Bluesource – East Branch Improved Forest Management Project

March 28, 2022

ACR 569

East Branch Sportsman's Club

Prepared by: Blue Source, LLC

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A. PROJECT OVERVIEW

A1. PROJECT TITLE

The project title is "Bluesource – East Branch Improved Forest Management Project".

A2. PROJECT TYPE

This project is to be registered under the American Carbon Registry Standard[1] (ACR, 2019) as an Improved Forest Management (IFM) project, under an approved ACR Improved Forest Management Methodology.[2]

A3. PROOF OF PROJECT ELIGIBILITY

Eligibility for this Improved Forest Management project has been determined with reference to the ACR Standard Version 6.0 and Improved Forest Management for Non-Federal U.S. Forestlands Version 1.3. The Bluesource – East Branch Improved Forest Management Project meets all relevant eligibility requirements as described in Table A 3.1 below.

Table A3.1. Project Eligibility Requirements

Eligibility Requirements	Proof of Eligibility	Reference
Ownership Type	The project ownership is private non-federal U.S. forestland.	See section G1. PROOF OF TITLE
Project proponent has third-party certification or no commercial timber harvesting	The project proponent is certified under American Tree Farm System.	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 July 1, 2020 coincides with the signing of the Carbon Development & Marketing Agreement (CDMA) between East Branch Sportsman's Club and Bluesource. This has been provided separately for verification purposes. The project Start Date complies with requirements of the	See also section H1. START DATE.

[1] ACR. 2019. American Carbon Registry Standard, Version 6.0. American Carbon Registry, Arlington, VA, USA.
[2] 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, April 2018, American Carbon Registry, Arlington, VA, USA.

	ACR protocol, that the project must have a validated/verified Start Date of January 1, 2000 or after.	
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 ACR Standard Version 6.0, 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. QUANITIFCATION
Land Title	For all areas included in the project, long term land titles have been issued and ownership is thus clear, unique, and uncontested.	Deeds provided.
Direct Emissions/ Offset Title	GHG emission reductions generated by the project activity are generated from forest carbon sources and sinks over which East Branch Sportsman's Club has all management (Deeds provided.) and ownership rights. East Branch Sportsman's Club holds 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 (Deeds provided.).	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	See also section F. COMMUNITY &

	accordance with the ACR Standard 6.0, net positive impacts were confirmed.	ENVIRONMENTAL IMPACTS

A4. LOCATION

A GIS shapefile of the project area 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 and latitude/longitude coordinates. Figure A-2. shows the Bluesource – East Branch Improved Forest Management project in the context of local hydrology. 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 may exist that are not mapped. The ownership map, Figure A-6 shows the extent of land owned by East Branch Sportsman's Club.

