



Hemlock Ridge Forest Validation Report

Document Prepared by City Forest Credits

March 1, 2024

PROJECT OVERVIEW

<i>Project Name</i>	Hemlock Ridge Forest
<i>Project Registry Number</i>	047
<i>Project Type</i>	Tree Preservation
<i>City Forest Credits Protocol Version</i>	Version 12.40, February 22, 2023
<i>Project Start Date</i>	December 20, 2022
<i>Project Location</i>	Leroy and Concord Townships, Lake County, Ohio
<i>Project Operator</i>	Western Reserve Land Conservancy

SUMMARY

Provide a few sentences about the overall project

Western Reserve Land Conservancy, in partnership with Lake Metroparks, preserved 222.8 acres of forest in Leroy and Concord Townships, Lake County, OH, as part of the Hemlock Ridge Forest carbon project. Bordering a major interstate and zoned for residential and commercial development, the property containing Hemlock Ridge Forest was at risk of future development. The forest is dominated by an outstanding mix of hardwood species, including maple, tulip tree, sassafras, and oaks.

From the beginning, carbon crediting was an important deciding factor in the Project Operator’s financial decision to acquire the property and transfer it to Lake Metroparks. Through a conservation easement between the Project Operator and Lake Metroparks, the property is being preserved in perpetuity, providing carbon sequestration, expanding greenspace access for the community, and securing high-quality wildlife habitat and ecosystem service delivery.

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

To demonstrate that they are an entity organized under the laws of their jurisdiction, the Project Operator, Western Reserve Land Conservancy, provided documentation in the form of a letter from the IRS attesting to their tax-exempt status to City Forest Credits.

Project Submittal Dates (Section 2.1, 2.3)

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.

Issue Validated

Project Operator submitted the application on July 21, 2023. The Preservation Commitment effective date is December 20, 2022, which is within two years of the application date approval date of July 27, 2023, thereby meeting protocol criteria Section 2.1 and 2.3.

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

The Project Operator, Western Reserve Land Conservancy, and City Forest Credits signed a Project Implementation Agreement on August 16, 2023 for the Hemlock Ridge Forest (Project Registry Number 47). The project has a 40-year duration under City Forest Credits Tree Preservation Protocol Version 12.40.

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. 4,130 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, Todd Douglass.

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. 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 Leroy and Concord Townships, Lake County, OH. The property lies along the border of the Cleveland Urban Area, as defined by the US Census Bureau, and is within the Northeast Ohio Areawide Coordinating Agency planning boundaries, which meets protocol criteria Section 1.3A and 1.3D. The Project Operator has provided maps as supporting evidence, including geospatial location, regional-scale, and project area maps.

The 222.8-acre Project Area includes portions of contiguous parcel numbers:

Municipality	Parcel Number	Notes
Concord Township	08-A-009-0-00-005-0	88.3 acres of 113.18-acre property
Leroy Township	07-A-027-0-00-009-0	134.5 acres of 224.82-acre property
	Total Project Area	222.8 acres

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 report to demonstrate the percentage of canopy cover for the Project Area is about 95%.

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

Lake Metroparks is the landowner for the Hemlock Ridge Forest property. In the deed of transfer between Erie Land Resources LLC and Lake Metroparks, Erie Land Resources LLC (a supporting organization of the Project Operator) secured the rights to the carbon credits.

Because Erie Land Resources LLC is the owner of the carbon rights, the Project Operator provided a signed agreement between them and Erie Land Resources LLC with the latter granting the Project Operator the rights to the carbon credits, thereby meeting protocol criteria Section 1.5C. The Project Operator provided a copy of the signed Agreement to Transfer Credits between Western Reserve Land Conservancy, the Project Operator, and Erie Land Resources LLC 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 signed and recorded a conservation easement with Lake Metroparks, with the Project Operator holding the easement. The easement includes two sections protecting the trees: Section B.1(d) on page 6, which allows for tree removal but only in the cases of disease/hazard, or trail creation so long

as the trail-related removal does not materially impact carbon storage; and Section B.4(f), on page 8, which restricts the right to remove the trees.. The project meets protocol criteria Section 4.1.

The conservation easement does reserve the right to develop recreation-related facilities and amenities on up to 30 acres of the property: Section B.2(b), on page 6. These acres were therefore excluded from the carbon quantification.

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 is not in an overlay zone that prohibits all development. 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

The Project Operator signed an Attestation of Additionality on September 21, 2023, 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 property containing the Project Area is zoned for residential R-4 use (in Concord Township) and residential R-2 and commercial B-2 Business Interchange uses (in Leroy Township). These uses allow for non-forest development, including single-family homes under residential zoning, and office and retail space under the commercial zoning.

The Project Operator excluded the following overlay areas from the Project Area: steep slopes, riparian buffers, and wetlands. For the floodplain overlay, under both townships' ordinances, the floodplain was subsumed into the riparian buffer regulations because of its proximity to the riparian buffer. Project Operator confirmed with the Lake County Soil and Water District and the Concord Township Planning & Zoning Director that the trees could be harvested in the floodplain and riparian buffer of Concord Township without a permit. In Leroy Township, the Project Operator confirmed with the Zoning Inspector that the trees could not be harvested in the riparian buffer. Therefore, the Project Area includes the floodplain within Concord Township but not Leroy Township.

