

# **Bluesource – Doe Mountain Improved Forest Management Project**

**[April 16, 2019]**

**ACR 398**

**Doe Mountain Recreation Authority**



**Prepared by: Bluesource LLC**



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# A. PROJECT OVERVIEW

## A1. PROJECT TITLE

The project title is “Bluesource – Doe Mountain Improved Forest Management Project”.

## A2. PROJECT TYPE

This project is to be registered under the American Carbon Registry Standard<sup>1</sup> (ACR, 2018) as an Improved Forest Management (IFM) project and an approved ACR Improved Forest Management Methodology.<sup>2</sup>

## A3. PROOF OF PROJECT ELIGIBILITY

Eligibility for this Improved Forest Management project has been determined with reference to the ACR Standard Version 5.1 and the Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal Forestlands, Version 1.3.

Doe Mountain’s forest carbon project meets all relevant eligibility requirements as described in Table A3.1 below.

**Table A3.1. Project Eligibility Requirements**

Eligibility Requirements	Proof of Eligibility	Reference
Ownership Type	The project ownership is non-federal U.S. forestland.	See section G1. PROOF OF TITLE
Project proponent has third-party certification or no commercial timber harvesting	There is no active commercial timber harvesting at Doe Mountain Recreation Area.	See also section A5.1. Background Information
Project area meets the definition of Forestland condition as per USFS FIA program definition	Per the ACR Forest Carbon Project Standard, the project meets the definition of forestland through a minimum of 10% forest cover (or equivalent stocking) by live trees of any size.	See also section A4. LOCATION
Project start date	The project start date of October 10, 2017 complies with the ACR Standard Version 5.1. The start date coincides with the signing of the Carbon Marketing & Development Agreement	See also section H1. START DATE.

<sup>1</sup> ACR. 2018. American Carbon Registry Standard, Version 5.1. American Carbon Registry, Arlington, VA, USA.

<sup>2</sup> ACR. 2018. *Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal Forestlands*, Version 1.3, December 2016, American Carbon Registry, Arlington, VA, USA.

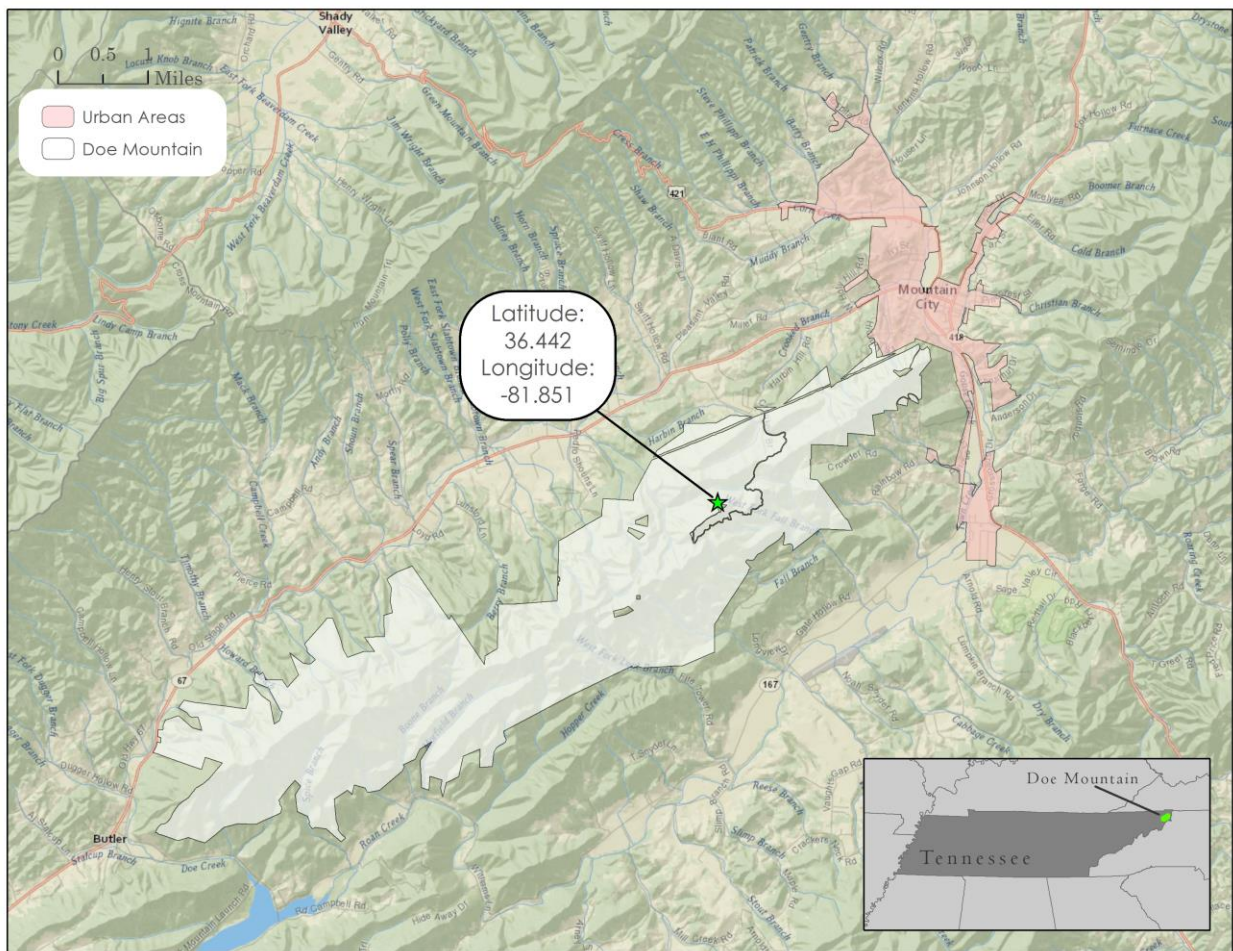
	<p>between Doe Mountain Recreation Authority and Bluesource, provided separately for verification purposes.</p> <p>The evidence referenced above further complies with the methodology (Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non - Federal U.S. Forestlands) requirement that: <i>“If the project Start Date is more than one year before submission of the GHG plan, the Project Proponent shall provide evidence that GHG mitigation was seriously considered in the decision to proceed with the project activity. Evidence shall be based on official and/or legal documentation. Early actors undertaking voluntary activities to increase forest carbon sequestration prior to the release of this requirement may submit as evidence recorded conservation easements or other deed restrictions that affect onsite carbon stocks.”</i></p>	
Project term	The project proponent commits to maintain the carbon project scenario stocking levels on the project area at least for the required Project Term of 40 years.	See also section H2. PROJECT TIMELINE.
Crediting Period	In compliance with the and ACR Standard Version 5.1 (July 2018) and the Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal Forestlands, Version 1.3 (April 2018), the crediting period for the project is 20 years.	See also section H2. PROJECT TIMELINE.
Real	GHG removals are quantified based on inventory of the standing stock in the project area at the time of verification.	See also sections D. MONITORING PLAN and E. QUANTIFICATION

Land Title	For all areas included in the project, long term land titles have been issued and ownership is thus clear, unique, and uncontested.	See also appendix A. Land Owner and Contracts.
Direct Emissions/ Offset Title	GHG emission reductions generated by the project activity are generated from forest carbon sources and sinks over which Doe Mountain Recreation Authority has all management and ownership rights (see Appendix A). Doe Mountain Recreation Authority holds offset title to all lands in the project area (see Section G below) and all rights to carbon credits/offsets produced through management of forests in the project area (see Appendix A).	See also section G2. CHAIN OF CUSTODY
Additionality	Additionality for the project has been shown through a regulatory surplus test, a common practice test, and an implementation barrier test.	See also section C. ADDITIONALITY
Permanent	The long-term setup, risk analysis, and buffer establishment assure permanence of the project benefits.	See also section B8. PERMANENCE.
Net of Leakage	Possible leakage effects due to activity shifts are quantified and deducted from the GHG benefits.	See also section E3. LEAKAGE.
Independently Validated and Verified	In accordance with ACR methodology, the project benefits will be verified by SCS Global Services.	
Community and Environmental Impacts	Impacts on community and environment were analyzed in accordance with the ACR Standard 5.1, net positive impacts were confirmed.	See also section F. COMMUNITY & ENVIRONMENTAL IMPACTS

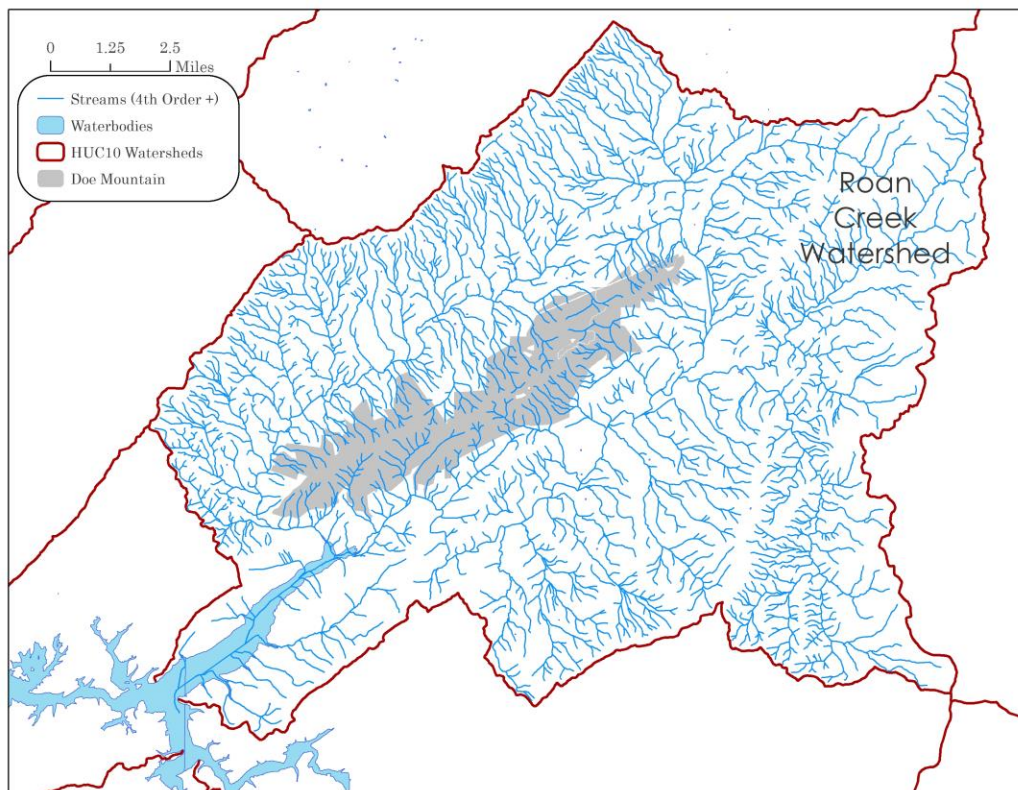
## A4. LOCATION

A GIS shapefile of the project area, “DoeMountain\_Boundary\_5\_18\_18.shp” was provided separately for verification. This shapefile gives unique identification and delineation of the specific extent of the project. Vicinity map (Figure A-1.) gives project location, nearby urban areas, and latitude/longitude coordinates. The project location is Johnson County at 1203 Harbin Hill Rd, Mountain City, TN 37683.