Figure A-1. Vicinity Map with Latitude and Longitude

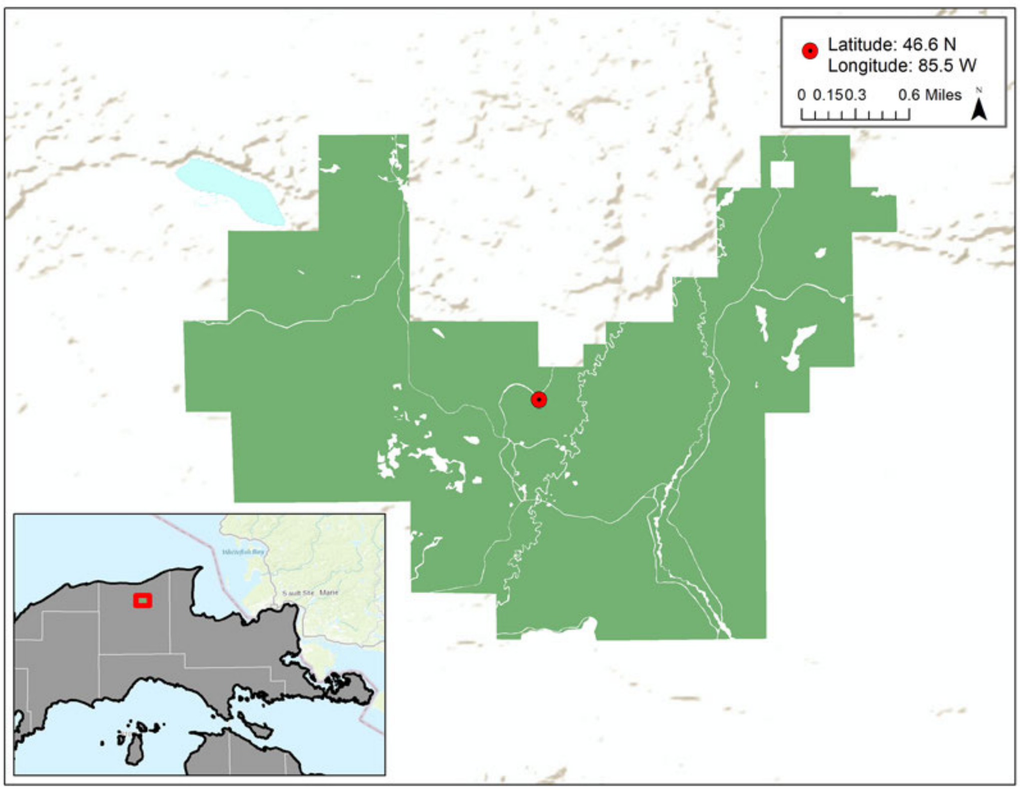


Figure A-2. Regional Hydrology Map

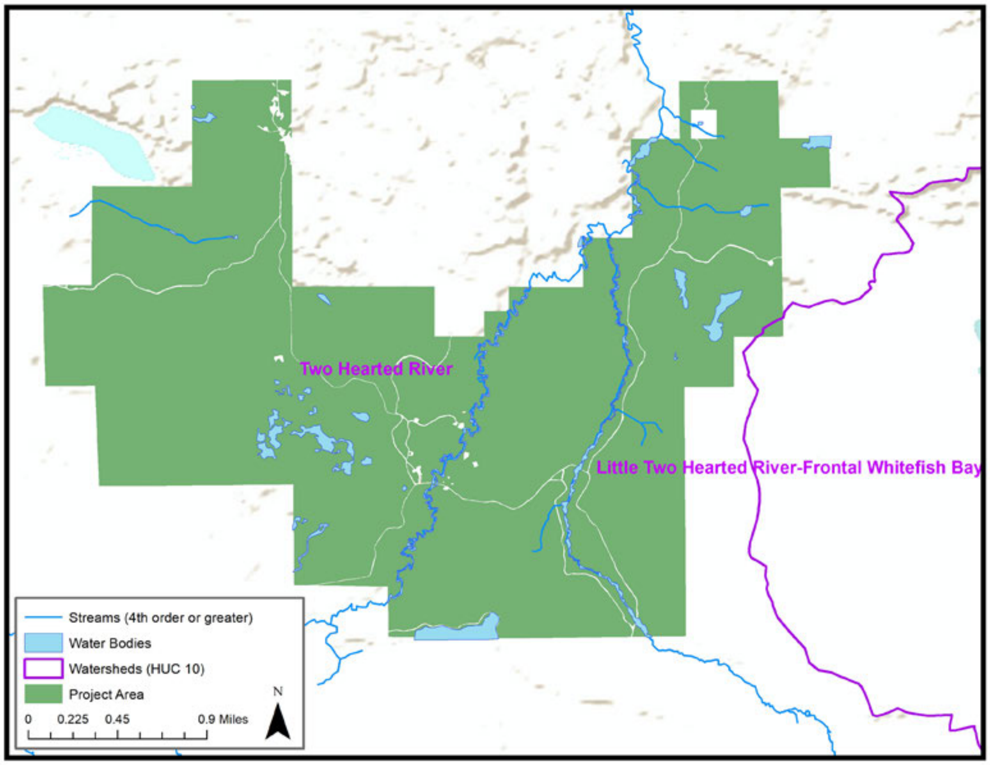


Figure A-3. Canopy Cover Map depicting greater than 10% canopy cover.

