



## **Verification Report**

### **ACR114 GreenTrees ACRE (Advanced Carbon Restored Ecosystem)**

July 31, 2020

Ruby Canyon Environmental, Inc.

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# 1 INTRODUCTION

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GreenTrees, LLC (GreenTrees) contracted with Ruby Canyon Environmental, Inc. (RCE) to perform the verification of the ACR114 GreenTrees ACRE (Advanced Carbon Restored Ecosystem) project (Project) for the reporting period of January 1, 2018 through December 31, 2019 under the American Carbon Registry (ACR) program. The goal of the verification is to ensure that the GHG assertion is materially correct, that the data provided to RCE is well documented and that if GreenTrees has made any material errors, that these errors be corrected.

## 1.1 PROJECT BACKGROUND

The GreenTrees ACRE Project is a programmatic afforestation/reforestation project (A/R). Project lands are located within the Mississippi Alluvial Valley (MAV) in the US Forest Service South Central and Southeast Regions. The project uses site preparation and tree planting to establish trees on lands that had previously been used for agriculture.

## 1.2 CONTACT INFORMATION

### Project Developer

GreenTrees, LLC  
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The Plains, VA 20198  
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### Verification Body

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(970) 241-9298  
Zach Eyler, Vice President  
[zeyler@rubycanyonenv.com](mailto:zeyler@rubycanyonenv.com)

### Verification Body Technical Support

FRST Corp. (FRST)  
563 Brunswick Rd, Ste 8  
Grass Valley, CA 95945  
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Christian Eggleton, Vice President and Professional Forester  
[ceggleton@frstcorp.com](mailto:ceggleton@frstcorp.com)

## 1.3 VERIFICATION TEAM

Lead Verifier: Zach Eyler

Team Members: Phillip Cunningham, Christian Eggleton (FRST), Tim Facemire (FRST), Andrea Eggleton (FRST),  
Internal Peer Reviewer: Bonny Crews

## 1.4 OBJECTIVES

The goal of this GHG emission reduction verification is to ensure that the GHG assertion made by the Project is materially correct, that the data provided to RCE can be documented and that the Project is in compliance with all ACR standards and requirements.

# 2 VERIFICATION CRITERIA

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## 2.1 STANDARDS AND PROCESS

- ISO 14064-3:2006 “Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions”
- Validated Project Plan “Advanced Carbon Restored Ecosystem (ACRE), December 13, 2011
- ACR Standard, October 2010, v2.1
- ACR Forest Carbon Project Standard, November 2010, v2.1 (Forest Standard)
- ACR Validation and Verification Guideline for GHG Projects, May 2018, v1.1
- Afforestation and Reforestation (A/R) methodological tool “Tool for testing significance of GHG emissions in A/R CDM project activities, Version 01”
- ACR Risk Buffer Rating Tool, v1.0
- ACR Methodology for Afforestation and Reforestation of Degraded Land, Version 1.0, March 2011 (Methodology), together with the following procedures and tools:
  - Approved CDM “Tool for the identification of degraded or degrading lands for consideration in implementing CDM A/R project activities”
  - Approved CDM tool “Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity”
  - Approved CDM “Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities”
  - Approved CDM “Combined tool to identify the baseline scenario and demonstrate the additionality in A/R CDM project activities”

## 2.2 LEVEL OF ASSURANCE

This verification was conducted to a reasonable level of assurance.

## 2.3 MATERIALITY

This verification was conducted to ACR’s required materiality threshold of +/-5% of the GHG project’s emission reductions or removal enhancements.

### 3 SCOPE OF VERIFICATION

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- Organizational Boundaries
  - ~115,000 acres located in Mississippi, Louisiana, and Arkansas
- Infrastructure, Technologies, Processes
  - The Project is considered a programmatic afforestation/reforestation project (A/R). The Project uses site preparation and tree planting to establish trees on lands that have been in continuous agricultural use for decades.
- GHG SSRs
  - Carbon Pools: aboveground biomass, belowground biomass and soil organic carbon
- Types of GHGs Reported
  - CO<sub>2</sub>
- Reporting Period
  - January 1, 2018 – December 31, 2019
- Assessment Areas
  - Project lands are located within the Mississippi Alluvial Valley (MAV) in the US Forest Service South Central and Southeast Regions.

