# Anneewakee Forest Preserve
# Project Design Document

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# INSTRUCTIONS

*Project Operators must complete and submit this Project Design Document (PDD) to request credits. City Forest Credits (CFC) then reviews this PDD as part of the validation process along with all other required project documents. An approved third-party verifier then conducts verification.*

*The Protocol Requirements below are a list of eligibility requirements for informational purposes which are also found in the CFC Tree Preservation Protocol Version 11.40, dated February 7, 2022.*

*Project Operators will enter data and supporting attachments starting on page 6 under Project Overview where you find "[Enter text here]" as thoroughly as possible and provide numbered attachments for maps and other documentation (ex: 1 – Regional Map).*

# PROTOCOL REQUIREMENTS

**Project Operator (Section 1.1)**
Identify a Project Operator for the project. This is the entity or governmental body who takes responsibility for the project for the 40-year duration.

**Project Duration and Project Implementation Agreement (Section 1.2, 2.2)**
Project Operator must commit to a 40-year duration and sign a Project Implementation Agreement. This is a 40-year agreement between the Project Operator and City Forest Credits (the "Registry") for an urban forest carbon project.

**Location Eligibility (Section 1.3)**
Projects must be located in or along the boundary of at least one of the following criteria:

A. "Urban Area" per Census Bureau maps; see https://www.census.gov/geographies/reference-maps/2010/geo/2010-census-urban-areas.html
B. The boundary of any incorporated city or town created under the law of its state;
C. The boundary of any unincorporated city, town, or unincorporated urban area created or designated under the law of its state;
D. The boundary of any regional metropolitan planning agency or council established by legislative action or public charter. Examples include the Metropolitan Area Planning Council in Boston, the Chicago Municipal Planning Agency, the Capital Area Council of Governments (CAPCOG) in the Austin area, and the Southeastern Michigan Council of Governments (SEMCOG)
E. The boundary of land owned, designated, and used by a municipal or quasi-municipal entity for source water or watershed protection. Examples include Seattle City Light South Fork Tolt River Municipal Watershed (8,399 acres owned and managed by the City and closed to public access);
F. A transportation, power transmission, or utility right of way, provided the right of way begins, ends, or passes through some portion of A through D.

**Ownership or Right to Receive Credits Eligibility (Section 1.5)**
Project Operator must demonstrate ownership of property and eligibility to receive potential credits by meeting one of the following:

A. Own the land and potential credits upon which the Project trees are located; or

B. Own an easement or equivalent property interest for a public right of way within which Project trees are located and accept ownership of those Project trees by assuming responsibility for maintenance and liability for them; or

C. Have a written and signed agreement from the landowner, granting ownership to the Project Operator of any credits for carbon storage, other greenhouse gas benefits, and other co-benefits delivered by Project trees on that landowner's land. If the Project Area is on private property, the agreements in this sub-section must be recorded in the public records in the county where the property is located. The recordation requirement can be satisfied if the agreements specified in this sub-section are contained in a recorded easement, covenant, or deed restriction on the property.

**Demonstrate Tree Preservation (Section 4.1)**

The Project Operator must show that the trees in the Project Area are preserved from removal by a recorded easement, covenant, or deed restriction (referred to hereafter as "Recorded Encumbrance") with a term of at least 40 years. This action is referred to as the "Preservation Commitment." This Recorded Encumbrance must be recorded not later than 12 months after Registry approval of the Project's Application.

**Demonstrate Threat of Loss (Section 4.2, 4.3, and 4.4):**

The Project Operator must show that prior to the Preservation Commitment:

- Project trees were not preserved from removal through a Recorded Encumbrance or other prohibitions on their removal,
- The Project Area was:
    - In a land use designation that allowed for at least one non-forest use. Non-forest uses include industrial, commercial, transportation, residential, agricultural, or resource other than forest, as well as non-forest park, recreation, or open space uses.
    - Is not in an overlay zone that prohibits all development. Examples include critical areas or wetland designations.
- The Project Area met one of the following conditions:
    - Surrounded on at least 30% of its perimeter by non-forest, developed or improved uses, or
    - Sold, conveyed, or had assessed value within three years of preservation for greater than $8,000 average price per acre for the bare land, or
    - Would have a fair market value after conversion to a non-forested "highest and best use" greater than the fair market value after preservation in subsection 4.1, as stated in a "highest and best use" study from a state certified general real estate appraiser in good standing

**Additionality (Section 6)**

Additionality is ensured through the following:

- Prior to the start of the project, the trees in the project area are not protected via easement or recorded encumbrance or in a protected zoning status that preserves the trees.
- The zoning in the project area must currently allow for a non-forest use
- The trees in the project area face a threat or risk of removal or conversion out of forest

- The Project Operator records in the public land records an easement, covenant, or deed restriction specifically protecting the trees for the project duration of 40 years or 100 years (40 or 100 years depending on the protocol version)

**Quantification for Credits (Section 11)**

The full Protocol describes the following steps for carbon stock and soil carbon quantification in detail:

1. Stored carbon stock present in Project Area (Section 11.1)
   Estimate the biomass stock present and adjust for uncertainty to calculate the "Accounting Stock". This can be done using the US Forest Service General Technical Report NE-343 tables, on-site inventory of some live trees with i-Tree methods and tools, or an on-site forest inventory

2. Areas expected to remain in trees after potential development (Section 11.2)
   Calculate the fraction of the Accounting Stock that likely would be emitted as a result of development, to calculate "Avoided Biomass Emissions"

3. Claiming additional credit for growth (Section 11.3)
   The Project Operator may elect to also account for ongoing growth of trees within the Project Area after Project Commencement

4. Quantification of soil carbon (Section 11.4)
   Calculate "Avoided Soil Carbon Emissions" caused by conversion of soils to impervious surfaces in the Project Area

5. Deduction for displaced development (Section 11.5)
   Apply the deductions in Section 11.5 and Appendix B to Biomass and Soil Carbon calculations to adjust for development and emissions that would be displaced by the preservation of the Project Area (leakage deductions). This will reduce the creditable tonnes of Avoided Biomass Emissions and Avoided Soil Carbon Emissions to adjust for displaced development

6. Quantify Co-Benefits (Section 11.6)
   The Project Operator will calculate co-benefits separately from $CO_2$(e). The Registry will supply a spreadsheet template based on their climate zone, and will provide values for rainfall interception, reductions of air compounds, and energy savings.

**Social Impacts (Section 12)**

The Project Operator will describe how the Project impacts contribute towards achievement of the global UN Sustainable Development Goals (SDGs). The Registry will supply a template to evaluate how the Project aligns with the SDGs.

**Attestation of No Net Harm and No Double Counting (Section 5)**

The Project Operator will sign an attestation that no project shall cause net harm and no project shall seek credits on trees, properties, or projects that have already received credits.

**Validation and Verification by Third-Party Verifiers (Section 13 and 14)**

Project compliance and quantification must be verified by a third-party Validation and Verification Body approved by the Registry.

**Issuance of Credits to Project Operator (Section 7)**
Ex-post credits are issued after the biomass is protected via a recorded encumbrance protecting the trees. Issuance is phased or staged over one and five years at the equivalent of 50 aces of crediting per year. This staged issuance reflects the likely staging of development over time if the project area were to have been developed.

After validation and verification, the Registry issues credits to the Project Operator based on the Project Area size:

- 50 acres or less: all credits are issued after validation and verification
- Greater than 50 but less than 200 acres: credits are issued in the equivalent of 50 acres per year
- Greater than 200 acres: credits are issued in equal amounts over five years

**Credits for Reversal Pool Account (Section 7.3):**
The Registry will issue 90% of Project credits earned and requested and will hold 10% in the Registry's Reversal Pool Account.

**Understand Reversals (Section 9)**
If the Project Area loses credited carbon stock, the Project Operator must return or compensate for those credits if the tree loss is due to intentional acts or gross negligence of Project Operator. If tree loss is due to fire, pests, or other acts of god (i.e., not due to the Project Operator's intentional acts or gross negligence), the Registry covers the reversed credits from its Reversal Pool Account of credits held back from all projects.

**Monitoring and Reporting (Section 8)**
The Project Operator must submit a report every three years for the project duration. The reports must be accompanied by some form of telemetry or imaging that captures tree canopy, such as Google Earth, aerial imagery, or LiDAR. The reports must estimate any loss of stored carbon stock or soil disturbance in the Project Area.

# PROJECT OVERVIEW

**Project Name**: Anneewakee Forest Preserve
**Project Number:** Project Registry Number "038"
**Project Type:** Preservation Project (under the Tree Preservation Protocol – version 11.40, dated February 7, 2022)
**Project Start Date:** December 8, 2022
**Project Location:** Douglas County, Georgia

**Project Operator Name:** The Georgia-Alabama Land Trust, Inc.
**Project Operator Contact Information:** Katherine Eddins, Executive Director
katherine@galandtrust.org
404-861-8567 (cell)
256-447-1006 (office)

**Project Description:**
*Describe overall project goals as summarized in application (2 paragraphs)*

The Georgia-Alabama Land Trust Anneewakee Forest Preserve is 185 acres in the Atlanta metropolitan area. The goal is to have a mature hardwood forest for wildlife habitat and passive recreation in the greater Atlanta area. The forest is primarily a mature oak/hickory forest with mesic hardwood forest including maple, elm, and beech. The Property contains ¼ mile of Anneewakee Creek, including frontage on both sides. The Property is zoned for low density residential (suburban living-experiencing high volume of residential growth).

The Preserve is approximately 18 miles from downtown Atlanta. The Property will provide passive walking trails for the public. The Property is in a heavily populated area and provides scenic beauty and access to nature for the surrounding community and beyond. It is being considered as part of a master trail plan for Douglas County. There are many neighborhoods and urban areas within easy driving distance of the property, including easy access for under-resourced communities. The Property is less than one mile from Chattahoochee River. Anneewakee Creek is a direct tributary to the River. The Chattahoochee River is the drinking water source for Atlanta. The Property will provide relief from the heat island effect of urban development and will help to provide watershed function, slowing down the flow of water.

# LOCATION OF PROJECT AREA (Section 1.3 and 1.4)

**Project Area Location**
*Describe where the Project Area is located and how it meets the location criteria.*

The Project Area is located towards the eastern end of Douglas County, Georgia, approximately 18 miles from downtown Atlanta. The Project Area falls within the boundary of the Atlanta Urban Area according to the U.S. Census Bureau Urban Area designation map.

**Project Area Parcels**
*List of parcel(s) in the Project Area.*

| Jurisdiction / Location | Parcel Number | Description / Notes |
|---|---|---|
| Douglas County, Georgia | 0097-015-007 | This parcel makes up the entirety of the Project Area – 185 acres |

**Project Area Maps**
*Provide maps of the Project Area with geospatial location vector data in 1) pdf form and 2) any file type that can be imported and read by Google Earth Pro (example KML, KMZ, or Shapefile format). Maps should include relevant urban or town boundaries, legend, and defined Project Area.*

Geospatial location (boundaries) of Project Area
*Attachment A: Anneewakee Forest Preserve Project Boundary (KMZ)*

Regional-scale map of Project Area
*Attachment B: Anneewakee Forest Preserve Regional Map*

Detailed map of Project Area
*Attachment C: Anneewakee Forest Preserve Project Area Map*

## OWNERSHIP OR ELIGIBILITY TO RECEIVE POTENTIAL CREDITS (Section 1.5)

*Project Operator must demonstrate ownership of potential credits or eligibility to receive potential credits. If the Project Operator is not the same as the landowner of the Project Area, provide agreement(s) between Project Operator and landowner authorizing Project Operator to execute this project.*

**Name of landowner of Project Area and explanation:**
The Georgia-Alabama Land Trust, Inc. acquired the property that makes up the project area on October 4, 2022.

*Attachment D: Anneewakee Forest Preserve Recorded Warranty Deed*

## PRESERVATION COMMITMENT (Section 4.1)

The Preservation Commitment is in the form of a "Declaration of Restrictive Covenant," (the "Declaration") and has been recorded in the records of the Superior Court of Douglas County. The

Declaration prohibits the removal of trees, except as expressly provided therein and otherwise consistent with the Protocol, for a period of no more than forty (40) years.

**Preservation Term (years applicable):** The trees in the Project Area will be contractually protected from removal for least 40 years by The Georgia-Alabama Land Trust, Inc. (GALT) GALT intends to protect the trees in perpetuity.

**Preservation Commitment explanation:** The Preservation Commitment is in the form of a "Declaration of Restrictive Covenant," (the "Declaration"). The Declaration prohibits the removal of trees, except as expressly provided therein and otherwise consistent with the Protocol, for a period of forty (40) years. Limited exceptions are provided for trail/recreational uses that do not affect carbon stock. See copy of attached Declaration for specific terms.

**Date signed and date recorded:** signed December 8, 2022; recorded December 8, 2022

*Attachment* E: Anneewakee Forest Preserve Preservation Commitment

## DEMONSTRATION OF THREAT OF LOSS (Section 4.2, 4.3, and 4.4)

*Describe the Project Area land use designation that allows for at least one non-forest use. Describe any overlay zones such as critical areas and their protection buffers, legal encumbrances, and any other pre-existing tree/forest restrictions that may have hindered removal of the Project Trees (in the pre-Preservation Commitment condition). Provide supporting evidence.*

**Land use designation(s):** The entirety of the Project Area is zoned as Residential-Low Density (R-LD).

*Attachment F: Anneewakee Forest Preserve Douglas County Zoning Map,*
*Attachment G: Anneewakee Forest Preserve Douglas County Sec. 4.05 R - LD Low Density Single - Family Residential District*

**Overlay zones or other restrictions:** According to the USFWS National Wetland Inventory, there is less than 2 acres of forested/shrub wetland on the far northwest corner as well as Anneewakee Creek itself which is not included in the overall Project Area.

Anneewakee Forest Preserve is located in the Douglas County Environmental Overlay District.

*Attachment G: Anneewakee Forest Preserve Douglas County Sec. 4.05 R - LD Low Density Single - Family Residential District*
*Attachment H: Anneewakee Forest Preserve USFWS National Wetlands Inventory Map*

**Threat of loss (Section 4.4 A, B, or C):**
*Describe which of the three conditions the Project Area meets and provide supporting evidence such as maps, sale or assessed value documentation, or appraisal information.*

Prior to this project, trees were not preserved from removal through a recorded encumbrance or other prohibitions on their removal. The Project Area is in a land use designation (Residential – Low Density)

that allows for at least one non-forest use. There is roughly 1.94 acres that fall within an overlay zone (USFWS National Wetland Designation, see Attachment F) and is not included in the Project Area, but no other prohibitions or restrictions exist. Over 30% of the perimeter of the Project site is surrounded by developed use.

In 2005, approximately 105 acres of the Project Area (nearly all of the land south of Anneewakee Creek) was proposed for development as part of Phase II of Wilde Oak at Oak Hill subdivision. The preliminary plat for this subdivision, included in Exhibit J of this package, proposed the creation of 66 residential lots.

*Attachment I: Anneewakee Forest Preserve Adjacent Land Use Threat of Loss*
*Attachment J: Wilde Oak Phase II Preliminary Plat*

## ATTESTATION OF NO DOUBLE COUNTING OF CREDITS AND NO NET HARM (Section 5)

*Complete and attach the following attestation: Attestation of No Double Counting of Credits and Attestation of No Net Harm. Provide any additional notes as relevant.*

This parcel has never received carbon credits, and the project will produce significant net benefits, both environmental and social. GALT The Georgia-Alabama Land Trust, Inc. signed the Attestation of No Double Counting of Credits and No Net Harm.

*Attachment K: Anneewakee Forest Preserve Preservation Attestation of No Double Counting No Net Harm*

## ADDITIONALITY (Section 6)

*Additionality is demonstrated by carbon projects in several ways, as described in the City Forest Credits Standard Section 4.9.1 and Tree Preservation Protocol.*

Project Operator demonstrates that additionality was met through the following:

- Prior to this project, the trees in the project area were not protected via easement or recorded encumbrance or in a protected zoning status that preserves the trees
    - See Demonstration of Threat of Loss section above
- The zoning in the project area must currently allow for a non-forest use
    - See Demonstration of Threat of Loss section above
- The trees in the project area face some threat risk of removal or conversion out of forest
    - See Demonstration of Threat of Loss section above
- The Project Operator records in the public land records an easement, covenant, or deed restriction specifically protecting the trees for the project duration of 40 years or 100 years (40 or 100 years depending on the protocol version)
    - See Preservation Commitment section above

Taken together, the above elements allow crediting only for unprotected trees, at risk of removal, which are then protected by a project action of preservation, providing additional avoided GHG emissions.

Additionality is also embedded in the quantification methodology. Projects cannot receive credits for trees that would have remained had development occurred, nor can they receive soil carbon credits for soil that would have been undisturbed had development occurred. Leakage is prevented by a deduction for displaced development in Protocol section 11.5.

Project Operator has signed an Attestation of Additionality.

*Attachment* L: *Anneewakee Forest Preserve Preservation Attestation of Additionality*

## CARBON QUANTIFICATION DOCUMENTATION (Section 11)

*Follow detailed instructions in the Protocol for conducting quantification and use the Carbon Quantification Calculator to show calculations. Ensure that your requested credit issuance schedule (issuance dates) is accurate and complete in the calculator. Project Operators should describe and appropriately reflect in their carbon quantification any and all planned future activities that may affect the percent canopy or carbon stocking in any way.*

**Summary numbers from Carbon Quantification Calculator**

| | |
|---|---|
| Project Area (acres) | **185** |
| Does carbon quantification use stratification (yes or no) | **No** |
| Percent tree canopy cover within Project Area | **100%** |
| Project stock ($tCO_2e$) | **46,941** |
| Accounting Stock ($tCO_2e$) | **37,553** |
| On-site avoided biomass emissions ($tCO_2e$) | **33,797** |
| On-site avoided soil carbon emissions ($tCO_2e$) | **11,100** |
| Deduction for displaced biomass emissions ($tCO_2e$) | **6,185** |
| Deduction for displaced soil emissions ($tCO_2e$) | **3,363** |
| Credits from avoided biomass emissions ($tCO_2e$) | **27,612** |
| Credits from avoided soil emissions ($tCO_2e$) | **7,737** |
| Total credits from avoided biomass and soil emissions ($tCO_2e$) | **35,349** |
| Credits attributed to the project ($tCO_2e$), excluding future growth | **35,349** |
| Contribution to Registry Reversal Pool Account | **3,535** |
| **Total credits to be issued to the Project Operator ($tCO_2e$)** *(excluding future growth)* | **31,814** |

**GHG Assertion:**
Project Operator asserts that the Project results in GHG emissions mitigation of 31,814 tons $CO_2e$ that could be issued to the project if validated and verified.

**Approach to quantifying carbon**

*Describe general approach you used to quantify carbon (e.g. US Forest Service General Technical Report NE-343 Tables, inventory, other). Provide documentation.*

GALT conducted an on-site forest composition study (see below and Attachment Q) and then followed the 11.1.A. methodology using the afforestation table B44 Oak Hickory from the US Forest Service General Technical Report NE-343 document.

*Attachment M: Anneewakee Forest Preserve Carbon Quantification Calculator*

**Accounting Stock Measurement Method (11.1)**
*Describe quantification, including which method used to assess canopy cover (e.g. i-Tree, inventory, other), forest type, and data sources.*

The Accounting Stock was estimated according to 11.1.A, using USFS GTR NE-343 for the Southeast, oak-hickory stands (B44). Assessment of forest composition was completed by the Georgia-Alabama Land Trust staff to confirm forest types. Canopy cover was confirmed using the i-Tree Canopy tool. Because this estimate is from the GTR table, the standard 20% deduction was made to calculate the Accounting Stock from the GTR non-soil carbon estimates.

**Stratification**
*If stratification is used, maps of strata and stratum definitions. If not used, list not applicable.*

Not applicable, stratification was not used for carbon quantification.

**Stand Maps**
*Describe the methods used to determine forest stands (e.g. GIS) and documentation.*

Forest stands were determined by an on the ground assessment from Georgia-Alabama Land Trust staff. The structure and composition of the preserve during this on the ground assessment was further supported by the publicly available GAP/LANDFIRE National Terrestrial Ecosystems dataset.

*Attachment N: Anneewakee Forest Preserve Stand Delineation Map*
*Attachment O: Anneewakee Forest Preserve GAP LANDFIRE Map*

**Forest Age**
*Provide historical imagery or other materials to support forest age documentation. Describe the method(s) used:*

No evidence of significant timber harvests, such as remnant stumps, were observed during the site inspection, and a review of historical imagery dating back to 1938 (Exhibit A) does not indicate any significant harvests during this period (though portions of the preserve appear as if they may be in an early successional stage at the time of the 1938 aerial photos). The largest diameter trees were most prevalent in the draws and drainages, with the largest oak, beech and maple trees measuring over 35 inches. The oak-hickory forests in this region were heavily logged in the early part of the 20th century and this was likely the case over most of the uplands within the preserve, as this is consistent with the aerial imagery and what was observed in the field.

*Attachment P*: Anneewakee Forest Preserve Historical Aerial Imagery

**Forest Composition**
*Describe forest composition and explanation of method(s) used.*

The Anneewakee Forest Preserve is comprised entirely of natural uneven aged hardwood forest. The vast majority of the preserve, and the entirety of the project boundary, is best described as an early climax oak hickory forest, with a balanced stem composition consisting of seedlings, saplings, small, medium and large trees. Species composition within the site is almost exclusively shade tolerant hardwoods, though some mature loblolly pines are scattered throughout in relatively small numbers, particularly along the rocky slopes near Anneewakee Creek. In general, the Preserve is largely uniform, with no sections being especially distinct from the rest in terms of composition and/or density outside of the riparian areas. No significant component of invasive species was observed on site and the forest appears to be in overall good ecological health.

White oaks (post oak, chestnut oak, chinkapin oak) and red oaks (northern red oak, scarlet oak, black oak) are the most common species found throughout the uplands of the preserve, making up greater than 80% of the overstory tree composition, while mockernut and pignut hickories are also abundant. Although generally categorized by the same oak-hickory composition, the moister soils along the site's draws, drainages and slopes support a higher percentage of mesic species, with American beech being particularly abundant in these areas as well as maple and white ash. Loblolly pine and Eastern red cedar are scattered in limited numbers throughout the preserve. The south-southwest facing slopes on the north side of Anneewakee Creek, which are rockier and typically receive more direct sunlight than the rest of the site, contain a greater proportion of loblolly pine, though coniferous trees are estimated to make up less than one percent of the total species composition on the preserve.

*Attachment* Q: Anneewakee Forest Preserve Forest Composition Report

**Canopy Cover**
*Provide i-Tree Canopy report that shows estimated percentage of tree cover. Explanation of method(s) used:*

Based the i-Tree Canopy Tool, which used 117 randomly selected plot points, the total canopy cover of the Project Area is 100%. The entirety of the Project Area is under forested cover (Anneewakee Creek is not included in the Project Area)

*Attachment R: Anneewakee Forest Preserve i-Tree Canopy Report*
*Attachment S: Anneewakee Forest Preserve i-Tree Canopy Raw Data*

**Area Expected to Remain in Trees after Potential Development (11.2)**
*Describe how you determined the area expected to remain in trees after potential development (fraction at risk) and explanation of method(s) used:*

Anneewakee Forest Preserve is zoned as R-LD Low Density Single-Family Residential A-1. Section 11.2 in CFC's Tree Preservation Protocol allows for 90% of the Accounting Stock on the Project Area is the "Avoided Biomass Emissions" on residential lands. The local zoning ordinance allows for 1.63 dwelling units/acre on septic and 2.29 dwelling units/acre on central sewer. Assuming the denser option and

depending on the configuration, the Project Area could accommodate roughly 423 dwelling units with the addition of infrastructure and roads.

*Attachment* G: Douglas County Sec. 4.05 R-LD Low Density Single-Family Residential District

**Quantification of Soil Carbon - Existing Impervious Area and Impervious Limits (11.4)**
*The Project may claim avoidance of emissions from soil carbon caused by conversion of soils to impervious surfaces. Describe applicable zoning and development rules, existing impervious area and maximum fraction impervious cover.*

Anneewakee Forest Preserve is zoned as R-LD and the applicable zoning and development rules do not limit impervious area. Section 11.4 in CFC's Tree Preservation Protocol allows for 50% of the Project Area in residential zoning to be eligible for conversion to impervious surface.

*Attachment* G: Anneewakee Forest Preserve Douglas County Sec. 4.05 R-LD Low Density Single-Family Residential District

**Future Planned Project Activities**
*Describe any future project activities that may affect the percent canopy or carbon stocking in any way.*

The Property's forest is in the final stage of ecological succession characterized by the presence of the climax community, the oak-hickory forest and the forest is old growth. The forest will continue to grow and maintain itself. As we steward the land, we will watch for issues that could arise such as exotic species and storm damage and address these if they occur. We do not anticipate any future project activities (e.g., hiking, bird watching) that may affect the percent of canopy or carbon stocking. The property will be managed as a preserve and activities will include low impact things, such as walking trails, kiosks and trail markers.