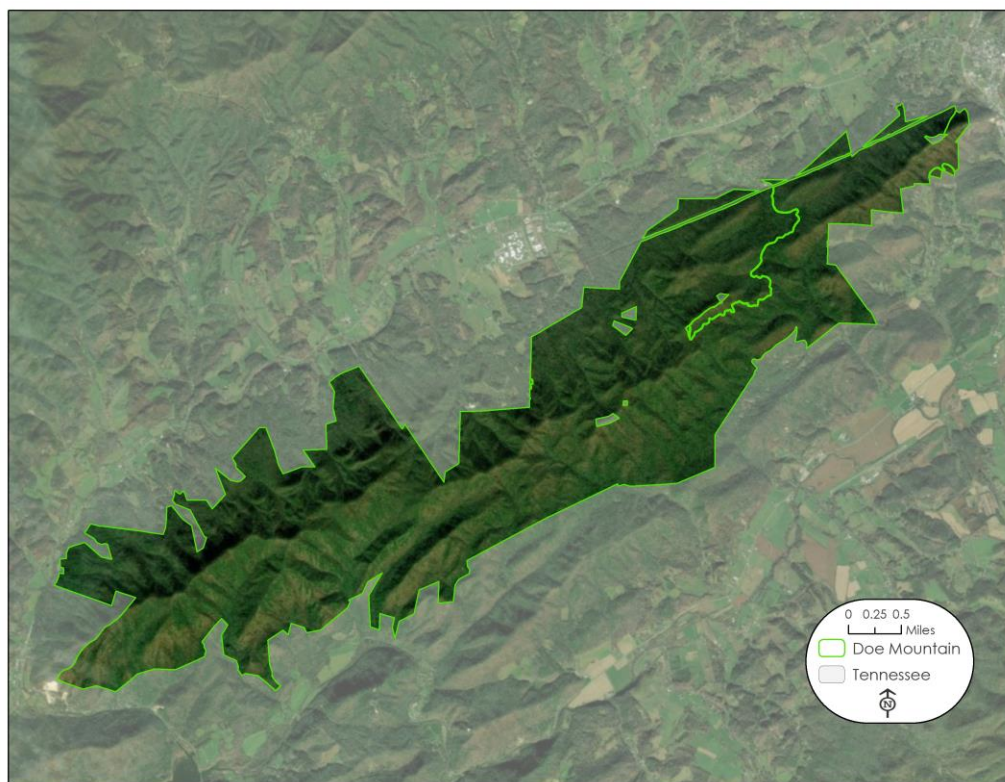
Figure A-2. shows the local hydrology within the Doe Mountain IFM project. The canopy cover map (Figure A-3.) clearly shows that the project meets the US Forest Service definition of forestland (at least 10% tree cover) as forest covers the majority of the project area. Non-forested acres were removed from the project to a minimum mapping unit of 2.5 acres. A topographic map (Figure A-4.) is also provided as a reference. The roads map (Figure A-5.) shows the public and private roads near and on the property, additional foot trails exist that are not mapped. The ownership map (Figure A-6.) shows the parcels owned by Doe Mountain Recreation Authority in Johnson County.



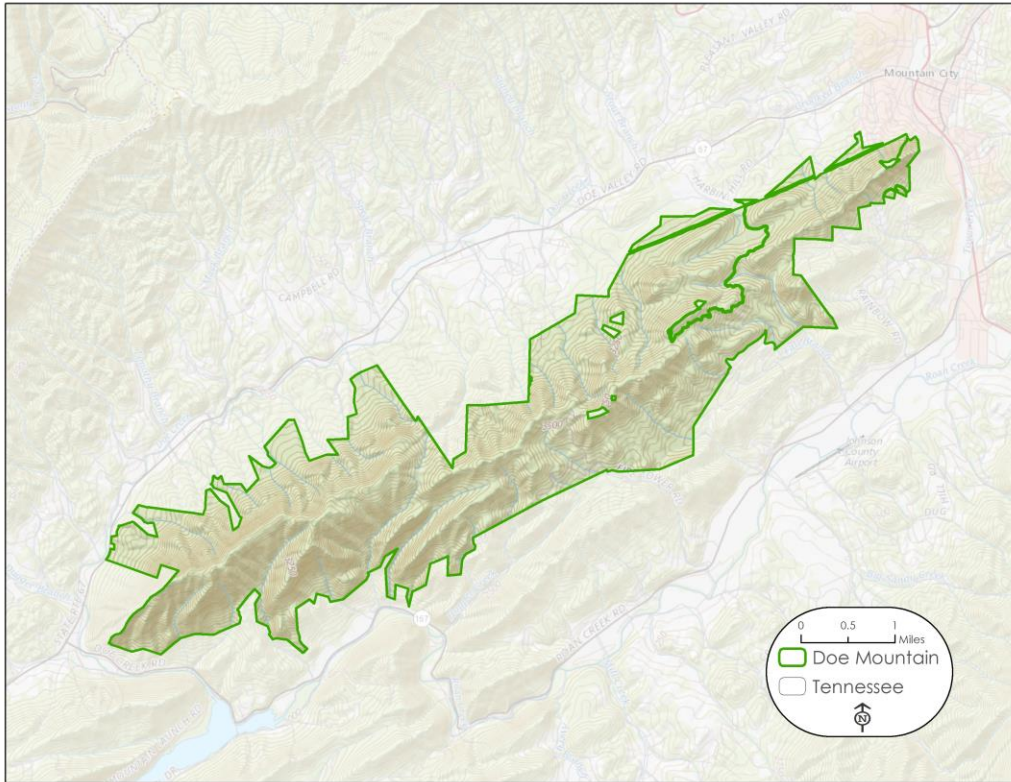
**Figure A-1. Vicinity Map with Latitude and Longitude**



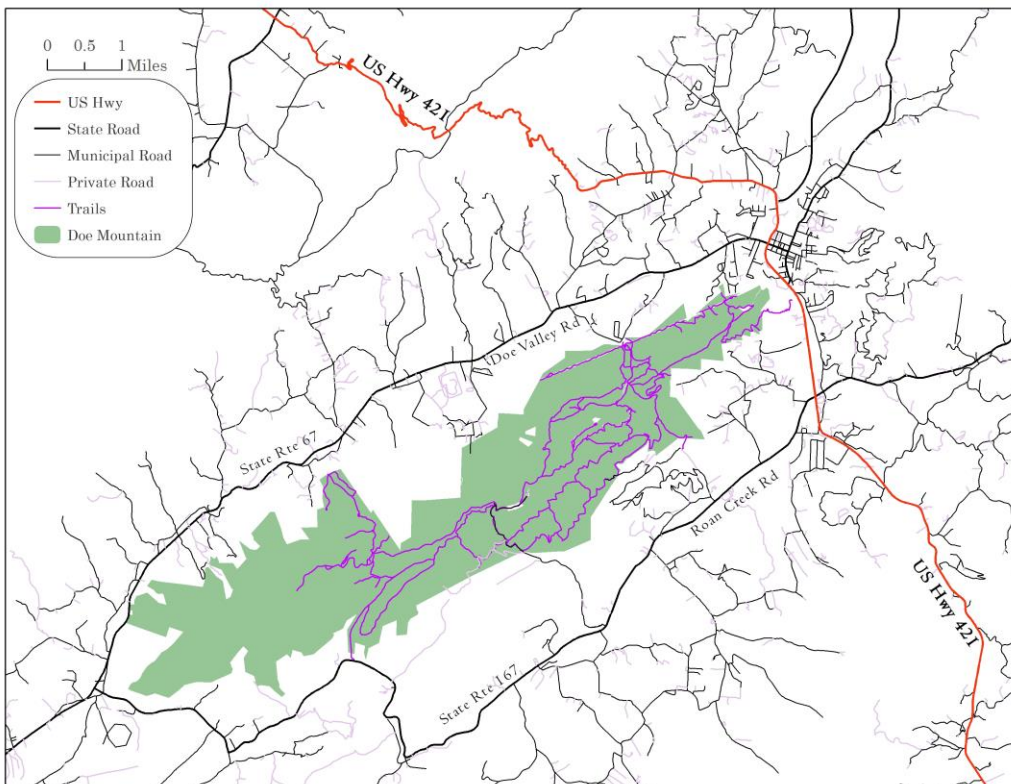
**Figure A-2. Regional Hydrology Map**



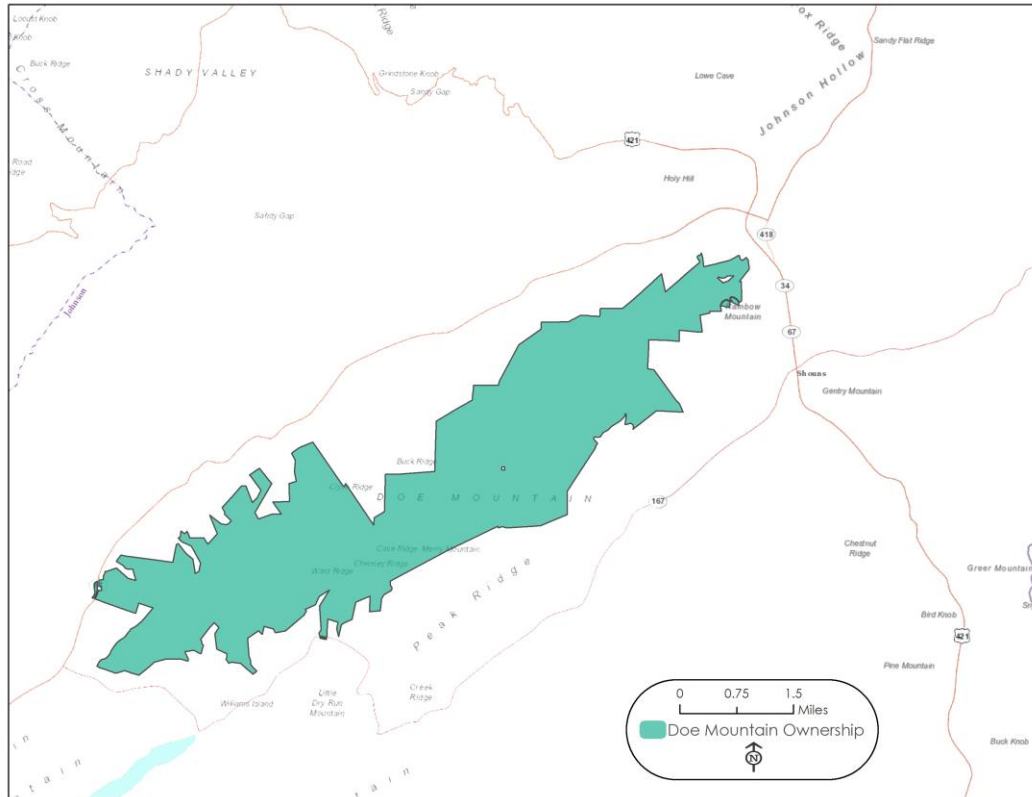
**Figure A-3. Canopy Cover Map depicting greater than 10% canopy cover.**



**Figure A-4. Topography Map**



**Figure A-5. Roads Map**



**Figure A-6. Ownership Map**

## **A5. BRIEF SUMMARY OF PROJECT**

### **A5.1 Background Information**

The Bluesource – Doe Mountain Improved Forest Management Project is located on 8,485.58 acres of mixed hardwoods, oak-hickory, cove forest, and oak-pine in northeast Tennessee. Doe Mountain is a contiguous parcel used as a conservation and recreation-based property.

It is among the largest contiguously owned forested parcel in the state and local region. Heavy, high-grade logging practices and parcelization threatens much of this region and has for a long time. Few private recreation and wildlife conservation opportunities to this scale remain in the state. Doe Mountain ownership seeks to earn profit through recreation opportunities (primarily ATV and mountain bike trails) and conservation activities (primarily carbon offsets) on the property. Without funding from the carbon project, alternative scenarios include intensive silvicultural practices or parcelization and sale of the forestland to owners for intensive management or development.

### **A5.2 Description of Project Activity**

The project activity is improved forest management, with Doe Mountain's forest management practices representing a significant improvement in the carbon storage and conservation value than higher return, more aggressive management regimes of industrial private lands in the region, which are characterized by shorter, even-aged rotations. Management decisions of the forest focus on sustainable, natural forest growth and non-commercial maintenance harvests to reduce hazards for recreation users and promote forest health. The project ensures long-term sustainable management of the forests, which could otherwise undergo significant commercial timber harvesting.

### A5.3 Project Purpose and Objectives

By committing to maintain forest CO2 stocks above the regional baseline level, the project will provide significant climate benefits through carbon sequestration. The aim of this project is also to ensure long-term continuance of all environmental benefits provided by the conservation of this forestland.

## A6. PROJECT ACTION

### A6.1 Prior Physical Conditions

#### Climactic Zone

The project falls in zone 6a and 6b on the USDA plant hardiness zone map. Average annual extreme minimum temperatures for 6a are -10 to -5 degrees Fahrenheit and for 6b are -5 to 0 degrees Fahrenheit.