### 4 VERIFICATION PROCESS

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#### 4.1 VERIFICATION ACTIVITIES

The verification process consisted of the following activities as outlined in the verification plan:

- RCE completed a COI form on November 19, 2019 to identify any potential conflict of interest with the Project or Project Developer. No conflicts of interest were found.
- RCE and FRST held a verification kick-off meeting with GreenTrees on November 21, 2019. During the kick-off meeting RCE reviewed the verification objectives and process, reviewed the verification schedule, and submitted an initial document request.
- RCE performed a strategic review and risk assessment of the received data and support documents to understand the scope and areas of potential risk in the GHG emissions reductions.
- RCE developed a risk-based sampling plan based upon the strategic review and risk assessment. The verification plan and sampling plan were used throughout the verification and were revised as needed based upon additional risk assessments.
- RCE and FRST performed a risk-based desktop review of the submitted verification documents. The desktop review included an assessment of the GHG calculation methods and inputs, source data completeness, GHG management and monitoring systems and eligibility documentation.
- RCE submitted requests for corrective actions, additional documentation, clarifications and recommendations for improvement as necessary to GreenTrees throughout the verification.
- RCE and FRST conducted interviews with Project personnel during the verification. RCE and FRST spoke with the following individuals:
  - GreenTrees
    - Chandler Van Voorhis

- Katherine Sarich
  - Bickham Crooks
  - Avery Hughes
  - John Firestein
- EcoFor
  - Gordon Smith
- RCE's internal peer reviewer conducted a review of the verification sampling, report, and statement.
- RCE issued a final verification report, verification statement, and list of findings.
- RCE and FRST held an exit meeting with GreenTrees.

## 4.2 ACR FORESTRY STANDARD AND REQUIREMENTS

### 4.2.1 Eligibility

RCE and FRST reviewed the Project against all ACR Forest Standard and Methodology eligibility requirements and confirmed the following:

- Project is implemented on degraded lands.
- Project is not implemented on organic soils.
- Project land is not considered wetlands.
- Litter remains on site.
- Plowing, ripping or scarification is only done within the first five years of the initial site preparation.
- All lands were planted after November 1, 1997, meeting ACR start date requirements.
- GreenTrees has committed to a minimum project term of 40 years, meeting the ACR project term requirements.
- The Project crediting period is confirmed as 40 years.
- GreenTrees as the project developer has direct control over the emission reductions.
- GreenTrees has clear title to the emissions reductions.
- The ownership titling of land within the Project boundary is clear.
- Project lands were not cleared of trees within 10 years before the project start date.

#### Crediting past 15 years

The original PD states that the Project was only planning to claim credits on the first 15 years of growth after planting, so that if landowners do commercial forest harvesting in the future, the net carbon stocks under forestry should remain at least the amount counted as credits. However, ACR provided guidance during the last verification that these trees are permitted to remain in the Project with the following guidance: "This is permissible for instances/stands that are demonstrably growing slowly relative to comparable stands within the project. Please ensure that the annual monitoring report provides an updated year/or target for these stands/instance for which offset counting will stop so future verifiers can track this." RCE discussed this with GreenTrees during the previous reporting period verification as well as for this current verification. GreenTrees confirmed that trees are still not growing as fast as originally anticipated. In addition, lands that are part of the CRP (and WRP) programs have an obligation to not harvest and commit to conservation practices. GreenTrees confirmed that no harvesting has occurred

during this reporting period and in addition that very few tracts are near carbon stock levels that would make economic sense for harvesting.

#### **4.2.2 Additionality**

RCE and FRST confirmed that the Project meets the applicable additionality requirements including the CDM A/R methodological Tool “Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities” and ACR’s three-pronged test. Land enrolled was previously validated and verified as meeting the additionality requirements. RCE and FRST reviewed a sample of new tracts to confirm land enrolled for this reporting period are similar to previous tracts and meet all requirements. The Project exceeds enforced laws and regulations, exceeds common practice in the geographic region and forest type and the Project faced a financial implementation barrier.

