



Big Woods Forest Validation Report

Document Prepared by City Forest Credits

September 29, 2025

PROJECT OVERVIEW

<i>Project Name</i>	Big Woods Forest
<i>Project Registry Number</i>	059
<i>Project Type</i>	Tree Preservation
<i>City Forest Credits Protocol Version</i>	Version 13, February 29, 2024
<i>Project Start Date</i>	July 25, 2025
<i>Project Location</i>	Chatham County, North Carolina
<i>Project Operator</i>	Triangle Land Conservancy

SUMMARY

Provide a few sentences about the overall project

The Big Woods Forest Preservation project is an effort to protect 206.77-acres of mature upland forest in the Research Triangle region of central North Carolina. Located in the Durham-Chapel Hill-Carrboro metropolitan planning area, the Big Woods Forest project has faced significant development pressure from neighboring residential growth. The organization purchased the property in June 2023, with the hope to open it up to the community in the future as a public nature preserve. It is currently split between R-5 and R-1 Chatham County zoning districts, which allow for low-density residential development.

ELIGIBILITY

Project Operator Identity (Section 1.1)

Criteria

A Project requires at least one Project Operator (“PO”), an entity organized and licensed under the laws of its jurisdiction, or a governmental body, which undertakes a Project, registers it with the registry of City Forest Credits (the “Registry”), and is ultimately responsible for all aspects of the project and its reporting.

Issue Validated

Triangle Land Conservancy provided documentation the Articles of Incorporation and update organizational bylaws to City Forest Credits.

Project Submittal Dates (Section 2.1, 2.3, 6)

Criteria

Project must submit applications to the Registry within two years of the date of the Preservation Commitment. The Preservation Commitment must be recorded no later than 6 months after Registry Approval of the Project Application. Projects whose Preservation Commitment dates from prior to November 1, 2017 are not eligible.

If the landowner is a land trust or other entity with a conservation mission, the Project lands must have been acquired within two years of the date of the application.

Issue Validated

Project Operator submitted the application on March 1, 2024. The Preservation Commitment effective date is July 25, 2025. The Project Operator requested an extension due to extenuating circumstances with the approval of the Conservation Easement with the State of North Carolina. The timeline for approval took much longer than expected and all other project documents were complete by the initial project deadline.

The Project property was acquired on June 30, 2023, which is within two years of the application date.

Permanence – Project Duration and Reversals

A. Project Duration (Section 1.2 and 2.2)

Criteria

Project Operator must sign a Project Implementation Agreement with the Registry setting forth the Project Operator's obligation to comply with the protocol. Project Operator must monitor and report for 40 years.

Issue Validated

Triangle Land Conservancy and City Forest Credits signed a Project Implementation Agreement on March 11, 2024 for the Big Woods Forest (Project Registry Number 59). The project has a 40-year duration under City Forest Credits Tree Preservation Protocol Version 13.40.

B. Reversals (Section 9)

Criteria

A "Reversal" is loss of stored carbon such that the remaining stored carbon within the Project Area is less than the amount of stored carbon for which Registry credits have been issued. The Registry will retain in a Reversal Pool account 10% of all credits issued to preservation projects. This Reversal Pool account shall be used to compensate for Unavoidable Reversals.

Issue Validated

The Project Design Document and request for credits based on GHG mitigation includes a 10% deduction for the Reversal Pool of credits. 2,116 credits were contributed from this Project to the Registry Reversal Pool. The carbon quantification and Reversal Pool deduction were verified by the Validation and Verification Body, Zack Boerman.

Project Location (Section 1.3 and 1.4)

Criteria

Project Area must be located in parcels within or along the boundary of at least one of the urban area criteria 1.3 A to D, or within criterion E. The Project Operator must specify the Project Area and provide an electronic map of the Project area with geospatial location.

Issue Validated

The Project is located in Durham-Chapel Hill-Carrboro metropolitan planning area, which meets protocol criteria Section 1.3D. The Project Operator has provided maps as supporting evidence, including geospatial location, regional-scale, and project area maps.

The 206.77-acre Project Area includes parcel number: 19351.

The Project Area is in a location that receives more than 20 inches of precipitation per year and has more than 80% tree canopy, meeting protocol criteria Section 1.4 C. The Project Operator has provided an iTree Eco report to demonstrate the Project Area has 90.5% canopy cover for the Project Area.

Ownership or Eligibility to Receive Potential Credits (Section 1.5)

Criteria

Project Operator must demonstrate ownership of potential credits or eligibility to receive potential credits.

Issue Validated

The Triangle Land Conservancy is the landowner for the Big Woods Forest, meeting protocol criteria Section 1.5 A. The Project Operator provided a deed as supporting documentation.

Tree Preservation Commitment (Section 4.1)

Criteria

Project Operator must demonstrate that trees in the Project Area are preserved for at least 40 years.

Issue Validated

Project Operator has an agreement to protect the Big Woods Forest property in perpetuity, as demonstrated by a conservation easement recorded with the State of North Carolina through the Land and Water Fund. In Article III, Section C, the conservation easement states “there shall be no cutting or removal of trees and no disturbance of other natural features in the Property.” The project meets protocol criteria Section 4.1.

