RUBY CANYON ENGINEERING

& Forester's Co-Op

Verification Report
CAR683 - Blue Source - Francis Beidler Improved Forest Management Project
Reporting Periods: November 1, 2012 – August 31, 2013
September 1, 2013 - August 31, 2014

Prepared for:

Blue Source, LLC

April 14, 2015

Ruby Canyon Engineering
743 Horizon Ct. Suite 385
Grand Junction, Colorado 81506
(970) 241-9298

Forester's Co-Op
415 Colfax Avenue
Grass Valley, CA 95945
530-273-8326

Table of Contents

1.0 Introduction

Ruby Canyon Engineering, Inc. (RCE) was contracted by Blue Source, LLC (Blue Source) to perform the verification of the Blue Source – Francis Beidler Improved Forest Management Project (Project) for the second and third reporting periods of the Project, November 1, 2012 through August 31, 2013 and September 1, 2013 through August 31, 2014 to the Climate Action Reserve (Reserve) Forest Project Protocol 3.1 (Protocol). The Project, which takes place on land owned by The National Audubon Society (Audubon), involves greenhouse gas (GHG) emission reductions from forest management by preventing harvests in the project area.

RCE has teamed with Forester's Co-Op (FCO) for the purposes of conducting the forest offset project verification. This report represents a joint effort of the RCE/FCO Team in verifying the project. Per our teaming agreement, FCO is operating as a sub-contractor to RCE, with each party having defined roles and responsibilities. RCE's scope of work included general project administration tasks, performance of the initial risk assessment, development of the desktop sampling plan, completion of data checks, completion of the issues log, and completion of the verification report and verification statement. FCO's scope of work included providing input on project risks, review of inventory design and sampling methodologies, review of baseline and project growth & yield models, GIS analysis, field inventory testing, comparative carbon pool analysis, and providing input on verification issues and findings. Throughout this effort, the RCE/FCO Team worked closely to ensure agreement on the verification findings presented within this report.

1.1 Project Background & Site Description

The project entails improved forest management (IFM) on 5,548 acres of the Audubon Francis Beidler Forest in Dorchester, Berkeley, and Orangeburg counties, South Carolina. The project area includes lands previously managed for timber production prior to Audubon's acquisition. A National Resource Conservation Service (NRCS) Wetlands Reserve Program (WRP) easement was conveyed by Audubon at the project outset, perpetually restricting harvest within the project area. In lieu of the easement, the area could be actively managed for timber production. The project area is dominated by naturally occurring native hardwood species typical of its lowland location. It also contains a smaller component of native softwood species.

1.2 Responsible Parties

Project Developer: National Audubon Society (Audubon)

Technical Consultant: Blue Source, LLC (Blue Source)

1.3 Verification Team

The RCE verification team consisted of the following individuals:

Lead Verifier: Bonny Crews (RCE)
Team Member: Peter Browning (RCE)
Registered Professional Forester: Tom Amesbury (FCO)
Staff Forester & Biometrician: Andrea Hardlund (FCO)
Staff Forester & GIS Expert: Christian Eggleton (FCO)
Senior Internal Reviewer: Zach Eyler (RCE)

1.4 Objectives

The goal of the verification activities was to ensure that the claimed GHG emission reductions were complete, consistent, accurate, transparent, and permanent, and that the Project was in compliance with the Reserve project additionality, monitoring, and reporting requirements. Furthermore, the verification activities ensure that the data provided to RCE is well documented and free of any material errors or omissions.

1.5 Scope

The scope of the verification consisted of the following independent and objective activities:

- Review the project documentation against the Verification Criteria listed in Table 1 to develop a verification plan and a sampling plan
- Review project ownership documentation
- Review project eligibility
- Site Visit Verification Activities:
    - Interview the project developer, inventory and modeling specialists, and project owner
    - Site tour to assess the project boundaries, inventory method and sampling
    - Review evidence that demonstrates that the project's regulatory status and adherence to sustainable harvesting practices
    - Sampling of site inventory
- Review data management and monitoring systems
- Check calculation results and methods to assess the correctness of the emission reductions from site prep and sequestration activities.
- Desktop Verification Activities:
    - Review data management and monitoring systems
    - Check calculation results and methods to assess the correctness of the baseline and emission reductions claimed
    - Review records and additional documentation (permits, legal documentation, harvest support data, etc.)
    - Assess compliance to the project monitoring plan and compliance to the Protocol
- Issue requests for additional documentation, clarifications, and corrective actions as necessary
- Close out pending issues
- Issue a verification Report, list of findings, and verification statement to Blue Source and the Reserve.