#### **4.2.3 Permanence**

The Project has committed to a 40-year agreement with ACR. A few owners decided to leave the Project and RCE/FRST confirmed that these tracts have been removed from the Project.

The Project uses the ACR risk assessment tool. RCE and FRST reviewed the tool and agree with the risk rating of 16.62%

#### **4.2.4 Leakage**

The ACR Forest Standard states that A/R projects do not typically need to account for leakage. Discussions with GreenTrees confirm that the Project is typical of A/R project and that there is no leakage.

#### **4.2.5 Community and Environmental Impacts**

RCE and FRST confirmed that positive impacts and co-benefits from the Project potentially include income to landowners, new jobs associated with Project activities, water quality, reduction of soil erosion, and increased biodiversity.

### **4.3 PROJECT INVENTORY**

RCE assisted FRST with the review of the Project’s inventory. A variety of areas of the inventory were reviewed and discussed with GreenTrees. Overall, FRST and RCE confirmed that the Project inventory meets the ACR requirements and is conservative in nature. A variety of recommendations for improvement were suggested for GreenTrees to implement in the future to make the Project more transparent and less difficult to verify.

RCE and FRST confirmed that the Project’s 90% confidence interval was no more than 10% of the mean carbon stocks, thus the Project does not need to take an uncertainty deduction.

### **4.4 GHG ASSERTION**

RCE and FRST reviewed the GHG assertion calculation as well as supporting documentation for the assertion. After careful review and discussion, with GreenTrees assistance, the calculations were confirmed to be accurate and commensurate with their reported GHG equations and methods. RCE and FRST made recommendations on their calculation process for future verifications.

## 5 VERIFICATION FINDINGS

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RCE and FRST developed a list of findings notifying GreenTrees of requests for corrective actions, additional documentation, clarification and recommendations for improvements. All issues were closed with appropriate responses by GreenTrees. A complete list of the issues and responses can be found in Appendix A.

## 6 VERIFICATION RESULTS AND CONCLUSION

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This verification of the GreenTrees ACRE Project for the reporting period January 1, 2018 to December 31, 2019 was completed in a manner consistent with ISO 14064-3:2006 and in conformance with all ACR standards and guidelines. The table below is a summary of the emission reduction or removals.

Vintage	GHG Reductions and Removals (mtCO <sub>2</sub> e)	Risk Buffer (mtCO <sub>2</sub> e)	Emission Reductions (mtCO <sub>2</sub> e)
2018	308,550	51,267	257,283
2019	1,364,185	226,668	1,137,517
<b>Total</b>	<b>1,672,735</b>	<b>277,935</b>	<b>1,394,800</b>

Note: Values might not sum correctly due to rounding.

