: Christian Hirni
 Acres: N/A



ORANGE COUNTY



Department of Environment,
 Agriculture, Parks & Recreation

Legend

- Roads
- USGSTopo
- Streams
- LRRP_boundary
- 100 Year Floodplain

FIGURE 8. Topographic and Hydrological Map

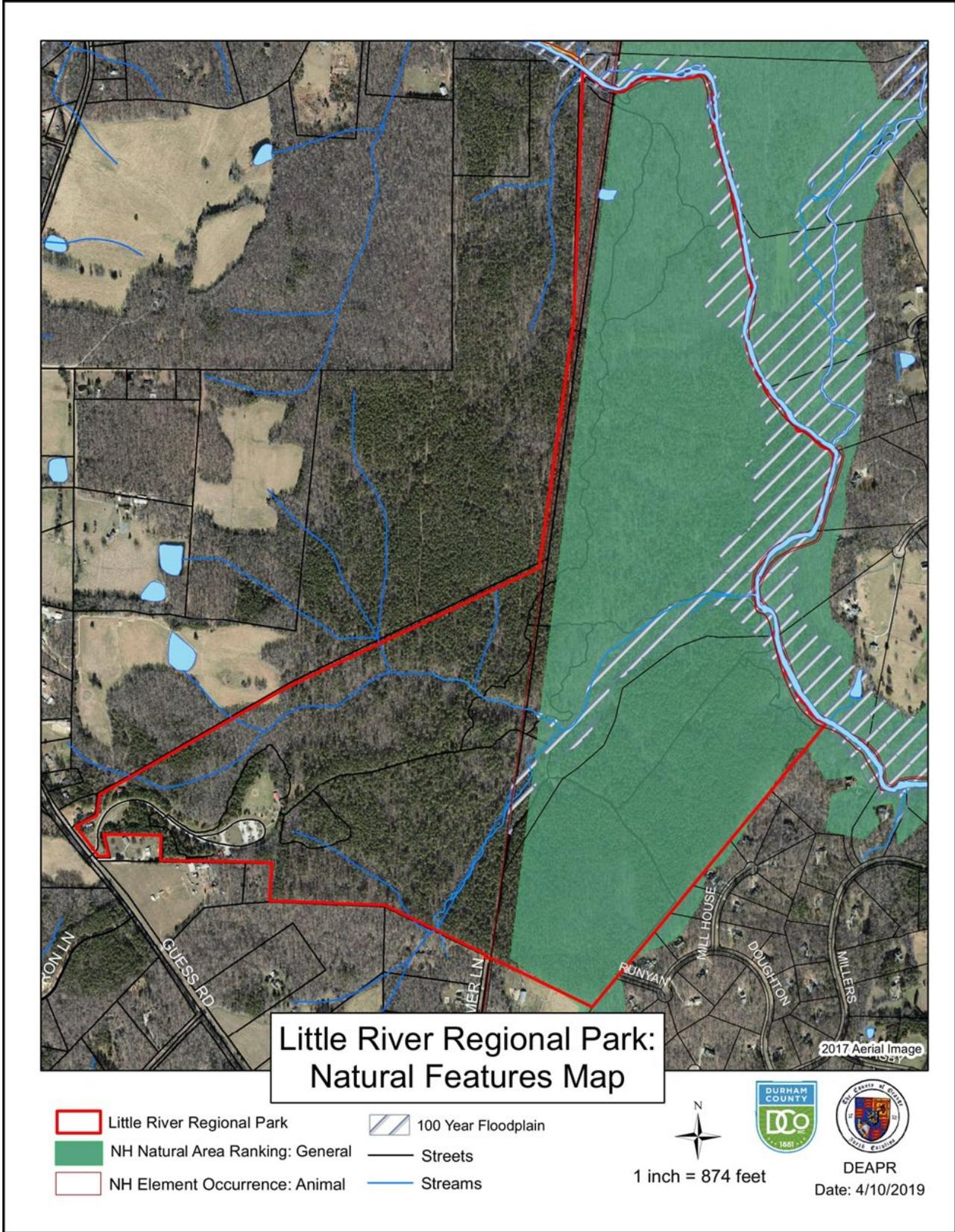


FIGURE 9. Natural Features Map

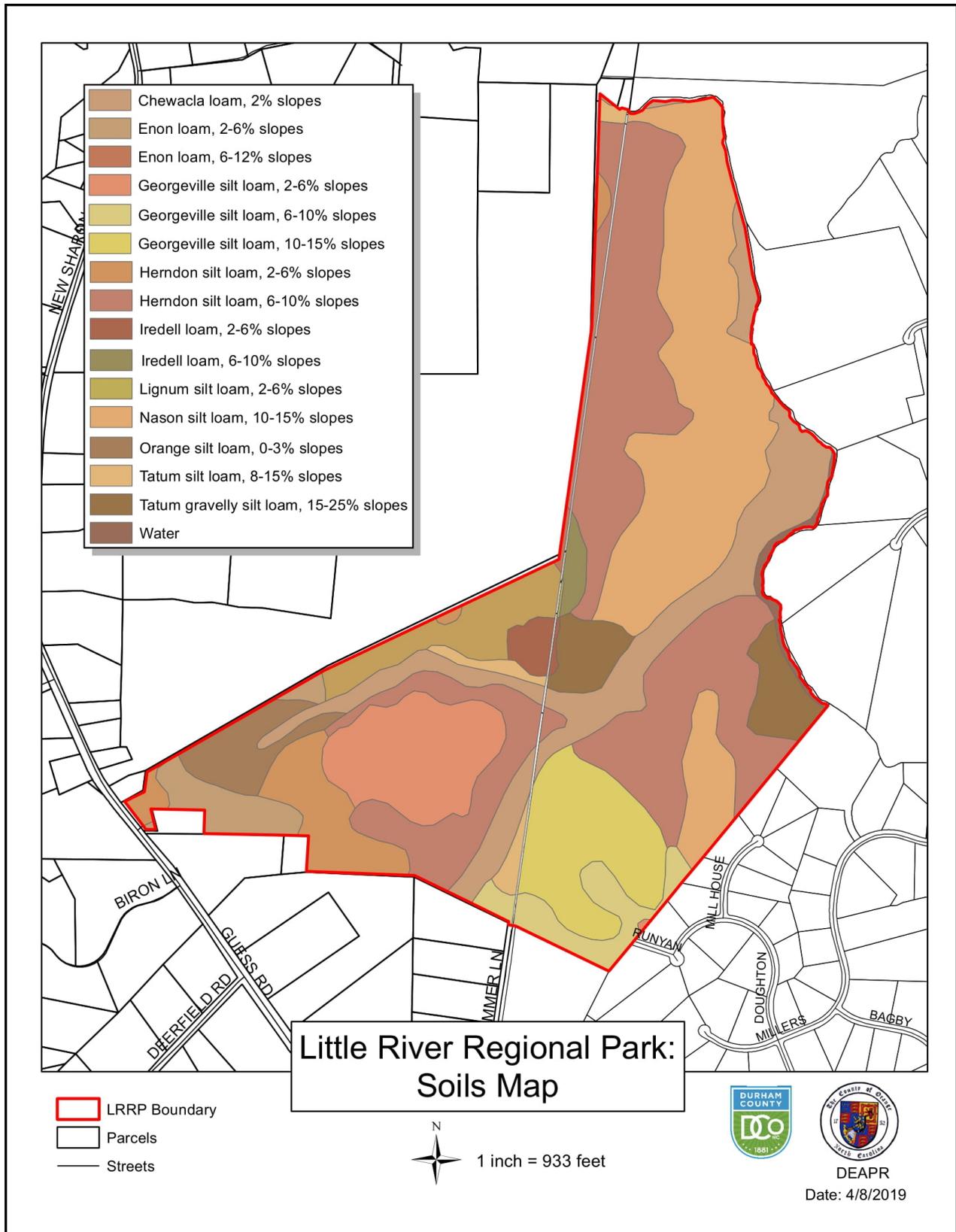


FIGURE 10. Soils Map