Demonstration of Threat of Loss (Section 4.2, 4.3, 4.4)

Criteria

Project Operator must demonstrate that prior to the Preservation Commitment, the project trees were not preserved from removal. The Project Area must be in a land use designation that allows for at least one non-forest use and excludes relevant critical areas. The Project Area must also meet one of three conditions that demonstrate threat of loss as described in Section 4.4 A, B, or C such as surrounding developed or improved uses, per acre value, or fair market value.

Issue Validated

Project Operator has signed an Attestation of Additionality on August 11, 2025 stating that prior to the start of the Project, the trees in the Project Area were not protected by easement, recorded encumbrance, or protected zoning status.

The Project parcel is zoned for at least one non-forest use. The Big Woods Forest Preservation project boundary crosses two different zoning districts, as defined by the Chatham County Zoning Ordinance: Residential District 1 (R1) and Residential District 5 (R5). R1 districts are defined by the county ordinance as, “primarily for low to moderate density residential development within the residential-agricultural areas of the jurisdiction”. R5 districts are defined by the county ordinance as, “primarily for very low-density residential developments along the County's rivers and streams which are compatible with protecting the water quality of the rivers and streams”. Non-forested uses are permitted in both zoning districts including, but not limited to, single-family dwellings, accessory dwelling units, avocational farming, horticulture, and minor utilities.

To demonstrate Threat of Loss, the Project Operator provided a map demonstrating that the Project Area property perimeter is bordered on 51% by improved uses, meeting Protocol Section 4.4A.

No Double Counting of Credits and No Net Harm (Section 5)

Criteria

The City Forest Credits Standard describes safeguards and the “No Net Harm” Principle in Section 5. Project activities shall not cause net harm to the environment or urban communities. Project Operator must sign an Attestation of No Net Harm.

The City Forest Credits Standard describes prevention of double-counting in Section 5. Project Operator must sign an Attestation of No Double Counting of Credits. Per Section 5.2 of the Tree Preservation Protocol, the Project Operator must submit documentation showing no overlap of Project Area with any other registered urban forest carbon project. As part of Validation, the Registry shall use the appropriate tool on GIS software (such as the Intersect tool on ArcGIS) to independently investigate whether there is any overlap between the Project Area and other registered urban forest carbon projects.

Issue Validated

Project Operator submitted a signed Attestation of No Double Counting and No Net Harm on August 29, 2024 and the Registry sees no evidence of net harm from this project. The Registry has analyzed geospatial data of the Project Area against that of all other registered urban forest carbon preservation projects to confirm that the Project Area for this project has not already received credits under the CFC standard.

Additionality (Section 6)

Criteria

The City Forest Credits Standard and Tree Preservation Protocol (Section 6) ensure additionality for every carbon project. A project activity is additional if it can be demonstrated that the activity results in emission reductions or removals that are in excess of what would be achieved under a “business as usual” scenario and the activity would not have occurred in the absence of the incentive period provided by the carbon markets.

Projects must demonstrate the following:

- Prior to the Preservation Commitment, the trees in the project area cannot be protected via easement or recorded encumbrance or in a protected zoning status that preserves the trees.

- Prior to the Preservation Commitment, the zoning in the project area allowed for a non-forest use.
- Prior to the Preservation Commitment, the trees in the project area passed one of three tests to show risk of removal or conversion out of forest.
- Project activities are not common practice, demonstrated either through 1) an analysis of project-specific activities or 2) the current version of the Registry's Activity Penetration Analysis – Demonstration of Additionality of Urban Forest Conservation Project Activities.

The Tree Preservation Protocol sets out three tests to determine whether the trees or forest in a project area face a threat or risk of tree removal or conversion out of a forested use, as described in Section 4.4. Taken together, these 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 embedded also 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.

The Project is not common practice, demonstrated by the current version of the Registry's Activity Penetration Analysis – Demonstration of Additionality of Urban Forest Preservation.

Project Operator must sign an Attestation of Additionality that attests to the above, as well as provides information on the impact of carbon revenues to project success.

TLC has been researching different carbon crediting protocol options for several years. City Forest Credits was introduced to the organization in 2022 at a Land Trust Alliance conference and chosen for its manageable level of risk and profitability for smaller scale projects. Successful work with other land trusts throughout the Southeast also lent confidence to CFC's process and reputability. When TLC expanded its capacity in May 2023, pursuing a project with CFC became a higher priority and the Big Woods Forest project was identified as a good match for the registry's preservation protocol.

Issue Validated

Project Operator has demonstrated that prior to the Preservation Commitment, the trees were not protected, the zoning allowed for a non-forest use, and the trees were at risk of removal or conversion out of forest. Project Operator has followed the carbon quantification methodology to demonstrate how the number of credits to be issued. Project Operator utilized the current version of the Registry's Activity Penetration Analysis. Project Operator signed the Attestation of Additionality on August 11, 2025.

Carbon Quantification (Section 11)

Criteria

Project Operator must follow the carbon stock and soil carbon quantification methods outlined in Section 11 of the Protocol.