Lead Verifier Signature



Zach Eyler

Internal Peer Reviewer Signature



Bonny Crews



## 7 APPENDIX A

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Corrective Action Request, Non-Material Finding, Additional Documentation Request, or Clarification Request ID#	Finding	PD response	RCE response	Additional PD response	Additional RCE response	Additional PD response	Additional RCE response	Open or Closed
CAR 1	For the soil calculation it appears that for all acres planted in 2000 and later the growing season used in the calculation is 1 year older than it should be. For example acres planted in 1999 and 2000 both note the # of growing seasons as 20 where as acres planted in 2000 should have only 19 seasons.	The years of sequestration are correct. Planting is done about March and the tract can accrue both biomass and soil carbon in the planting year. Sequestration is calculated through December 2019 so tracts also sequester carbon in 2019. So a tract planted in 2018 would accrue two years of soil sequestration 2018 and 2019. Soil sequestration is limited to 20 years so planting before year 2000 accrues no soil carbon in 2019 because there are 20 growing season from planting in early 2000 through December 2019.	4/7/2020: Thanks for the explanation of planting and growing seasons. RCE has adjusted our calculation to reflect this and there is no longer a material error. Closed.					Closed
NM 1	In the tree calculations there are two variations of equation 12 that are based off of DBH. The equation for the less than 11" DBH has been switched for the greater than 11" DBH equation and vice versa. This impacts 402 trees.	You are correct. We have switched these equations and recalculated carbon stocks. Switching these equations makes a very small change in calculated carbon sequestration.	3/30/2020: Thank you for making this change we are now in concurrence on individual tree calculations.					Closed
NM 2	In the tree calculations there are 7 trees that are not being calculated correctly. Tree 86_1 has a listed TPA of 1000 but currently appears to be calculating as if it is 900. The other issue is trees 304_1 270_5 270_9 189_3 192_6 all which appear to have a listed root ratio of 0.3 but seem to be calculating it as 0.235.	Those are dead trees and following the methodology and the Project Document the biomass of dead trees must be adjusted for the decomposition class of the tree. We are providing a copy of the tree data with decomposition class in a file named "GT2019 TREE DATA 2019-11-21 with decay class.xlsx".	3/30/2020: Thank you providing the data on decomposition class we are now calculating correctly.					Closed
NM 3	Using acres from the GIS RCE/FRST still find 193 acre difference from the acres used in the final calculations. Almost all of the difference comes from GRT0422 - it appears acres not updated in the calculations after being revised in the GIS.	Since the issue is not material and leaving calculation as it is attributes fewer credits to the project and is thus conservative GreenTrees chose to ignore.						Closed
ADR 1	Please provide a detailed written description of the stratification including inactive acres.	Description provided.	1/9/2020: Description provided closed.					Closed
ADR 2	Please provide supporting documentation for the calculation of the portion of acreages under conservation easement.	The calculation is in the file "Risk Rating v01.xlsx" (previously provided) tab "Conservation Easement". The lands with conservation easements are lands enrolled in the federal WRP program which requires a conservation easement. We are also providing the file "AcresByProgram.xlsx" which is an export of the tract acres and program.	Thank you for providing the AcresByProgram excel document. The Risk Rating v01 document states there are 56 294.8 acres under easement but it appears that there are 58 362.66 acres by the Program document. What is the difference between these two values?	Recalculation pending closing of CR 5. When that is closed we will recalculate based on the final acres. Regarding the prior acres 56 294.8 was the number at the time the risk rating was calculated. 58 362.66 was the updated numbers at the time of your review and we neglected to update the risk rating calculation.	5/20/2020: The updated number of acres under easement after other corrections noted elsewhere is 58 516.26 calculated in "GreenTrees_Tract_Stand_20200512 GRT3 removed.xlsx".	RCE/FRST confirmed the appropriate acres in conservation easement.		Closed
ADR 3	Is additional data available to verify the location of the installation of plots? For example were actual GPS points taken of plot centers when they were installed?	The x and y coordinates for each plot were established before field work began using a GIS tool that randomly allocates the specified number of points (see the response to CR 4 for more information about this tool). The locations were imported into a SoloForest .wayfile that was loaded onto handheld GPS capable data-recorders. The field forester then used the GPS data-recorder to navigate to the predetermined location. The SoloForest software was set to not allow the user to enter data for a plot until the data recorder was within 9 meters of the specified plot center and then the software asks the user if they want to log data for that plot. However the field personnel did not actually log a point until the unit was as close to zero as possible (This is typically between 0 and 12 feet).	After reviewing the provided gpx file it appears that these may not actually be logged GPS points. Many of the points are consistently the same distance and azimuth from the original plot locations which may be the result of a projection conversion. Please confirm the layer provided or clarify why there is consistency in the discrepancies.	You are correct. These are assigned points not logged points. We have tried to be clear that no points were logged during field work. The software does not allow the field worker to enter data unless they are physically close to the assigned point.	Thanks for this additional explanation.			Closed