## CO-BENEFITS QUANTIFICATION DOCUMENTATION (Section 11.6)

*Summarize co-benefit quantification and provide supporting documentation. CFC will provide a Co-Benefits Quantification spreadsheet to Project Operators for calculating rainfall interception, reduction of certain air compounds, and energy savings.*

| ***Ecosystem Services*** | ***Resource Units*** | ***Value*** |
|---|---:|---:|
| Rainfall Interception (m3/yr) | 21,390.5 | $55,948.80 |
| Air Quality (t/yr) | 4.7948 | $11,586.65 |
| Cooling – Electricity (kWh/yr) | 221,815 | $16,835.77 |
| Heating – Natural Gas (kBtu/yr) | 116,557 | $1,211.08 |
| **Grand Total ($/yr)** | | **$85,582.28** |

*Attachment* T: Anneewakee Forest Preserve CoBenefit Calculator

## SOCIAL IMPACTS (Section 12)

*Project Operators shall use the Carbon Project Social Impact template to evaluate the UN Sustainable Development Goals (SDGs) to determine how a Project provides social impacts that contribute towards achievement of the global goals. CFC will provide the template. Summarize the three to five main SDGs from this Project.*

Located in the Piedmont ecoregion of Georgia, the Project Area contains Georgia State Wildlife Action Plan (GSWAP)-designated high priority habitats, including Oak Hickory Pine Forest and Mesic Hardwood Forest. Promulgated by the Georgia Department of Natural Resources (GA DNR) and other conservation partners including the U.S. Fish and Wildlife Service, GSWAP was developed to "conserve Georgia's animals, plants, and natural habitats through proactive measures." To accomplish this goal, GSWAP identifies certain high priority habitats for targeted protection within significant ecoregions. The GSWAP-designated high priority Oak Hickory Pine Forest and Mesic Hardwood Forest provide habitat for a variety of native plants and animals, including those of conservation concern (Baltimore checkerspot, Chattahoochee crayfish and patch-nosed salamander). Bird species afforded habitat include Kirtlands warbler, Bald Eagle, Swainson's warbler, tufted titmouse, red-bellied woodpecker, red-shouldered hawk and scarlet tanager.

The Georgia-Alabama Land Trust Anneewakee Forest Preserve is less than one mile from Chattahoochee River. The Property contains approximately ¼ mile of Anneewakee Creek, a direct tributary to the River. The Preserve's water source and forest provides bank stabilization, shade and habitat for aquatic and wildlife species. The Property will help ameliorate against nearby impermeable surfaces and will provide relief from the heat island effect of urban development. It will help to provide watershed function, slowing down the flow of water.

The Preserve is approximately 18 miles from downtown Atlanta. The Property will provide passive walking trails for the public. The Property is in a heavily populated area and provides scenic beauty and access to nature for the surrounding community and beyond. It is being considered as part of a master trail plan for Douglas County. There are many neighborhoods and urban areas within easy driving distance of the property, including easy access for under-resourced communities. The Property is less than one mile from Chattahoochee River. Anneewakee Creek is a direct tributary to the River. The Chattahoochee River is the drinking water source for Atlanta. The Property will provide relief from the heat island effect of urban development and will help to provide watershed function, slowing down the flow of water.

*Attachment U*: Anneewakee Creek Forest Preserve Carbon Project Social Impacts

## MONITORING AND REPORTING (Section 8)

*Throughout the Project Duration, the Project Operator must report on tree conditions across the Project Area. Monitoring reports are due every three years determined by the date of the verification report. For example, if the verification report is dated January 1, 2021, the first report will be due by January 1, 2024 and every three years thereafter for the duration of the project.*

The Georgia-Alabama Land Trust is a Land Trust Alliance accredited Land Trust with a portfolio of over 1,200 protected properties covering more than 430,000 acres in the southeast. The Land Trust maintains a full-time, dedicated stewardship staff tasked with the perpetual monitoring of these protected lands. Multiple staff members from the Land Trust will visit the Preserve no less than annually to inspect the property in its entirety to ensure that all terms of the Declaration of Restrictive Covenant and other encumbrances are being upheld. The Land Trust will submit internal monitoring reports on an annual basis as well as every three years in accordance with all CFC monitoring and reporting protocols.

## PROJECT OPERATOR SIGNATURE

Signed on February 22 in 2022, by Katherine Eddins, for Georgia-Alabama Land Trust, Inc.

Katherine Eddins (Feb 27, 2023 14:44 CST)
Signature

Katherine Eddins
Printed Name

(404) 861-8567
Phone

katherine@galandtrust.org
Email

# ATTACHMENTS

*List the number and name of attachments*

A: Anneewakee Forest Preserve Boundary
B: Anneewakee Forest Preserve Regional Map
C: Anneewakee Forest Preserve Project Area Map
D: Anneewakee Forest Preserve Recorded Warranty Deed
E: Anneewakee Forest Preserve Preservation Commitment
G: Anneewakee Forest Preserve Douglas County Sec. 4.05 R-LD Low Density Single-Family Residential District
H: Anneewakee Forest Preserve USFWS National Wetland Inventory Map
I: Anneewakee Forest Preserve Adjacent Land Use Threat of Loss
J: Wilde Oak Phase II Preliminary Plat and Subdivision Waiver
K: Anneewakee Forest Preserve Attestation of No Double Counting No Net Harm
L: Anneewakee Forest Preserve Attestation of Additionality
M: Anneewakee Forest Preserve Carbon Quantification Calculator
N: Anneewakee Forest Preserve Stand Delineation Map
O: Anneewakee Forest Preserve GAP LANDFIRE Map
P: Anneewakee Forest Preserve Historical Aerial Imagery
Q: Anneewakee Forest Preserve Forest Composition Report
R: Anneewakee Forest Preserve i-Tree Canopy Report
S: Anneewakee Forest Preserve i-Tree Canopy Raw Data
T: Anneewakee Forest Preserve CoBenefit Calculator
*U*: Anneewakee Creek Forest Preserve Carbon Project Social Impacts

# Annewakee Forest Preserve CFC Preservation Project Design Document

Final Audit Report 2023-02-27

| | |
|---|---|
| Created: | 2023-02-24 |
| By: | Hal Robinson (hrobinson@galandtrust.org) |
| Status: | Signed |
| Transaction ID: | CBJCHBCAABAAvJIuleJXL3fLDWC926xOPITP2tbLjgVY |

## "Annewakee Forest Preserve CFC Preservation Project Design Document" History

Document created by Hal Robinson (hrobinson@galandtrust.org)
2023-02-24 - 9:40:28 AM GMT- IP address: 45.18.67.9

Document emailed to Katherine Eddins (katherine@galandtrust.org) for signature
2023-02-24 - 9:41:05 AM GMT

Email viewed by Katherine Eddins (katherine@galandtrust.org)
2023-02-27 - 8:43:48 PM GMT- IP address: 107.77.234.135

Document e-signed by Katherine Eddins (katherine@galandtrust.org)
Signature Date: 2023-02-27 - 8:44:05 PM GMT - Time Source: server- IP address: 107.77.234.135

Agreement completed.
2023-02-27 - 8:44:05 PM GMT

Adobe Acrobat Sign

## Attachments

Deed

Project Area Map

Regional Area Map

Preservation Commitment

Zoning Maps

Zoning Description(s)

Threat of Loss Demonstration

Attestation of No Double Counting and No Net Harm

Attestation of Additionality

Carbon Quantification Tool

iTree Canopy Report

Forest Composition Report and Site Photos

Historical Photos

Cobenefit Calculator

Social Impacts

# Deed

Type: WD
Recorded: 10/6/2022 9:51:00 AM
Fee Amt: $25.00 Page 1 of 4
Transfer Tax: $0.00
Douglas County Georgia
ANNETTA D STEMBRIDGE Clerk Superior

Participant ID: 8275172789

BK 4187 PG 55 - 58

TPIN: 0097-015-007

STATE OF GEORGIA
COUNTY OF DOUGLAS

Prepared by and return to:

Stacy W. Hanley
Lefkoff, Duncan, Grimes, McSwain Hass & Hanley, P.C.
3715 Northside Parkway, Building 300, Suite 600
Atlanta, Georgia 30327

# LIMITED WARRANTY DEED

THIS INDENTURE, made this 4th day of October, 2022 between KAY SPRUELL HUDSON, AS TRUSTEE OF THE HUDSON FAMILY CHARITABLE REMAINDER TRUST ("Grantor"), and THE GEORGIA-ALABAMA LAND TRUST, INC. a Georgia nonprofit corporation ("Grantee") (the terms Grantor and Grantee to include their respective successors and assigns where the context hereof requires or permits).

WITNESSETH:

That Grantor, for and in consideration of the sum of TEN AND NO/100 DOLLARS ($10.00), and other valuable consideration, in hand paid at the delivery of these presents, the receipt of which is hereby acknowledged by Grantor, has granted, bargained, sold and conveyed, and by these presents does hereby grant, bargain, sell and convey unto Grantee, the real property and improvements thereon located in Land Lots 97 and 98 of the 1st District and 5th Section of Douglas County, Georgia, more particularly described in **Exhibit "A"** attached hereto and hereby made a part hereof.

TO HAVE AND TO HOLD the said tract or parcel of land, with all and singular the rights, members and appurtenances thereof, to the same being, belonging, or in anywise appertaining, to the only proper use, benefit and behoof of Grantee, in FEE SIMPLE.

AND, SUBJECT TO the title matters expressly set forth on **Exhibit "B"**attached hereto and hereby made a part hereof. Grantor will warrant and forever defend the right and title to the above-described property unto Grantee against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, Grantor has signed and sealed this Deed the day and year first above written.

Signed, sealed and delivered
in the presence of:

Unofficial Witness

Kay Spruell Hudson, as Trustee (SEAL)
KAY SPRUELL HUDSON, AS TRUSTEE OF
THE HUDSON FAMILY CHARITABLE
REMAINDER TRUST

Hayley Nunn
Notary Public
[SEAL]

HAYLEY NUNN
Notary Public, Cobb County, Georgia
My Commission Expires Mar 19, 2023

## EXHIBIT "A"

ALL THAT TRACT or parcel of land lying and being in Land Lots 97 and 98 of the 1st District, 5th Section, Douglas County, Georgia and being more particularly described as follows:

BEGINNING at stone corner found at the southwesterly corner of Land Lot 98, which is the common corner of Land Lots 91, 92, 97 and 98, said District and Section; proceeding thence North 3°36'53" East and along the westerly land lot line of Land Lot 98 and the easterly land lot line of Land Lot 91 a distance of 1,650.0 feet to a point; proceeding thence South 84°40'54" East a distance of 1,320.0 feet to a point; proceeding thence North 4°49'15" East a distance of 1,289.66 feet to a point located on the north land lot line of Land Lot 98 which is also the south land lot line of Land Lot 99; proceeding thence South 85°18'38" East and along the northerly land lot line of Land Lot 98 a distance of 1,650.0 to a ½ inch iron rebar found at the northeast corner of Land Lot 98, the same being the common corner of Land Lots 98, 99, 115 and 116; proceeding thence South 4°16'53" West along the east land lot line of Land Lot 98 a distance of 1,275.75 feet to a point; proceeding thence North 85°43'07" West a distance of 200.00 feet to a point; proceeding thence South 43°09'32" West a distance of 1,120.36 feet to a point; proceeding thence South 2°41'47" West a distance of 3,347.82 feet through Land Lot 98 and into Land Lot 97 to a point located on the northwesterly edge of the right-of-way of State Route 166; proceeding thence South 65°09'37" West and along the northwesterly edge of the right-of-way of State Route 166 a distance of 686.80 feet; proceeding thence North 24°50'23" West along the edge of the right-of-way of State Route 166 a distance of 35.0 feet to a point; proceeding thence South 65°09'37" West along the edge of the right-of-way of State Route 166 a distance of 256.53 feet to a point; proceeding thence North 35°51'23" West along the right of way of Oak Hill Road a distance of 100.0 feet to a right-of-way monument; proceeding thence North 65°12'58" West along the right of way of Oak Hill Road a distance of 47.60 feet to a point; proceeding thence North 5°27'44" East a distance of 749.03 feet to a ½ inch rebar found; proceeding thence North 6°17'23" East a distance of 226.95 feet to a ½ inch rebar found; proceeding thence North 6°05'36" East a distance of 324.77 feet to a ½ inch iron rebar found; proceeding thence North 6°05'00" East a distance of 1,663.31 feet to a ½ inch iron rebar found at the north land lot line of Land Lot 97 which is also the southern land lot line of Land Lot 98; proceeding thence North 87°21'14" West along the south land lot line of Land Lot 98 a distance of 1,288.41 feet to a stone found at the POINT OF BEGINNING; said parcel identified as Tract One and containing 189.99 acres on plat of survey prepared for Anneewakee Properties, Inc., a limited partnership, by Armstrong Land Surveying, Inc. dated February 12, 1998, revised July 10, 1998, which said plat is incorporated herein by reference thereto.

## EXHIBIT B
### Permitted Title Exceptions

1. All taxes for the year 2022 and subsequent years, not yet due and payable, and any additional taxes for the current year or any prior years resulting from a reassessment, amendment, or re-billing of city or county taxes subsequent to date hereof.

2. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting title that would be disclosed by an accurate and complete land survey of the Land.

3. Matters shown on that plat map recorded in plat book 4, page 257, Douglas County, Georgia land records.

4. Right of Way Easement from J.W. Tumlin to Southern National Gas Company datd December 8, 1941 and recorded 12-11-1941 in Deed Book 25, Page 15, Douglas County, Georgia land records.

5. Easement for Construction and Permanent Location of Sewer Line to Douglasville-Douglas County Water and Sewer Authority dated December 7, 1999 and recorded 1-19-2000 in Deed Book 1305, Page 817, Douglas County, Georgia land records.

6. Property conveyed to the State Highway Department of Georgia on the Right of Way Deed dated January 13, 1953 and recorded in Deed Book 25, Page 15, Douglas County, Georgia land records,

7. Property conveyed to the State Highway Department of Georgia on the Right of Way Deed dated November 21, 1956 and recorded in deed book 28, Page 576, Douglas County, Georgia land records.

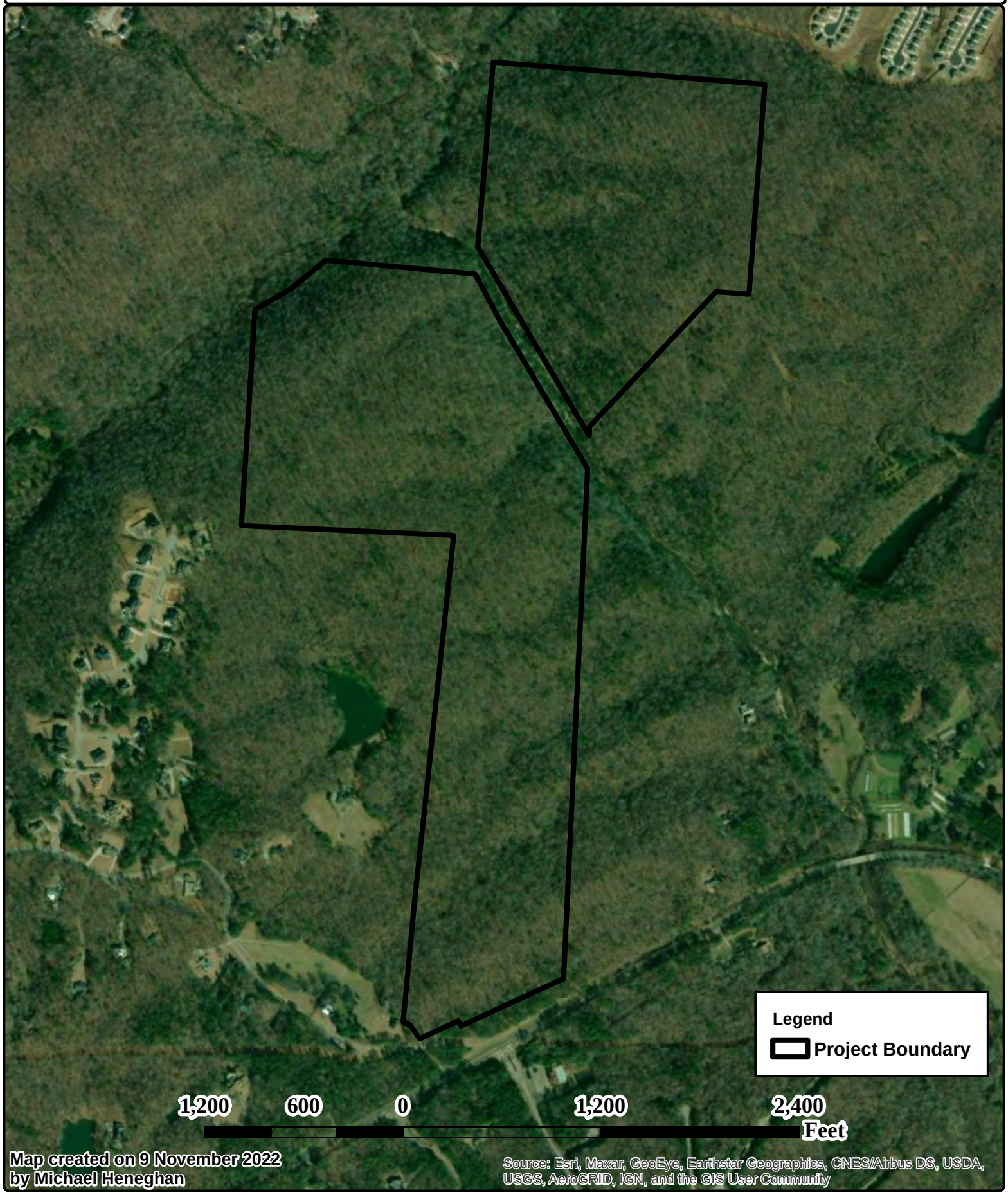
8. Property conveyed to Douglas County on the Right of Way Deed date omitted and recorded 8-20-1986 in Deed Book 525, page 34, Douglas County, Georgia land records.

9. Current Use Assessment of Bona Fide Agricultural Property dated May 9, 2018 and recorded 5-31-2018 in Deed Book 3597, Page 356, Douglas County, Georgia land records.

# Project Area Map

# *Anneewakee Forest Preserve*
# *Project Area Map*

Douglas County, Georgia



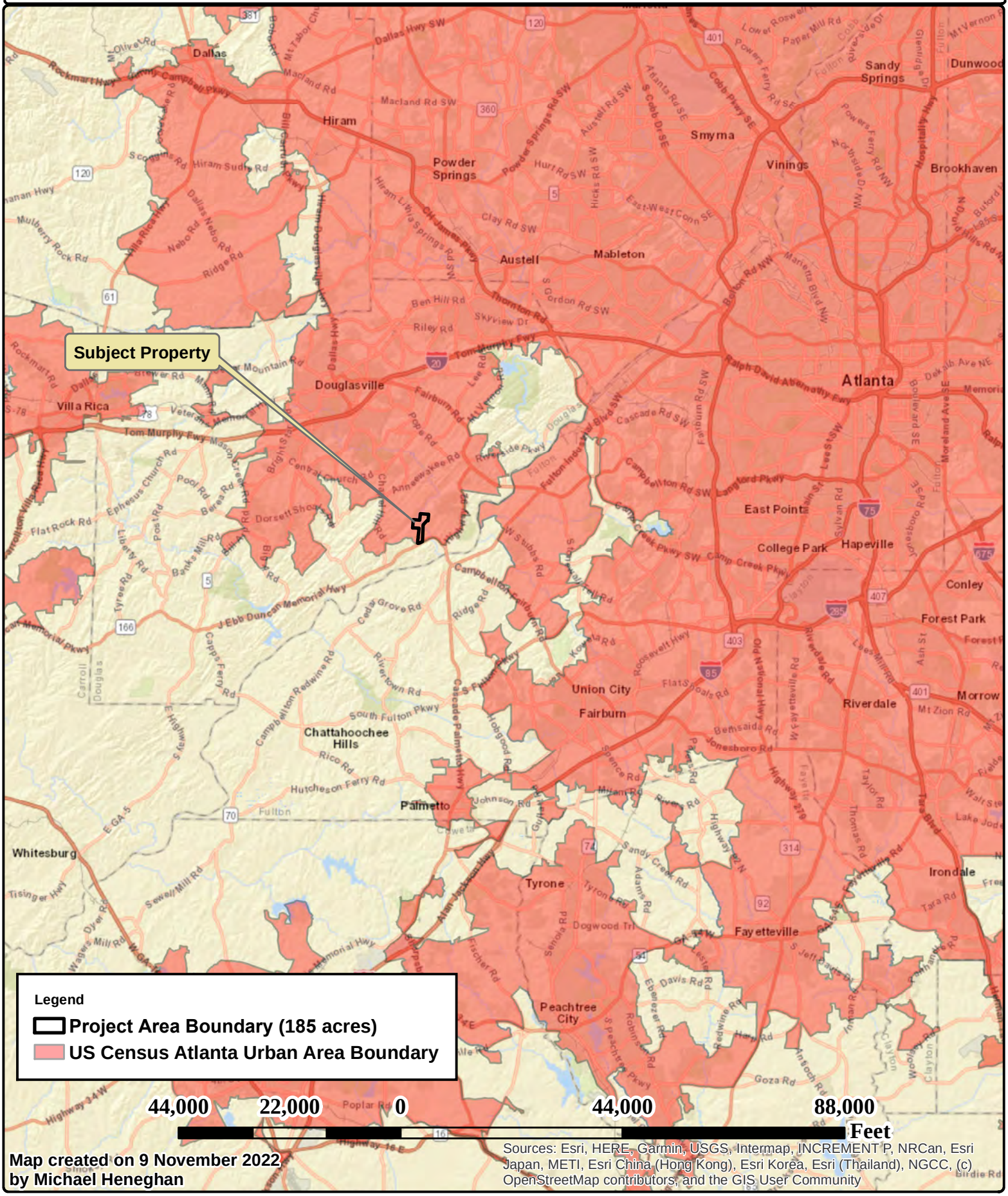

Map created on 9 November 2022
by Michael Heneghan

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

# Regional Area Map

# *Anneewakee Forest Preserve*
# *US Census Urban Area*

Douglas County, Georgia




Map created on 9 November 2022
by Michael Heneghan

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

## Preservation Commitment

Type: COVE
Recorded: 12/8/2022 4:35:00 PM
Fee Amt: $25.00 Page 1 of 3
Douglas County Georgia
ANNETTA D STEMBRIDGE Clerk Superior

Participant ID: 2465743782

BK 4203 PG 717 - 719

**CROSS REFERENCE TO:**

**Deed Book 4187, Page 55.**
**Douglas County, Georgia Records.**

**THIS INSTRUMENT PREPARED BY AND TO BE RETURNED TO:**

**Georgia-Alabama Land Trust, Inc.**
**226 Old Ladiga Road**
**Piedmont, Alabama 36272**

---

**STATE OF SOUTH CAROLINA**
**COUNTY OF RICHLAND**

## DECLARATION OF RESTRICTIVE COVENANTS

THIS DECLARATION OF RESTRICTIVE COVENANTS (the "DECLARATION") is made this 5th day of December, 2022, by the **GEORGIA-ALABAMA LAND TRUST, INC.**, a Georgia non-profit corporation, its successors and assigns, having an address at 226 Old Ladiga Road, Piedmont, Alabama 36272 ("Declarant").

## W I T N E S S E T H:

WHEREAS, Declarant is the sole owner of certain real property in **Douglas County**, Georgia more particularly described in **Exhibit "A"** attached hereto and incorporated herein by this reference, consisting of **189.99 acres,** more or less (the "Property"); and

WHEREAS, Declarant is a 501(c)(3) nonprofit organization engaging in activities as a land trust and enriching lives through land protection;

WHEREAS, Declarant recognizes the value of the Property's mature forest as a climate asset. The trees on the Property store $CO_2$, reduce storm water runoff, improve air quality, provide energy savings due to cooling and heating effects, and improve human health by providing cleaner air and a place for recreation, exercise, and public health benefits of exposure to nature. Clearing of the trees for other uses, such as development, construction, commercial forestry and agriculture, or other uses that would seriously impair the climate value of the Property.

WHEREAS, Declarant has entered into a Project Implementation Agreement with City Forest Credits to implement a forest carbon project pursuant to City Forest Credits' Tree Preservation Protocol, whereby forested stands of preserved trees earn carbon credits. City Forest Credits is a nonprofit carbon registry, which developed the carbon protocols and issues credits for qualifying tree-preservation and tree-planting projects in urban areas.

WHEREAS, Declarant, pursuant its Agreement with City Forest Credit and consistent with said registry's carbon protocols to issue any associated credits, Declarant must preserve the trees on the Property for a period of time no less than forty (40) years.