Issue Validated

Project Operator completed on-site sampling to determine accounting stock, per protocol criteria Section 11.1 B. The tree canopy percentage was measured using i-Tree Eco.

TLC hired a forestry team to conduct an inventory on the Big Woods Forest project area. The team sampled 1/10th acre plots at 29 locations within the project area, measuring all tree stems 5-inches or greater at standard diameter at breast height (4.5 ft). Tree species, DBH, and crown condition were recorded at each plot, in addition to the overall canopy coverage. All sampling was performed to the standard outlined in version 13.40 of CFC's Tree Preservation Protocol. Carbon storage was then calculated using i-Tree Eco software (v6.0.35). These results, in combination with CFC's 11.B carbon quantification spreadsheet, were used to calculate the carbon biomass and forest composition derived values presented in Section 11.

Per Protocol Section 11.2 Bi, the Big Woods Forest project is located within two different county land use designations: R-1 residential zoning and R-5 residential zoning. These allow for development on lots up to 1 acre and 5 acres, respectively. Taking a weighted average of the area in both zones (90% of 31 acres + 46% of 176 acres) gives a total potentially cleared acreage of 108.86 acres or 53% of the total project area.

Zoning	Acres	Allowed Number of Dwellings	Total Potentially Cleared Acres	Fraction at Risk of Tree Removal
Chatham R-1	31	31	N/A	90%
Chatham R-5	176	35	80.6	46%

Project Operator quantified the avoidance of emissions from soil carbon caused by conversion of soils to impervious surfaces under Protocol Section 11.3. Taking a weighted average of the area in both zones (42% of 31 acres + 49% of 176 acres) gives a total potential impervious surface of 99.3 acres or 48% of the total project area.

Zoning	Acres	Minimum Lot Size	Maximum Developable Area	Fraction at Risk of Impervious Surface
Chatham R-1	31	40,000 sf/unit	16,750 sf/unit	42%
Chatham R-5	176	217,800 sf/unit	105,650 sf/unit	49%

A deduction of 18.3% for displaced development was included in carbon quantification, per Protocol Section 11.4.

The Carbon Quantification Summary is as follows:

Project Area (acres)	206.77
Does carbon quantification use stratification (yes or no)	yes
Percent tree canopy cover within Project Area	90.5%
Accounting Stock (tCO ₂ e)	30,190
On-site avoided biomass emissions (tCO ₂ e)	15,844
On-site avoided soil carbon emissions (tCO ₂ e)	11,782
Deduction for displaced biomass emissions (tCO ₂ e)	2,899
Deduction for displaced soil emissions (tCO ₂ e)	3,570
Credits from avoided biomass emissions (tCO ₂ e)	12,944
Credits from avoided soil emissions (tCO ₂ e)	8,212
Total credits from avoided biomass and soil emissions (tCO ₂ e)	21,156

Credits attributed to the project (tCO ₂ e), excluding future growth	21,156
Contribution to Registry Reversal Pool Account	2,116
Total credits to be issued to the Project Operator (tCO₂e) <i>(excluding future growth)</i>	19,041

Project Operator asserts that the Project results in GHG emissions mitigation of 19,041 tons CO₂e.

Co-Benefits Quantification (Section 11.5)

Criteria

Project Operator follows co-benefit quantification for rainfall interception, air quality, and energy savings, per protocol criteria Section 11.5.

Issue Validated

Project Operator has followed the co-benefits quantification method using the templates provided by City Forest Credits. Project Operator included 53 percent deciduous, and 38 percent coniferous for the 206.77 acre Project Area. The following table documents the quantified ecosystem services in resource units and avoided costs.

<i>Ecosystem Services</i>	<i>Resource Units</i>	<i>Value</i>
Rainfall Interception (m ³ /yr)	55,742.6	\$145,799.76
Air Quality (t/yr)	5.4697	\$11,908.99
Cooling – Electricity (kWh/yr)	328,001	\$24,895.24
Heating – Natural Gas (kBtu/yr)	131,215	\$1,363.37
Grand Total (\$/yr)		\$183,967.35

Monitoring and Reporting (Section 8)

Criteria

Project Operator must report on tree conditions across the Project Area for the Project Duration. Reports must be submitted no less frequently than on the triennial anniversary of the date of the first Verification Report.

Issue Validated

Project Operator has agreed to submit written reports every three years using the template provided by City Forest Credits.

Social Impacts (Section 12)

Criteria

Project Operator shall use the Carbon Project Social Impact template to evaluate the SDGs to determine how a Project provides social impacts that contribute towards achievement of the global goals, as described in Section 12.

Issue Validated

Project Operator has submitted a completed Carbon Project Social Impact document. The project meets protocol criteria Section 12.

VERIFICATION REPORT

CFC reviewed the Verification Report to ensure it accurately reflects the documentation contained in the Project Design Document and supporting documents.

VALIDATION CONCLUSION

All the information provided in this validation report is free of material misstatement, to the best of our knowledge. The project complies with the validation criteria outlined in the City Forest Credits Standard and Tree Preservation Protocol Version 13.40.

Approved by City Forest Credits on September 29, 2025.