ADR 4	Please provide credentials bios or resumes for field personnel who measured the plots.	Biographical information is provided in the document "Field Crew Bios.docx".	3/30/2020: Thank you providing this information closed.					Closed
ADR 5	Please provide a GIS layer of the previous plot locations in order to test the new stratification based on the stocking of the old plots.	We are providing the shapefiles in the file "Plots2017-2018_NAD_1983_UTM_Zone_15N.zip". Tonnes CO2e/acre measured on each plot are in the file "Biomass by plot 2017-12-31.xlsx".	3/30/2020: Thank you. The old plots were assigned the new strata and averages calculated for comparison. This issue may be closed.					Closed
ADR 6	Please provide the ACR Attestation for 2019-2020.	We are providing the file "Annual Attestation 2020.pdf".	4/7/2020: The Attestation was provided closed.					Closed
ADR 7	Please provide the most current Risk Mitigation Agreement.	We are providing the file "ACR AFOLU Carbon Project Reversal Risk Mitigation Agreement 2020 signed not countersigned.pdf".	4/7/2020: The Agreement was provided closed.					Closed
ADR 8	Please provide evidence of implementation of the project's QC program per QA QC Procedures 2019-12-11.docx specifically for field measurements.			Document provided: "Documentation of Following QA QC Procedures.docx".	Document provided.			Closed
ADR 9	Please provide the calculation for uncertainty.	The calculation for uncertainty was provided.						Closed
CR 1	In the GreenTreesVerification2019TractsStratPlots 2019-12-13 "Stratified" tab what is strata 9? This appears to be combined with stratum 0 in the biomass summary.	Stratum 9 are small areas within the project that will never accrue carbon such as sheds or parking areas that are functionally impervious surface. These areas were detected during stratification when each tract was viewed with high resolution aerial imagery.	3/30/2020: Thank you for the explanation closed.					Closed
CR 2	Please provide an explanation of the increases/decreases in soil and biomass as compared to the last RP (2016-2017). As compared to the last RP soil C increased by 48% whereas biomass decreased by 16%. The % change in biomass is a combination of a 22% decrease in aboveground and a 11% increase in belowground. Why is there an increase in soil C and a decrease in biomass?	There are several factors that contribute to this situation. These factors are explained in the document "Credit Generation Analysis 2020-03-18.docx".	Thank you for a thorough description of the plots strata and sampling for determining these values. All changes are accounted for and the explanations are reasonable.  Given the size of the soil credit change please provide additional supporting documentation (calculations etc.) on the change.	We are providing the file FINAL 2018-1_20180608_125451_Soil.xlsx". This is the output from the carbon module for the last verification as of 12/31/2017. The first four digits of the stand number are the GRT number (for example 0461001 would be GRT0461 stand 1), you can compare the growing seasons in this calculation to the growing seasons in the soil carbon output that we have previously provided. Most stands have one too few growing seasons in the older file. For example if a stand was planted in March 2016 it should have two growing seasons 2016 and 2017. Not all stands count all growing seasons through 2017 because they may have reached the 20 year limit of soil carbon sequestration or may have switched to "monitor only".	This is the output from the carbon module for the last verification as of 12/31/2017. The first four digits of the stand number are the GRT number (for example 0461001 would be GRT0461 stand 1), you can compare the growing seasons in this calculation to the growing seasons in the soil carbon output that we have previously provided. Most stands have one too few growing seasons in the older file. For example if a stand was planted in March 2016 it should have two growing seasons 2016 and 2017. Not all stands count all growing seasons through 2017 because they may have reached the 20 year limit of soil carbon sequestration or may have switched to "monitor only".	Thanks for providing this file. RCE was able to confirm that last RP's soil calculation generally used one less growing season than it should have.  RCE confirmed this RP's values to within 0.04%.		Closed
CR 3	It appears that there are two plots (110 and 111) not inventoried in the zero stratum. Please clarify how these became a part of the dataset.	The tract containing plots 110 and 111 GRT0114 is stratified as stratum 0 but was inadvertently selected when the ex plot software was used to create the plot locations in stratum 1. When we discovered this error we corrected it by not taking these plots.	3/30/2020: Thank you for clarifying this and making the change.					Closed

[illegible]