1.6 Verification Criteria

Table 1. Verification Criteria

Criteria	Details
Standard of Verification	• Climate Action Reserve Forest Project Protocol, Version 3.1 (October 22, 2009) • Climate Action Reserve Forest Project Verification Protocol, Version 3.0 (September 1, 2009) • Errata and Clarifications to Forest Project Protocol, Version 3.1 (October 29, 2014)

	• Climate Action Reserve Program Manual (October 26, 2011) • Climate Action Reserve Verification Program Manual (December 20, 2010)
Verification Process	Climate Action Reserve and ISO 14064-3 Specification with guidance for the validation and verification of greenhouse gas assertions
Level of Assurance	Reasonable assurance
Materiality	A +95% accuracy level (less than 5% error) because total annual ERs are less than 25,000 tCO_2e. In addition, the Reserve's minimum quality standard requires the verification body determine soundness of the inventory, sampling inventory plots to determine if there is agreement in inventory levels using a paired t-test at the 80% confidence interval.

2.0 Verification Activities Summary

The current verification began with Blue Source selecting RCE as the verification body. As the first step in verification activities, RCE developed a verification plan to be followed throughout the verification. The verification plan consisted of the following activities:

- RCE completed the Notice of Verification Activities/Conflict of Interest form (NOVA/COI), announcing planned verification activities. This form was submitted to the Reserve's website on August 5, 2014; the COI assessment revealed no conflicts of interest and was approved by the Reserve on August 21, 2014.
- RCE held a verification kickoff meeting with Blue Source on August 28, 2014. During the kickoff meeting RCE reviewed the verification objectives, verification process, and the verification schedule.
- RCE performed a strategic review and risk assessment of the received data and support documents in order 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 FCO conducted a site visit for the verification the inventory and forest management on September 30 – October 3, 2014. During the site visit RCE and FCO performed key personnel interviews, sampled inventory plots, conducted reconnaissance of the project are boundary, observed elements of natural forest management, and witnessed activities representative of the baseline condition on adjacent, non-project lands.
- RCE and FCO also conducted two webinars with the Blue Source personnel to discuss the baseline and project modeling system, the inventory management system, and the associated GHG calculations.
- RCE and FCO performed a risk-based desktop review of the submitted verification documents including an assessment of the GHG calculation methods, modeling inputs and parameters,

source data completeness, GHG management and monitoring systems, evidence of regulatory compliance, and record retention practices.

- RCE submitted requests for additional documentation, clarifications, and corrective actions to Blue Source throughout the verification.
- RCE's Senior Internal Reviewer conducted a review of the verification sampling, verification report, and verification statement.
- RCE issued a final verification report, verification statement, and list of findings.
- RCE held an exit meeting with Blue Source.

3.0 Project Overview

3.1 Assessment of the GHG Reduction Project Operations

The project is located on a 5,548 acres of the Audubon Francis Beidler Forest in Dorchester, Berkeley, and Orangeburg counties, South Carolina. Some of the project area includes lands previously managed for timber production prior to Audubon's acquisition. The project area is in the tidewater region of South Carolina, and is dominated by native hardwood species, with smaller areas of naturally generated softwood and planted loblolly pine. The entire project area falls within the Atlantic Coastal Plain Swamp Hardwood & Cypress Assessment Area, within the Atlantic Coastal Plain & Flatwoods Supersection.

An NRCS WRP easement was conveyed by Audubon at the project outset, perpetually excluding harvest activities within the project area unless otherwise permitted by NRCS. Therefore, the main IFM project activity consists of preserving the forest its natural state, and ensuring no harvesting encroachment occurs along its borders. In absence of the easement, the baseline harvesting practice in the area is periodic clear-cut regeneration harvests of approximately all growth, with best management practices (BMPs) restricting harvests in streamside areas. Given the easement restrictions that prohibits harvesting within the project area, no harvesting is expected in the project scenario.