## Ecosystem/Vegetation

Forest types throughout the property include mixed hardwoods, oak-hickory, cove forest, and oak-pine. Predominant tree species include chestnut oak, red maple, scarlet oak, sourwood, eastern white pine, yellow poplar, sweet birch, northern red oak, blackgum, pitch pine, black oak, white oak, hickory, magnolia, and eastern hemlock. Wildlife present on site include deer, black bear, turkeys, and many mountain bird and mammal species. Wildlife on site benefit from contiguous, undisturbed forest that hosts several different forested types throughout. Mature forests with hollow or dead trees provide roosting and denning sites. The hard mast (nut) crops from oak and hickory species are a valuable food source for deer, bear, turkeys, and squirrels. Soft mast, such as fruit and berries from cherry, serviceberry, dogwood, black gum, sassafras, muscadine grape, poison ivy and Virginia creeper, are eaten by a wide variety of songbirds and animals.

## Land Use

The history of the entire property is not well documented as ownership has changed hands throughout years of active forest management. The last large-scale commercial timber harvest on Doe Mountain began in the late 1960s and ended in 1972. There have been no commercial timber harvests on the property since then. During that large-scale operation, a majority of the mountain was logged except for the steepest and rockiest areas. This information comes word-of-mouth from a seasoned forester who lives in the Johnson County.

### **A6.2 Description of Project Technologies, Products, Services, and Expected Level of Activity**

Project activity will be minimal as no commercial harvesting will take place. Managers will seek to maintain conditions of recreational trails for usability and safety. Outreach, education, and interpretation are a part of the Doe Mountain Recreation Authority mission, which are closely tied to the recreation opportunities available to the public.

### **A6.3 Project Action**

By committing to maintain forest CO<sub>2</sub> stocks above the baseline level, the project will provide significant climate benefits through carbon sequestration. The project action will allow the forest to progress naturally with no commercial harvesting. Bluesource – Doe Mountain Improved Forest Management Project will achieve GHG removals by sequestering more atmospheric CO<sub>2</sub> than a baseline scenario in live aboveground biomass, belowground biomass, dead wood, and soil.

## **A7. EX ANTE OFFSET PROJECTION**

Total projected GHG removal is 770,543mtCO<sub>2</sub>e (without risk buffer deduction) over the first crediting period of 20 years (including GHG removal from long-term wood products).

Table A7.1 lists the estimates of GHG emissions reductions per year:

**Table A7.1. Estimate of Net ERTs by Year.**

Project year	Year	Estimated GHG emissions reductions (tons CO <sub>2</sub> )
0	2017	Start year
1	2018	153,475
2	2019	139,593
3	2020	139,593
4	2021	139,593
5	2022	0
6	2023	7,555
7	2024	14,268
8	2025	14,268
9	2026	14,268
10	2027	14,268
11	2028	15,440
12	2029	15,440
13	2030	15,440
14	2031	15,440
15	2032	15,440
16	2033	11,292
17	2034	11,292
18	2035	11,292
19	2036	11,292
20	2037	11,292

## A8. PARTIES

The project was implemented by Doe Mountain Recreation Authority, the land owner, and Bluesource, LLC, a carbon offsets project developer. Project verification was completed by SCS Global Services and the forest carbon inventory was conducted Ecoforesters. Technical modeling was conducted by Bluesource, LLC.

**Table A-3. Project Partners & Responsibilities**

<b>Project Parties</b>	<b>Personnel/Point of Contact</b>	<b>Roles and Responsibilities</b>	<b>Contact Information</b>
Doe Mountain Recreation Authority	Tate Davis, Executive Director	Project Proponent – implementation of long-term project management	Doe Mountain Recreation Authority 1203 Harbin Hill Road Mountain City, TN 37683 Phone: 423-460-1295
Bluesource, LLC	Josh Strauss, Vice President	Offset Developer – coordination of project implementation and modeling	Bluesource LLC 1935 E. Vine Street Murray, UT 84121 Phone: 949-233-1501
SCS Global Services	Christie Pollet-Young, Director, GHG Verification	Verifier	SCS Global Services 2000 Powell Street Emeryville, CA 94608 Phone: 510-452-8000
EcoForesters	Andy Tait, Director of Ecoforestry	Contractor- Forest Inventory	Andy Tait PO Box 16007 Asheville, NC, 28816 Phone: 828-484-6842

# B. METHODOLOGY

## B1. APPROVED METHODOLOGY

The methodology used for the Bluesource – Doe Mountain Improved Forest Management Project is the American Carbon Registry Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands, Version 1.3. (April 2018)

(Hereinafter called the “methodology”)

## B2. METHODOLOGY JUSTIFICATION

All applicability criteria of the selected methodology are fulfilled by the Bluesource – Doe Mountain Improved Forest Management Project:

1. *This methodology is applicable only on non-federally owned forestland within the United States*

Doe Mountain Recreation Area non-federally owned forestland.

2. *The methodology applies to lands that can be legally harvested by entities owning or controlling timber rights on forestland*

Doe Mountain Recreation Authority controls the timber rights on the forestland and can legally harvest (appendix I2. Land Owner and Contracts).

3. *Private or non-governmental organization ownerships subject to commercial timber harvesting at the project Start Date in the with-project scenario must be certified by FSC, SFI, or ATFS or become certified within one year of the project Start Date. If there are no ongoing harvests at the project Start Date, but harvests occur later in the project life cycle, the project area must become certified before any commercial timber harvesting can occur.*

There is no commercial harvesting in the project area.

4. *All Tribal lands in the United States, except those lands that are managed or administered by the Bureau of Indian Affairs, are eligible under this methodology, provided that they meet ACR requirements for Tribal lands*

N/A. Bluesource – Doe Mountain Improved Forest Management Project is not on tribal lands.

5. *Public non-federal ownerships currently subject to commercial timber harvesting in the with-project scenario must:*
  - *be certified by FSC, SFI, or ATFS or become certified within one year of the project Start Date; or*
  - *have its forest management plan sanctioned by a unit of elected government officials within a state, or a state agency, or a federal agency*

- *Please note that any such forest management plans must be updated at minimum every 10 years*
- *If there are no ongoing harvests on a public non-federal ownership at the project Start Date, but harvests occur later in the project life cycle, the project area must become certified by FSC, SFI, or ATFS, or develop a sanctioned management plan before any commercial timber harvesting can occur*

N/A. Bluesource – Doe Mountain Improved Forest Management Project has no commercial harvesting in the project area.

6. *Use of non-native species is prohibited where adequately stocked native stands were converted for forestry or other land uses after 1997*

There is no use of non-native species where adequately stocked native stands were converted for forestry or other land uses after 1997.

7. *Draining or flooding of wetlands is prohibited*

There is no draining or flooding of wetlands on or after the project Start Date.

8. *Project proponent must demonstrate its ownership or control of timber rights at the project start date*

See attached Deeds (appendix I2. Land Owner and Contracts).

9. *The project must demonstrate an increase in on-site stocking levels above the baseline condition by the end of the Crediting Period*

Stocking levels increase well above the baseline conditions for the duration of the project and by the end of the Crediting Period (see section E1. Baseline).

### **B3. PROJECT BOUNDARIES**

The physical project boundaries include 8,485.58 acres of forestland, shown in the maps in section A4. Location and in the shapefile “DoeMountain\_Boundary\_5\_18\_18”.

See H2. Project Timeline for the temporal boundaries of the project.

### **B4. IDENTIFICATION OF GHG SOURCES AND SINKS**

Carbon pools	Included / Optional / Excluded	Justification / Explanation of Choice
Above-ground biomass carbon	Included	Major carbon pool subjected to the project activity.

Below-ground biomass carbon	Included	Major carbon pool subjected to the project activity.
Standing dead wood	Included/Optional	Major carbon pool in unmanaged stands subjected to the project activity. Project Proponents may also elect to include the pool in managed stands. Where included, the pool must be estimated in both the baseline and with project cases. <i>For Bluesource – Doe Mountain Improved Forest Management Project, standing dead wood will be included in all stands.</i>
Lying dead wood	Optional	Project proponents may elect to include the pool. Where included, the pool must be estimate in both the baseline and with project cases. <i>For Bluesource – Doe Mountain Improved Forest Management Project, lying dead wood will <b>not</b> be included.</i>
Harvested wood products	Included	Major carbon pool subjected to the project activity,
Litter/Forest Floor	Excluded	Changes in the litter pool are considered <i>de minimis</i> as a result of project implementation.
Soil organic carbon	Excluded	Changes in the litter pool are considered <i>de minimis</i> as a result of project implementation.

Gas	Source	Included / Excluded	Justification / Explanation of choice
CO <sub>2</sub>	Burning of biomass	Excluded	However, carbon stock decreases due to burning are accounted as a carbon stock change.
CH <sub>4</sub>	Burning of biomass	Included	Non-CO <sub>2</sub> gas emitted from biomass burning.
N <sub>2</sub> O	Burning of biomass	Excluded	Potential emissions are negligible.

Leakage Source		Included / Optional / Excluded	Justification/ Explanation of Choice
Activity-Shifting	Timber Harvesting	Excluded	Project Proponent must demonstrate no activity-shifting leakage beyond the <i>de minimis</i> threshold will occur as a result of project implementation
	Crops	Excluded	Forestland eligible for this methodology of not produce agricultural crops that could cause activity shifting
	Livestock	Excluded	Grazing activities, if occurring in the baseline scenario, are assumed to continue at the same levels under the project scenario and thus there are no leakage impacts
Market Effects	Timber	Included	Reductions in project outputs due to project activity may be compensated by other entities in the marketplace. Those emissions must be

			included in the quantification of project benefits.
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## B5. BASELINE

The baseline scenario represents an aggressive harvest regime, targeted to maximize net present value at a 5% discount rate (for private non-industrial forestland), typical of ca. 2017 practices in the project region on private lands. Baseline practices involve clearcuts and high grading throughout the extent of a given property. Derivation and justification for the baseline is detailed in Section E.

## B6. PROJECT SCENARIO

The project scenario consists of growing the forestland with commercial harvesting maintaining carbon removals above the annual allowable cut as described in Section A5. Project Action.

## B7. REDUCTIONS AND ENHANCED REMOVALS

The project will achieve greenhouse gas reductions through natural growth of forestland and improved silvicultural practices such as precommercial and commercial thinning, wildlife management cuts, and promotion of early successional forest, on lands that otherwise could be heavily cut in the baseline scenario. The existing carbon stocks will be preserved through maintaining growth above the annual allowable cut over a moving 10-year average as described in Section A5. Project Action.

## B8. PERMANENCE

Project Proponents must conduct their risk assessment using the *ACR Tool for Risk Analysis and Buffer Determination*. All Project types must claim a value from risk categories A, B and C. Additional values that must be selected by project type include:

**Forestry** projects claim one value from each:

- D Conservation Easement (if applicable)
- E Fire
- F Disease/pest
- G Levee failure/water table changes (required only if forested wetlands comprise more than 60% of project area)
- H Other natural disaster risk scores.