WHEREAS, Declarant intends by this Declaration to preserve the trees on the Property for a period of no less than forty (40) years. It understands that this Declaration will, for the period of time provided for herein, bar the clearing or removing of trees for development, commercial forest products, agriculture, or any reason other than forest health, hazard, disease, fire, public recreational trails (primarily for non-motorized use) and nominal clearing for recreational/gathering structures (*i.e.*, benches, primitive safety shelters) as permitted by the Protocol.

WHEREAS, O.C.G.A §44-5-60 provides for covenants running with land and that such covenants may restrict lands to certain uses as set forth in a declaration. Declarant makes the following Declaration pursuant to this authority and shall renew the Declaration as may be required during the requisite forty (40)-year preservation period.

## DECLARATION

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Declarant, as owner of the Property, hereby declares, grants, imposes, conveys, establishes, and accepts the following development restrictions and covenants which shall run with the land and be binding upon all owners of the Property as provided for within O.C.G.A. §44-5-60:

1. Removal of Trees. Declarant shall not cut down, destroy, or remove trees located on the Property, except as necessary to control or prevent hazard, disease, or fire or to improve forest health. Recreational non-motor-use trails have negligible or de minimis impacts on biomass and carbon stock and are permissible.

## GENERAL PROVISIONS

2. Run with land. The covenants and restrictions declared, granted, conveyed and established under this Declaration shall run with the land and inure to the benefit of, and be binding upon, Declarant and its successors and assigns, as well as all future owners of the Property, during the term of this Declaration as provided for herein.

3. Term and modification. The covenants and restrictions declared, granted, conveyed and established under this Declaration shall remain in effect as long as it is needed to satisfy the requirements of any applicable carbon protocol under which carbon credits may be issued for the carbon preserved in the trees on the Property. However, this Declaration shall not extend beyond a period of forty (40) years and Declarant may take action such that the Declaration terminates after the carbon protocol has been satisfied and the associated time period has elapsed.

4. Governing law and venue. The terms and provisions of this Declaration shall be governed, construed, and enforced in accordance with the laws of the State of Georgia. Venue for any lawsuit arising out of this Declaration shall be in Douglas County, Georgia.

5. Severability. In case any one or more of the provisions contained in this Declaration shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provisions of this Declaration, but this Declaration shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.

Executed this 8 day of December, 2022.

DECLARANT:

**GEORGIA-ALABAMA LAND TRUST, INC.**
**a Georgia nonprofit corporation**

GEORGIA-ALABAMA LAND TRUST, INC. CORPORATE SEAL 1995 GEORGIA

By: _____ Date: 12/8/22
Hal Robinson
Its: Staff Attorney / Director of Legal Affairs

Signed, sealed, and delivered
in the presence of:
Rukiyo Wylie 12/8/22
Witness Date

_____ 12/8/22
Notary Public Date

STATE OF SC
COUNTY OF Richland
My Commission Expires: 09-10-2031

(NOTARY SEAL)

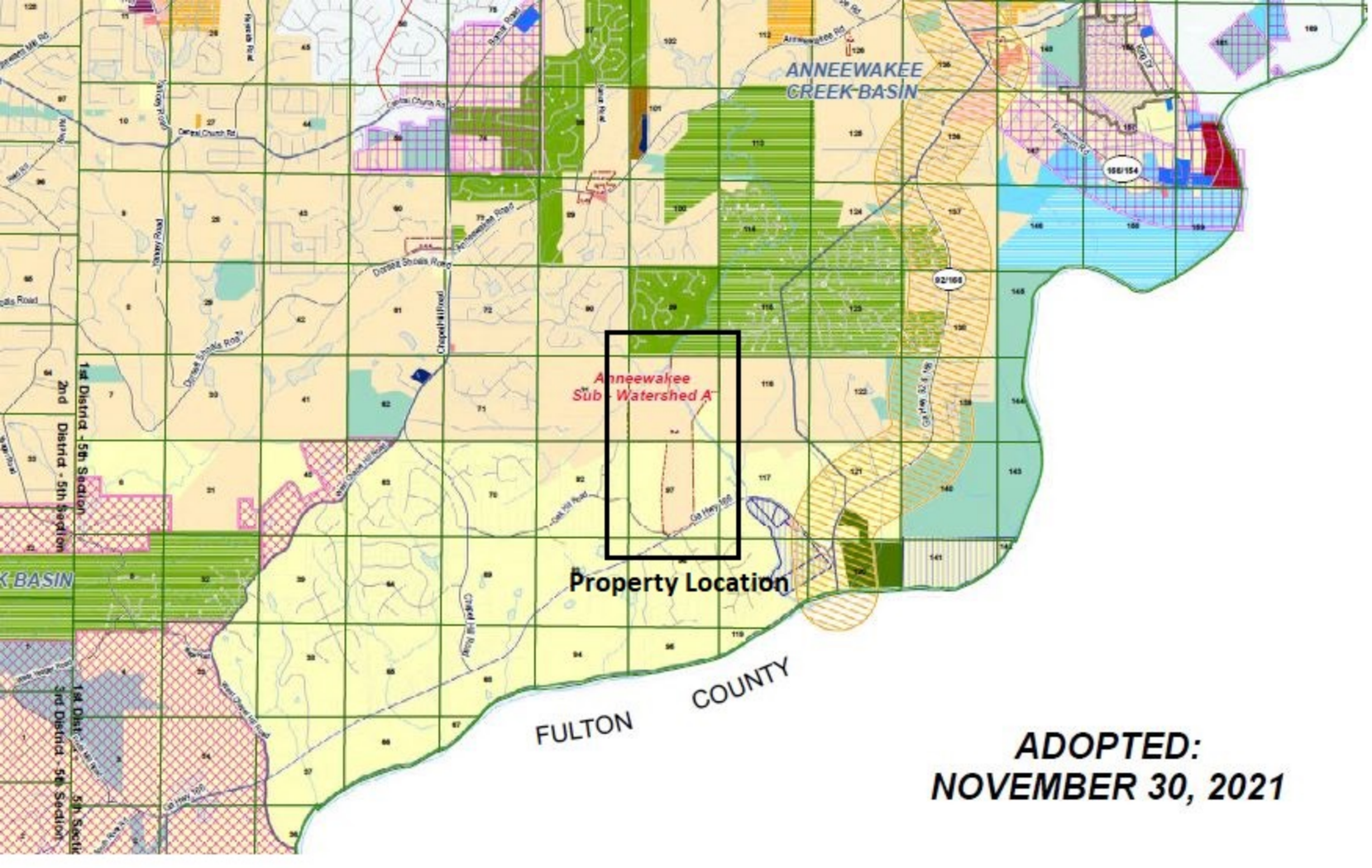
CHRISTIAN PRICE NOTARY PUBLIC EXP. 09/10/2031 SOUTH CAROLINA

## EXHIBIT "A"

ALL THAT TRACT or parcel of land lying and being in Land Lots 97 and 98 of the 1st District, 5th Section, Douglas County, Georgia and being more particularly described as follows:

BEGINNING at stone corner found at the southwesterly corner of Land Lot 98, which is the common corner of Land Lots 91, 92, 97 and 98, said District and Section; proceeding thence North 3°36'53" East and along the westerly land lot line of Land Lot 98 and the easterly land lot line of Land Lot 91 a distance of 1,650.0 feet to a point; proceeding thence South 84°40'54" East a distance of 1,320.0 feet to a point; proceeding thence North 4°49'15" East a distance of 1,289.66 feet to a point located on the north land lot line of Land Lot 98 which is also the south land lot line of Land Lot 99; proceeding thence South 85°18'38" East and along the northerly land lot line of Land Lot 98 a distance of 1,650.0 to a ½ inch iron rebar found at the northeast corner of Land Lot 98, the same being the common corner of Land Lots 98, 99, 115 and 116; proceeding thence South 4°16'53" West along the east land lot line of Land Lot 98 a distance of 1,275.75 feet to a point; proceeding thence North 85°43'07" West a distance of 200.00 feet to a point; proceeding thence South 43°09'32" West a distance of 1,120.36 feet to a point; proceeding thence South 2°41'47" West a distance of 3,347.82 feet through Land Lot 98 and into Land Lot 97 to a point located on the northwesterly edge of the right-of-way of State Route 166; proceeding thence South 65°09'37" West and along the northwesterly edge of the right-of-way of State Route 166 a distance of 686.80 feet; proceeding thence North 24°50'23" West along the edge of the right-of-way of State Route 166 a distance of 35.0 feet to a point; proceeding thence South 65°09'37" West along the edge of the right-of-way of State Route 166 a distance of 256.53 feet to a point; proceeding thence North 35°51'23" West along the right of way of Oak Hill Road a distance of 100.0 feet to a right-of-way monument; proceeding thence North 65°12'58" West along the right of way of Oak Hill Road a distance of 47.60 feet to a point; proceeding thence North 5°27'44" East a distance of 749.03 feet to a ½ inch rebar found; proceeding thence North 6°17'23" East a distance of 226.95 feet to a ½ inch rebar found; proceeding thence North 6°05'36" East a distance of 324.77 feet to a ½ inch iron rebar found; proceeding thence North 6°05'00" East a distance of 1,663.31 feet to a ½ inch iron rebar found at the north land lot line of Land Lot 97 which is also the southern land lot line of Land Lot 98; proceeding thence North 87°21'14" West along the south land lot line of Land Lot 98 a distance of 1,288.41 feet to a stone found at the POINT OF BEGINNING; said parcel identified as Tract One and containing 189.99 acres on plat of survey prepared for Anneewakee Properties, Inc., a limited partnership, by Armstrong Land Surveying, Inc. dated February 12, 1998, revised July 10, 1998, which said plat is incorporated herein by reference thereto.

# Zoning Maps




**ADOPTED:**
**NOVEMBER 30, 2021**

## Zoning

- AG (Agriculture)
- C-G (General Commercial)
- C-G-C (General Commercial - Conditions)
- C-H (Heavy Commercial)
- C-H-C (Heavy Commercial - Conditions)
- City
- HI (Heavy Industrial)
- HI-C
- LI (Light Industrial)
- LI-C (Light Industrial - Conditions)
- LI-R (Restricted Light Industrial)
- LI-R-C (Restricted Light Industrial - Conditions)
- OI (Office/Institutional)
- PRD (Planned Residential District)
- PRD-C
- PSP (Public Semi-Public)
- PUD (Planned Unit Development)
- PUD-C (Planned Unit Development - Condtitions)
- R-A (Residential-Agriculture)
- (Residential-Agriculture - Conditions)
- R-HD (Residential-High Density)
- R-HD-C (Residential-High Density - Conditions)
- R-LD (Low Density Single-Family Residential)
- Split Zoned

## Zoning Description(s)

## Sec. 4.05 R-LD Low Density Single-Family Residential District.

### A. Purpose

The R-LD Single-Family Residential District is established to protect and promote a suitable environment for family life, to discourage any use which would generate other than normal residential area traffic on minor streets and to protect the orderly future development of land in accordance with comprehensive development plans for the county.

### B. Lot Development Standards

**Table 4.05-1**

| | |
|---|---|
| **Lot Dimensions** | |
| Minimum Lot Area | 33,000 sq. ft. on septic; 15,000 sq. ft. on central sewer |
| Minimum Lot Width | 80 feet on central sewer; 100 feet on septic |
| Minimum Lot Frontage | 50' is the standard, 25' is permissible for lots over 5 acres either by direct access to a right-of-way or as a recorded easement connecting the lot to a public right-of-way<br>35' if fronting on a cul-de-sac |
| Maximum Density | 1.63 dwelling units/acre on septic; 2.29 du/acre on central sewer |
| **Minimum Setbacks** | |
| ***Principal Building*** | |
| Front | 100' from Major Thoroughfare; 35 from Minor Street' |
| Side | 15' |
| Rear | 30' |
| ***Accessory Building*** | |
| From Principal Structure | |
| Front | Not-Permitted unless 100' from the street right-of-way |
| Side | 5' if less than 200 sf |
| Rear | Same as principal if greater than 200 sf |
| **Maximum Height** | |
| Principal | 35' |
| Accessory | 12' |
| **Minimum Floor Area** | |
| Single Family Detached | 1,800 sf |
| | |
| **Maximum Lot Coverage** | 40% |
| **Maximum Building Separation** | |
| | |
| **Maximum Impervious Surface Coverage** | Within the Dog River Primary Basin 18%, and Dog River Secondary Basin 25%, within the Bear Creek Basin 25%, within all other Basins no restrictions |
| | |

**C. Supplemental Regulations**

3. Principle and Accessory use regulations shall be as established in Article 2, Use of Land and Structures and Article 3, Restrictions on Particular Uses.
4. *Traffic Study Required*. A traffic study shall be required by the developer to determine the impact of the proposed development on the existing roadway system if the number of dwelling units exceeds 50 dwelling units (See Article 15 Traffic Study definition for required components).

**D. Cross References for Article 3**

The references below are to sections of this Code that contain dimensional requirements specific to this zoning district.

1. Cross reference Article 3, Section 302 for separation between agricultural and residential uses
2. Cross reference Article 3, Section 313 for Standards for Accessory Buildings, Uses and Structures
3. Cross reference Article 3, Section 319 for Animals
4. Cross reference Article 3, Section 335 for Horse and Ride Stables

**E. Cross References for Article 4, Division V**

The references below are to sections of the code that contain design requirements that apply to this zoning district.

1. Cross reference Article 4, Division V, Section 4.28 for Minimum Lot Frontage requirements in general; Section 4.28(b) for Minimum Lot Frontage for large lots; Section 4.28(c) for Exceptions to minimum lot frontage requirements; and Section 4.28(d) for Street Frontage requirements.
2. Cross reference Article 4, Division V, Section 4.29 (a-d) for Residential Density and Lot Area requirements.
3. Cross reference Article 4, Division V, Section 4.31 (a-b) for Minimum Lot Size requirements for properties with septic tanks.
4. Cross reference Article 4, Division V, Section 4.32 (a-b) for Minimum Lot Width requirements.
5. Cross reference Article 4, Division V, Section 4.33 (a-b) for Minimum setback requirements for principle buildings.
6. Cross reference Article 4, Division V, Section 4.34 for Minimum setback requirements for accessory buildings.
7. Cross reference Article 4, Division V, Section 4.35 (a-b) for Minimum Floor Area per dwelling unit requirements.
8. Cross reference Article 4, Division V, Section 4.36 (a-b) for Maximum Building and Structure Height requirements.
9. Cross reference Article 4, Division V, Section 4.37 (a-e) for Solar Energy Equipment requirements.
10. Cross reference the Douglas County Standard Design Details Supplemental Appendix for additional information on lot design in the Residential Low Density (R-LD) District.

| | |
|---|---|
| **Topic:** | Overlay District |
| **Resource Type:** | Regulations |
| **State:** | Georgia |
| **Jurisdiction Type:** | Municipal |
| **Municipality:** | County of Douglas |
| **Year** *(adopted, written, etc.)*: | 2002 |
| **Community Type – applicable to:** | Urban; Suburban; Rural |
| **Title:** | County of Douglas Environmental Overlay District Ordinance |
| **Document Last Updated in Database:** | April 18, 2017 |

## *Abstract*

The ordinance establishes environmental overlay districts in order to protect the groundwater and wetlands of the community. Activities having the potential to impact the groundwater or wetlands are regulated, including the lot size for new homes which will require a septic tank or septic field, chemical or petroleum storage tanks, and any development within 100 feet of a wetlands area. The districts are marked on the town's Zoning maps.

## *Resource*

Sec. 70.140. Environmental overlay districts.

1. Authority: The Official State of Georgia Department of Natural Resources Rules for Environmental Planning Criteria (chapter 391-3-16), established pursuant to O.C.G.A. section 12-2-8, the Metropolitan River Protection Act (O.C.G.A. sections 12-5-440 through 12-5-457), and other relevant rules and statutes.

2. Definitions: These definitions are also contained at section 30.020 of the zoning ordinance.

Aquifer: Any stratum or zone of rock beneath the surface of the earth capable of containing or producing water from a well.

Base zone: The primary zoning designation of a property that confers restrictions on buildings and land uses. All property in Douglas County has one base zone (such as R-1 single-family residential or C-3 general commercial), but properties may be further regulated by one or more overlay zoning districts.

Creek: (See "stream").

Free-flowing creek, stream, or river: (See "stream, regulated").

Impervious surface: Man-made structures, improvements and surfaces that prevent or significantly limit the infiltration of stormwater. Examples of impervious structures and improvements are: buildings, structures, roads, driveways, parking lots, decks, swimming pools, patios, and sidewalks. Examples of impervious materials often used to construct such improvements are asphalt, concrete, gravel, brick, stone, wood, asphalt shingles, metal, and composite materials.

Overlay zone: A zoning district which may be placed on property in addition to its base zoning. Property may be regulated by a single or by multiple overlay zones.

Recharge area: Any portion of the earth's surface, where water infiltrates into the ground to replenish an aquifer.

Regulated stream: (see "stream, regulated").

River: A natural, free-flowing watercourse that is typically of greater volume than a stream or creek.

Significant recharge area: Those areas mapped by the Georgia Department of Natural Resources in Hydrologic Atlas 18 (1989 edition).

Stream: A natural, free-flowing watercourse with either constant or intermittent flow of moderate volume typically less than that of a river.

Stream, regulated: A natural, free-flowing watercourse that meets certain criteria as established within the Watershed Protection District regulations. Such streams are subject to the requirements of the Watershed Protection District Regulations:

Stream buffer: A strip of natural indigenous vegetation (of width determined by the Watershed Protection regulations) adjacent and parallel to the bank of a regulated stream designed to preserve and improve the quality of water within the regulated stream and its watershed.

Watershed: The total area of land that is drained by a river or stream and its tributaries.

Wetlands: Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. The ecological parameters for designating wetlands include hydric soils, hydrophytic vegetation, and hydrological conditions that involve a temporary or permanent source of water to cause soil saturation.

Wetlands, jurisdictional: An area that meets the definitional requirements for wetlands as determined by the U.S. Army Corps of Engineers.

3. Characteristics of environmental overlay districts: These districts shall overlay the base zoning of properties so that all land within the various environmental overlay districts shall also have a base zoning classification. Each parcel within these overlay districts shall be subject to the regulations of both the base zoning district and the overlay district(s) within which it lies. If there is a conflict or redundancy between the regulations and standards of the base zone and the overlay zone, the more restrictive regulation shall govern.

4. Districts:

a. Groundwater recharge area protection district (GW). The GW district is established to protect the quality of groundwater by regulating land uses within significant groundwater recharge areas. This is necessary to protect the public health, safety, and welfare, particularly those persons and communities who rely on groundwater as their source of potable water supply.

The GW district is mapped on the official zoning map of Douglas County corresponding to the areas mapped as significant recharge areas by the Georgia Department of Natural Resources in Hydrologic Atlas 18, 1999 edition.

(1) No construction may proceed on a building or mobile home to be served by a septic tank unless the Douglas County Health Department first approves the proposed septic tank installations as meeting the requirements of the Georgia Department of Human Resource for On-Site Sewage Management (DHR manual), and sections (2) and (3) below.

(2) New homes served by a septic tank/drain field system shall be on lots having at least one hundred ten (110) percent of the subdivision minimum lot size calculated based on application of table MT-1 in the DHR manual. The minimums set forth in table MT-1 may be increased further based on consideration of other factors (set forth in sections A--F) of the DHR manual. However, any lot of record approved prior to the adoption of these regulations is exempt from this requirement.

(3) New mobile home parks shall be served by sanitary sewer.

(4) New agricultural waste impoundment sites shall be lined if they exceed fifty (50) acre-feet. As a minimum, the liner shall be constructed of compacted clay having a thickness of one-foot and a vertical hydraulic conductivity of less than 5 X 10-7cm/sec or other criteria established by the Natural Resource and Conservation Service.

(5) New above-ground chemical or petroleum storage tanks, having a minimum volume of six hundred sixty (660) gallons, shall have secondary containment for one hundred ten (110) percent of the volume of such tanks or one hundred ten (110) percent of

the volume of the largest tank in a cluster of tanks. Such tanks used for agricultural purposes are exempt, provided they comply with all federal requirements.

(6) New facilities that handle hazardous materials of the types listed in section 312 of the Resource Conservation and Recovery Act of 1976 (excluding underground storage tanks) and in amounts of ten thousand (10,000) pounds or more on any one (1) day, shall perform their operations on impervious surfaces and in conformance with any applicable federal spill prevention requirements and local fire code requirements.

b. Wetlands protection district (WP). The WP district is established to promote the protection of wetlands in Douglas County, which are indispensable, fragile natural resources with significant development constraints due to flooding, erosion, and soils limitations. Furthermore, they provide habitat areas for fish, wildlife, and vegetation; water quality maintenance and pollution control; flood control; erosion control; opportunities for study and education; and open space and recreational opportunities.

Wetlands are commonly lost or impaired by draining, dredging, filling, excavating, building, pollution, and other acts. Piecemeal and cumulative losses will have the effect of destroying additional wetlands over time. Damaging or destroying wetlands threatens public safety and the general welfare.

The WP district shall comprise the following two categories: all lands mapped as wetland areas by the U.S. Fish and Wildlife Service National Wetlands Inventory Maps (Generalized Wetlands Map); and all lands that, in the course of development review, are determined by Douglas County to have significant evidence of wetlands.

The Generalized Wetlands Map is hereby adopted by reference and declared to be a part of this ordinance, together with all explanatory matter thereon and attached thereto. The Generalized Wetlands Map cannot serve (and therefore should not be used) as a substitute for a delineation of jurisdictional wetland boundaries by the U.S. Army Corps of Engineers, as required by section 404 of the Clean Water Act, as amended. Any action by Douglas County under this ordinance does not relieve the landowner from federal or state permitting requirements.

(1) No activity which will, or which may reasonably be expected to, result in the discharge of dredged or fill material in waters of the U.S. (excepting those activities exempted in section 404 of the Federal Clean Water Act) will be permitted within the WP district without written permission or a permit from Douglas County. A wetlands delineation by the U.S. Army Corps of Engineers shall be required in the following circumstances:

(a) If the area proposed for development is located within one hundred (100) feet of an area delineated as wetlands by the Generalized Wetlands Map as determined by county staff;

(b) If an area within a development site is determined by county staff to have significant evidence of wetlands.

(2) If the Corps determines that wetlands are present on a proposed development site, the local permit or permission will not be granted until a section 404 permit or letter of permission is issued.

(3) Permitted uses. The following uses shall be allowed as of right within the wetlands protection district to the extent that they are not prohibited by any other ordinance or law, including laws of trespass, provided they do not require structures, grading, fill, draining, or dredging except as provided herein, and provided they have no impact on a navigable waterway that would necessitate acquisition of a section 404 permit or a permit under section 10 of the Rivers and Harbors Act.

(a) Conservation or preservation of soil, water, vegetation, fish and other wildlife, provided it does not affect waters of Georgia or of the Unites States in such a way that would require an individual 404 permit.

(b) Outdoor passive recreational activities, including fishing, bird watching, hiking, boating, horseback riding, and canoeing.

(c) Forestry practices applied in accordance with best management practices approved by the Georgia Forestry Commission and as specified in section 404 of the Clean Water Act.

(d) The cultivation of agricultural crops. Agricultural activities shall be subject to best management practices approved by the Georgia Department of Agriculture.

(e) The pasturing of livestock, provided that riparian wetlands are protected, that soil profiles are not disturbed and that approved agricultural best management practices are followed.

(f) Education, scientific research, and nature trails.

(4) Prohibited uses. The following uses are prohibited within the wetlands protection district.

(a) Receiving areas for toxic or hazardous waste or other contaminants

(b) Hazardous or sanitary waste landfills;

(c) Any other use not specifically exempted as noted above or properly approved by Douglas County and relevant state and federal agencies.

c. Watershed protection districts. In order to provide for the health, safety, welfare, and quality of life of the public within Douglas County and surrounding

communities, it is essential that the quality of public drinking water be assured. Land disturbance and development can increase erosion and sedimentation that decreases the storage capacity of reservoirs. In addition, stormwater runoff, particularly from impervious surfaces, can introduce toxins, nutrients, and sediment into drinking water supplies, making water treatment more complicated and expensive and rendering water resources unusable for recreation.

The purpose of these districts is to establish measures to protect the quality and quantity of the present and future water supply of Douglas County, as well as the City of East Point and jurisdictions downstream from Douglas County; to minimize the transport of pollutants and sediment to the water supply; and to maintain the yield of water supply watersheds.

These district regulations are designed for compliance with O.C.G.A 12-2-8 and the Official Georgia Department of Natural Resources Rules for Environmental Planning, as well as for consistency with goals 2--5 of chapter 5 of the 1994 Douglas County Comprehensive Plan.

All land within unincorporated Douglas County is regulated by one (1) of the watershed protection districts. The districts are established and designated on the official zoning map of Douglas County corresponding to the topographical features that delimit the drainage basins of the respective creeks, rivers and reservoirs.