3.2 GHG Project Boundary (sources, sinks and/or reservoirs)

GHG emission reductions for the Project are quantified by comparing actual onsite carbon stocks against modeled baseline onsite carbon stocks and baseline carbon in harvested wood products. The difference in these project and baseline carbon stocks year over year is the basis for calculating the project's primary effect of maintaining and enhancing forest GHG pools. Secondary effects made up of un-intentional GHG emissions from the project (e.g. harvest leakage to non-project lands) are also taken into account. Net GHG reductions and removals for each year are the sum of the project's primary and secondary effects.

According to the Protocol, carbon dioxide (CO_2) is the only GHG considered within the boundary for the baseline and project activities.

Table 2 lists the sources of GHG emissions reviewed during the verification of the Project, as required by the Protocol.

Table 2. Project GHG Sources, Sinks, and Reservoirs for IFM projects

Activity	GHG Sources, Sinks & Reservoirs
Baseline	• IFM-1: Modeled standing live carbon (CO_2) in all portions of living trees. • IFM-3: Modeled standing dead carbon (CO_2) in all portions of dead, standing trees. • IFM-6: Modeled estimates of soil carbon (CO_2) required if site preparation includes soil disturbance over 25% of the project area or mechanical site preparation is not conducted on contours. Excluded for this project, as no large-scale site preparation was expected in the baseline case. • IFM-7: Modeled estimates of carbon (CO_2) in in-use forest products (100-yr average). • IFM-8: Modeled estimates of carbon (CO_2) from forest products stored in landfills (100-yr average).
Project	• IFM-1: Measured standing live carbon (CO_2) in all portions of living trees. • IFM-3: Measured standing dead carbon (CO_2) in all portions of dead, standing trees. • IFM-6: Measured carbon (CO_2) required if site preparation includes soil disturbance over 25% of the project area or mechanical site preparation is not conducted on contours. Excluded for this project, as no large-scale site preparation has occurred as part of the project. • IFM-7: Estimates of carbon (CO_2) in in-use forest products (100-yr average). Excluded as no harvests have occurred. • IFM-8: Estimates of carbon (CO_2) from forest products stored in landfills (100-yr average). Excluded as no harvests have occurred. • IFM-9: Biological emissions (CO_2) from site preparation activities. Excluded for this project, as no large-scale site preparation has occurred as part of the project. • IFM-14: Biological emissions from changes in harvesting on forestland outside the project area (default 20% leakage).

3.3 Project Type – Improved Forest Management

The project meets the definition and requirements of an Improved Forest Management Project as specified in the Protocol, Section 2.1.2. It meets the requirements because:

1. The project takes place on land that has greater than 10 percent canopy cover. This was verified through on-site reconnaissance during the site visit, review of aerial photography, and verification sampling of the inventory.
2. The project employs natural forest management practices, as defined in Section 3 of the Protocol. See Section 4.6 of this report for documented verification of this requirement.

3. The project does not employ broadcast fertilization. Audubon attested to this in the Project Design Document (PDD) Section 2. Further, RCE witnessed no evidence of broadcast fertilization during the site visit.
4. The project does not take place on land that was part of a previously registered Forest Project. RCE confirmed this with the Audubon and through review of all projects currently registered on the Reserve.

In addition, RCE confirmed the project has not been listed with any other registries to avoid possible double-counting of GHG attributes.

4.0 Eligibility Rules and Other Requirements

The Protocol and program specify a number of eligibility rules that a Forest Project must meet in order to register reductions with the Reserve: Additionality, Project Start Date, Location, and Regulatory Compliance. The Project meets all eligibility rules. Below is a summary of the Protocol and Program eligibility rules and the Project's compliance to each requirement.

4.1 Eligibility Rule 1: Additionality

Improved Forest Management projects are considered additional if they meet the legal requirement and the performance tests.

Legal Requirement Test

The legal requirement test requires that forest projects achieve GHG reductions and removals beyond those that would result from state, federal or local laws, regulations and ordinances. Blue Source and Audubon confirmed that there are no legal requirements requiring activities that maintain or enhance forest carbon stocks in South Carolina. Furthermore, RCE reviewed information on the South Carolina Forestry Commission's website indicating that there are no laws or regulations restricting forest harvest on private lands in South Carolina, aside from quasi-regulatory Best Management Practices (BMPs) for the protection of water quality to which Blue Source adhered when modeling baseline management. Furthermore, Audubon has signed and filed the Attestation of Voluntary Implementation with the Reserve attesting that the project's GHG management activities are not legally required. Therefore, it passes the legal requirement test.