1. Management and Governance Risks: All project types must select one value from each risk category that applies:

A	Financial	<ul style="list-style-type: none"> <li>4% Default Value</li> <li>3% US Public and Tribal Lands</li> </ul>
B	Project Management	<ul style="list-style-type: none"> <li>4% Default Value</li> <li>3% US Public and Tribal Lands</li> </ul>
C	Social/Policy	<ul style="list-style-type: none"> <li>2% Default Value</li> <li>5% if project is located outside of the US</li> <li>3% if project is located outside of the US and demonstrates community engagements through ACR-approved mechanism</li> </ul>
D	Conservation Easement Deduction	<ul style="list-style-type: none"> <li>-2% Default value</li> <li>-3% if there is regular onsite monitoring of activities related to carbon-specific conservation activities</li> </ul>

2. Natural Disaster Risks: Select one value from each risk category that applies:

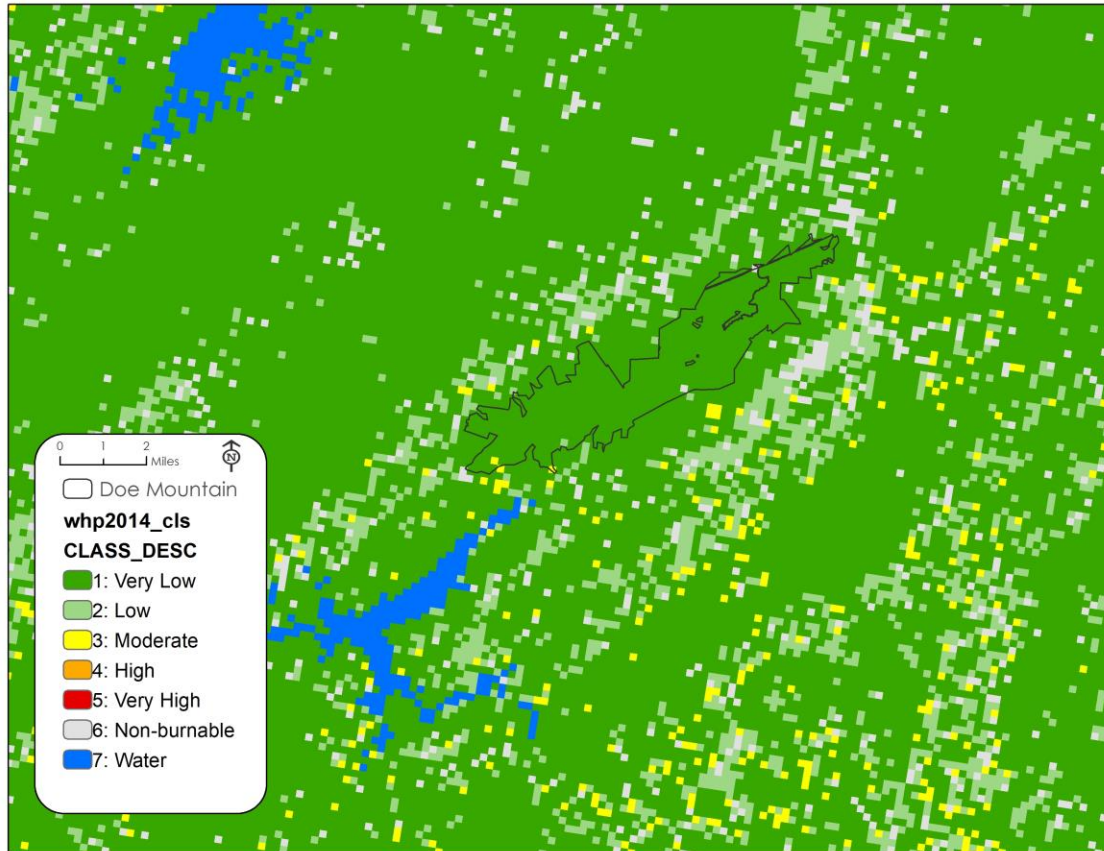
E	Fire	<ul style="list-style-type: none"> <li>8% if project is located in an area where fire greater than 1000 acres has occurred within 30 mile radius of project area in prior 12 months</li> <li>4% if project is located in high fire risk region</li> <li>2% if project is located in low fire risk region (verifiable evidence must be provided)</li> <li>1% for agriculture and grassland projects only</li> </ul>
F	Diseases and Pests	<ul style="list-style-type: none"> <li>8% if epidemic disease or infestation is present within project area, or within 30 mile radius of project area</li> <li>4% Default Value</li> </ul>
G	Levee Failure and Water Table Changes	<ul style="list-style-type: none"> <li>2% Default for all wetland projects (and for forest projects where more than 60% of the project area is a forested wetland)</li> </ul>
H	Other Natural Disaster Events	<ul style="list-style-type: none"> <li>2% Default Value for all sequestration projects</li> </ul>

Calculated Risk Score

**Section 1 (A + B + C + D) + Section 2 (E + F + G + H) = Total Risk score %**

Section 1 (4 + 4 + 2 + 0) + Section 2 (2 + 4 + 0 + 2) = 18%

NOTE: E. Project area is in a majority low fire risk region, especially compared to the lower half of the state. According to the *Wildfire Hazard Potential (WHP) map* provided by the USFS.



**Figure B-1. Bluesource –Doe Mountain IFM Wildfire Hazard Potential Map.**

### Buffer Pool Contribution

*(Total Risk score %) \* (Total ERTs generated for reporting period)*  
 = Buffer pool contribution in ERTs at time of issuance.

18% \* 770,543 = 138,698 credits of buffer pool contribution (rounded up).

# C. ADDITIONALITY

## C1. REGULATORY SURPLUS TEST

Relevant laws, regulations, statutes, legal rulings, and other regulatory frameworks that affect the project activity:

National laws, regulations and policies.

- Clean Water Act
- Endangered Species Act
- Fair Labor Standards Act (1938) (amended)
- Multiple-Use Sustained-Yield Act of 1960
- National Environmental Policy Act (NEPA)
- National Forest Management Act (NFMA)
- Resources Planning Act (RPA)
- Wilderness Act
- The Logger's Guide to the New OSHA Logging Safety Standards, 1995

State & Local laws.

- TCA 43-28-312– Cutting timber from property of another - Civil liability

Binding International Agreements.

- Paris Agreement, 2016 (unsigned, not applicable)
- Kyoto Protocol, 1997 (signed, not ratified)
- United Nations Framework Convention on Climate Change, 1992
- United Nations Convention on Biological Diversity, 1992 (signed, not ratified)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1973
- UNESCO World Heritage Convention, 1972

None of the above or any other existing law, regulation, statute, legal ruling, or other regulatory framework in effect as of the Start Date in 2017 effectively requires the forest carbon project activity and its associated GHG emissions reductions/removal enhancements. Consequently, the project passes the Regulatory Surplus test.

## C2. COMMON PRACTICE TEST

The geographic region for timber is referred to as “Appalachia” in the annual Timber Mart-South Report, which includes eastern Tennessee, western North Carolina, southwestern Virginia. Wood products including sawtimber (pine, oak, and mixed hardwood), chip-n-saw (pine), and pulpwood (pine and hardwood) are distributed to mills throughout this region. The forest type for this project is non-industrial forestland ownership due to the size of the property and its status as private landholding offering access to recreation opportunities such as ATV and bike trails. The larger geographic region where the project is

located is predominantly managed as industrial forestlands that are heavily cut and managed for maximizing NPV of the forestland investment. If the Bluesource – Doe Mountain Improved Forest Management Project was not implemented, the forest management of Doe Mountain Recreation Area could feasibly resemble that of industrial forestland ownership in the region. Instead, the project will exceed the common practice as described in Section A6. Project Action.

### C3. IMPLEMENTATION BARRIERS TEST

- **Financial**
- **Technological**
- **Institutional**

<b>Implementation Barriers</b>	
<i>Choose one of the following three:</i>	
<b>Financial</b>	<p>Does the project face capital constraints that carbon revenues can potentially address; or is carbon funding reasonably expected to incentivize the project's implementation; or are carbon revenues a key element to maintaining the project action's ongoing economic viability after its implementation?</p> <p><b>Yes = Pass; No = Fail</b></p>
<b>Technological</b>	<p>Does the project face significant technological barriers such as R&amp;D deployment risk, uncorrected market failures, lack of trained personnel and supporting infrastructure for technology implementation, or lack of knowledge on practice/activity, and are carbon market incentives a key element in overcoming these barriers?</p> <p><b>Yes = Pass; No = Fail</b></p>
<b>Institutional</b>	<p>Does this project face significant organizational, cultural, or social barriers to implementation, and are carbon market incentives a key element in overcoming these barriers?</p> <p><b>Yes = Pass; No = Fail</b></p>
<p><b><i>If the project passes the Regulatory Surplus and Common Practice tests, and at least one Implementation Barrier test, ACR considers the project additional.</i></b></p>	

Carbon funding is reasonably expected to incentivize the project's implementation. The implementation of the carbon project represents an opportunity cost to lost revenue associated with the potential timber harvesting that could legally and feasibly occur on the property in the lifetime of the carbon project. A financial feasibility assessment is provided separately for verification demonstrating the financial barrier carbon funding overcomes in project implementation.

### C4. PERFORMANCE STANDARD TEST

The Bluesource – Doe Mountain Improved Forest Management project uses the three-pronged approach; therefore, this step is not required.

## D. MONITORING PLAN

### D1. MONITORED DATA AND PARAMETERS

Data or Parameter Monitored	A <sub>1</sub>
Unit of Measurement	Acres
Description	Area of IFM Project
Data Source	GIS shape file derived from GPS coordinates
Measurement Methodology	Strata area figures adjusted based on stocking levels and species distribution projected in modeling and verified through inventory updates
Monitoring Frequency	Every 5 years, following with inventory update
Value applied:	8,485.58
Reporting Procedure	Hand held GPS unit, GIS software
QA/QC Procedure	Meta data is kept current and uncorrupted
Purpose of Data	Calculation of project emissions
Calculation method:	Calculated in Arc GIS
Notes	

Data or Parameter Monitored	T
Unit of Measurement	yr
Description	Number of years between monitoring time t and t <sub>1</sub> ( $T = t_2 - t_1$ )
Data Source	Monitoring reports
Measurement Methodology	
Monitoring Frequency	Yearly
Value applied:	Calendar
Reporting Procedure	
QA/QC Procedure	All calculations double checked for accuracy prior to submission for verification
Purpose of Data	Calculation of project emissions
Calculation method:	Subtraction
Notes	

Data or Parameter Monitored	Diameter at breast height of tree
Unit of Measurement	Inches (to 1/10 <sup>th</sup> an inch)
Description	Tree diameter measure 4.5 feet above ground
Data Source	Field measurement
Measurement Methodology	Measured with Loggers Tape or calipers
Monitoring Frequency	Every 5 years after the first inventory

Value applied:	
Reporting Procedure	Hand held GPS unit or cruise tally sheet
QA/QC Procedure	Equipment will be maintained in excellent condition. Breast height marked with permanent paint on all record trees >5in in diameter
Purpose of Data	Calculations of project emissions
Calculation method:	N/A
Notes	

Data or Parameter Monitored	H
Unit of Measurement	Feet
Description	Height of tree
Data Source	Field measurement
Measurement Methodology	Measured with clinometer or hypsometer
Monitoring Frequency	Every 5 years after the first inventory
Value applied:	
Reporting Procedure	Hand held GPS unit or cruise tally sheet
QA/QC Procedure	Equipment will be maintained in excellent condition. All heights will be double checked for reasonableness prior to submission for verification
Purpose of Data	Calculations of project emissions
Calculation method:	N/A
Notes	

Data or Parameter Monitored	Decay Class
Unit of Measurement	
Description	Qualitative degree of decomposition
Data Source	Forest Inventory
Measurement Methodology	Qualitative assessment of dead tree into 1 of 4 decay classes based on class descriptions
Data Uncertainty	None
Monitoring Frequency	Every 5 years after the first inventory
Value applied:	
Reporting Procedure	Hand held GPS unit or cruise tally sheet
QA/QC Procedure	Equipment will be maintained in excellent condition. All decay classes will be double checked for reasonableness prior to submission for verification
Purpose of Data	
Calculation method:	
Notes	

Data or Parameter Monitored	Tree Live/Dead Status
Unit of Measurement	

Description	Live or Dead
Data Source	Forest Inventory
Measurement Methodology	Measured per the Doe Mountain Carbon Plot Methodology
Data Uncertainty	None
Monitoring Frequency	Every 5 years after the first inventory
Value applied:	
Reporting Procedure	Hand held GPS unit or cruise tally sheet
QA/QC Procedure	Equipment will be maintained in excellent condition. All tree statuses will be double checked for reasonableness prior to submission for verification
Purpose of Data	
Calculation method:	
Notes	

Data or Parameter Monitored	Defect
Unit of Measurement	%
Description	Qualitative percent of missing biomass
Data Source	Forest Inventory
Measurement Methodology	Qualitative assessment of tree assessed by thirds for the % missing biomass from each third. Post-inventory weighting conducted for each third of tree (Bottom 65%, Middle 25%, Top 10%)
Data Uncertainty	None
Monitoring Frequency	Every 5 years after the first inventory
Value applied:	Tree-specific
Reporting Procedure	Hand held GPS unit or cruise tally sheet
QA/QC Procedure	Equipment will be maintained in excellent condition. All tree defects will be double checked for reasonableness prior to submission for verification.
Purpose of Data	
Calculation method:	
Notes	

Data or Parameter Monitored	Species Composition
Unit of Measurement	%
Description	Spp composition as a percentage of basal area
Data Source	Forest Inventory
Measurement Methodology	Derived from basal area calculations from inventory data.
Data Uncertainty	None
Monitoring Frequency	Every 5 years after the first inventory
Value applied:	

Reporting Procedure	
QA/QC Procedure	Species identification is confirmed at verification.
Purpose of Data	Calculation of project emissions
Calculation method:	Basal Area = $0.005454 * DBH^2$
Notes	