(1) General regulations for all watershed protection districts.

(a) Regulated streams, wetlands, and required stream buffers shall not be included as minimum lot area required by the zoning ordinance. Required stream buffers (but not regulated streams or wetlands) may be included in the gross land area for purposes of calculation of the percentage of a site's impervious surface area.

(b) All property within watershed protection districts may be developed or redeveloped as permitted by its base zoning, provided the development is also in compliance with these watershed protection regulations.

(c) The following uses are exempt from watershed protection district regulations (with some limitations and conditions as noted):

(i) Development and land use legally established prior to the adoption of these regulations.

(ii) Mining activities permitted by the Department of Natural Resources under the Surface Mining Act (outside of stream buffer areas).

(iii) Specific forestry and agricultural activities (outside of stream buffer areas) that are consistent with best management practices established by the Georgia Forestry Commission/Department of Agriculture and do not impair the quality of streams.

(d) Criteria for regulated streams. All watercourses that appear as a solid or broken line on either the U.S.G.S Quadrangle Maps or the SCS Soil Survey for Douglas County, Georgia shall be regulated streams. Other natural watercourses may be classified as regulated streams if they possess one or more of the following characteristics, as determined by county staff based on data analysis and/or field review:

(i) Evidence of significant water flow along the channel or bed of the watercourse, characterized by one (1) or more of the following: hydraulically sorted sediments; scouring of vegetation and vegetative litter; and loosely rooted vegetation caused by the action of moving water.

(ii) Evidence of hydric soils, hydrophytic vegetation, or wetlands in or around the channel or bed of the watercourse.

(iii) The watercourse drains an area of twenty (20) acres or greater.

(e) Watershed protection regulations table:

TABLE INSET:

Dog River Bear Creek Anneewakee Creek (sub-watershed A) Anneewakee Creek (sub-watershed B) Sweetwater Creek Beaver Run Creek sub-watershed Gothards Creek sub-watershed Other watersheds6

Stream buffer width from bank of regulated stream1 200' 150' 100' 50' 50' 100' 50'3 25'

Minimum setback for regulated activities2 from bank of regulated stream 250' 200' 150' 75' 50' 150' 503 25'

Maximum impervious surface4 area (with sewer) 15% 20% 25% 25% N/A 25% N/A N/A

Maximum impervious surface4 area (no sewer) 10% 15% 25% 25% N/A 25% N/A N/A

Maximum residential density5 (with sewer service) 1.5 du/ac 2.5 du/ac N/A N/A N/A N/A N/A N/A

Maximum residential density5 (no sewer service) 1 du/ac 1 du/ac N/A N/A N/A N/A N/A N/A

Table footnotes:

1 See definition of "regulated stream" and regulated stream criteria in subsection (d) above.

2 Regulated activities include all impervious surfaces, septic tanks, drain fields, and animal/livestock pasturing, keeping, or grazing.

3 Measured from edge of wetlands where present.

4 See definition of "impervious surface." For most development, impervious surface calculations shall be required on a lot-by-lot basis. However, in master planned communities, the maximum percentage can be met on a project-wide basis provided that the project is planned in detail and adequate controls are established (through deed restrictions, zoning plans and conditions, or other mechanism) to ensure compliance.

5 Density calculations shall exclude lakes, regulated streams, stream buffer areas, and wetlands. Density calculations may include streets, sidewalks, development lots, utility easements, amenities, and areas provided as protected greenspace in fee or by permanent conservation easement.

6 Watersheds not classified as large or small water supply watersheds (i.e. Hurricane Creek; Chattahoochee River Direct Drainage Basin (in areas not regulated by MRPA)).

(f) Private artificial reservoirs. Reservoirs created on private property by either building a dam across or diverting flow from a regulated stream shall only be permitted with the approval of Douglas County and all relevant state and federal agencies. Information required for review shall include, but not be limited to: engineering documents showing the proposed design and materials of any dam, flume, spillway, outlet control structure, or other structure necessary to create the reservoir; details on the size, volume, and characteristics of the reservoir embayment that is proposed for creation; and a plan of management for the reservoir, showing the type and extent of vegetative buffers proposed.

In order for a private artificial reservoir to be approved, an applicant must provide the following: engineering documentation that demonstrates that the project will be adequately durable and safe; evidence that the reservoir will not diminish the flow of water to public water supply reservoirs; and environmental documentation demonstrating that the project will have a net positive impact on water quality within the regulated stream and its watershed when compared with a no-build alternative.

(g) Regulatory requirements for stream buffers. All stream buffer areas shall be maintained with appropriate indigenous plant species for the maintenance of groundcover and limitation of erosion. Undisturbed natural vegetation is the preferred, optimum state of a stream buffer. In the alternate, careful reestablishment of indigenous vegetation and ground cover is encouraged.

No construction, grading, clearing, grubbing, excavating, filling, or other land disturbing activity shall be permitted within the stream buffer. As an exception to this rule, the following limited uses may be established within the buffer provided that: land disturbance and impact in the stream buffer is minimized to the greatest extent possible; proper soil erosion and sedimentation control is established and maintained; and the disturbed area is stabilized and appropriately revegetated as soon as possible following the completion of approved work within the buffer.

(i) Sanitary sewer lines may be located along and across stream buffers, if it is determined by WSA that no reasonable design alternative exists.

(ii) Other utility lines may cross stream buffers, when it is determined by the utility provider that no reasonable design alternative exists.

(iii) Private driveways and public roads may cross stream buffers as near as possible to ninety (90) degrees when necessary and as approved by Douglas County in the subdivision or development review process.

(iv) Recreational amenities (such as trails, wildlife observation stands, and other low impact uses) when approved by Douglas County as an element of a development plan.

(v) Cutting and clearing (with hand-held tools) of live trees less than 2 inches in caliper measure at a point 4.5 feet above grade, and dead trees, provided the stumps and root structure of trees are left in place to ensure minimal soil erosion potential.

(h) Regulatory requirements for reservoir buffers.

(i) Buffers around public water supply reservoirs shall be maintained as required in the Watershed Management Plans for the respective reservoirs. In no case shall the required buffer be less than one hundred fifty (150) feet in width.

(2) Dog River watershed. This is a small water supply watershed that contains a reservoir. An intake for the Douglasville Douglas County water and sewer authority (WSA) is located on this reservoir. The watershed management plan for the Dog River reservoir drainage basin has been established by WSA to protect this water system. The following regulations are established to further protect the watershed.

(a) Stream buffer widths, setbacks from streams, impervious surface limits, and maximum residential density shall be regulated as specified in the table located in subsection (1)(e).

(b) Applications to rezone property to industrial classifications within the Dog River Watershed shall not be accepted for consideration by the staff nor be approved by the board of commissioners.

(3) Bear Creek watershed. This is a small water supply watershed that contains a reservoir. An intake for WSA is located on this reservoir. The watershed management plan for the Bear Creek reservoir drainage basin has been established by WSA to protect this water system. The following regulations are established to further protect the watershed:

(a) Stream buffer widths, setbacks from streams, impervious surface limits, and maximum residential density shall be regulated as specified in the table located in subsection (1)(e).

(b) Applications to rezone property to industrial classifications within the Bear Creek watershed shall not be accepted for consideration by the staff nor be approved by the board of commissioners.

(4) Anneewakee Creek watershed (including subwatersheds A and B). This is a small water supply watershed that does not contain a reservoir. An intake for WSA is located on this creek. The following regulations are established to protect the watershed:

(a) Stream buffer widths, setbacks from streams, impervious surface limits, and maximum residential density shall be regulated as specified in the table located in subsection (1)(e).

(b) Within subwatershed A, new facilities which handle hazardous materials of the types listed in section 312 of the Resource Conservation and Recovery Act of 1976 (excluding underground storage tanks) and amounts of ten thousand (10,000) pounds or more on any one (1) day, shall perform their operations on impervious surfaces and in conformance with any applicable federal spill prevention requirements or the requirements of the Standard Fire Prevention code.

(5) Sweetwater Creek Watershed (including Beaver Run and Gothards Creek subwatersheds). This is a large water supply watershed. An intake for the City of East Point is located on this creek. This watershed also contains the Sparks Reservoir, an embayment of Beaver Run Creek, which is owned and managed by the City of East Point. A watershed management plan has been established to protect the reservoir. The following regulations are established to further protect the watershed:

(a) Stream buffer widths and setbacks from streams shall be regulated as specified in the table located in subsection (1)(e).

(b) New facilities located within seven (7) miles of a water supply intake or reservoir, which handle hazardous materials of the types listed in section 312 of the Resource Conservation and Recovery Act of 1976 (excluding underground storage tanks) and amounts of ten thousand (10,000) pounds or more on any one (1) day, shall perform their operations on impervious surfaces and in conformance with any applicable federal spill prevention requirements or the requirements of the Standard Fire Prevention code.

(6) Other watersheds. Streams within areas of the county that are not classified as small or large water supply watersheds (such as the Chattahoochee River direct drainage basin and the Hurricane Creek watershed) are also worthy of protection for the welfare and safety of the public. The following regulations are established to protect these watersheds:

(a) Stream buffer widths shall be regulated as specified in the table located in subsection 1d.

d. Chattahoochee River protection district (CRP). All lands within 2,000 feet of the Chattahoochee River are protected by the Metropolitan River Protection Act (MRPA) as established in O.C.G.A. 12-5-440 through 12-5-457. The CRP district is depicted on the Douglas County zoning map coincident with the corridor of protection established by MRPA.

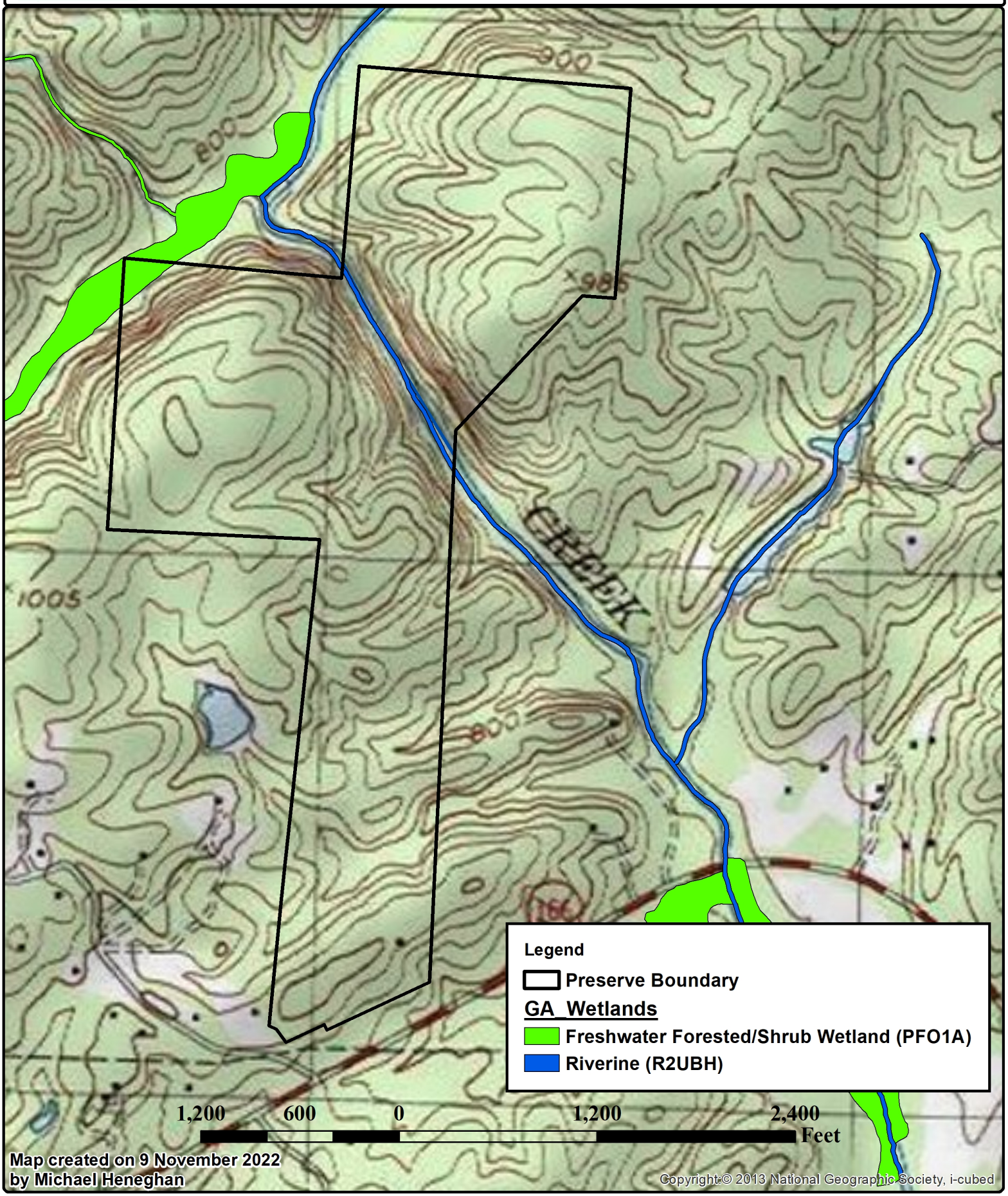
All land disturbance, land use, and development within the CRP must be reviewed by the Atlanta Regional Commission (ARC) as required by MRPA. No land use or development permit shall be approved by the county prior to the necessary review and approval by ARC pursuant to the requirements of MRPA.

(Amd. of 10-23-00)

Editor's note: An amendment of Oct. 23, 2000 replaced appendix A, section 70.140 with a new section 70.140. Former section 70.140 pertained to open space, reservoir open space, and reservoir drainage basin open space districts and derived from an Ord. of June 6, 2000.

# *Anneewakee Forest Preserve*
# *USFWS National Wetland Inventory*

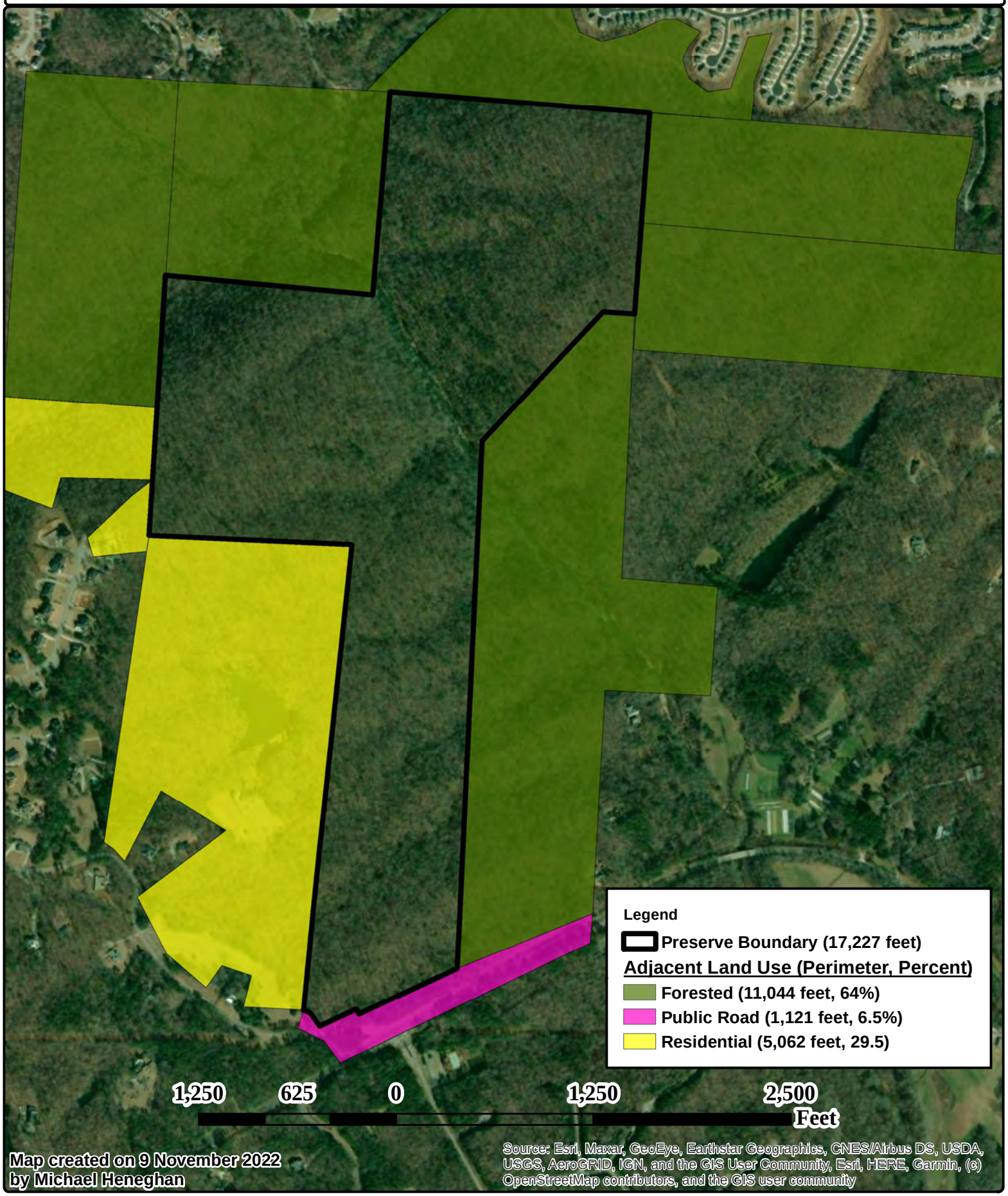
Douglas County, Georgia



## Threat of Loss Demonstration

# *Anneewakee Forest Preserve*
# *Adjacent Land Use*

Douglas County, Georgia



# Attestation of No Double Counting and No Net Harm

# Aneewakee Forest Preserve
# Attestation of No Double Counting of Credits & No Net Harm

I am the Executive Director of the Georgia-Alabama Land Trust, Inc. and make this attestation regarding the no double counting of credits and no net harm from this tree preservation project, Aneewakee Forest Preserve (Project Registry Number "038").

1. Project Description

The Project that is the subject of this attestation is described more fully in both our Application and our Project Design Document (PDD), both of which are incorporated into this attestation.

2. No Double Counting by Applying for Credits from another Registry

Georgia-Alabama Land Trust, Inc. has not and will not seek credits for $CO_2$ for the project trees or for this project from any other organization or registry issuing credits for $CO_2$ storage.

3. No Double Counting by Seeking Credits for the Same Trees or Same $CO_2$ Storage

Georgia-Alabama Land Trust, Inc. has not and will not apply for a project including the same trees as this project nor will it seek credits for $CO_2$ storage for the project trees or for this project in any other project or more than once.

4. No Net Harm

The trees preserved in this project will produce many benefits, as described in our Application and PDD. Like almost all urban trees, the project trees are preserved for the benefits they deliver to people, communities, and the environment in a metropolitan area.

The project trees will produce many benefits and will not cause net harm. Specifically, they will not:

- Displace native or indigenous populations
- Deprive any communities of food sources
- Degrade a landscape or cause environmental damage

Signed on November 15th in 2022, by Katherine Eddins, for Georgia-Alabama Land Trust, Inc.

Katherine Eddins
_____
Signature

(404) 861-8567
Phone

Katherine@galandtrust.org
Email

# 4 CFC Preservation Attestations_GALT

Final Audit Report 2022-11-15

| | |
|---|---|
| Created: | 2022-11-15 |
| By: | Hal Robinson (hrobinson@galandtrust.org) |
| Status: | Signed |
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## "4 CFC Preservation Attestations_GALT" History

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# Attestation of Additionality

# Aneewakee Forest Preserve (Project Registry Number "038")
# Attestation of Additionality

I am the Executive Director of the Georgia-Alabama Land Trust, Inc. and make this attestation regarding additionality from this tree preservation project, Aneewakee Forest Preserve (Project Registry Number "038").

- Project Description
  - The Project that is the subject of this attestation is described more fully in our Application and our Project Design Document (PDD), both of which are incorporated into this attestation.
- Prior to the start of the project, the trees in the project area were not protected via easement or recorded encumbrance or in any other protected zoning status that preserves the trees.
- The zoning in the project area currently allows for a non-forest use.
- The trees in the project area face a threat or risk of removal or conversion out of forest
- Georgia-Alabama Land Trust, Inc. recorded in the public land records an easement, covenant, or deed restriction specifically protecting the trees for the project duration of 40 years.
- Additionality is also embedded in the quantification methodology that our project followed. Projects cannot receive, and our project will not receive, credits for trees that would have remained had development occurred, nor can they receive soil carbon credits for soil that would have been undisturbed had development occurred. Our project also had to apply a discount to credited carbon for potential displaced development due to the project.
- Project Implementation Agreement for Project Duration
  - Georgia-Alabama Land Trust, Inc. signed a Project Implementation Agreement with City Forest Credits for 40 years.

Signed on December 14 in 2022, by Katherine Eddins, Executive Director, for Georgia-Alabama Land Trust, Inc.

Katherine Eddins (Dec 14, 2022 14:11 CST)
Signature

Katherine Eddins
Printed Name

(404) 861-8567
Phone

Katherine@galandtrust.org
Email

# 3 CFC Preservation Attestation of Additionality Template

Final Audit Report 2022-12-14

| | |
|---|---|
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Adobe Acrobat Sign

# Carbon Quantification Tool

# City Forest Credits - Preservation Protocol Carbon Quantification Calculator

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| | |
|---|---|
| **Project Operator** | The Georgia-Alabama Land Trust, Inc. |
| **Project Name** | Anneewakee Forest Preserve |
| **Project Location** | Douglas County, Georgia |

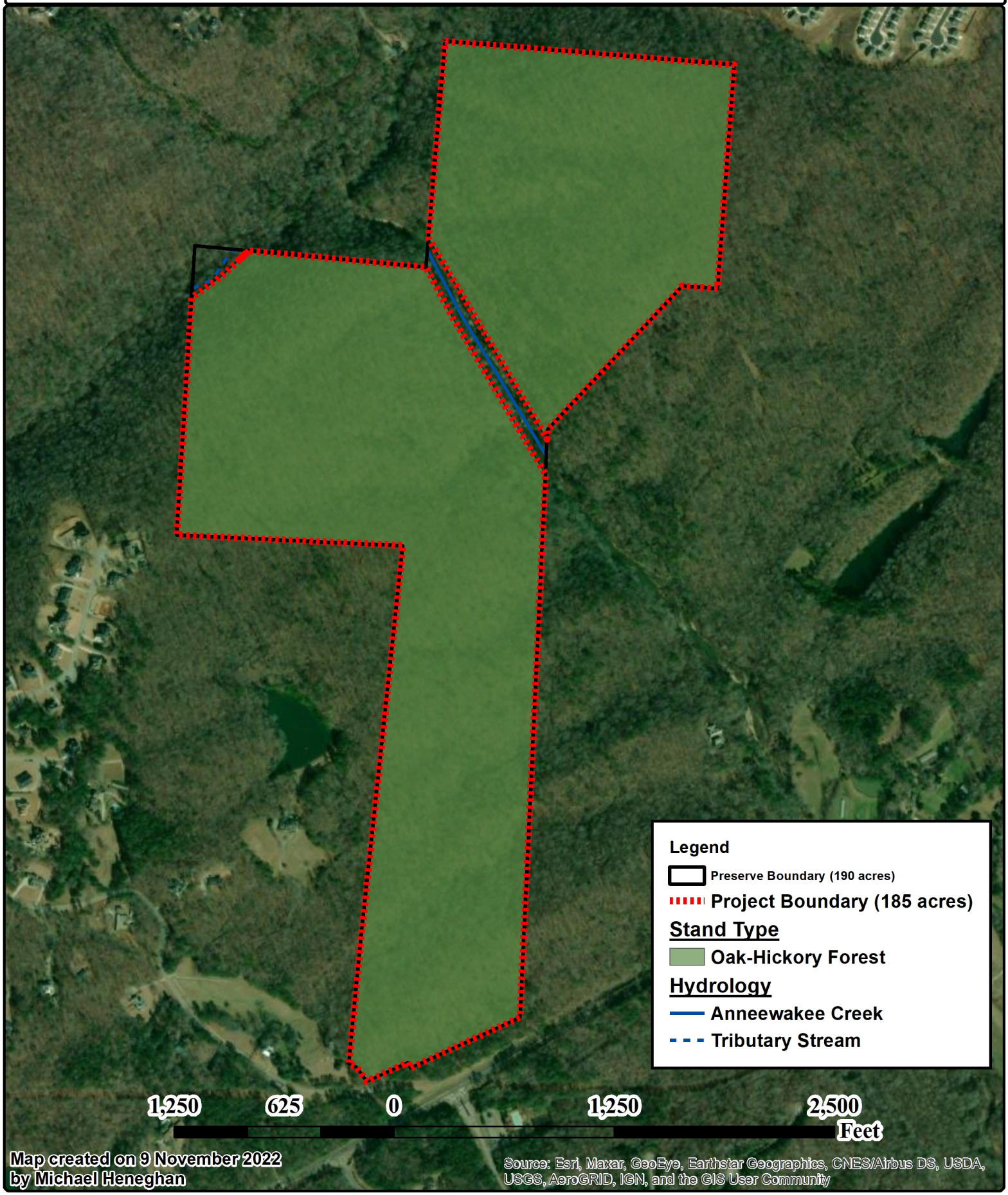
| **Carbon Quantification Summary** | | **Protocol Section** | **Supplemental Information/Notes** |
|---|---|---|---|
| 185.0 | Total Project Area Acres | | include project area for all parcels enrolled in carbon project |
| Table B44 Oak Hickory | US Forest Service General Technical Report NE-343 - Table Number | 11.1.A | based on the GTR regions map and primary forest type |
| 85 | Stand age (years) | 11.1.A | determine using aerial photos |
| 69.2 | Biomass tC/ac | 11.1.A | use appropraite GTR table and stand age, use bottom half of table, find years on the left and use 'total nonsoil' number |
| 253.7 | Biomass tCO2e/ac | 11.1.A | |
| 100% | Percent cover | 11.1.A | include i-Tree Canopy file containing coordinates of evaluated points |
| 46,941 | Project Stock, tCO2e | 11.1.A | |
| 37,553 | Accounting Stock, tCO2e | 11.1.A | |
| 90% | Fraction at risk of tree removal | 11.2 | Based on zoning - see 11.2 in preservation protocol |
| 33,797 | Avoided Biomass Emissions, tCO2e | 11.2 | |
| 50% | Avoided impervious surface, percent | 11.4 | Based on zoning - see 11.4 in preservation protocol |
| 92.5 | Avoided impervious surface, acres | 11.4 | |
| 11,100 | Avoided Soil Carbon Emissions, tCO2e | 11.4 | |
| 18.3% | Displacement | 11.5 | Fraction of avoided development that cannot be served by development or re-development of existing non-treed properties within the urban area |
| 6,185 | Displaced Biomass Emissions, tCO2e | 11.5 | |
| 3,363 | Displaced Soil Emissions | 11.5 | Assumes that redevelopment causes increase in impervious surface on reveveloped parcels |
| 27,612 | Credits from Avoided Biomass Emissions, tCO2e | | |
| 7,737 | Credits from Avoided Soil Emissions, tCO2e | | |
| 35,349 | Total Credits attributed to the project, tCO2e | | |
| 3,535 | Registry Reversal Pool Account (10%), tCO2e | | |
| **31,814** | **Total credits issued to the project, tCO2e** | | |
| **172** | **Total credits issued to the project, tCO2e/acre** | | |

| **Year** | **Credits Issued This Year** | **Cumulative Credits Issued** |
|---|---|---|
| 1 | 8598 | 8598 |
| 2 | 8598 | 17196 |
| 3 | 8598 | 25794 |
| 4 | 6020 | 31814 |
| 5 | 0 | 31814 |