Performance Test

The performance test requires all forest projects to achieve GHG reductions and removals beyond those resulting from "business as usual" activities defined in the Protocol. Under the Protocol, all IFM projects that meet the requirements for baseline estimation pass the performance standard test. This project meets the Protocol baseline estimation requirements (see Section 6 of this report), so it passes the performance test.

4.2 Eligibility Rule 2: Project Start Date

The Protocol defines the project start date for IFM projects as the date on which forest management activities that increase sequestration and/or decrease emissions relative to the baseline are initiated. Audubon and Blue Source claim a start date of July 17, 2007, the effective date of the WRP easement that perpetually restricts harvesting within the project area. The Reserve's Clarification issued June 8,

2010 indicates that the recordation of a conservation easement is an eligible activity denoting a project start. RCE reviewed the executed WRP easement, confirming the start date.

The Protocol restricts eligibility to projects with start dates as early as January 1, 2001, as long as they list with the Reserve prior to March 1, 2010. This project did not meet the March 1, 2010 listing deadline due to ongoing consultation with the Reserve; however, Blue Source was able to provide evidence that they were granted an extension from the Reserve. All of the information reviewed allowed RCE to confirm start date and its eligibility under the program.

The project crediting period, which lasts for 100 years beyond the project start date, is July 17, 2007 through July 16, 2107.

4.3 Eligibility Rule 3: Regulatory Compliance

The Reserve Program requires that all projects are in compliance with applicable laws during all periods for which they attempt to claim credit. Project developers are required to disclose periods of non-compliance to verification bodies and the Reserve. RCE reviewed an easement monitoring report indicating that Audubon was complying with the terms of their easement. Further, as there is no harvesting occurring within the project area, there is a low risk of non-compliance with any applicable harvest regulations RCE did not find any evidence of regulatory non-compliance during our review. Additionally, Audubon has also submitted the signed Attestation of Regulatory Compliance to the Reserve. Additionally, RCE verified that the Attestation of Regulatory Compliance was signed after the end of the reporting period and uploaded to the Reserve software.

4.4 Eligibility Rule 4: Project Location

RCE verified that the Project is located on private lands in the Tidewater region of South Carolina, USA. All forest projects on private lands within the United States are eligible, per the Protocol. RCE also reviewed maps submitted to the Reserve as part of project documentation to confirm that the maps provided meet Protocol requirements. While the RCE/FCO team noted discrepancies in physical project boundaries and the project area (see section 6.3.1 of this report), these were deemed to have an immaterial effect on crediting.

4.5 Forest Owners & Ownership of GHG Reductions

RCE reviewed evidence that Audubon owns and manages the Francis Beidler forest, including all tracts in the project area. RCE reviewed deeds and/or title insurance for each applicable tract which indicated Audubon as the holder of all rights and claims to the property. Audubon later granted certain rights over land management that may affect carbon stocks to the United States through the conveyance of the WRP easement. However, a Reserve policy memo dated November 15, 2012 clarifies that projects listed with the Reserve prior to December 12, 2011 do not need to have rights to carbon explicitly defined within applicable easements. This was reconfirmed by the Reserve in a letter dated November 20, 2014, which asserted Audubon is the sole forest owner after an internal review of the WRP. Additionally, RCE verified that the Attestation of Title was signed after the end of the reporting period and uploaded to the Reserve software.

4.6 Sustainable Harvesting Practices

The Protocol requires that, at the time commercial harvesting is either planned or initiated within a project area, that the project meets certain sustainable harvest requirements. No harvesting is planned within

the project area during the crediting period. Further, the conservation easement in place on the project area does not allow for commercial harvesting. RCE reviewed a third party easement monitoring report dated August 2014 indicating that Audubon was meeting its easement commitments. RCE also did not witness any evidence of recent harvest during our site visit. As harvests are neither allowed nor planned within the project area, and no evidence of harvests since the project date have been witnessed, this requirement is not currently applicable to the Project.

4.7 Natural Forest Management

The Protocol requires that all projects promote and maintain a diversity of native species and utilize management practices that promote native natural forest diverse in structure, species composition and age class. There are a number of verifiable requirements to be assessed during each site verification to ensure these Natural Forest Management (NFM) requirements are being met, or that progress towards the goals is evident. The Francis Beidler forest falls within the Atlantic Coastal Plain Swamp Hardwood & Cypress native forest type, as described in the Protocol companion document, "Assessment Area Data File", which defines some of the NFM requirements.