To demonstrate Threat of Loss, the Project Operator provided a map demonstrating that the Project Area property perimeter is bordered on over 30% 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 has submitted a signed Attestation of No Double Counting and No Net Harm on September 21, 2023, 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. The Project Area is within 10 miles of a previous project by the Project Operator in Mentor, Ohio (Whittlesey Beach Ridge Forest, Project Number 024), but there is no overlap in Project Area.

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 start of the project, the trees in the project area cannot be 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 some risk of removal or conversion out of forest.

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.

Project Operator must sign an Attestation of Additionality.

Issue Validated

Project Operator has demonstrated that prior to the start of the project the trees were not protected, the zoning allows for a non-forest use, and the trees are 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 signed the Attestation of Additionality on September 21, 2023.

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 engaged an independent consultant, Davey Resource Group (DRG), to perform an on-site assessment of the carbon stock, per protocol criteria Section 11.1.B. DRG conducted a plot-sample forest assessment adhering to the standards set in CFC Tree Preservation Protocol Section 11.1.B. DRG established 24 sample plots sized at 1/10th-acre. Within every plot, each live tree was inventoried that was at least 5” in diameter at 4.5’ above ground, where the height above ground is measured on the uphill side of the tree. The plot data were used as input for iTree Eco to quantify the carbon biomass across the entire Project Area., per protocol criteria Section 11.1.B. The standard error for plot sampling was 6%, far less than the 20% maximum prescribed by the Protocol.

Forest composition from the plot-sample inventory was provided as supporting documentation, but forest age was not necessary for carbon quantification for this project.

The property is zoned residential and commercial. The Project Operator calculated the Accounting Stock at Risk of Tree Removal for each zoning class separately and as described in Protocol Section 11.2. Because the exact location of the 30-acre reserved recreation area has not been identified, the ratio of Tree Removal Risk was calculated across the entire 222.8-acre Project Area.

Zoning	Number of Acres	Calculation Explanation
Concord R-4	88.3	The zoning regulations allow a minimum lot size of 1 acre/lot. Per Protocol Section 11.2.B.ii, 90% is at risk of clearing.
Leroy R-2	106.5	The zoning regulations allow a minimum lot size of 3 lot/acre. Per Protocol Section 11.2.B.ii, 69.15% is at risk of clearing.
Leroy B-2	28	Per Protocol Section 11.2A, 90% is at risk of clearing in business/commercial zoning. Leroy Township does not have more prohibitive tree protections that would override this Protocol allowance.

Project Operator quantified the avoidance of emissions from soil carbon caused by conversion of soils to impervious surfaces under Protocol Section 11.3. As was done for Fraction at Risk of Tree Removal, the Project Operator calculated avoided soil carbon emissions separately for each zoning class. Because the exact location of the 30-acre reserved recreation area has not been identified, the ratio for Avoided Conversion was calculated across the entire 222.8-acre Project Area.

Zoning	Number of Acres	Calculation Explanation
Concord R-4	74.6	The zoning regulations do not limit impervious surface. Per Protocol Section 11.2.B.ii, 50% is at risk of conversion.
Concord R-4 – in floodplain	13.7	Because of the riparian buffer regulations, 0% at risk of conversion.
Leroy R-2	106.5	The zoning regulations do not limit impervious surface. Per Protocol Section 11.2.B.ii, 50% is at risk of conversion.

Leroy B-2	28	Leroy Township limits impervious surface conversion in commercial districts to 70%.
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A deduction of 18.3% for displaced development was included in carbon quantification, per Protocol Section 11.4.

The 30 acres reserved for recreation-related development were excluded from the carbon quantification. Thus only 192.8 acres were included.

The Carbon Quantification Summary is as follows:

Project Area (acres)	222.8
Project Area (acres) included in quantification (excludes 30-acre recreation area)	192.8
Does carbon quantification use stratification (yes or no)	No
Accounting Stock (tCO ₂ e)	51,104
On-site avoided biomass emissions (tCO ₂ e)	40,883
On-site avoided soil carbon emissions (tCO ₂ e)	11,337
Deduction for displaced biomass emissions (tCO ₂ e)	7,482
Deduction for displaced soil emissions (tCO ₂ e)	3,435
Credits from avoided biomass emissions (tCO ₂ e)	33,402
Credits from avoided soil emissions (tCO ₂ e)	7,902
Total credits from avoided biomass and soil emissions (tCO ₂ e)	41,303
Credits attributed to the project (tCO ₂ e), excluding future growth	41,303
Contribution to Registry Reversal Pool Account	4,130
Total credits to be issued to the Project Operator (tCO₂e) <i>(excluding future growth)</i>	37,173

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 94 percent deciduous, and 1% percent coniferous tree cover across the Project Area. The following table documents the quantified ecosystem services in resource units and avoided costs.

Ecosystem Services	Resource Units	Value
Rainfall Interception (m ³ /yr)	109,630.2	\$231,715.02
Air Quality (t/yr)	7.6014	\$18,755.49
Cooling – Electricity (kWh/yr)	331,252	\$46,408.46
Heating – Natural Gas (kBtu/yr)	13,687,740	\$191,440.73
Grand Total (\$/yr)		\$488,319.70

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

The Project Operator is a Land Trust Alliance-accredited Land Trust, with a stewardship team that manages its easements. Project Operator staff members will visit the Project Area annually, monitoring the Project Area to ensure compliance with the easement protections. In addition, the Project Operator will 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, prepared by VVB Todd Douglass and dated February 29, 2024, 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 12.40.

Approved by City Forest Credits on March 1 in 2024.