Data or Parameter Monitored	Harvested Wood Products
Unit of Measurement	Metric tons CO <sub>2</sub>
Description	Carbon remaining in stored wood products 100 years after harvest for the project in year t.
Data Source	Harvest slips and reports produced by Doe Mountain.
Measurement Methodology	Wood volumes harvested will be monitored using the whichever recordation system is appropriate for the harvest (lump sum v. pay as cut).
Data Uncertainty	None
Monitoring Frequency	Annual data summed for the monitoring period, applied as average annual for the monitoring period
Value applied:	
Reporting Procedure	
QA/QC Procedure	Harvest volumes cut and delivered to the mill will be either (1) weighed at the mill on scales tested annually by the state of Tennessee (or neighboring state) and converted to wood volume in an appropriate software, or (2) directly scaled to volume by log scalers certified by the state of Tennessee (or neighboring state).
Purpose of Data	
Calculation method:	
Notes	

Data or Parameter Monitored	Forest Carbon
Unit of Measurement	Metric tons of CO <sub>2</sub>
Description	Carbon stores in above and below ground live trees at the beginning of the year t
Data Source	Forest Inventory
Measurement Methodology	Consistent with Doe Mountain Carbon Plot Methodology.docx
Data Uncertainty	To be calculated as the mean +/- 90% confidence interval
Monitoring Frequency	Every 5 years or less, or at request for ERT issuance
Value applied:	
Reporting Procedure	

QA/QC Procedure	Consistent with Doe Mountain Carbon Plot Methodology.docx. The inventory will use a random sample design and re-measure the same permanent plots established in 2018, which targeted a precision level of +/- 10% of the mean live tree biomass with 90% confidence.
Purpose of Data	
Calculation method:	
Notes	

## D2. MONITORING PLAN

Each year, the Project Proponent shall submit a signed attestation that:

- Confirms the continuance of project activities;
- Confirms that ownership remains clear and uncontested;
- Discloses any negative environmental or community impacts or claims of negative environmental and community impacts, and documents plans to mitigate any reported negative environmental or community impacts;
- Addresses any significant change in external conditions that would affect the quality or environmental integrity of the project.

The following material outlines the monitoring plan to be followed during the decade following the initial project validation and verification.

### General Monitoring Method

In the year prior to validation/initial-verification, a representative sample of 98 fixed radius permanent inventory plots were established across the project area. The plot network provided enough data to keep total project uncertainty below 10% of the net anthropogenic greenhouse gas removals by sinks across the project, thereby avoiding any uncertainty deductions in the quantification process. All permanent plots will be re-inventoried at least twice over the following decade to calibrate forest growth models and improve carbon sequestration projections.

The heavily monumented and well-maintained plot design gives forest managers the opportunity to consistently track the growth and development of specific trees over an extended timeline and allows for improved ease of plot location during field work and site verifications. All plots will be re-measured in a manner consistent with the Inventory Methodology, provided separately for verification.<sup>3</sup>

In addition to the full inventory update of the entire property that will be conducted on all plots every 5 years, inventories of select portions of the Project Area will be updated periodically in response to natural disturbance or significant forest management activities. Following natural disturbance events, affected

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<sup>3</sup> The details of the carbon inventory methodology are considered commercially sensitive material as the methodology is the result of considerable investment of Blue Source resources.

project stands will be assessed for damage. If damage is significant, the affected areas will be re-inventoried and project scenario models will be adjusted to reflect onsite carbon stocks.

In years in which forest plots are not re-inventoried carbon stocks will be monitored through forest growth and yield modeling.

In addition to inventory sampling, management staff will consistently monitor the general health and condition of the forest throughout the course of normal forest management activities (e.g. road maintenance, ecological studies, boundary marking, etc.), reducing the risk of reversal by disease, pest invasion, and unauthorized timber removal.

Bluesource LLC (Bluesource) will oversee the execution and reporting of all project reporting, modeling, and monitoring activities on behalf of the landowner. The landowner will be responsible for “on the ground” forest management activities on the project area, and EcoForesters will conduct inventory measurements and data collection. After forest inventory data collection, EcoForesters will report results to Bluesource for processing and updating of modeling projections. After processing is complete Bluesource will house all data and submit the necessary documentation for compliance with ACR standards. Bluesource will ultimately store project data for at least ten years after the conclusion of the project.

## **Data Processing and Storage**

Manually and electronically filed data are stored and archived. Backup copies of all electronically stored data are maintained in a separate data center with scheduled archiving to assure data protection. Future revisions to project documents after initial verification and registration will be clearly identified by saving them as separate files and including the date of revision in any modified documents. All data will be stored on Dropbox or similar online cloud storage service as well as on an external hard drive and kept by Bluesource for a minimum of 15 years.

## **QA/QC Procedures**

### ***Field Procedures***

At the end of each field day, individual foresters will email their plots from the data recorders (or paper) to the senior forester. The senior forester will then look for irregularities in the data and ask the field crew to confirm the data or remeasure any plots that cannot be reconciled. The senior forester will then add all the data to a master spread sheet.

At least 5% of the plots will be checked by a different forester than cruised the plot, preferably by someone senior to the field crew. This will involve full plot measurement to identify any problems with determining in/out trees, species calls, defect measurements, DBH measurements, and height measurements. Any errors noted during the check cruise will be used to update the master spread sheet file. Any consistent height, species, DBH, or defect errors will be resolved by talking with the foresters and removing crew members if need be.

### ***Desk Procedures***

The following QA/QC approach is designed to ensure that field data, once input, is appropriately managed and maintained, and that subsequent calculations using that data to determine onsite carbon stocks and associated ERT issuance are correctly implemented.

A three-stage QA/QC process with a defined review group for the project will be established, engaging both personnel intimately familiar with all project files and documentation, as well as independent reviewers who are able to bring “fresh eyes” to key outputs.

**Independent Forester Review:** The project implementation team (Bluesource) has a team of foresters with intimate knowledge of the files, models and documents. The development of quantitative components, such as Access databases, FVS model runs and Excel workbooks, are led by one of these foresters. Prior to finalization, a second forester who did not lead development of that component is tasked with a QA/QC review including random examinations and data checks to identify and fix any errors.

**Technical Review:** Once quantitative outputs are finalized, exported from Access/FVS to Excel, and are ready to be transferred into the GHG Plan and other project documents, an independent manager reviews these outputs. This individual performs data checks by tracing key outputs back from final ERT calculations through the chain of Excel documents to the underlying Access/FVS database.

**Senior Management Review:** Once outputs have been transferred from Excel to the GHG Plan and other project documents, a senior manager reviews these documents and checks that all quantitative elements have been correctly exported from the underlying workbook. At this stage, the senior manager (or other individual not involved in document preparation) also reviews text, grammar and formatting for presentation and accuracy.

# E. QUANTIFICATION

## E1. BASELINE

*Detail the GHG quantification methodology for the baseline, including all relevant emissions or removals. Provide sample calculations wherever possible.*

The carbon inventory of the project area was conducted during March - July 2018. The inventory employed a systematic random sample of 98 nested, fixed-radius circular plots. Due to the similarity in forest type and structure across the property, the entire project area (8,485.58 acres) was assigned to a single sampling stratum. Inventory methods, including measurement of tree height and diameter and quantification of tree defect, are documented in 'DoeMountain\_Carbon\_Plot\_Methodology.pdf'. We reviewed state law and best management practices to identify potential restrictions on timber harvest within the project area. Our review identified no areas within the project boundary subject to such harvest constraints.

**Table E1.a Project acreage.**

Strata	Number of plots	Unconstrained Acres	Constrained Acres
1	98	8,485.58	0

The ACR requires Improved Forest Management (IFM) projects to establish a baseline harvest scenario against which to measure carbon accumulation attributable to the project. The ACR protocol defines this baseline as the mix of silvicultural practices that maximizes the net present value (NPV) of timber revenues over the 100-yr project lifespan. We used the Forest Vegetation Simulator (FVS), an empirical forest growth and yield model developed by the US Forest Service, to project carbon stocks and timber revenues under the range of harvest scenarios considered in the baseline. We selected the (SN) variant of the FVS model, which encompasses Tennessee, with model equations calibrated to Cherokee - Watauga District National Forest (location code: 80406), the US National Forest located nearest to the project.

We also used FVS to 'degrow' the inventory to the project start date (October 10, 2017), because the plots were inventoried 3 - 7 months after the project start date. We first initialized FVS with the original inventory and ran the model forward with no harvests in order to estimate tree-level annual growth rates. We ran a single 5-year FVS projection cycle, the default cycle length for the FVS variant. We then computed height and diameter growth for each tree over this 5-interval and divided by 5 to estimate annual growth. Using a monthly growth schedule derived in consultation with a local forester, we determined the fraction of annual growth that had occurred between the project start date and the inventory date and multiplied annual growth for each tree by this fraction. Finally, we subtracted this estimated height and diameter growth for each tree from the observations recorded in the original inventory. We used this growth-adjusted inventory to determine CO<sub>2</sub>e stocks on the project start date (October 10, 2017). We, similarly, estimated CO<sub>2</sub>e stocks on the project reporting date (October 09,

2018) by ‘growing’ the inventory forward in time. We added estimated height and diameter growth according to the months that had elapsed between the inventory and the project reporting date. These calculations are detailed in the ‘InvDate’, ‘IndTreeGrow’, and ‘TreeList’ tabs in DoeMountain\_Start\_RP\_CO2.xlsx.

The FVS model requires an individual species code and site index for each forest plot simulated. The site index is a location-specific measure of forest productivity estimated by the US Department of Agriculture (USDA). These estimates are available from the Web Soil Survey (WSS) maintained by the USDA’s Natural Resources Conservation Service (NRCS). Soil classes in the WSS database can encompass multiple sub-classes, each with an associated site index. The site index for each soil sub-class is reported for at least one tree species. We used the R package “soilDB” developed by the NRCS to spatially co-locate inventory plots within the WSS soil classes and extract the associated soil sub-classes along with their species-specific site indices. The result is a soil class assigned to each plot. Within each plot-specific soil class, we averaged site indices by tree species across soil sub-classes. We then merged the list of tree species associated with each plot-specific soil class with the list of species found in each plot. We assigned each plot the site index of the tree species with the highest basal area in the plot found in both lists. If a plot had no species in the soil class species list, we assigned the plot the site index of the tree species in the species list with the highest basal area in the entire project area. If no site index data were available for a soil class, we averaged site indices by tree species across all soil classes and assigned the average site index for the highest basal area tree species in the plot. We detail these steps in ‘extractSiteIndex\_README.R’. Furthermore, the “BAsummary” tab in DoeMountain\_Start\_RP\_CO2.xlsx summarizes basal area by plot, by species, and by species within each plot. Table E1.b shows the resulting species code and site index assigned to each plot.