The Francis Beidler improved forest management project meets the native species requirement that forest projects must consist of at least 95% native species based on the sum of carbon in the standing live carbon pool. Greater than 99% of the basal area of the project is made up of native species, and Audubon's management plan indicates an active invasive species control program. The Protocol also defines maximum prevalence of a single species within the project. Currently, the verified inventory estimate shows a diversity of species, with Blackgum being the most prevalent, at ~35% of basal area—well below the maximum of 65% given for the Atlantic Coastal Plain Swamp Hardwood & Cypress forest type in the "Assessment Area Data File".

Audubon is not required to demonstrate conformance with the "Distribution of Age Classes/Sustainable Management" criterion in Table 3.2 of the FPP, as they apply only when the first regeneration harvest occurs in the project scenario. As noted previously, no harvesting is planned during the project crediting period.

Audubon must demonstrate a diversity of natural structural elements across the forested landscape, manifested by maintaining sufficient levels of standing and lying dead wood. RCE saw no evidence of salvage removals during the site visit and witnessed high levels of lying and standing dead wood—the result of an ice storm the previous winter. As no area of the Project has undergone recent salvage harvesting, Audubon is required to maintain or show progress towards one metric ton of carbon per acre or 1% of standing live carbon stocks in standing dead wood, whichever is higher. Currently, the project has roughly 0.9 tonnes C/acre in standing dead wood, lower than in their 2012 inventory. However, the Project's current standing dead carbon stocks are at well over 1% of standing live carbon stocks (~1.5%), and it is clear that any reductions in standing dead carbon from previous inventories were due to the recent ice storm resulting in increased recruitment of standing dead stocks into the lying dead pool—not due to active removals. This requirement will be continuously monitored and confirmed during future verification events.

4.8 Promotion of Onsite Carbon Stocks

Projects are required to maintain or increase carbon stocks over any 10-year period, with certain demonstrable exceptions in the case of balancing age classes or increasing forest resiliency against natural disturbance. As previously mentioned, no harvests are planned within the project area during the lifetime

of the Project per their WRP easement, so it is unlikely that onsite carbon stocks will decrease over the project life. RCE reviewed modeling of the project scenario, which shows increasing carbon stocks throughout the project life. Further, current verified inventory estimates are greater than those at project initiation, allowing us to confirm that this requirement has been met.

5.0 Interviews

In order to support the verification process, the verifiers arranged a number interviews and webinars with Blue Source and Audubon throughout the verification process. RCE and FCO arranged two separate webinars with Blue Source in order to get an overview of their data management system, their inventory calculations, and modeling. These overviews enabled RCE to undertake an independent review of their modeling procedure, inventory process and calculations. During the site visit we were also able to interview representatives of the forest owner in charge of managing the site, as well as a member of the crew responsible for conducting the most recent inventory update. These interviews allowed RCE to ground-truth elements of the PDD, project management, non-project activities that may affect carbon stocking, and application of the inventory field methodology.

6.0 Quantitative Review of Emission Reductions/Removals Assertion

Several elements were reviewed by RCE to ensure the project's compliance with the Protocol's guidance for determining emission reductions. The primary components of this review are confirmation of baseline model eligibility, review of a theoretical verification plot, on-site inventory verification check, inventory and baseline carbon calculation review, review of the risk of reversal rating, and assessment of GHG emission reduction calculations. Each of these elements are reviewed below.

6.1 Baseline & Project Modeling

Blue Source undertook baseline modeling on behalf of Audubon. The legality of the proposed baseline management practice was confirmed by RCE through a review of information on the South Carolina Forestry Commission's website indicating that there are no laws or regulations restricting forest harvest on private lands in South Carolina, aside from quasi-regulatory Best Management Practices (BMPs) for the protection of water quality to which Blue Source adhered when modeling baseline management. Blue Source's baseline model assumes clear-cut harvests on a 60-year rotation over nearly the entire project acreage. RCE reviewed and did a basic recalculation the financial model provided by Blue Source to determine financial feasibility of the baseline harvest scenario. The model assumptions were obtained from relevant sources at the time of project initiation.[1,2,3,4] RCE's calculation generally agreed with Blue Source's, showing a positive per-acre net present value of the baseline harvest scenario over the 100-year project period. Additionally, Blue Source provided aerial imagery of harvests on lands adjacent to the project which indicate the validity of their harvest assumptions. Clear-cut harvests of the type proposed