GEORGIA-ALABAMA LAND TRUST

# *Anneewakee Forest Preserve*
# *Stand Delineation*

Douglas County, Georgia



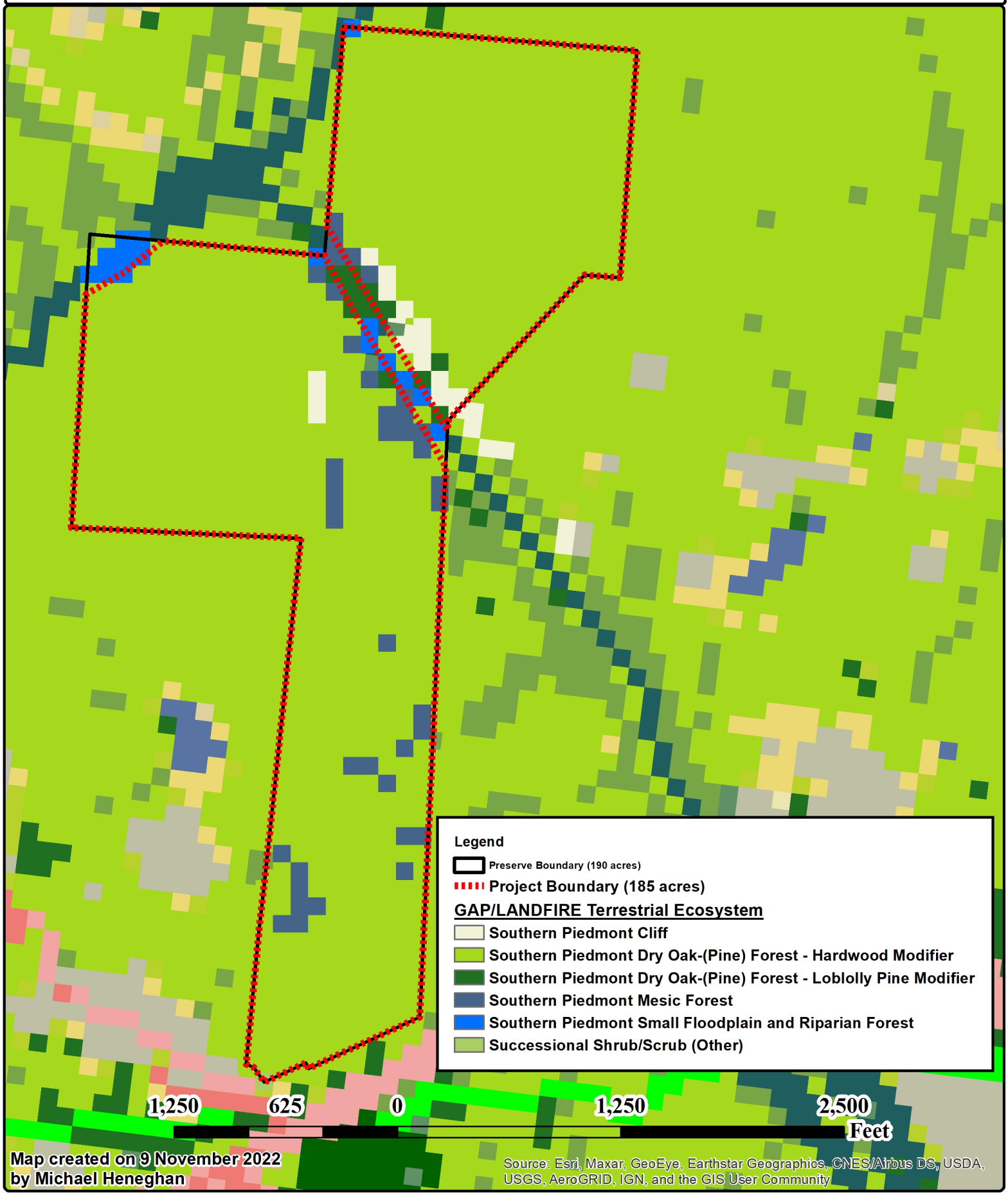

Map created on 9 November 2022
by Michael Heneghan

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

GEORGIA-ALABAMA LAND TRUST

# *Anneewakee Forest Preserve*
# *GAP/LANDFIRE Terrestrial Ecosystems*

Douglas County, Georgia




Map created on 9 November 2022
by Michael Heneghan

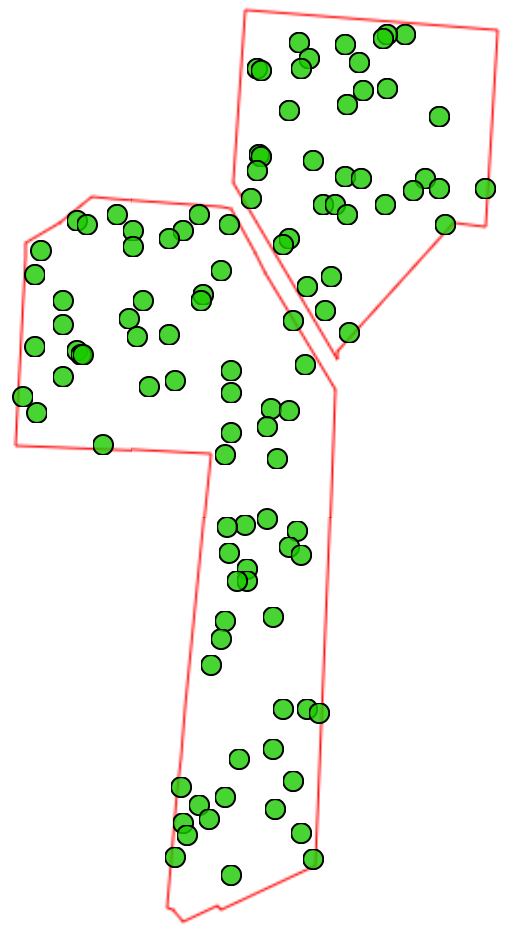
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

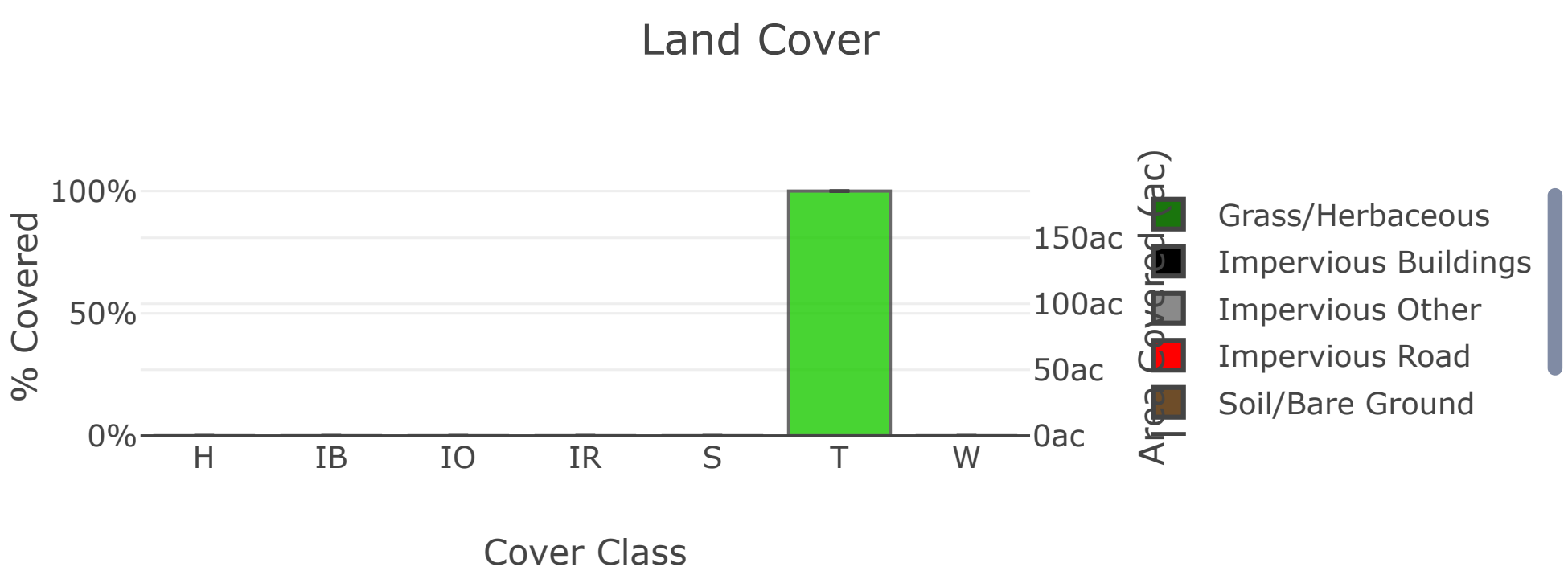
# iTree Canopy Report

# i-Tree Canopy

## Cover Assessment and Tree Benefits Report

*Estimated using random sampling statistics on 12/14/2022*





| Abbr. | Cover Class | Description | Points | % Cover ± SE | Area (ac) ± SE |
|---|---|---|---|---|---|
| H | Grass/Herbaceous | | 0 | 0.00 ± 0.00 | 0.00 ± 0.00 |
| IB | Impervious Buildings | | 0 | 0.00 ± 0.00 | 0.00 ± 0.00 |
| IO | Impervious Other | | 0 | 0.00 ± 0.00 | 0.00 ± 0.00 |
| IR | Impervious Road | | 0 | 0.00 ± 0.00 | 0.00 ± 0.00 |
| S | Soil/Bare Ground | | 0 | 0.00 ± 0.00 | 0.00 ± 0.00 |
| T | Tree/Shrub | | 108 | 100.00 ± 0.00 | 185.43 ± 0.00 |
| W | Water | | 0 | 0.00 ± 0.00 | 0.00 ± 0.00 |
| **Total** | | | **108** | **100.00** | **185.43** |

## Tree Benefit Estimates: Carbon (English units)

| Description | Carbon (T) | ±SE | $CO_2$ Equiv. (T) | ±SE | Value (USD) | ±SE |
|---|---|---|---|---|---|---|
| Sequestered annually in trees | 253.12 | ±0.00 | 928.12 | ±0.00 | $43,170 | ±0 |
| Stored in trees (Note: this benefit is not an annual rate) | 6,356.88 | ±0.00 | 23,308.58 | ±0.00 | $1,084,171 | ±0 |

Currency is in USD and rounded. Standard errors of removal and benefit amounts are based on standard errors of sampled and classified points. Amount sequestered is based on 1.365 T of Carbon, or 5.005 T of $CO_2$, per ac/yr and rounded. Amount stored is based on 34.281 T of Carbon, or 125.697 T of $CO_2$, per ac and rounded. Value (USD) is based on $170.55/T of Carbon, or $46.51/T of $CO_2$ and rounded. (English units: T = tons (2,000 pounds), ac = acres)

## Tree Benefit Estimates: Air Pollution (English units)

| Abbr. | Description | Amount (lb) | ±SE | Value (USD) | ±SE |
|---|---|---|---|---|---|
| CO | Carbon Monoxide removed annually | 209.50 | ±0.00 | $140 | ±0 |
| NO2 | Nitrogen Dioxide removed annually | 1,157.33 | ±0.00 | $253 | ±0 |
| O3 | Ozone removed annually | 8,940.04 | ±0.00 | $11,612 | ±0 |
| SO2 | Sulfur Dioxide removed annually | 568.93 | ±0.00 | $38 | ±0 |
| PM2.5 | Particulate Matter less than 2.5 microns removed annually | 456.71 | ±0.00 | $24,311 | ±0 |
| PM10* | Particulate Matter greater than 2.5 microns and less than 10 microns removed annually | 2,537.37 | ±0.00 | $7,953 | ±0 |
| **Total** | | **13,869.88** | **±0.00** | **$44,306** | **±0** |

Currency is in USD and rounded. Standard errors of removal and benefit amounts are based on standard errors of sampled and classified points. Air Pollution Estimates are based on these values in lb/ac/yr @ $/lb/yr and rounded:
CO 1.130 @ $0.67 | NO2 6.241 @ $0.22 | O3 48.211 @ $1.30 | SO2 3.068 @ $0.07 | PM2.5 2.463 @ $53.23 | PM10* 13.683 @ $3.13 (English units: lb = pounds, ac = acres)

## Tree Benefit Estimates: Hydrological (English units)

| Abbr. | Benefit | Amount (Kgal) | ±SE | Value (USD) | ±SE |
|---|---|---|---|---|---|
| AVRO | Avoided Runoff | 1.54 | ±0.00 | $14 | ±0 |
| E | Evaporation | 34.49 | ±0.00 | N/A | N/A |
| I | Interception | 34.72 | ±0.00 | N/A | N/A |
| T | Transpiration | 32.66 | ±0.00 | N/A | N/A |
| PE | Potential Evaporation | 221.83 | ±0.00 | N/A | N/A |
| PET | Potential Evapotranspiration | 182.95 | ±0.00 | N/A | N/A |

Currency is in USD and rounded. Standard errors of removal and benefit amounts are based on standard errors of sampled and classified points. Hydrological Estimates are based on these values in Kgal/ac/yr @ $/Kgal/yr and rounded:
AVRO 0.008 @ $8.94 | E 0.186 @ N/A | I 0.187 @ N/A | T 0.176 @ N/A | PE 1.196 @ N/A | PET 0.987 @ N/A (English units: Kgal = thousands of gallons, ac = acres)

**About i-Tree Canopy**

The concept and prototype of this program were developed by David J. Nowak, Jeffery T. Walton, and Eric J. Greenfield (USDA Forest Service). The current version of this program was developed and adapted to i-Tree by David Ellingsworth, Mike Binkley, and Scott Maco (The Davey Tree Expert Company)

**Limitations of i-Tree Canopy**

The accuracy of the analysis depends upon the ability of the user to correctly classify each point into its correct class. As the number of points increase, the precision of the estimate will increase as the standard error of the estimate will decrease. If too few points are classified, the standard error will be too high to have any real certainty of the estimate.

Additional support provided by:

*Use of this tool indicates acceptance of the EULA.*

| Id | Cover Clas Descriptio | Latitude | Longitude |
|---|---|---|---|
| 1 | Tree/Shrub | 33.67292 | -84.6951 |
| 2 | Tree/Shrub | 33.66897 | -84.6902 |
| 3 | Tree/Shrub | 33.67445 | -84.6928 |
| 4 | Tree/Shrub | 33.67793 | -84.689 |
| 5 | Tree/Shrub | 33.66436 | -84.6921 |
| 6 | Tree/Shrub | 33.67591 | -84.6908 |
| 7 | Tree/Shrub | 33.67533 | -84.6876 |
| 8 | Tree/Shrub | 33.67566 | -84.6909 |
| 9 | Tree/Shrub | 33.66605 | -84.6898 |
| 10 | Tree/Shrub | 33.6746 | -84.6925 |
| 11 | Tree/Shrub | 33.67554 | -84.6887 |
| 12 | Tree/Shrub | 33.66382 | -84.6924 |
| 13 | Tree/Shrub | 33.673 | -84.6901 |
| 14 | Tree/Shrub | 33.66605 | -84.6903 |
| 15 | Tree/Shrub | 33.66519 | -84.6913 |
| 16 | Tree/Shrub | 33.66386 | -84.69 |
| 17 | Tree/Shrub | 33.6738 | -84.6957 |
| 18 | Tree/Shrub | 33.67336 | -84.6934 |
| 19 | Tree/Shrub | 33.67254 | -84.6957 |
| 20 | Tree/Shrub | 33.67245 | -84.6947 |
| 21 | Tree/Shrub | 33.67684 | -84.689 |
| 22 | Tree/Shrub | 33.67748 | -84.6908 |
| 23 | Tree/Shrub | 33.66403 | -84.6925 |
| 24 | Tree/Shrub | 33.66535 | -84.6906 |
| 25 | Tree/Shrub | 33.67488 | -84.6939 |
| 26 | Tree/Shrub | 33.67182 | -84.6932 |
| 27 | Tree/Shrub | 33.66834 | -84.6911 |
| 28 | Tree/Shrub | 33.66857 | -84.6911 |
| 29 | Tree/Shrub | 33.67062 | -84.6916 |
| 30 | Tree/Shrub | 33.66341 | -84.6897 |
| 31 | Tree/Shrub | 33.67536 | -84.686 |
| 32 | Tree/Shrub | 33.67212 | -84.6915 |
| 33 | Tree/Shrub | 33.67587 | -84.6897 |
| 34 | Tree/Shrub | 33.66883 | -84.69 |
| 35 | Tree/Shrub | 33.67194 | -84.6927 |
| 36 | Tree/Shrub | 33.67273 | -84.6928 |
| 37 | Tree/Shrub | 33.67138 | -84.6902 |
| 38 | Tree/Shrub | 33.67336 | -84.6951 |
| 39 | Tree/Shrub | 33.67435 | -84.6903 |
| 40 | Tree/Shrub | 33.67795 | -84.69 |
| 41 | Tree/Shrub | 33.6775 | -84.6909 |
| 42 | Tree/Shrub | 33.67303 | -84.6937 |
| 43 | Tree/Shrub | 33.67516 | -84.691 |
| 44 | Tree/Shrub | 33.66449 | -84.6916 |
| 45 | Tree/Shrub | 33.67054 | -84.6905 |
| 46 | Tree/Shrub | 33.67666 | -84.687 |

| | | | |
|---|---|---|---|
| 47 | Tree/Shrub | 33.67078 | -84.6942 |
| 48 | Tree/Shrub | 33.67471 | -84.6915 |
| 49 | Tree/Shrub | 33.67425 | -84.6955 |
| 50 | Tree/Shrub | 33.66733 | -84.6917 |
| 51 | Tree/Shrub | 33.67506 | -84.6895 |
| 52 | Tree/Shrub | 33.66686 | -84.6919 |
| 53 | Tree/Shrub | 33.6717 | -84.6915 |
| 54 | Tree/Shrub | 33.67487 | -84.6921 |
| 55 | Tree/Shrub | 33.6747 | -84.6869 |
| 56 | Tree/Shrub | 33.67711 | -84.6886 |
| 57 | Tree/Shrub | 33.66312 | -84.6915 |
| 58 | Tree/Shrub | 33.67238 | -84.6947 |
| 59 | Tree/Shrub | 33.6775 | -84.6899 |
| 60 | Tree/Shrub | 33.6736 | -84.6898 |
| 61 | Tree/Shrub | 33.67164 | -84.6959 |
| 62 | Tree/Shrub | 33.67508 | -84.6892 |
| 63 | Tree/Shrub | 33.67537 | -84.687 |
| 64 | Tree/Shrub | 33.67761 | -84.6887 |
| 65 | Tree/Shrub | 33.67766 | -84.6898 |
| 66 | Tree/Shrub | 33.66409 | -84.6919 |
| 67 | Tree/Shrub | 33.67556 | -84.689 |
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| 75 | Tree/Shrub | 33.67143 | -84.6906 |
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| 78 | Tree/Shrub | 33.67221 | -84.6899 |
| 79 | Tree/Shrub | 33.66466 | -84.6925 |
| 80 | Tree/Shrub | 33.67279 | -84.6889 |
| 81 | Tree/Shrub | 33.67135 | -84.6956 |
| 82 | Tree/Shrub | 33.66478 | -84.6901 |
| 83 | Tree/Shrub | 33.66427 | -84.6905 |
| 84 | Tree/Shrub | 33.67712 | -84.6881 |
| 85 | Tree/Shrub | 33.67318 | -84.6894 |
| 86 | Tree/Shrub | 33.6746 | -84.6936 |
| 87 | Tree/Shrub | 33.66946 | -84.6907 |
| 88 | Tree/Shrub | 33.66926 | -84.6901 |
| 89 | Tree/Shrub | 33.67471 | -84.6946 |
| 90 | Tree/Shrub | 33.66835 | -84.6913 |
| 91 | Tree/Shrub | 33.671 | -84.6914 |
| 92 | Tree/Shrub | 33.66886 | -84.6915 |
| 93 | Tree/Shrub | 33.67477 | -84.6948 |

| | | | |
|---|---|---|---|
| 94 | Tree/Shrub | 33.6781 | -84.6881 |
| 95 | Tree/Shrub | 33.67674 | -84.6902 |
| 96 | Tree/Shrub | 33.67347 | -84.6921 |
| 97 | Tree/Shrub | 33.66764 | -84.6916 |
| 98 | Tree/Shrub | 33.67241 | -84.6946 |
| 99 | Tree/Shrub | 33.67198 | -84.695 |
| 100 | Tree/Shrub | 33.67802 | -84.6882 |
| 101 | Tree/Shrub | 33.67112 | -84.6907 |
| 102 | Tree/Shrub | 33.67432 | -84.6936 |
| 103 | Tree/Shrub | 33.67389 | -84.6917 |
| 104 | Tree/Shrub | 33.67553 | -84.6873 |
| 105 | Tree/Shrub | 33.66343 | -84.6926 |
| 106 | Tree/Shrub | 33.67444 | -84.6902 |
| 107 | Tree/Shrub | 33.67598 | -84.6908 |
| 108 | Tree/Shrub | 33.67507 | -84.6882 |

# Forest Composition Report and Site Photos

# Anneewakee Forest Preserve
# Forest Composition Report

I am Michael Heneghan, the Stewardship Director for Georgia-Alabama Land Trust, and I created this Forest Composition Report for the Anneewakee Forest Preserve (Project 038) on November 10, 2022. Michael holds a Master of Science degree in Natural Resource Management from Auburn University and a Bachelor of Science degree in Forestry from Northern Arizona University. The description below is based upon one initial site visit on February 5, 2021 prior to acquisition and a more thorough visit to the property on November 7, 2022. The property was traversed on foot, both on and off existing trails. A map showing the GPS track from the site visit as well as images and other data from the site visits are included as Exhibit A to this document:

The Anneewakee Forest Preserve is comprised entirely of natural uneven aged hardwood forest. The vast majority of the preserve, and the entirety of the project boundary, is best described as an early climax oak hickory forest, with a balanced stem composition consisting of seedlings, saplings, small, medium and large trees. Species composition within the site is almost exclusively shade tolerant hardwoods, though some mature loblolly pines are scattered throughout in relatively small numbers, particularly along the rocky slopes near Anneewakee Creek. In general, the Preserve is largely uniform, with no sections being especially distinct from the rest in terms of composition and/or density outside of the riparian areas. No significant component of invasive species was observed on site and the forest appears to be in overall good ecological health.