**Table E1.b Site indices.**

Plot	Species common name	Species FIA code	Species FVS code	Site Index	Strata
1	Chestnut Oak	832	CO	50	1
2	Chestnut Oak	832	CO	50	1
3	Chestnut Oak	832	CO	50	1
4	Chestnut Oak	832	CO	50	1
5	Chestnut Oak	832	CO	50	1
6	Scarlet Oak	806	SO	50	1
7	Chestnut Oak	832	CO	50	1
8	Chestnut Oak	832	CO	50	1
9	Chestnut Oak	832	CO	50	1
10	Scarlet Oak	806	SO	50	1
11	Scarlet Oak	806	SO	50	1
12	Eastern White Pine	129	WP	80	1

Plot	Species common name	Species FIA code	Species FVS code	Site Index	Strata
13	Chestnut Oak	832	CO	50	1
14	Scarlet Oak	806	SO	50	1
15	Eastern White Pine	129	WP	80	1
16	Chestnut Oak	832	CO	50	1
17	Northern Red Oak	833	RO	80	1
18	Northern Red Oak	833	RO	80	1
19	Northern Red Oak	833	RO	80	1
20	Chestnut Oak	832	CO	50	1
21	Chestnut Oak	832	CO	50	1
22	Eastern White Pine	129	WP	80	1
23	Chestnut Oak	832	CO	50	1
24	Chestnut Oak	832	CO	50	1
25	Chestnut Oak	832	CO	50	1
26	Chestnut Oak	832	CO	50	1
27	Northern Red Oak	833	RO	80	1
29	Chestnut Oak	832	CO	50	1
30	Scarlet Oak	806	SO	50	1
31	Scarlet Oak	806	SO	50	1
32	Scarlet Oak	806	SO	50	1
33	Chestnut Oak	832	CO	50	1
34	Chestnut Oak	832	CO	50	1
35	Eastern White Pine	129	WP	80	1
36	Pitch Pine	126	PP	40	1
37	Eastern White Pine	129	WP	122	1
38	Northern Red Oak	833	RO	80	1
39	Eastern White Pine	129	WP	86	1
40	Eastern White Pine	129	WP	80	1
41	Chestnut Oak	832	CO	50	1
42	Chestnut Oak	832	CO	50	1
43	Chestnut Oak	832	CO	50	1

Plot	Species common name	Species FIA code	Species FVS code	Site Index	Strata
44	Eastern White Pine	129	WP	70	1
45	Chestnut Oak	832	CO	50	1
46	Eastern White Pine	129	WP	80	1
47	Chestnut Oak	832	CO	50	1
48	Chestnut Oak	832	CO	50	1
49	Northern Red Oak	833	RO	80	1
50	Chestnut Oak	832	CO	50	1
51	Chestnut Oak	832	CO	50	1
52	Chestnut Oak	832	CO	50	1
53	Eastern White Pine	129	WP	80	1
54	Pitch Pine	126	PP	40	1
55	Chestnut Oak	832	CO	50	1
56	Chestnut Oak	832	CO	50	1
57	Eastern White Pine	129	WP	86	1
58	Northern Red Oak	833	RO	77	1
59	Scarlet Oak	806	SO	50	1
60	Chestnut Oak	832	CO	50	1
61	Eastern White Pine	129	WP	70	1
62	Chestnut Oak	832	CO	50	1
63	Chestnut Oak	832	CO	50	1
64	Pitch Pine	126	PP	40	1
65	Chestnut Oak	832	CO	50	1
66	Chestnut Oak	832	CO	50	1
67	Chestnut Oak	832	CO	50	1
68	Chestnut Oak	832	CO	50	1
69	Chestnut Oak	832	CO	50	1
70	Scarlet Oak	806	SO	50	1
71	Eastern White Pine	129	WP	80	1
72	Chestnut Oak	832	CO	50	1
73	Scarlet Oak	806	SO	50	1

Plot	Species common name	Species FIA code	Species FVS code	Site Index	Strata
74	Scarlet Oak	806	SO	50	1
75	Chestnut Oak	832	CO	50	1
76	Northern Red Oak	833	RO	77	1
77	Scarlet Oak	806	SO	50	1
78	Northern Red Oak	833	RO	80	1
79	Chestnut Oak	832	CO	50	1
80	Eastern White Pine	129	WP	70	1
81	Northern Red Oak	833	RO	80	1
82	Chestnut Oak	832	CO	50	1
83	Pitch Pine	126	PP	40	1
84	Eastern White Pine	129	WP	86	1
85	Chestnut Oak	832	CO	50	1
86	Northern Red Oak	833	RO	80	1
87	Chestnut Oak	832	CO	50	1
88	Northern Red Oak	833	RO	80	1
89	Eastern White Pine	129	WP	86	1
91	Chestnut Oak	832	CO	50	1
92	Eastern White Pine	129	WP	122	1
93	Chestnut Oak	832	CO	50	1
94	Northern Red Oak	833	RO	80	1
95	Scarlet Oak	806	SO	50	1
96	Scarlet Oak	806	SO	50	1
97	Chestnut Oak	832	CO	50	1
98	Chestnut Oak	832	CO	50	1
99	Eastern White Pine	129	WP	86	1
100	Chestnut Oak	832	CO	50	1

FVS also requires specifying post-harvest regeneration rates for species that do not sprout from residual stumps. These non-sprouting species are listed in the FVS-SN overview available at [https://www.fs.fed.us/fmfc/ftp/fvs/docs/overviews/FVSsn\\_Overview.pdf](https://www.fs.fed.us/fmfc/ftp/fvs/docs/overviews/FVSsn_Overview.pdf). We derived seedling regeneration rates for non-sprouting species based on field estimates from Nunery & Keeton (2010). They present estimates of post-harvest seedling density relative to pre-harvest density for a range of

species across several harvest types (Nunery & Keeton (2010), Table 4). We computed the ratio of post to pre-harvest seedling density for each species and harvest type. We then scaled observed seedling density from the forest inventory (i.e., pre-harvest density) by these ratios to estimate post-harvest density for each harvest type. We used species-specific ratios when available. Otherwise, we used the average softwood or hardwood ratios reported in Nunery & Keeton (2010). These calculations are detailed in DoeMountain\_Regeneration\_Calcs.xlsx. We assume no post-harvest investments in forest regeneration (e.g., no site preparation, herbicide, or pre-commercial thinning), which is common practice on public, non-federal forest in Tennessee.

#### *Estimation of CO<sub>2e</sub> stocks on start and reporting dates*

As required by the ACR protocol, we used our inventory measurements to estimate CO<sub>2e</sub> stocks in three pools: 1) aboveground live biomass, 2) belowground live biomass, and 3) aboveground standing dead biomass. The ACR conservatively omits belowground dead biomass and dead biomass lying on the forest floor. We estimated aboveground live and dead biomass using the species-specific allometric equations of Jenkins et al. (2003). For trees reported as damaged in the inventory, we applied a deduction to estimated aboveground biomass. The deduction is a weighted average of the fractional defect reported for the top, middle, and bottom thirds of the tree. For live trees, the top, middle, and bottom weights are, respectively, 0.1, 0.25, 0.65. The respective weights for dead trees are 0.1, 0.36, 0.54.

For trees with a broken top, we computed the difference between estimated phantom height and measured height. Phantom height is estimated tree height assuming the top were not missing. We computed the ratio of the missing top (phantom height - measured height) relative to the top third of the phantom height. This ratio is the top defect for the tree based on its phantom height ( $top_{phantom}$ , Eq.1). If the missing top accounts for less than the top third of the phantom height (i.e.,  $top_{phantom} < 1$ ), we use  $top_{phantom}$  in place of the observed top defect when computing the total weighted defect.

If the missing top accounts for more than the top third of the phantom height, but less than the top two-thirds ( $1 < top_{phantom} < 2$ ), then  $top_{phantom}$  equals 1 and the middle defect is renormalized relative to the phantom height ( $middle_{phantom}$ , Eq.2). If the missing top accounts for more than two-thirds of the phantom height ( $top_{phantom} > 2$ ), then the top and middle defects equal 1 and the bottom defect is renormalized relative to the phantom height ( $bottom_{phantom}$ , Eq.3). For trees with broken tops, we conservatively reduced aboveground biomass by the larger of the defect estimates based on observed height versus phantom height.

$$(Eq. 1) \ top_{phantom} = \frac{Height_{phantom} - Height_{measured}}{\frac{1}{3}Height_{phantom}}$$

$$(Eq. 2) \ middle_{phantom} = \frac{\frac{2}{3}Height_{phantom} - Height_{measured}}{\frac{1}{3}Height_{phantom}}$$

$$(Eq. 3) \ bottom_{phantom} = 1 - \frac{Height_{measured}}{\frac{1}{3}Height_{phantom}}$$

We also applied deductions to aboveground dead biomass based on tree decay class recorded in the inventory. Table E1.c shows the ACR-defined decay classes corresponding to the decay classes recorded in the inventory. When computing standing dead biomass in ACR decay class 4, we included only stem wood in our calculations, as required by the ACR protocol. Lastly, we estimated belowground live biomass using ratios of root biomass to aboveground biomass from Jenkins et al. (2003). We applied the root ratios to estimated aboveground biomass unadjusted for defect. We converted all biomass stocks to carbon by multiplying by 0.5, the fraction of carbon in tree biomass. We converted all carbon stocks to CO<sub>2</sub>e by multiplying by 3.664, the molar ratio of CO<sub>2</sub> to carbon. All calculations of CO<sub>2</sub>e stocks on the project start date and reporting date are detailed in the 'StartDate\_Tree\_CO2' and 'RP\_Tree\_CO2' tabs in DoeMountain\_Start\_RP\_CO2.xlsx.

**Table E1.c Decay classes.**

Decay class recorded in field	ACR IFM decay class	Biomass deduction	ACR IFM Description
Decay Class 1: Limbs and branches all present, top pointed, all bark remaining, sapwood intact, heartwood sound, hard, original color.	1	0.97	Tree with branches and twigs that resembles a live tree (except for leaves)
Decay Class 2: Few limbs and no fine branches present, top may be broken, bark variable, sapwood sloughing, heartwood sound at base incipient decay in outer edge of upper bole, hard, light to reddish brown.	2	0.95	Tree with no twigs but with persistent small and large branches
Decay Class 3: Branches absent with only limb stubs, top broken, bark variable, sapwood sloughing, heartwood with incipient decay at base, advanced decay throughout upper bole, fibrous to cubical, soft, dark, reddish brown.	3	0.90	Tree with large branches only
Decay Class 4: Branches absent with few or no stubs, top broken, bark variable, sapwood sloughing, heartwood with advanced decay at base, sloughing from upper bole, fibrous to cubical, soft, dark, reddish brown.	4	0.80	Bole only, no branches
Decay Class 5: No limbs or branches, top broken, bark less than 20 percent, sapwood gone, heartwood sloughing, cubical, soft, dark brown, or fibrous, very soft, dark reddish brown, encased in hardened shell.	4	0.80	Bole only, no branches

**The estimated CO<sub>2</sub>e stock in live and standing dead trees on the project start date (October 10, 2017) is tons 1,684,307.97 CO<sub>2</sub>e** (1,648,307.97= 198.49 tons CO<sub>2</sub>e per acre x 8,485.58 acres, slight differences may occur due to rounding).

**Table E1.d Total standing CO<sub>2</sub>e stocks per acre on project start date.**

Total standing stocks (tons CO <sub>2</sub> e per acre)	Number of plots
198.49	98

### *Determining the baseline*

The ACR protocol defines the baseline as the mix of harvest prescriptions that maximizes the net present value (NPV) of timber revenues over a 100-year period. We determined this mix by projecting 100-year timber revenues across a range of common harvest practices in the region (Table E1.e). We consulted with Jake Almond (American Forest Management), a local forester, to identify these harvest practices.

**Table E1.e Management prescriptions.**

Management prescription	Abbreviation	Management actions	Minimum DBH harvested (inches)	Minimum saw timber DBH (inches)	Minimum pulpwood DBH (inches)	Harvest trigger
Grow	GROW	Allow existing stocks to grow 40 years				
Clearcut	CC	Cut throughout all species and diameter classes; Natural sprouting and regeneration	6	10	6	Stand basal area > 80 square feet per acre; Merchantable timber > 600 cubic feet per acre; Rotation period = 60 years
Diameter limit	DL	Cut throughout all species and diameter classes; Natural sprouting and regeneration	16	10	6	Constrained to occur at most every 10 years; Merchantable timber > 600 cubic feet per acre
Shelterwood	SHW	Residual basal area for shelterwood = 50 square feet; Overstory removal occurs 5 years after shelterwood cut; No residual overstory trees; Natural sprouting and regeneration	6	10	6	Stand basal area > 80 square feet per acre; Merchantable timber > 600 cubic feet per acre; Constrained to occur at most every 40 years

Management prescription	Abbreviation	Management actions	Minimum DBH harvested (inches)	Minimum saw timber DBH (inches)	Minimum pulpwood DBH (inches)	Harvest trigger
Single tree selection	STS	Harvest to basal area of 75 square feet; Q-factor = 1.4; Subsequent removal of all trees > 40 inches DBH; Natural sprouting and regeneration	6	10	6	Constrained to occur at most every 10 years; Merchantable timber > 600 cubic feet per acre
Variable retention	VT_10	Cut throughout all species and diameter classes; Residual basal area = 10 square feet; Natural sprouting and regeneration	6	10	6	Constrained to occur at most every 10 years; Merchantable timber > 600 cubic feet per acre
Variable retention	VT_20	Cut throughout all species and diameter classes; Residual basal area = 20 square feet; Natural sprouting and regeneration	6	10	6	Constrained to occur at most every 10 years; Merchantable timber > 600 cubic feet per acre

#### *Harvest revenues*

We used regional timber prices sourced from ‘TimberMart-South: A Summary of the US South Stumpage and Delivered Timber Prices, Logging Rates, Biomass & Chip Prices, Timberland Transactions & Forest Product Market Conditions in 2016’ prepared by TimberMart-South (Athens, GA) to estimate timber revenue under each harvest prescription. Modeled timber volumes in FVS are based on merchantability standards detailed in the FVS-SN overview. FVS outputs harvested saw timber and pulpwood in units of cubic feet. As saw timber and pulpwood prices were reported in \$ per short ton, we converted all FVS harvest volumes to short tons, using the specific gravity of each tree species harvested. These price conversions can be found in DoeMountain\_TimberPrices.xlsx. When available, we applied species-specific prices to compute timber revenue. Otherwise, we applied genus-level prices (e.g., oak, maple, etc.) or average hardwood and softwood prices for species without a reported price (Table E1.f). As the

FVS model outputs harvest volumes at 5-year intervals, we determined annual revenues by evenly distributing revenues over each 5-year interval.