[1] Straka, T. J. (2007). Economic Analysis of Conservation Forestry Practices Applicable to the South Carolina Lowcountry. Clemson University
[2] Bush, T. (2009). Economic Analysis of Bottomland Hardwood Silviculture. Timberland Associates
[3] USDA Forest Service. (2012). Cost Estimating Guide for Road Construction.
[4] Timber Mart-South. (2012). South Carolina Timber Prices, 2nd Quarter 2012.

by Blue Source as the baseline scenario have occurred on surrounding lands with similar slope within the past ten years.

To determine baseline and project carbon pools over the 100-year project period, Blue Source utilized the USDA's Forest Vegetation Simulator (FVS) Southern Variant, a Reserve approved growth model. The FVS model was appropriately calibrated for local conditions by inputting the nearest National Forest, the Francis Marion Forest. Local Site Index values were used for modeling, which were derived from an analysis of height and age samples of co-dominant sweetgums and blackgums sampled along transects within the project area. For the baseline scenario, clear-cuts of roughly 300-acres were selected for removal each year, naturally regenerating based on defaults of the FVS Southern Variant. Given the 5-year minimum model increment in FVS, an entire 10-year harvest block would be scheduled for harvest in the fifth year, with the result being that average baseline harvests were reflected over that 10-year period. The growth-harvest data was used to populate spreadsheets which calculated 100-year baseline carbon. Harvest breakpoints for sawtimber and pulpwood were adjusted in the model to account for regional standards. Additionally, cut-lists were exported from FVS as the basis for determining baseline carbon in harvested wood product, which were used to populate the harvested wood product calculations spreadsheets. RCE confirmed that the appropriate wood product classifications and mill efficiencies were used. A few stands—in particular those found within the Streamside Management Zones (SMZs)—were subject to unique modeling constraints. Stands found within the SMZs were never modeled for harvest. In the baseline model, a handful of stands were thinned, not clear-cut, only once.

Baseline models must be compared to the common practice metric to ensure that average standing live carbon stocks modeled over the 100-year baseline period are at or above common practice. Common practice values for assessment areas are found in the Protocol companion document, "Assessment Area Data File", and are dependent on site productivity. RCE reviewed both Blue Source's determination of site index values for co-dominant species, and their process for converting them to Forest Service site class productivity values used in the common-practice lookup table. Based on this process, RCE can confirm the choice of common practice method of 76.68 tonnes CO_2e per acre—the value for low productivity in the Atlantic Coastal Plain Swamp Hardwood & Cypress assessment area—as appropriate. The modeled 100-year baseline value developed by Blue Source is 76.95 tonnes CO_2e per acre, meeting the requirement that they be at or above the common practice metric.

All of the modeling commands were reviewed to ensure that they accomplish the modeling goals described in the PDD. In addition, RCE re-ran a sub-sample of the modeling pertaining to Compartment 2 from the source data, compared outputs to what was used to calculate baseline carbon stocks, and found overall agreement. In addition to the forward projection for the baseline, Blue Source also used modeling to back-cast their 2012 inventory to the 2007 start date. This involved growing the model forward from 2012 by one five-year period, then using the individual tree diameter and height growths as the basis for back-casting. For the 100-year project scenario, inventory was simply grown forward without any harvests projected, implying no active management would take place. These processes were reviewed by RCE to ensure they were correctly carried out. Resultant outputs were integrated into carbon calculations, which were reviewed as described in Section 6.4 below.

6.2 Verification Plot

The Forest Project Verification Protocol v. 3.0 requires that verifiers provide a theoretical "verification plot" containing all tree species found within the project with varying heights and diameter to ensure that the representative carbon tonnes per acre as calculated by the project developer agrees with the output

separately calculated by the verifiers. RCE/FCO provided such a plot to Blue Source, who calculated representative carbon tonnes per acre which matched RCE/FCO's calculation. RCE also audited the calculation spreadsheets provided by Blue Source to ensure conversions and expansion factors matched source material and were correctly applied.

6.3 On-site Inventory Verification Check

During the site visit, RCE and FCO verified inventory estimates based on our understanding of inventory risk and the "verification field intensity" determined following the assessment criteria found in the Verification Protocol, Checklist 5.5.