White oaks (post oak, chestnut oak, chinkapin oak) and red oaks (northern red oak, scarlet oak, black oak) are the most common species found throughout the uplands of the preserve, making up greater than 80% of the overstory tree composition, while mockernut and pignut hickories are also abundant. Although generally categorized by the same oak-hickory composition, the moister soils along the site's draws, drainages and slopes support a higher percentage of mesic species, with American beech being particularly abundant in these areas as well as maple and white ash. Loblolly pine and Eastern red cedar are scattered in limited numbers throughout the preserve. The south-southwest facing slopes on the north side of Anneewakee Creek, which are rockier and typically receive more direct sunlight than the rest of the site, contain a greater proportion of loblolly pine, though coniferous trees are estimated to make up less than one percent of the total species composition on the preserve.

No evidence of significant timber harvests, such as remnant stumps, were observed during the site inspection, and a review of historical imagery dating back to 1938 (Exhibit A) does not indicate any significant harvests during this period (though portions of the preserve appear as if they may be in an early successional stage at the time of the 1938 aerial photos). The largest diameter trees were most prevalent in the draws and drainages, with the largest oak, beech and maple trees measuring over 35 inches. The oak-hickory forests in this region were heavily logged in the early part of the 20$^{th}$ century and this was likely the case over most of the uplands within the preserve, as this is consistent with the aerial imagery and what was observed in the field. The overall tree density is fairly uniform throughout the site. Total stem counts were taken in six plots approximately 1/10$^{th}$ of an acre in size (40 ft. radius) throughout the site. These points were randomly selected prior to field work. The plots averaged 44.5 stems per plot, or approximately 445 stems per acre. The overstory density (those trees at the highest canopy level) within the oak-hickory forest is roughly 150-180 trees per acre.

| Plot | Stems Per 1/10th Acre Plot |
|---|---|
| 1 | 46 |
| 2 | 29 |
| 3 | 44 |
| 4 | 52 |
| 5 | 56 |
| 6 | 40 |
| **Average** | **44.5** |

The structure and composition of the preserve which was observed on site is further supported by the publicly available GAP/LANDFIRE National Terrestrial Ecosystems dataset. This spatial data layer was created to provide a coarse level estimate of the distribution of vegetative communities in the United States. Nearly the entirety of the preserve area is categorized as Southern Piedmont Dry Oak-(Pine) Forest-Hardwood Modifier, which is further described below (GAP/LANDFIRE map shown in Exhibit A).

Ecological System 4302 Southern Piedmont Dry Oak-(Pine) Forest - Hardwood Modifier

This system encompasses the prevailing upland forests of the southern Piedmont. High-quality and historic examples are typically dominated by combinations of upland oaks, sometimes with pines as a significant component, especially in the southern portions of the region. These forests occur in a variety of habitats and, under natural conditions, were the matrix vegetation type covering most of the landscape. Much of this system is currently composed of successional forests that have arisen after repeated cutting, clearing, and cultivation of original oak-hickory forests. Variation: Hardwood Dominated - The native expression of this system, strongly dominated by oaks (white, Southern red, Northern red, post, black).

Table 1. Forest composition breakdown (*include for each parcel or stand)*

| **Stand size (acres)** | 185 |
|---|---|
| **Stand age (years)** | 90-100 |
| **GTR table number** | B44 |
| **Forest Type** | **Percentage** |
| Oak-Hickory | 100% |

Signed on December 16, in 2022, by Michael Heneghan, Stewardship Director, Georgia-Alabama Land Trust

Signature

706-938-4004

Phone

mheneghan@galandtrust.org

Email

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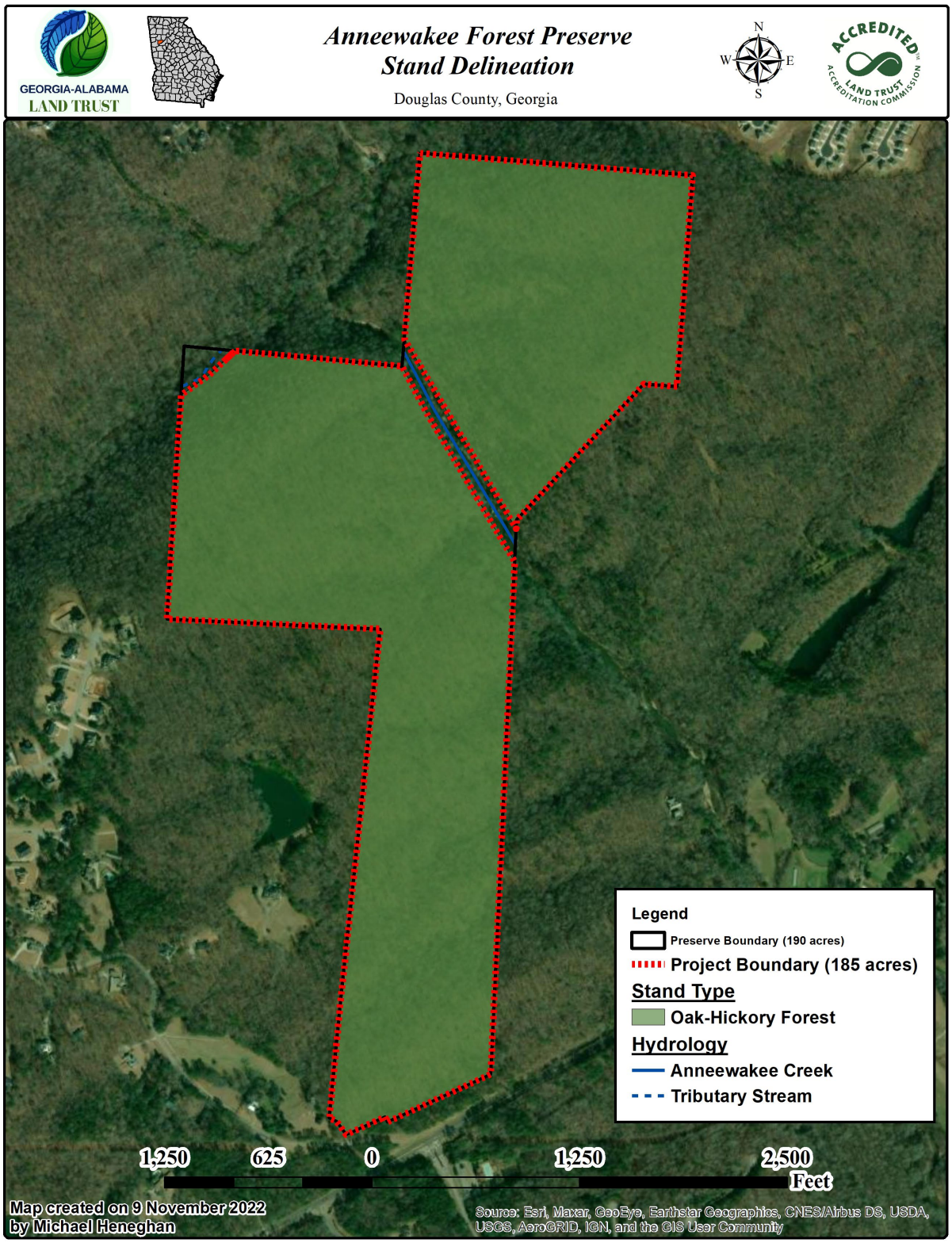
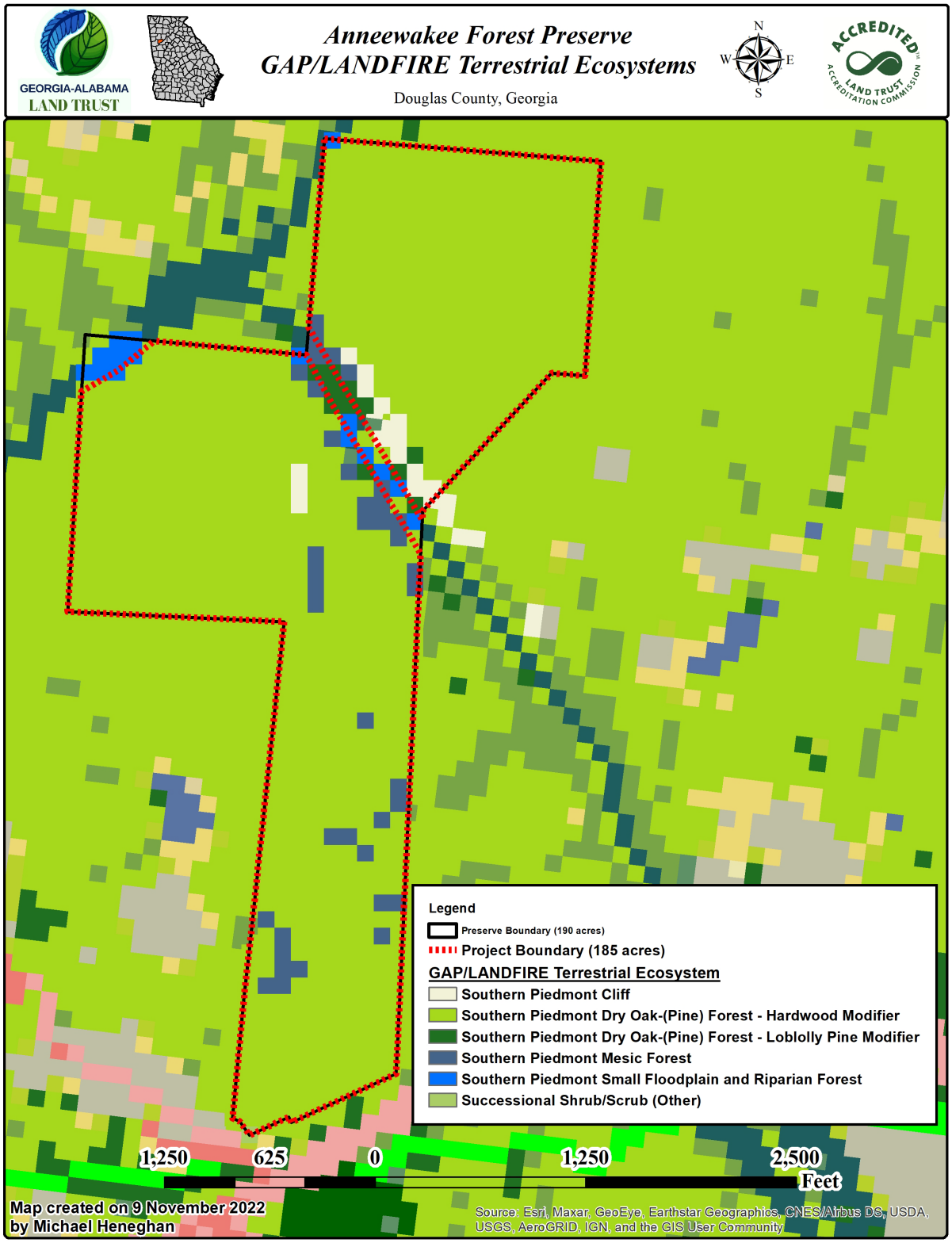
# Exhibit A – Forest Photos and Data



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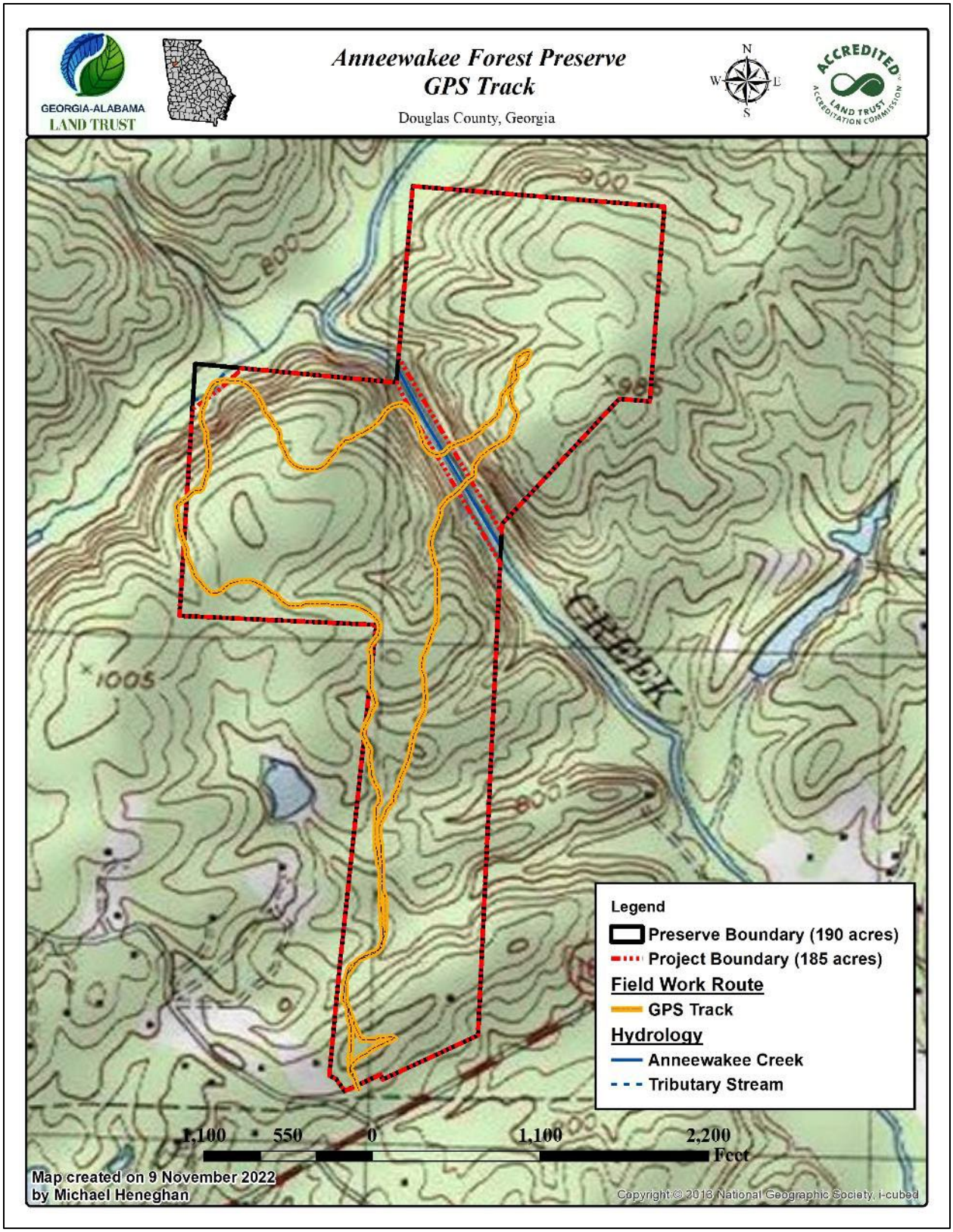


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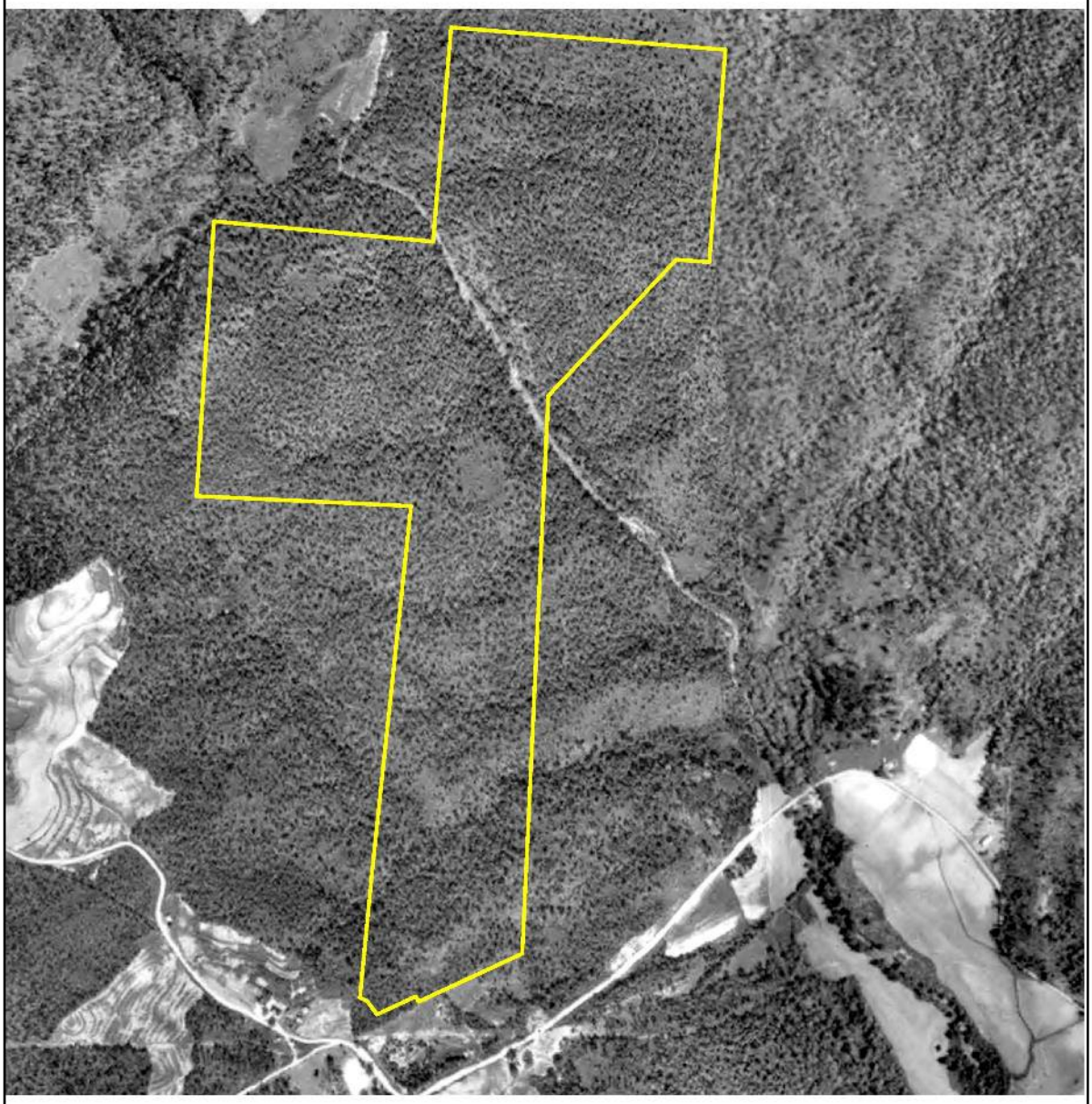
# Annewakee Forest Preserve - 1938



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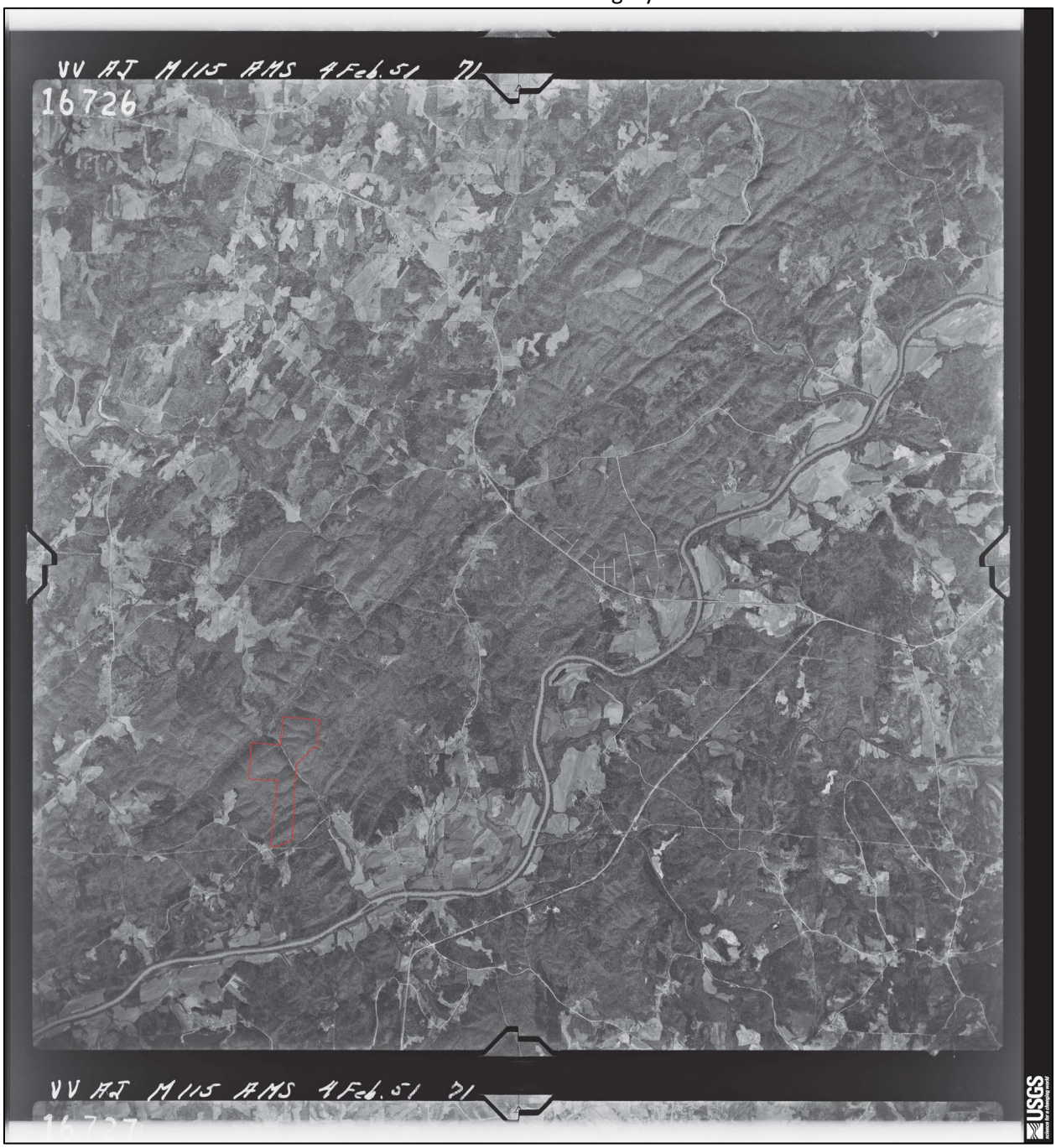
USGS 1951 Aerial Imagery

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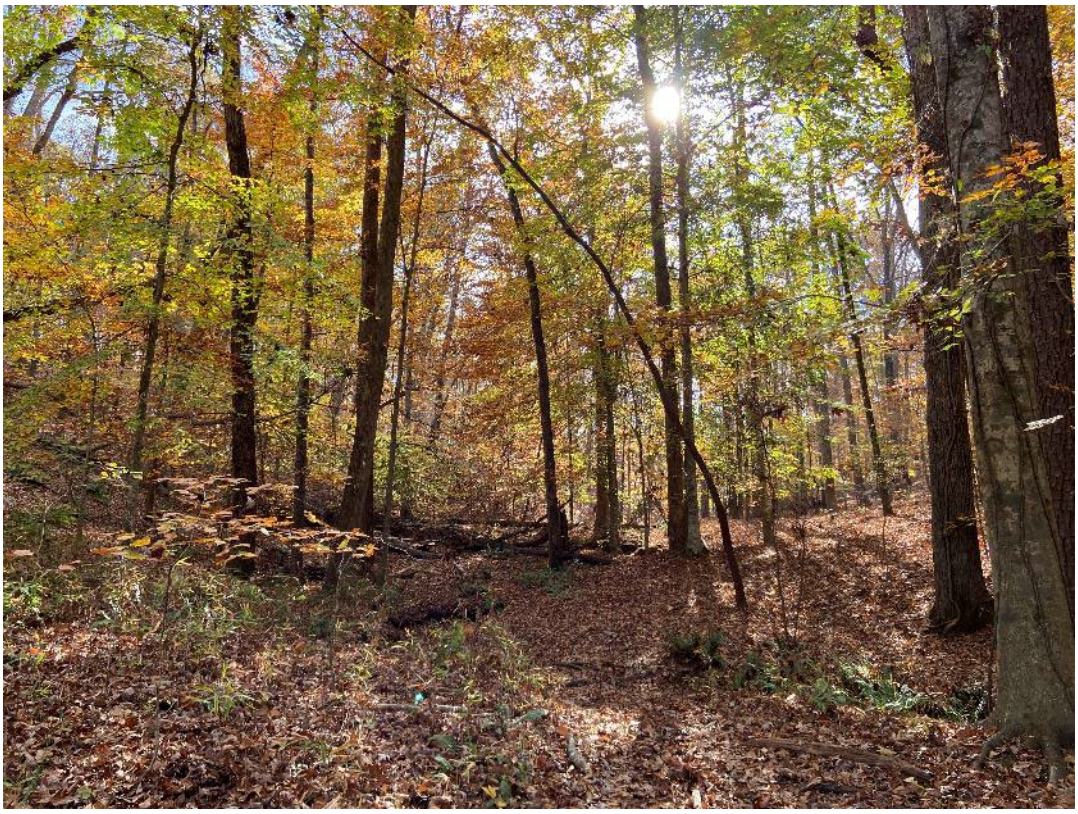