**Table E1.f Timber prices.**

Species common name	Species FIA code	Species FVS code	Saw timber price (\$ per short ton)	Pulp wood price (\$ per short ton)
Mixed softwood			18.22	6.50
Oak spp.	855		46.51	
Mixed hardwood			34.00	5.86

#### *Harvest costs*

Our consultations with local forester, Jake Almond (American Forest Management), indicated that variable harvest costs of \$4.26 per green ton of saw timber and \$0.5 per green ton of pulpwood are typical for the region. Our forester consultations also indicated typical fixed management costs of \$6.43 per acre. We subtracted these costs from timber revenues prior to computing the net present value of 100-yr baseline cash flows. We computed NPV using a 5% discount rate, the rate specified for private non-industrial forestlands such as clubs, associations, and nonprofits in the ACR protocol.

#### *Maximizing NPV of timber harvest in the baseline*

We conducted FVS model runs for each inventory plot across the range of management prescriptions considered in the baseline (Table E1.e). Each plot represents 1/98th of the project area ( $\frac{\text{project area}}{\text{number of plots}} = 86.59 \text{ acres}$ ). We used the Analytic Solver tool in Excel to find the allocation of project acreage across management prescriptions that maximizes the net present value of 100-year cash flows. All baseline calculations are detailed in the “Financials”, “Harvest Revenues”, and “Baseline” tabs in DoeMountain\_100Yr\_Calcs.xlsx.

#### *Projected CO<sub>2</sub>e stocks under the baseline and project scenarios*

We used the FVS Fire and Fuels Extension (FFE) to output carbon stocks from each FVS model run. FFE computes live above and belowground carbon stocks (metric tons) using the allometric equations of Jenkins et al. (2003). To account for damaged trees, we applied average plot-level defects observed in the inventory to the FFE aboveground live carbon stocks. The FFE snag report outputs the volumes of hard and soft dead wood (cubic feet) for each FVS model run. As described in the “FFE: Updated Model Documentation”, the snag report only includes standing dead wood.

We converted dead wood volume as well as harvested wood volume to biomass using species-level specific gravities (US Forest Service Wood Handbook (Table 5-3a), Miles and Smith (2009)). We partitioned above and belowground portions of dead biomass using the root component ratios of Jenkins et al. (2003). We also applied deductions to dead biomass according the FFE-indicated decay class for each snag. Table E1.g shows the ACR-defined decay classes corresponding to the two FFE decay

classes (“FFE: Updated Model Documentation”, p.13). We converted dead biomass and harvested biomass to carbon by multiplying by 0.5, the fraction of carbon in tree biomass. We converted all carbon stocks to CO<sub>2</sub>e by multiplying by 3.664, the molar ratio of CO<sub>2</sub> to carbon. All calculations are detailed in processFVSOutput.R and computeStandingDead.R.

Lastly, we note that FFE does not output initial carbon stocks, if a harvest occurs in year 1 of an FVS model run. FFE instead outputs *post-harvest* carbon stocks. We, therefore, set year 1 carbon stocks in all FVS model output to the start date values from the plot inventory.

**Table E1.g Dead wood classes.**

Fire Fuel Extension (FFE) snag class	Biomass deduction	FVS description
Soft	0.80	Per FVS FFE: “No branches remain.” Corresponds to ACR IFM methodology decay class 4.
Hard	0.97	Per FVS FFE: “Soft snags are more decayed and are assumed to have 80% of the wood density of hard snags.” Corresponds to ACR IFM methodology decay class 1.

Source: Rebain et al. (2012). *FVS Fire and Fuels Extension*.

#### *Harvested wood products in the baseline*

We disaggregated the FVS saw timber and pulpwood harvest into softwood and hardwood species. We then applied mill efficiency values for Tennessee to the four harvest categories - softwood saw timber, softwood pulp, hardwood saw timber, and hardwood pulp - in order to determine the quantity of harvested CO<sub>2</sub>e retained in wood products. We sourced mill efficiency values from the Regional Mill Efficiency Database required by the ACR protocol.

**Table E1.h Regional mill efficiency.**

State	Hardwood saw log	Hardwood pulp	Softwood saw log	Softwood pulp
Tennessee	58.7%	58.1%	62.9%	57.0%

We further disaggregated the four harvest categories into specific wood product classes. We sourced the distribution of wood product classes from the California Air Resources Board (ARB) Assessment Area Data File available at <https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/usforest-aadf.htm>. Table E1.i presents the distribution of product classes for the Blue Ridge Mountains Assessment Area(s), in which the project is located. We re-normalized this distribution into separate distributions for saw timber and pulpwood, allocating harvested saw timber across lumber, plywood, and non-structural panels and harvested pulpwood across oriented strand board, paper, and miscellaneous products.

However, the 100-yr wood product storage factors provided by the ACR protocol do not include hardwood plywood. Therefore, we allocated hardwood saw timber between lumber and non-structural panels only.

**Table E1.i Wood product distribution.**

Supersection	Softwood lumber	Hardwood lumber	Plywood	Oriented strand board	Non-structural panels	Miscellaneous	Paper
Blue Ridge Mountains	31.0%	53.0%	1.0%	2.0%	11.0%	2.0%	0.0%

We allocated CO<sub>2</sub>e in wood products between storage in landfills and storage in the wood products themselves (i.e., in-use storage). We used the 100-year storage factors provided in the ACR methodology. We then summed landfill and in-use storage across product classes to determine total long-term CO<sub>2</sub>e storage in harvested wood products. All wood product calculations are detailed in DoeMountain\_RP\_ERT\_HWP.xlsx.

#### *Baseline harvest mix*

Table E1.j presents the baseline mix of harvest practices that maximizes the net present value of 100-year cash flows. **Maximum NPV under the baseline is \$6,180,036.**

**Table E1.j Baseline and project scenarios.**

Strata	Management prescription	Baseline (acres)	Project (acres)
1	CC	3,290.33	0.00
1	DL	3,636.68	0.00
1	GROW	-	7,637.02
1	SHW	86.59	0.00
1	STS	606.11	848.56
1	VT_10	25976	0.00
1	VT_20	606,.11	0.00
TOTAL		8,485.58	8,485.58

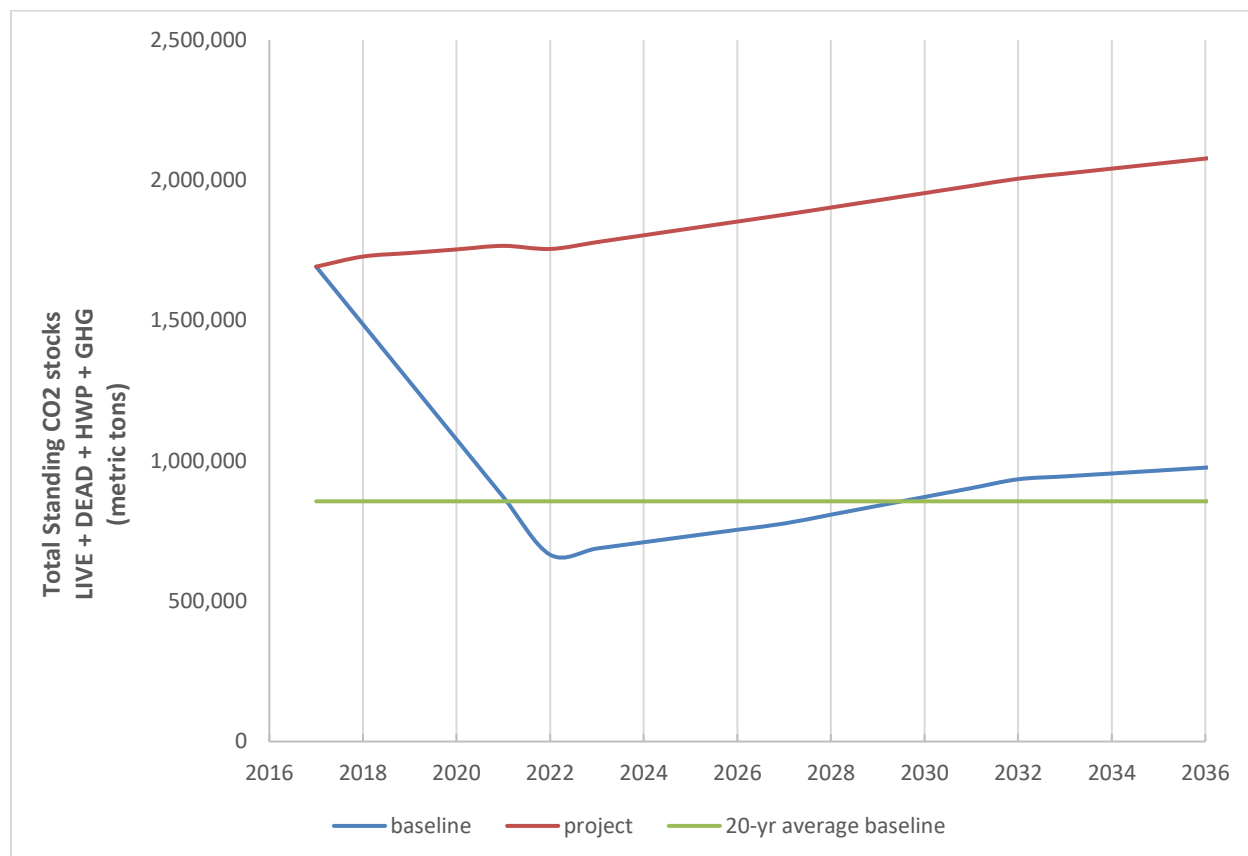
Table E1.k shows projected CO<sub>2</sub>e stocks under the baseline scenario over the first 20-year crediting period (2017 to 2037). CO<sub>2</sub>e stocks in live and standing dead trees represent stocks on October 10 of each year. CO<sub>2</sub>e in harvested wood products represents cumulative in-use and landfill CO<sub>2</sub>e storage averaged over the 20-year crediting period. **Baseline CO<sub>2</sub>e averaged over the 20-year crediting period is 745,202 tons.**

**Table E1.k Baseline CO<sub>2</sub>e stocks.**

<b>Year</b>	<b>Live trees (tons CO<sub>2</sub>e per acre)</b>	<b>Standing dead (tons CO<sub>2</sub>e per acre)</b>	<b>Harvested wood products (tons CO<sub>2</sub>e per acre)</b>
2017	196.2	2.3	1.2
2018	169.4	2.0	1.2
2019	142.5	1.7	1.2
2020	115.7	1.3	1.2
2021	88.9	1.0	1.2
2022	62.0	0.7	1.2
2023	62.0	0.6	1.2
2024	62.0	0.6	1.2
2025	62.1	0.5	1.2
2026	62.1	0.5	1.2
2027	62.1	0.4	1.2
2028	64.3	0.4	1.2
2029	66.4	0.4	1.2
2030	68.6	0.4	1.2
2031	70.8	0.3	1.2
2032	73.0	0.3	1.2
2033	72.7	0.3	1.2
2034	72.4	0.4	1.2
2035	72.2	0.4	1.2
2036	71.9	0.4	1.2
2037	71.6	0.4	1.2

Figure E1.a plots CO<sub>2</sub>e stocks under the baseline and project scenarios. The solid horizontal line indicates 20-year average baseline CO<sub>2</sub>e.