The following verification criteria were considered to have either a weak or strong demonstration, affecting the verification field intensity.

1. Plot location: **Strong** – Permanent plots were monumental with a metal bolt, piece of PVC pipe and flagged. GPS locations were also provided. Despite swampy conditions, plots were found easily based on the GPS and visual indicators.
2. Inventory methodology: **Weak –** While an inventory document was provided, demonstrations by the project developer's representative who was involved in the field work indicated a lack of adherence to it. This was unexpected at the outset of verification and caused RCE and FCO to increase the number of plots to be verified from 6 to 12, per the increased field intensity.
3. Forest vegetation is stratified: **Strong -** Forest area is divided into two strata based on infrared areal imagery.
4. Updating process: **Strong –** Forest owner was able to demonstrate the update process, which was current.
5. Inventory/field correlation: **Strong –** Field and provided aerial photos showed strong correlation with the stratification and inventory reports.

Given that the project covers ~5,200 acres of forestland, the verification field intensity as determined per the FPVP Checklist 5.5 is shown in Table 3.

Table 3. Verification Field Intensity

Verification Multiplier for Acreage	Verification Criteria 1	Verification Criteria 2	Verification Criteria 3	Verification Criteria 4	Verification Criteria 5	Verification Field Intensity
1.5	1	2	1	1	1	3

The number of required plots is based on field intensity multiplied by 4, so a minimum of 12 plots were required to be verified. Plots chosen for verification were all located in the Compartment 2, Stand 1 stratum. This stratum was the highest stocked and represented the largest stratum, containing roughly 50% of carbon stocks and covering 42% of total project acreage. Given the "verification field intensity" of 3, 60% of plots verified should be in plots within the highest 33% stocking level, and 40% of plots are required to be in plots within the middle 33% project stocking level. To approximate this, the random selection of plots included seven plots located in the highest 33% stocking level, and four plots located in the middle 33% stocking level, and one plot in the lowest 33% (plots outside of sampled strata were included when ranking plot stocking level).

The plots selected for verification were as follows:

Table 4: Site Verification Plots

Plot ID	Stocking Level
2198	Highest 33%
21108	Highest 33%
2151	Highest 33%
21160	Highest 33%
21157	Highest 33%
2164	Highest 33%
21171	Highest 33%
21146	Middle 33%
2167	Middle 33%
2186	Middle 33%
21180	Middle 33%
2173	Lowest 33%

Once plot data were collected, verifiers compared the mean carbon stocking provided by Blue Source with the data collected during the site verification. The results were analyzed using a paired t-test at the 80-percent confidence interval. Inventory carbon stocking levels calculated by verifiers were not found to be significantly different from Blue Source's calculations, therefore the inventory was considered to pass the verification requirements.

6.3.1 Project Area

During the site visit, verifiers conducted boundary-line reconnaissance by visiting project boundary edge lines and points, plotting edge and corner points with GPS receivers, and determining whether there were discrepancies with the digital project boundary files provided by the project developers and the physical boundary witnessed on site. This was done to determine the risk that project area inaccuracies could contribute to a material misstatement in project emission reductions. During this assessment we noted errors in boundary line identification for the project. Audubon was able to provide a revised boundary GIS shapefile based on its ongoing boundary-line identification and refinement process. RCE used the updated boundary shapefile to determine that the probability of misstatement resulting in a material over-issuance of credits was exceptionally unlikely, given the inventory statistics.

6.4 Inventory and Baseline Carbon Calculation Review

RCE conducted a risk-based review of baseline inventory, project inventory, baseline harvest, and emission reduction calculations to ensure conformance with Protocol requirements and agreement with emission reductions/removals reported in monitoring reports and the CAR online reporting system. As part of our baseline calculation review, RCE recalculated the 100-year baseline carbon inventory levels for Compartment 3 (approximately 60% of total plots in the project) from the modeled individual tree growth,

finding agreement with average carbon stocking levels within the compartment. RCE separately calculated 100-year baseline average carbon stockings levels for the entire project area based on plot-level CO_2 inventory and harvest data, finding material agreement with the reported 100-year average of 96.64 tonnes CO_2 per acre (76.95 tonnes CO_2 per acre above ground). RCE reviewed use of the Reserve Harvested Wood Product spreadsheet, tracking inputs from the cut-list FVS outputs and confirming 100-year baseline average CO_2 from harvested wood product. RCE also fully recalculated 2012 inventory levels from the tree-level data, agreeing with the reported levels. Given a recent effort to re-measure plots during the most recent verification period (9/1/2013 – 08/31/2014), Blue Source was able to lower the sampling error associated with the current project inventory. RCE confirmed proper calculation of inventory sampling error (5.4% at the 90% confidence interval), and application of the confidence deduction required due to this level of sampling error (confidence deduction of 0.3%).