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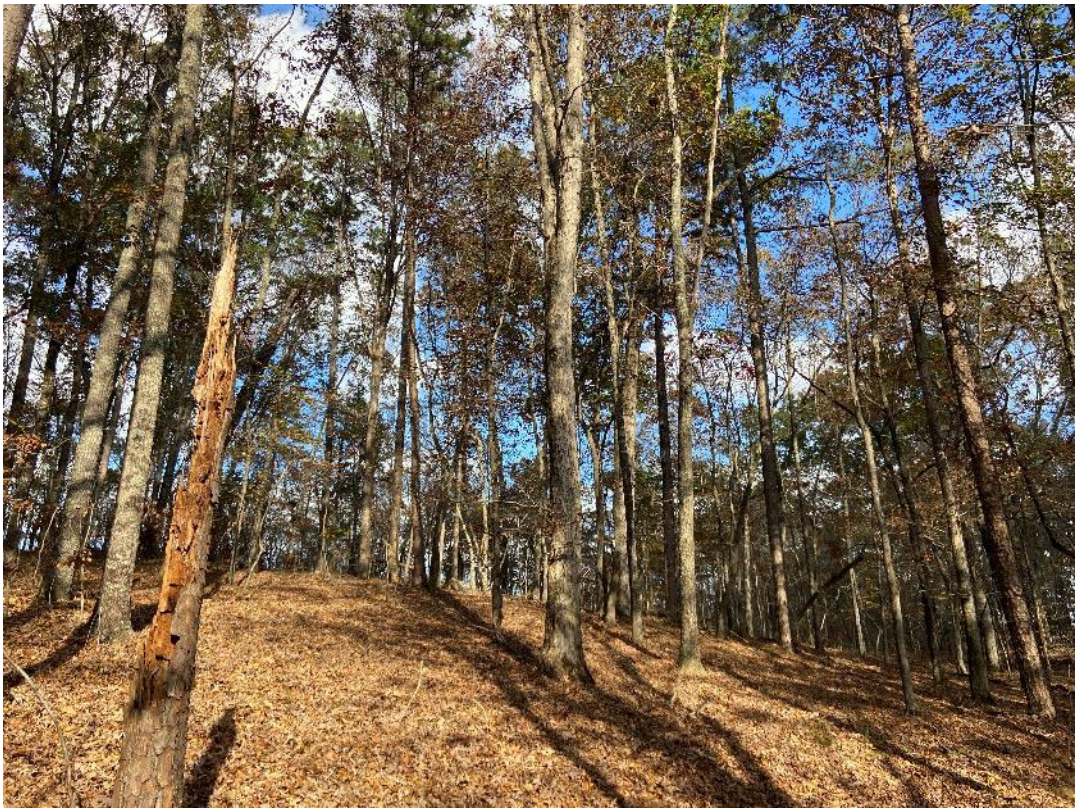

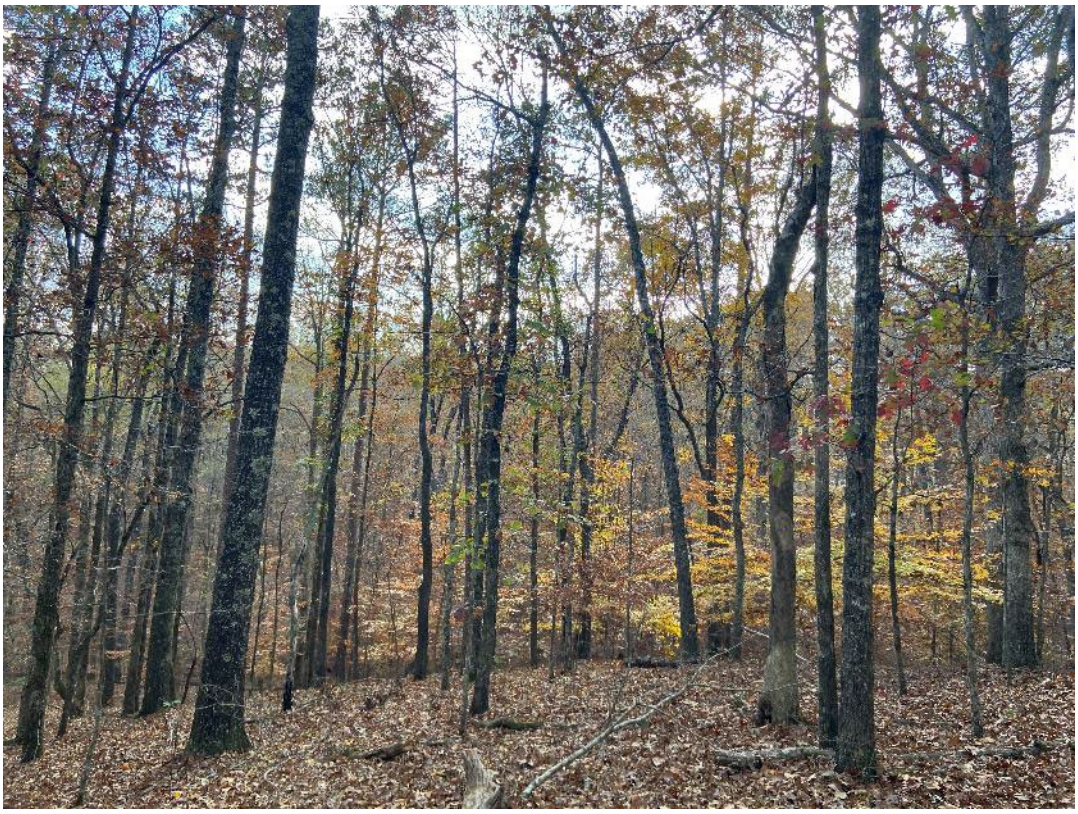

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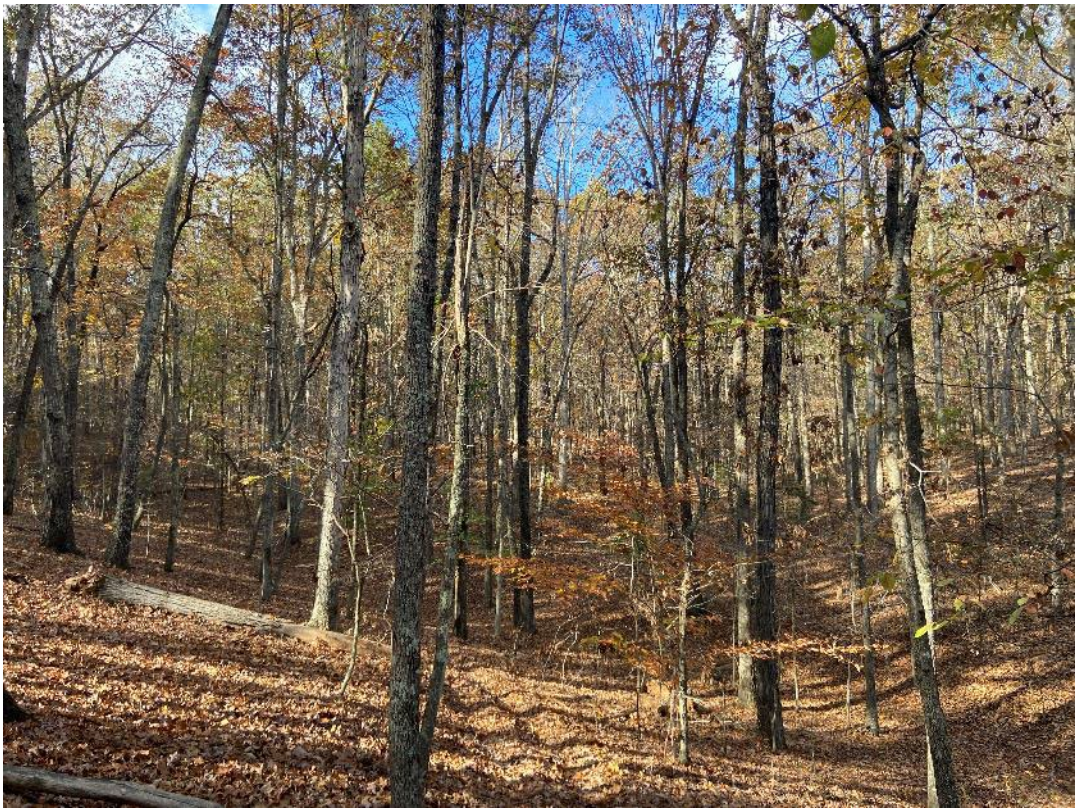

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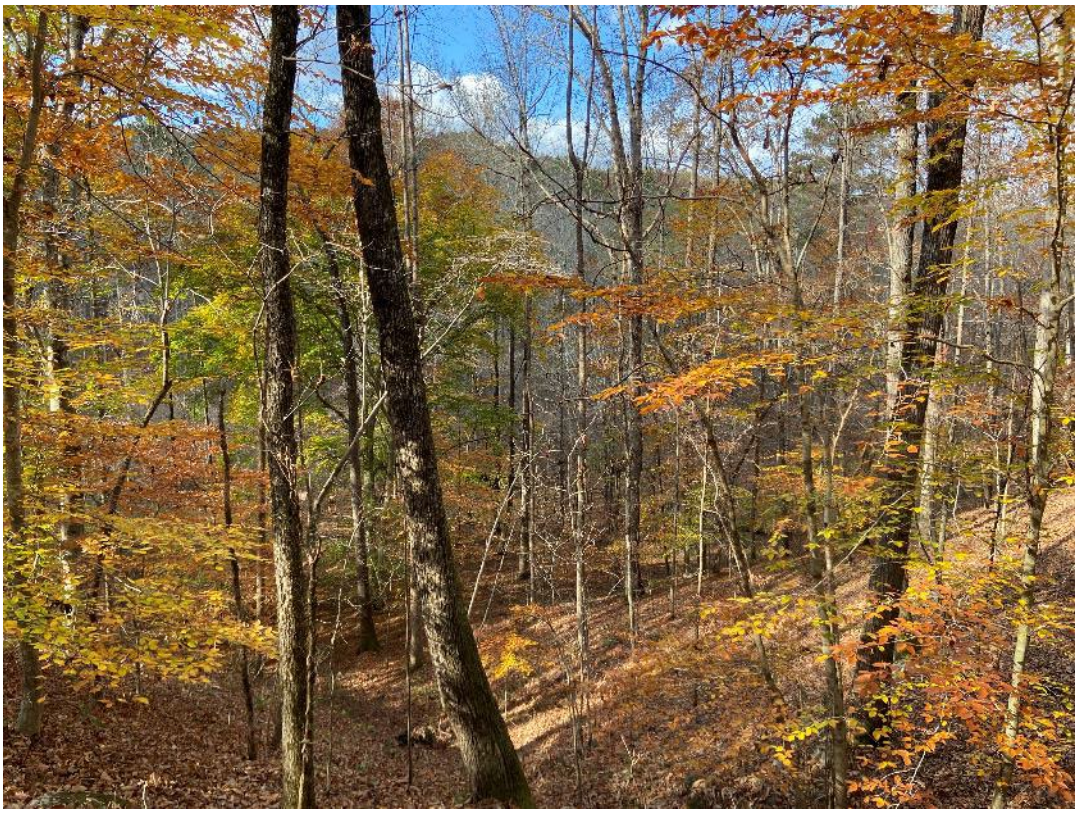

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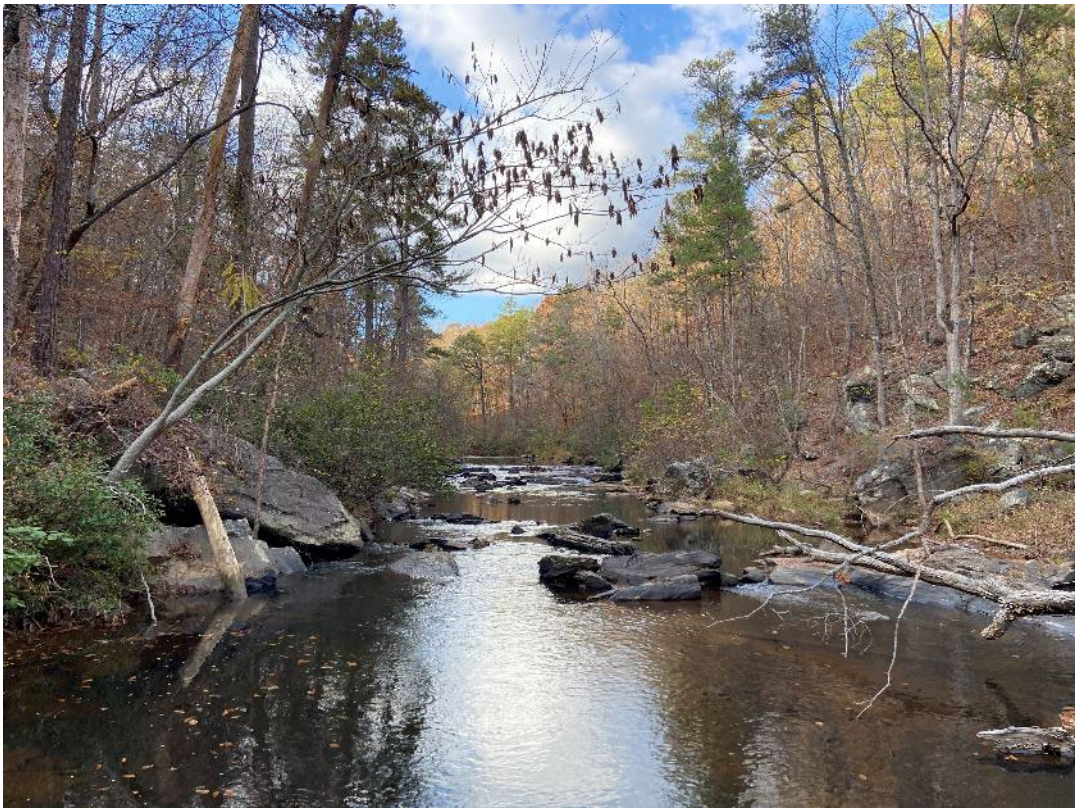

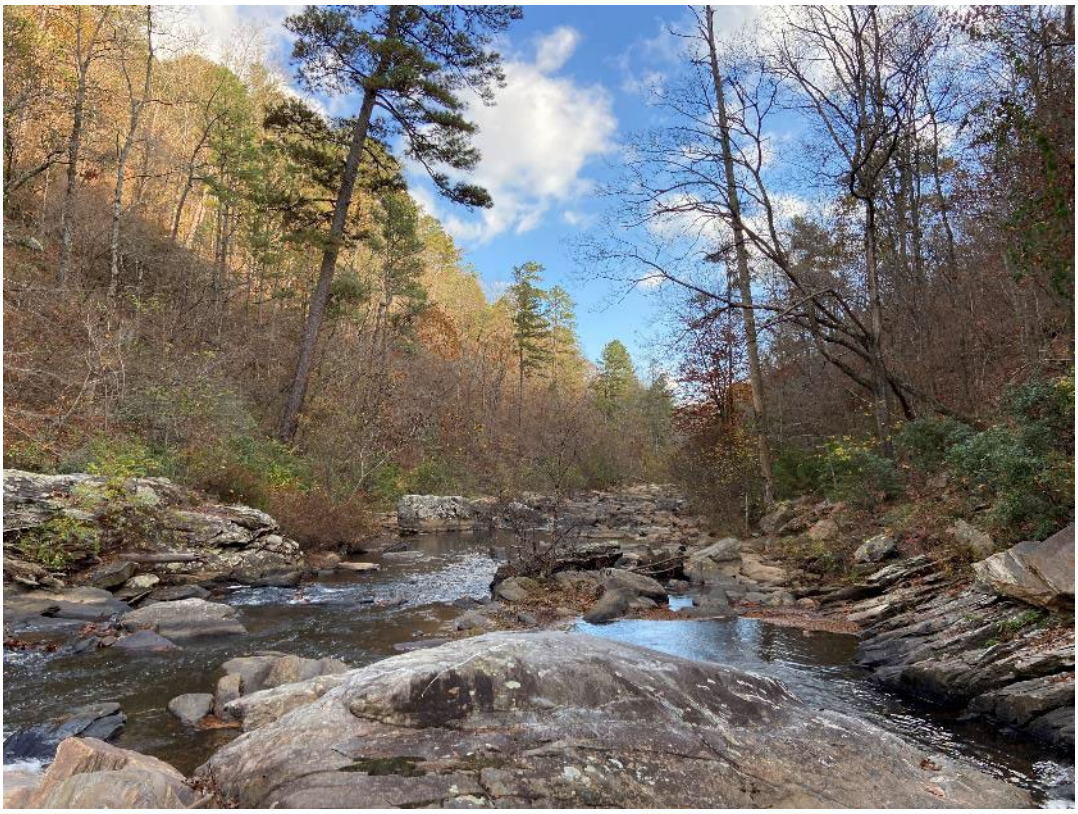

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White Oak: 60-inch circumference = 19.1-inch DBH

Northern Red Oak: 60-inch circumference = 19.1-inch DBH

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Loblolly Pine: 67-inch circumference = 21.3-inch DBH

American Beech: 58-inch circumference = 18.5-inch DBH

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Southern Sugar Maple: 115-inch circumference = 36.62-inch DBH

White Oak: 84-inch circumference = 26.8-inch DBH

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White Oak: 36-inch circumference = 11.5-inch DBH

Northern Red Oak: 50-inch circumference = 15.9-inch DBH

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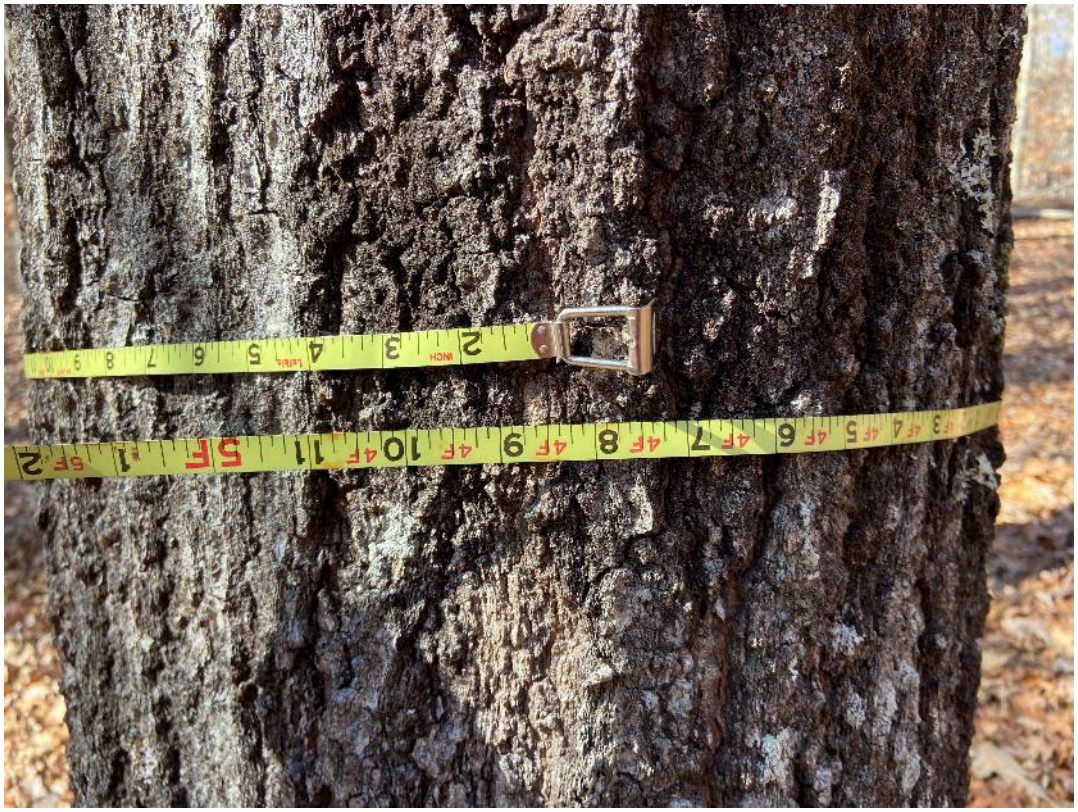

Northern Red Oak: 72-inch circumference = 22.9-inch DBH

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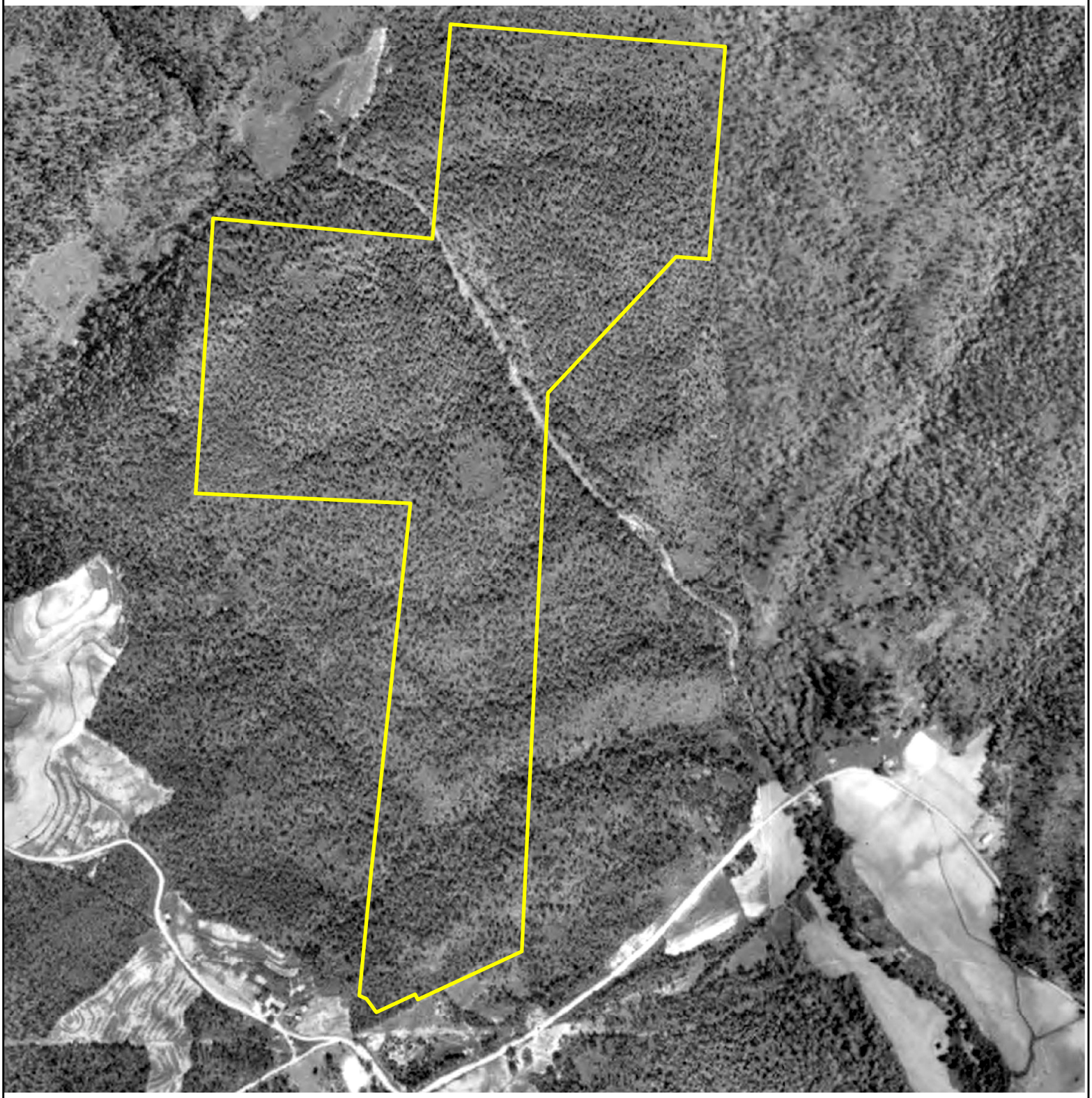
## Historical Photos