**Figure E1.a Total standing (Live + Dead) CO<sub>2</sub>e under baseline and project scenarios.**



## E2. PROJECT SCENARIO

*Detail the GHG quantification methodology for the project scenario, including all relevant emissions or removals. Provide sample calculations wherever possible.*

### *Project scenario*

The actual project scenario is measured through future inventories over the course of the project lifetime. However, we produce an ex-ante projection of the project scenario assuming the landowner will conduct the following harvest types: single tree selection on 10% of the project area. These calculations are detailed in the “Project” tab in DoeMountain\_100Yr\_Calcs.xlsx. This ex-ante projection applies in years beyond 2018, as the landowner harvested no timber in the first reporting period.

## E3. LEAKAGE

*Describe how leakage is accounted for and quantified. Provide sample calculations wherever possible.*

To prevent activity-shifting leakage, Doe Mountain will not conduct harvests on other lands under its ownership that would offset the harvest reductions attributable to the project. Therefore, leakage is limited to market leakage. We conservatively assume market leakage of 40%.

**Table E1.l Baseline leakage factors.**

Period	Baseline wood products summed over 20-yr crediting period (tons CO <sub>2</sub> )	Project wood products summed over 20-yr crediting period (tons CO <sub>2</sub> )	Project decrease in wood products relative to baseline (%)	Applicable leakage factor (%)
2017-2037	206,367	11,371	94%	40%

## E4. UNCERTAINTY

*Describe how ex-post uncertainty is accounted for and quantified. Provide sample calculations wherever possible.*

We computed uncertainty in project and baseline CO<sub>2</sub>e according to equations 10 and 18 of the ACR protocol. Error terms for live and dead CO<sub>2</sub>e are calculated using the inventory data in the “Stats\_StartDate” tab of DoeMountain\_Start\_RP\_CO2.xlsx. As required by ACR equations 10 and 18, these error terms ( $e_{\text{TREE}}$  and  $e_{\text{DEAD}}$ ), estimated from the most recent inventory data, are used for computing total CO<sub>2</sub>e uncertainty in both the project and baseline scenarios. The ACR protocol also specifies that the error term for live CO<sub>2</sub>e ( $e_{\text{TREE}}$ ) be used as the uncertainty estimate for CO<sub>2</sub>e stored in wood products. As Doe Mountain does not burn logging slash, expected greenhouse gas emissions (GHG) under both the project and baseline scenarios are zero. Total uncertainty encompassing both the baseline and project scenarios (ACR equation 19) over the 20-year crediting interval averages 7.0%. These calculations are all found in the “ACR\_IFM\_Calcs” tab of DoeMountain\_RP\_ERT\_HWP.xlsx.

**Table E1.m Uncertainty in start date CO<sub>2</sub>e stocks.**

Summary Statistics	AG Live CO <sub>2</sub> e (metric tons per acre)	BG Live CO <sub>2</sub> e (metric tons per acre)	Live CO <sub>2</sub> e (metric tons per acre)	AG Dead CO <sub>2</sub> e (metric tons per acre)	BG Dead CO <sub>2</sub> e (metric tons per acre)	Dead CO <sub>2</sub> e (metric tons per acre)	Total Standing CO <sub>2</sub> e (Live + Dead) (metric tons per acre)
Average	164.36	31.84	196.20	2.29	0.00	2.29	198.49
Fraction of total CO <sub>2</sub> e (%)	82.8%	16.0%	98.8%	1.2%	0.0%	1.2%	100.0%
Standard deviation			82.19			4.00	
Standard error			8.30			0.40	
Error at 90% confidence			13.66			0.66	
Percentage uncertainty expressed as 90% confidence interval							
Live ( $e_{\text{TREE},1+1}$ )	7.0%						
Dead ( $e_{\text{DEAD},1+1}$ )	29.0%						

## E5. REDUCTIONS AND REMOVAL ENHANCEMENTS

*Show how net reductions and removals enhancements are quantified, taking into account leakage and uncertainty. Provide sample calculations wherever possible.*

Table E1.n shows estimated net reductions and removal enhancements attributable to the Doe Mountain project over the first 20-year crediting period (2017 - 2037). As the annual project-level uncertainty remains below the 10% threshold required by the ACR protocol, no uncertainty deduction

was applied to the annual Emission Reduction Tons (ERTs) generated by the project. ERTs presented in Table E1.n incorporate the assumed 40% market leakage. ERTs are dated beginning on October 10, 2017, the project start date. Therefore, annual values in Table E1.n correspond to the 1-year interval ending on October 09 of each year. For example, ERTs in 2018 include GHG reductions and removals occurring between October 10, 2017 and October 09, 2018.

**Table E1.n Estimate of net Emission Reduction Tons (ERTs) by year.**

Project year	Year	Estimated GHG emission reductions (tons CO <sub>2</sub> )
0	2017	Start year
1	2018	153,475
2	2019	139,593
3	2020	139,593
4	2021	139,593
5	2022	0
6	2023	7,555
7	2024	14,268
8	2025	14,268
9	2026	14,268
10	2027	14,268
11	2028	15,440
12	2029	15,440
13	2030	15,440
14	2031	15,440
15	2032	15,440
16	2033	11,292
17	2034	11,292
18	2035	11,292
19	2036	11,292
20	2037	11,292

## E6. EX-ANTE ESTIMATION METHODS

*Describe the methods that are to be used to create the ex-ante projection of net GHG emission reductions and removals.*

Table E1.o shows projected CO<sub>2</sub>e stocks under the project scenario described in Section E2.

**Table E1.o Project CO<sub>2</sub>e stocks.**

<b>Year</b>	<b>Live trees (tons CO<sub>2</sub>e per acre)</b>	<b>Standing dead (tons CO<sub>2</sub>e per acre)</b>	<b>Harvested wood products (tons CO<sub>2</sub>e per acre)</b>
2017	197.1	2.3	0.0
2018	200.4	2.3	0.1
2019	201.8	2.3	0.1
2020	203.2	2.3	0.1
2021	204.6	2.3	0.1
2022	203.2	2.3	0.1
2023	206.0	2.3	0.1
2024	208.7	2.3	0.1
2025	211.4	2.3	0.1
2026	214.2	2.3	0.1
2027	216.9	2.3	0.1
2028	219.9	2.3	0.1
2029	222.8	2.3	0.1
2030	225.8	2.3	0.1
2031	228.7	2.3	0.1
2032	231.7	2.3	0.1
2033	233.9	2.3	0.1
2034	236.0	2.3	0.1
2035	238.1	2.3	0.1
2036	240.3	2.3	0.1
2037	242.4	2.3	0.1

# F. COMMUNITY & ENVIRONMENTAL IMPACTS

## F1. NET POSITIVE IMPACTS

### Community and Environmental Assessment

1. *An overview of the Project Activity and geographic location.*

See section A5. Brief Summary of Project Action and A4. Location.

2. *Applicable laws, regulations, rules, and procedures and the associated oversight institutions.*

See section C1. Regulatory Surplus Test

3. *A description of the process to identify community(ies) and other stakeholders affected by the project and, as applicable, the community consultation and communications plan.*

Doe Mountain is a State of Tennessee funded entity governed by a Board of Directors, the Doe Mountain Recreation Authority. According to a DMRA Tennessee General Assembly Report<sup>4</sup>, “The Authority was created by the Tennessee State Legislature to protect and conserve the natural resources of Doe Mountain, a 8,600 acres tract of mountain land located in Johnson County, Tennessee through planning, promoting, financing, constructing, managing, and developing multi-use recreational opportunities for public participation and enjoyment that will create jobs and facilitate economic development.” The Board of DMRA holds monthly board meetings that are open to the public where stakeholders including landowners, business owners, locals, and more can observe the on-goings of DMRA. Minutes are also publicly available for those not able to attend. Information about the carbon project and the decision-making process is publicly available through these board meetings and a formal press announcement will also be made upon completion of project development.

4. *An assessment of the project’s environmental risks and impacts, including factors such as climate change mitigation and adaptation, biodiversity, air quality, water quality, soil quality, and ozone quality, as well as the protection, conservation, or restoration of natural habitats such as forests, grasslands, and wetlands. The assessment shall: 1) identify each risk/impact; 2) categorize the risk/impact as positive, negative, or neutral and substantiate the risk category; 3) describe how any negative impacts will be avoided, reduced, mitigated, or compensated; 4) detail how risks*

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<sup>4</sup> 2018, June. Sunset Public Hearing Questions for Doe Mountain Recreation Authority, Board of Directors, “<http://www.capitol.tn.gov/joint/committees/gov-ops/com/Doe%20Mountain%20Rec%20Authority.pdf>”

*and impacts will be monitored, and how often and by whom; and 5) describe how positive impacts contribute to sustainable development goals (optional).*

Impact	Carbon sequestration
Risk Category	Positive
Monitoring Plan (how, how often, by whom)	Forest management activities described in the Forest Management Plans and monitoring for the carbon project is described in Section D2. Monitoring Plan
If negative, describe aversion, reduction, mitigation, or compensation strategy:	n/a

Impact	Habitat protection for wildlife (especially for game birds, deer, black bear, and migratory birds), plant species, and trees in the forested communities.
Risk Category	Positive
Monitoring Plan (how, how often, by whom)	Forest management activities described in the Forest Management Plans and monitoring for the carbon project is described in Section D2. Monitoring Plan.
If negative, describe aversion, reduction, mitigation, or compensation strategy:	n/a

Impact	Water quality protection
Risk Category	Positive
Monitoring Plan (how, how often, by whom)	Forest management activities described in the Forest Management Plans and monitoring for the carbon project is described in Section D2. Monitoring Plan.
If negative, describe aversion, reduction, mitigation, or compensation strategy:	n/a

Impact	Protection from soil erosion and degradation
Risk Category	Positive
Monitoring Plan (how, how often, by whom)	Forest management activities described in the Forest Management Plans and monitoring for the carbon project is described in Section D2. Monitoring Plan.
If negative, describe aversion, reduction, mitigation, or compensation strategy:	n/a

Impact	Access to recreation opportunities
Risk Category	Positive
Monitoring Plan (how, how often, by whom)	Forest management activities described in the Forest Management Plans and monitoring for the carbon project is described in Section D2. Monitoring Plan.
If negative, describe aversion, reduction, mitigation, or compensation strategy:	n/a

Bluesource – Doe Mountain Improved Forest Management Project has no anticipated negative community or environmental impacts. Annual attestations confirming this assessment will be provided separately for verification purposes.

5. *For community-based projects, an assessment of the project's community risks and impacts, including factors such as land and natural resource tenure, land use and access arrangements, natural resource access (e.g., water, fuelwood), food security, land conflicts, economic development and jobs, cultural heritage, and relocation.*

Bluesource – Doe Mountain Improved Forest Management Project is not a community-based project.

## F2. STAKEHOLDER COMMENTS

*Describe relevant outcomes from stakeholder consultations and mechanisms for ongoing communication, as applicable.*

Stakeholder engagement is described above in section F1. If Project Proponent is contacted by any persons regarding the project, Project Proponent will provide references to the publicly available documentation for the project.

# **G. OWNERSHIP AND TITLE**

## **G1. PROOF OF TITLE**

### **G1.1 Ownership of forestlands**

Forestlands included in the project are owned directly by the project proponent, Doe Mountain Recreation Authority, which holds full legal titles and thus have long term control of the land. Titles and contracts are available for review by verifier in the “Project Supporting Documents.zip”.

### **G1.2 Emission reduction rights**

Emissions reductions rights are owned by the Project Proponent.

## **G2. CHAIN OF CUSTODY**

No sales or purchasing of offsets was conducted prior to project registration.

## **G3. PRIOR APPLICATION**

The Bluesource – Doe Mountain Improved Forest Management Project has not previously applied or been registered under any GHG emission trading system or program.

# H. PROJECT TIMELINE

## H1. START DATE

The project “Bluesource – Doe Mountain Improved Forest Management Project” has a project start date of October 10, 2017, the date of the contractual signing agreement between the Project Proponent and the Offset Developer. This start date is appropriate and consistent with the ACR Standard v5.1.

## H2. PROJECT TIMELINE

Below is a schedule of the project activities in chronological order for important aspects of the Bluesource – Doe Mountain Improved Forest Management Project.

Project Activity	Date	Source/Notes
Project Start Date (Initiation of project activities)	October 10, 2017	CDMA contract signing
Frequency of monitoring, reporting and verification		Every 5 years after the first verification
Length of First Crediting period	Through October 9, 2037	20 years
Expected project longevity	N/A	40 years