6.5 Project Reversal Risk Rating and the Project Implementation Agreement

The Protocol sets out a standard for determining the risk of project reversals from several project risk categories listed in Appendix D of the Protocol. This rating determines the percent of project credits issued to the program buffer to maintain permanence of the GHG removals in case of project failure. RCE reviewed the 9 individual types of risk identified in the Protocol as well, ensuring the correct default or assessment area-specific factors were applied, and recalculated the Project Reversal Risk Rating. RCE's independent calculation confirmed the project developer's assertion of a 20.9% Reversal Risk Rating.

Permanence is further safeguarded through the Project Implementation Agreement (PIA), an agreement between the Reserve and Audubon that commits Audubon to maintaining the project per the protocol requirements for the duration of the Project's Minimum Time Commitment. Audubon is required to register and executed copy of the PIA in each county containing a portion of project lands. RCE reviewed evidence confirming that an executed PIA has been registered in Dorchester, Berkeley, and Orangeburg counties prior to issuance of credits reviewed during this verification.

6.6 Assessment of GHG Emissions Reductions Calculations

RCE used data checks to ensure that the appropriate methodologies and GHG emission factors were applied in calculating the Project baseline and annual GHG emissions, project emissions, and GHG reductions. RCE's emission reduction calculations assessment included a check of the inputs into the Reserve Monitoring Calculation Worksheet uploaded to the Reserve for the reporting period. RCE confirmed that Blue Source appropriately filled out the worksheet based on its baseline and project calculations for all required pools. Date adjustments were used to correct for differences in carbon stocks between the end-date of model projections and the end-date of reporting periods, and RCE confirmed that these were appropriately calculated and applied. RCE separately recalculated the total GHG emission reductions based on RCE's recalculations from inventory data and compared the results to Blue Source's calculations; RCE identified no material misstatements in the final reported GHG emission reductions.

7.0 Verification Results

Blue Source and Audubon provided sufficient evidence and documentation of their emission reduction estimates, data collection procedures, and monitoring and quality control procedures. The verification

process focused on verifying the emission reduction calculations and the source data used to quantify the emissions reductions in accordance with Protocol requirements.

Table 5 defines the emission reductions verified for this reporting period. During final review, RCE identified no material misstatements in the data or emission reduction calculations.

During the verification process, RCE made requests for clarifications, corrective actions, and supplemental documentation to complete the verification. Blue Source and Audubon sufficiently addressed all corrective actions. The details of these requests are documented in RCE's list of findings provided to the Reserve and Blue Source.

8.0 Conclusion

RCE conducted a risk-based analysis of the CAR683 Blue Source – Francis Beidler Improved Forest Management Project emission reduction assertions including a strategic review of the Project data and evidence. Based upon the processes and procedures and the evidence collected, RCE concludes that the GHG assertion is a fair representation of the Project emission reductions resulting from the capture and destruction of biogas during the reporting periods November 1, 2012 through August 31, 2013 and September 1, 2013 through August 31, 2014 and can be considered:

- In conformance with the Reserve U.S. Forest Project Protocol Version 3.1,
- Without material discrepancy, and
- Verified to a reasonable level of assurance.

The verified emission reductions are listed in Table 5.

Table 5. Emission Reductions Verified for November 1, 2012 through August 31, 2013 and September 1, 2013 through August 31, 2014

Emissions Verified	Total Emission Reductions CO_2e (metric tons)	Buffer Pool Contribution CO_2e (metric tons)	Total Emission Reductions Issued to Account Holder CO_2e (metric tons)
2012 Emission Reductions	1,650	345	1,305
2013 Emission Reductions	11,665	2,438	9,227
2014 Emission Reductions	16,150	3,376	12,774
Total	**29,465**	**6,159**	**23,306**

Lead Verifier Signature

Bonny Crews

Senior Internal Reviewer Signature

Zach Eyler