# Annewakee Forest Preserve - 1938



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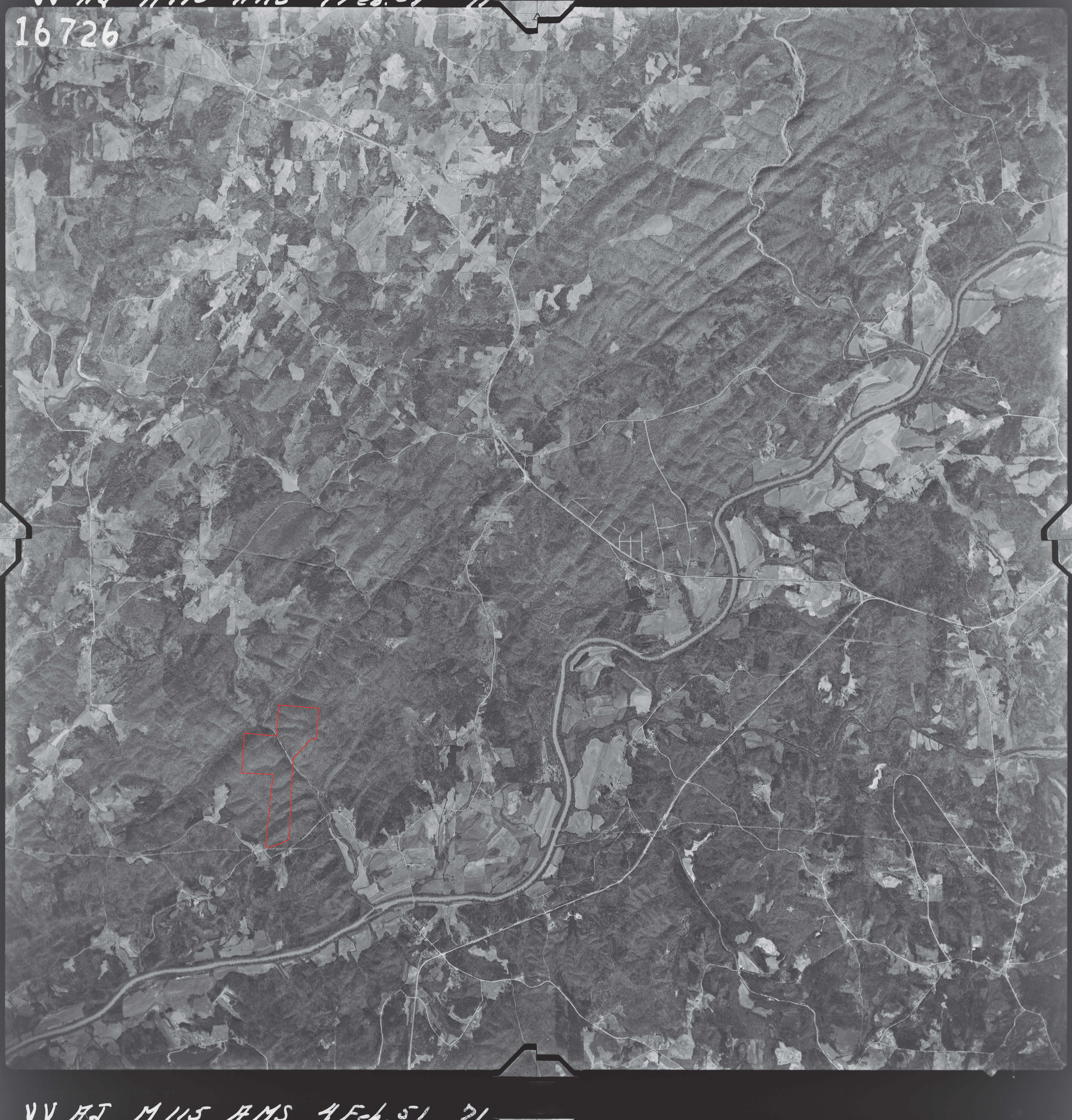
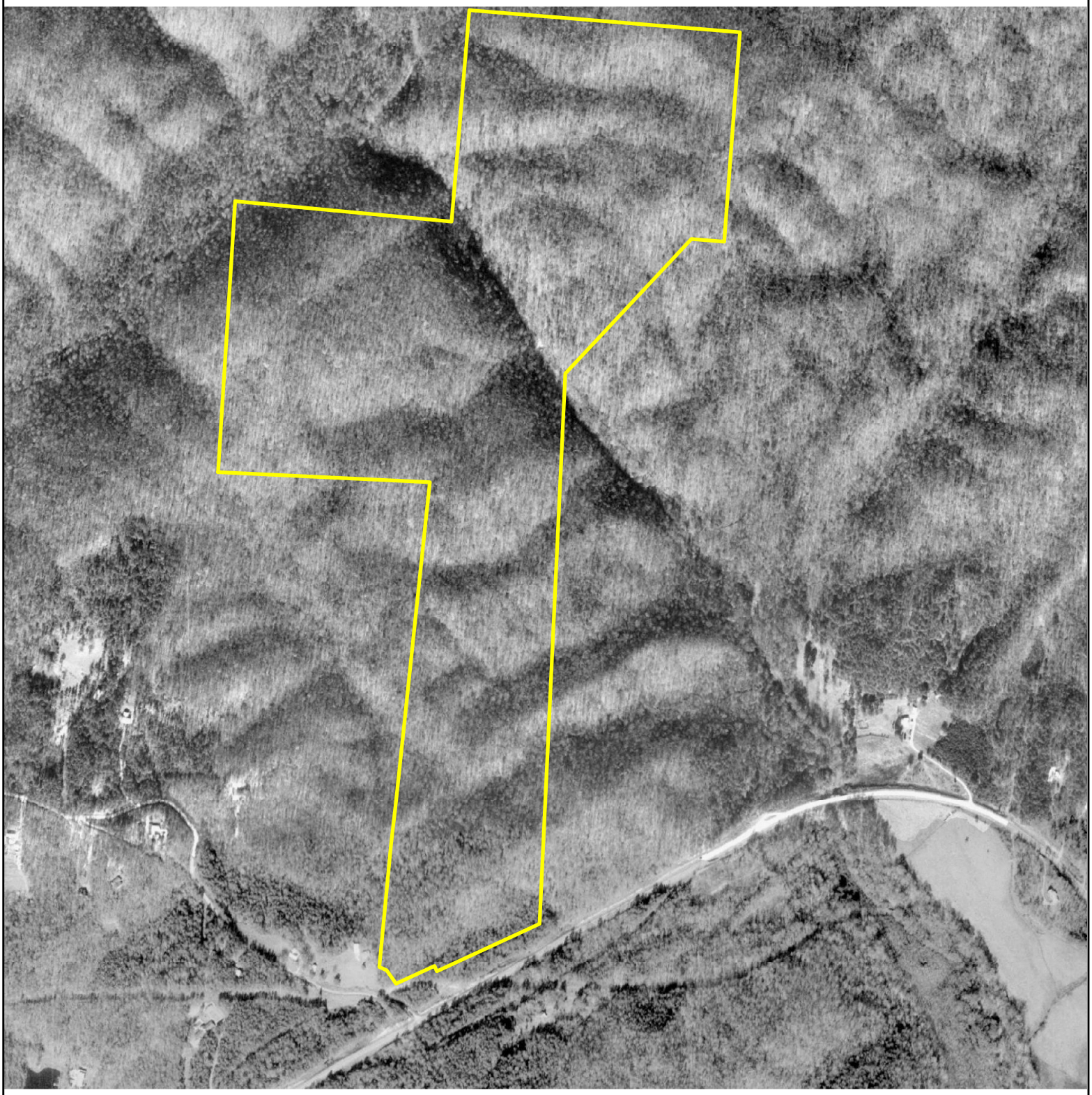
16726



VV AJ M115 AMS 4Feb.51 71

16727

# Annewakee Forest Preserve - 1978
# USDA (12-12-1978)



1993
Google Earth
Image U.S. Geological Survey
4000 ft
N

## Cobenefit Calculator

Light yellow background denotes an input cell ->

| Directions |
|---|
| 1) Use i-Tree Canopy, or another tool, to estimate the amount of deciduous and coniferous tree cover area (acres) (Cell C20 and D20). |
| 2) Use i-Tree Canopy, or another tool, to estimate the amount of non-tree cover area (acres) (Cell F20) in the project area. |
| 3) In Cell G20 the total area of the project is calculated (acres). Prompt i-Tree Canopy to provide an estimate of the project area by clicking on the gear icon next to the upper right portion of the image and selecting ”Report By Area.” |
| 4) Total Project Area, cell G17 should equal 100%. |

**Table 1. Tree Cover**

| | Deciduous Tree Cover | Coniferous Tree Cover | Total Tree Cover | Non-Tree ( | Total Project Area |
|---|---|---|---|---|---|
| **Percent (%)** | 99% | 1% | 100% | 0% | 100% |
| **Area (sq miles)** | 0.286 | 0.003 | 0.289 | 0.000 | 0.29 |
| **Area (m2)** | 740,569 | 8,094 | 748,663 | 0 | 748,663 |
| **Area (acres)** | 183 | 2.00 | 185.00 | 0.00 | 185.00 |

Using the information you provide on tree canopy cover, the tool provides estimates of co-benefits in Resource Units and $ per year.

**Table 2. Co-Benefits per year with current tree canopy cover.**

| Ecosystem Services | Resource Units Totals | Total $ |
|---|---|---|
| **Rain Interception (m3/yr)** | 21,390.5 | $55,948.80 |
| **Air Quality (t/yr)** | | |
| **O3** | 2.7048 | $8,035.90 |
| **NOx** | 0.6684 | $1,985.79 |
| **PM10** | 1.4455 | $1,632.64 |
| **Net VOCs** | -0.0238 | -$67.68 |
| **Air Quality Total** | 4.7948 | $11,586.65 |
| **Energy (kWh/yr & kBtu/yr)** | | |
| **Cooling - Elec.** | 221,815 | $16,835.77 |
| **Heating - Nat. Gas** | 116,557 | $1,211.08 |
| **Energy Total ($/yr)** | | $18,046.84 |
| **Grand Total ($/yr)** | | $85,582.28 |

## Social Impacts

# City Forest Carbon Project
# Social Impacts

*UN Sustainable Development Goals*
The 17 United Nations Sustainable Development Goals (SDGs) are an urgent call for action and global partnership among all countries, representing key benchmarks for creating a better world and environment for everyone. Well-designed and managed urban forests make significant contributions to the environmental sustainability, economic viability and livability of cities. They help mitigate climate change and natural disasters, reduce energy costs, poverty and malnutrition, and provide ecosystem services and public benefits. See more details in the CFC Carbon Project Social Impact Reference Guide.

*Instructions*
This template sets out all relevant SDGs and lists various urban forest project activities that fall within each SDG. Evaluate the SDGs to determine how your carbon project provides social impacts that may contribute towards achievement of the global goals. Check the box(es) that contain one of your project activities and describe in no fewer than two sentences how your project activities align with the corresponding SDG. On page 12, select the icon for three to five of the most relevant SDGs to your project and provide any additional information.

## SDG 3 - Good Health and Well Being

Goal: Ensure healthy lives and promote well-being for all at all ages.

Examples of project activities include, but are not limited to:

- ☒ Plant or protect trees to reduce or remove air pollutants
- ☐ If planting trees, select trees for reduced pollen counts and irritant production
- ☒ Plant or protect trees to create shade, provide UV exposure protection, reduce extreme heat negative effects, and/or reduce temperatures to relieve urban heat effects
- ☒ Design project to buffer sounds, optimize biodiversity, or create nature experiences
- ☐ Locate project near vulnerable populations, such as children or elderly
- ☐ Locate project near high volume roads to screen pollutants
- ☒ Locate project near people to encourage recreation, provide new parks or green space, or otherwise promote an active lifestyle
- ☐ Locate project near schools, elderly facilities, or mental health services to promote nature-based wellness, attention restoration, or other mental well-being
- ☐ Locate project in area with conditions of project-defined high inequity to trees, such as at schools, affordable or subsidized housing, formerly redlined neighborhoods, areas with high property vacancy rates, or area with high proportion of renters
- ☒ Reduce stormwater runoff or improve infiltration rates
- ☐ Design project to reduce human exposure to specific pollutants or toxins
- ☐ Other

The Georgia-Alabama Land Trust Anneewakee Forest Preserve is a 190-acre forest in the Atlanta metropolitan area. The Property serves as a wildlife sanctuary with a mature forest of high ecological significance. The Property contributes to the biodiversity of the area by providing habitat for a variety of native plants and animals, including those of conservation concern (Baltimore checkerspot, Chattahoochee crayfish and patch-nosed salamander). Bird species afforded habitat include Kirtlands warbler, Bald Eagle, Swainson's warbler, tufted titmouse, red-bellied woodpecker, red-shouldered hawk and scarlet tanager. The Property will provide passive walking trails for the public. The Property is in a heavily populated area and provides scenic beauty for the surrounding community. It is being considered as part of a master trail plan for Douglas County. There are many neighborhoods and urban areas within easy driving distance of the property, including easy access for under-resourced communities. The Property is less than one mile from Chattahoochee River. Anneewakee Creek is a direct tributary to the River. The Chattahoochee River is the drinking water source for Atlanta. The Property will provide relief from the heat island effect of urban development and will help to provide watershed function, slowing down the flow of water.

## SDG 6 - Clean Water and Sanitation

Goal: Ensure availability and sustainable management of water and sanitation for all

Examples of project activities include, but are not limited to:

- ☐ Research and assess environmental injustices related to water in project area
- ☒ Locate project near high-traffic roads or to otherwise improve, mitigate, or remediate toxic landscapes near water
- ☐ Protect or plant trees to improve historically or culturally important sites related to water that have been degraded and/or neglected
- ☒ Reduce stormwater by planting or protecting trees
- ☐ Plant forested buffers adjacent to streams, rivers, wetlands, or floodplains
- ☐ Prevent soil erosion by protect steep slopes
- ☒ Improve infiltration rates
- ☐ Improve, mitigate, or remediate toxic landscapes and human exposure to risk
- ☐ Drought resistance, such as selecting appropriate water-efficient trees for project climate zone
- ☐ Other

The Property is close to high-traffic roads, including Chapel Hill Road and Campbellton Fairburn Road and helps mitigate the impact of these roads. The mature intact forest and free flowing Anneewakee Creek provide significant watershed function, improving infiltration rates, slowing down the flow of water and reducing stormwater runoff. The Property is less than one mile from Chattahoochee River, and is a direct tributary to the River. The Chattahoochee River is the drinking water source for Atlanta.

## SDG 8 - Decent Work and Economic Growth

Goal: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Examples of project activities include, but are not limited to:

- ☒ Community participation in project implementation, including such things as providing access to financial resources for ongoing community-based care
- ☐ Emphasize local hiring and support small businesses
- ☐ Promote local economic opportunities through workforce training, career pathway development, or other employment
- ☐ Other

The Property will provide passive walking trails for the public and is being considered as part of a master trail plan for Douglas County. This trail plan will create a series of connecting and promoted trails benefiting the many neighborhoods in the area, including easy access to trails for under-resourced communities.

## SDG 10 –
## Reduced Inequalities

Goal: Reduce inequalities within and among countries

Examples of project activities include, but are not limited to:

- ☐ Provide connections and cohesion for social health, such as create or reinforce places that promote informal interactions, engage local residents and users in tree management, include symbolic or cultural elements, or other events
- ☐ Research, understand, and design to address understand historic and current sociocultural inequities, community health conditions, environmental injustices, or prior local greening efforts in community
- ☐ Locate project near vulnerable populations, such as children or elderly, to provide air quality improvements or buffer against extreme heat effects
- ☒ Locate project in high-density residential areas or where there is a lack of trees to improve access and promote an active lifestyle
- ☐ Locate project near schools, elderly facilities, or mental health services to promote nature-based wellness, attention restoration, or other mental well-being
- ☐ Locate project in area with conditions of project-defined high inequity to trees, such as at schools, affordable or subsidized housing, formerly redlined neighborhoods, areas with high property vacancy rates, or area with high proportion of renters
- ☒ Locate project near high-traffic roads or to otherwise improve, mitigate, or remediate toxic landscapes
- ☐ Protect or plant trees to improve historically or culturally important sites that have been degraded and/or neglected
- ☐ Community engagement in project design, including such things as engaging and respecting existing relationships and social networks, community cultural traditions, and public participation methods that are empowering and inclusive
- ☐ Community participation in project implementation, including such things as addressing and removing barriers to participation, promote ongoing community-based care and access to financial resources
- ☐ Emphasize local hiring and support small businesses
- ☐ Research and consider potential for gentrification and displacements
- ☐ Promote local economic opportunities through workforce training, career pathway development, or other employment
- ☐ Other

The project is in an area experiencing rapid growth near high-traffic roads. It will provide trees, promotes an active lifestyle by encouraging use of trails and will help ameliorate against the impact of impermeable surfaces.

## SDG 11 - Sustainable Cities and Communities

Overall: Make cities inclusive, safe, resilient, and sustainable.

Examples of project activities include, but are not limited to:

- ☒ Plant or protect trees to reduce or remove air pollutants
- ☐ If planting trees, select trees for reduced pollen counts and irritant production
- ☒ Locate project near high volume roads to screen pollutants
- ☐ Locate project near vulnerable populations, such as children or elderly
- ☒ Plant or protect trees to create shade, provide UV exposure protection, reduce extreme heat negative effects, and/or reduce temperatures to relieve urban heat effects
- ☒ Locate project near people to encourage recreation, provide new parks or green space, or otherwise promote an active lifestyle
- ☒ Design project to improve wellness and mental health, such as planting trees to buffer sounds, optimize biodiversity, optimize views from buildings, or create nature experiences
- ☐ Locate project near schools, elderly facilities, or mental health services to promote nature-based wellness, attention restoration, or other mental well-being
- ☐ Provide connections and cohesion for social health, such as create or reinforce places that promote informal interactions, engage local residents and users in tree management, include symbolic or cultural elements, or other events
- ☐ Research, understand, and design to address understand historic and current sociocultural inequities, community health conditions, environmental injustices, or prior local greening efforts in community
- ☐ Locate project in area with conditions of project-defined high inequity to trees, such as at schools, affordable or subsidized housing, formerly redlined neighborhoods, areas with high property vacancy rates, or area with high proportion of renters
- ☐ Community engagement in project design, including such things as engaging and respecting existing relationships and social networks, community cultural traditions, and public participation methods that are empowering and inclusive
- ☐ Community participation in project implementation, including such things as addressing and removing barriers to participation, promote ongoing community-based care and access to financial resources
- ☐ Other

The Property will help make Douglasville and surrounds inclusive, safe, resilient, and sustainable by providing a major metropolitan area with a sizeable mature forest, walking trails and a functional waterbody.

## SDG 12 - Responsible Production and Consumption

Goal: Ensure sustainable consumption and production patterns

Examples of project activities include, but are not limited to:

- ☒ Plant or protect trees to create shade or reduce temperatures to relieve urban heat effects
- ☒ Provide cooling benefits and energy savings by shading impervious surfaces such as streets or parking lots, or planting trees on south and west sides of buildings
- ☐ Other

The Property is close to high-traffic roads, including Chapel Hill Road and Campbellton Fairburn Road and helps improve and mitigate the impact of these roads. The mature intact forest and free flowing Anneewakee Creek provide significant watershed function, improving infiltration rates, slowing down the flow of water and reducing stormwater runoff. The Property is less than one mile from Chattahoochee River, and is a direct tributary to the River. The Chattahoochee River is the drinking water source for Atlanta.

## SDG 13 - Climate Action

Goal: Take urgent action to combat climate change and its impacts.

Examples of project activities include, but are not limited to:

- ☒ Plant or protect trees to reduce or remove air pollutants
- ☒ Plant or protect trees to create shade or reduce temperatures to relieve urban heat effects
- ☐ Promote community capacity for social and climate resilience by engaging local residents or users in tree management, or other events to connect people to the project
- ☐ Reflect cultural traditions and inclusive engagement for climate resilience
- ☐ Design project to improve soil health
- ☒ Provide cooling benefits and energy savings by shading impervious surfaces such as streets or parking lots, or planting trees on south and west sides of buildings
- ☒ Plant or protect trees to reduce stormwater runoff
- ☐ Select water-efficient trees for climate zone and drought resistance
- ☒ Create and/or enhance wildlife habitat
- ☐ Other

The Georgia-Alabama Land Trust Anneewakee Forest Preserve serves as a wildlife sanctuary with a mature forest of high ecological significance. The Property contributes to the biodiversity of the area by providing critical habitat for a variety of native plants and animals, including those of conservation concern (Baltimore checkerspot, Chattahoochee crayfish and patch-nosed salamander). Bird species afforded habitat include Kirtlands warbler, Bald Eagle, Swainson's warbler, tufted titmouse, red-bellied woodpecker, red-shouldered hawk and scarlet tanager. The Property is less than one mile from Chattahoochee River. Anneewakee Creek is a direct tributary to the River. The Chattahoochee River is the drinking water source for Atlanta. The

Property will provide relief from the heat island effect of urban development and will help to provide watershed function, slowing down the flow of water.

## SDG 14 - Life Below Water

Goal: Conserve and sustainably use the oceans, seas and marine resources for sustainable development.

Examples of project activities located in areas with marine ecosystems include, but are not limited to:

- ☒ Locate project near high-traffic roads or to otherwise improve, mitigate, or remediate toxic landscapes near water
- ☒ Plant or protect trees in project areas to reduce stormwater runoff
- ☐ Plant forested buffers adjacent to streams, rivers, wetlands, or floodplains
- ☐ Prevent soil erosion into by protecting steep slopes
- ☒ Improve infiltration rates
- ☐ Improve, mitigate, or remediate toxic landscapes and human exposure to risk
- ☐ Drought resistance, such as selecting appropriate water-efficient trees for project climate zone
- ☒ Enhance wildlife habitat, such as riparian habitat for fish, birds, and other animals
- ☐ Other

The Georgia-Alabama Land Trust Anneewakee Forest Preserve is less than one mile from Chattahoochee River. The Property contains approximately ¼ mile of Anneewakee Creek, a direct tributary to the River. The Preserve's water source and forest provides bank stabilization, shade and habitat for aquatic and wildlife species. The Property will help ameliorate against nearby impermeable surfaces and will provide relief from the heat island effect of urban development. It will help to provide watershed function, slowing down the flow of water.

## SDG 15 - Life on Land

Goal: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

Examples of project activities include, but are not limited to the following with increased functionality of green infrastructure:

- ☒ Plant or protect trees to reduce stormwater runoff
- ☐ Select water-efficient trees for climate zone and drought resistance
- ☐ Create and/or enhance wildlife habitat to improve local biodiversity
- ☐ Plant forested buffers adjacent to streams, rivers, wetlands, or floodplains
- ☐ Prevent soil erosion by protect steep slopes
- ☒ Improve infiltration rates
- ☐ Other

Located in the Piedmont ecoregion of Georgia, the Property contains Georgia State Wildlife Action Plan (GSWAP) designated high priority habitats, including Oak Hickory Pine Forest and Mesic Hardwood Forest. Promulgated by the Georgia Department of Natural Resources (GA DNR) and other conservation partners including the U.S. Fish and Wildlife Service, GSWAP was developed to "conserve Georgia's animals, plants, and natural habitats through proactive measures." To accomplish this goal, GSWAP identifies certain high priority habitats for targeted protection within significant ecoregions. The GSWAP designated high priority Oak Hickory Pine Forest and Mesic Hardwood Forest provide habitat for a variety of native plants and animals, including those of conservation concern (Baltimore checkerspot, Chattahoochee crayfish and patch-nosed salamander). Bird species afforded habitat include Kirtlands warbler, Bald Eagle, Swainson's warbler, tufted titmouse, red-bellied woodpecker, red-shouldered hawk and scarlet tanager.

The Property is less than one mile from Chattahoochee River. Anneewakee Creek is a direct tributary to the River. The Chattahoochee River is the drinking water source for Atlanta. The Property will provide relief from the heat island effect of urban development and will help to provide watershed function, slowing down the flow of water.

## SDG 17 - Partnerships for the Goals

Overall: Strengthen the means of implementation and revitalize the global partnership for sustainable development.

Examples of project activities include, but are not limited to:

- ☐ Promote community connections and capacity for social resilience by engaging local residents or users in tree management, or other events to connect people to the project
- ☒ Community engagement in project design, including such things as engaging and respecting existing relationships and social networks, community cultural traditions, and public participation methods that are empowering and inclusive
- ☐ Community participation in project implementation, including such things as addressing and removing barriers to participation, promote ongoing community-based care and access to financial resources
- ☐ Other

Georgia-Alabama Land Trust will be engaging the community by participating in the trail master plan for Douglas County. This planning process will engage a variety of stakeholders and welcome the entire community in the trail planning process.

# Summary of Project Social Impacts

Provide for protection of a mature forest to protect biodiversity and to increase ecosystem function.

Slow the flow of water, filter it, and provide a stable environment for aquatic plants and animals.

A resilient forest will ameliorate against the urban challenges, such as heat island effect and poor air quality.  Walking trails provide a place for exercise, grounding and connecting with nature.