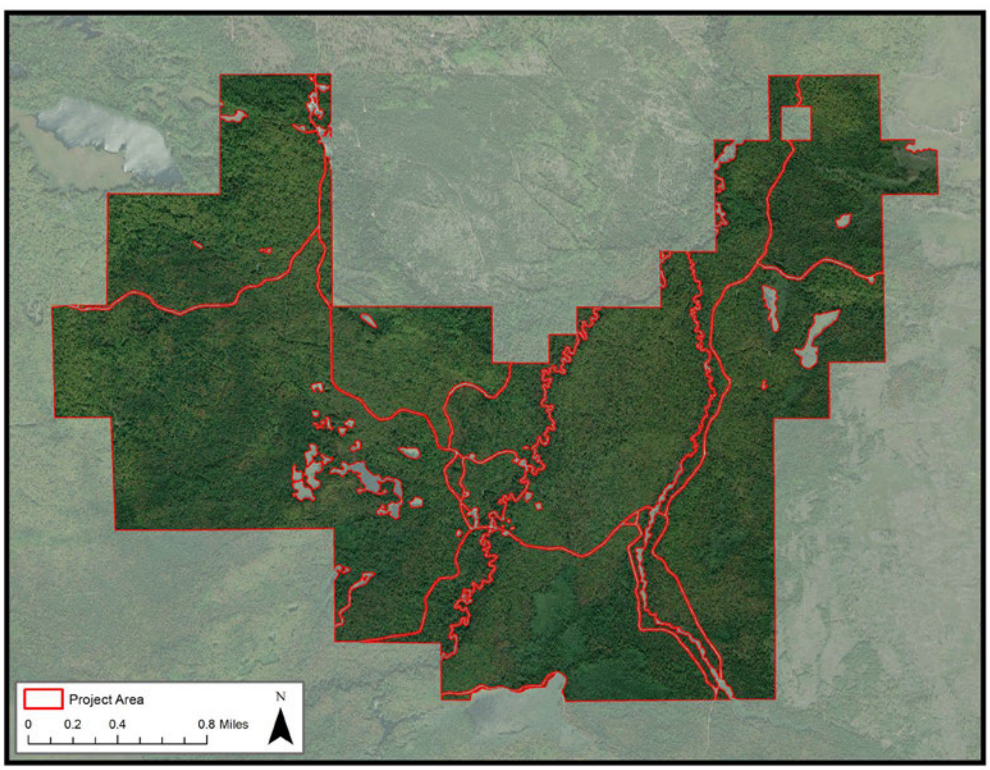


Figure A-4. Topography Map

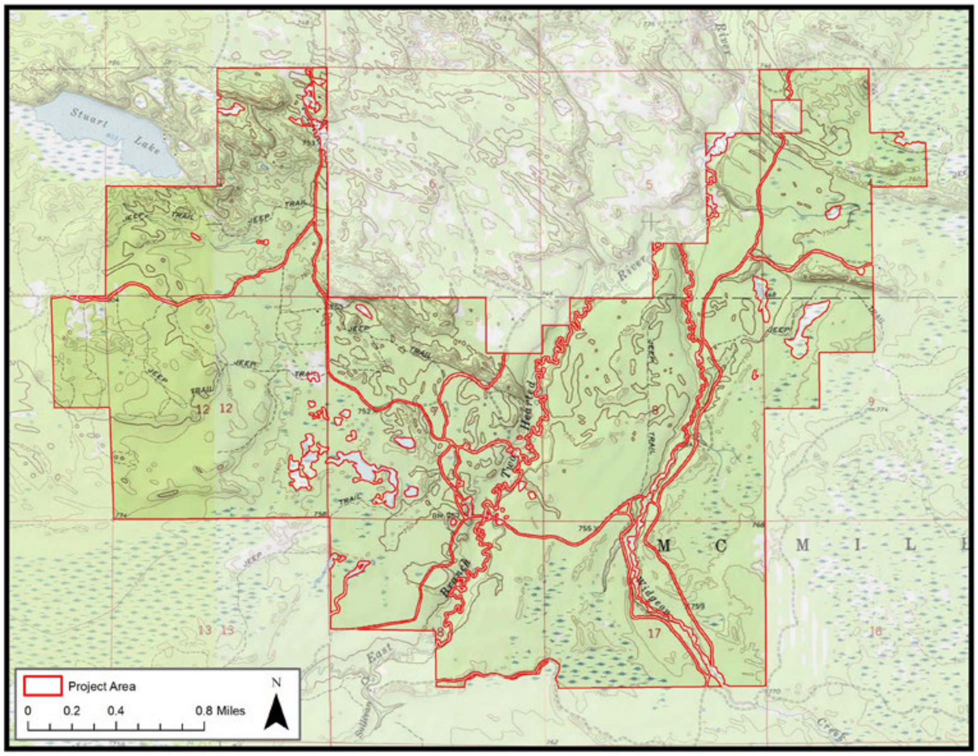


Figure A-5. Roads Map

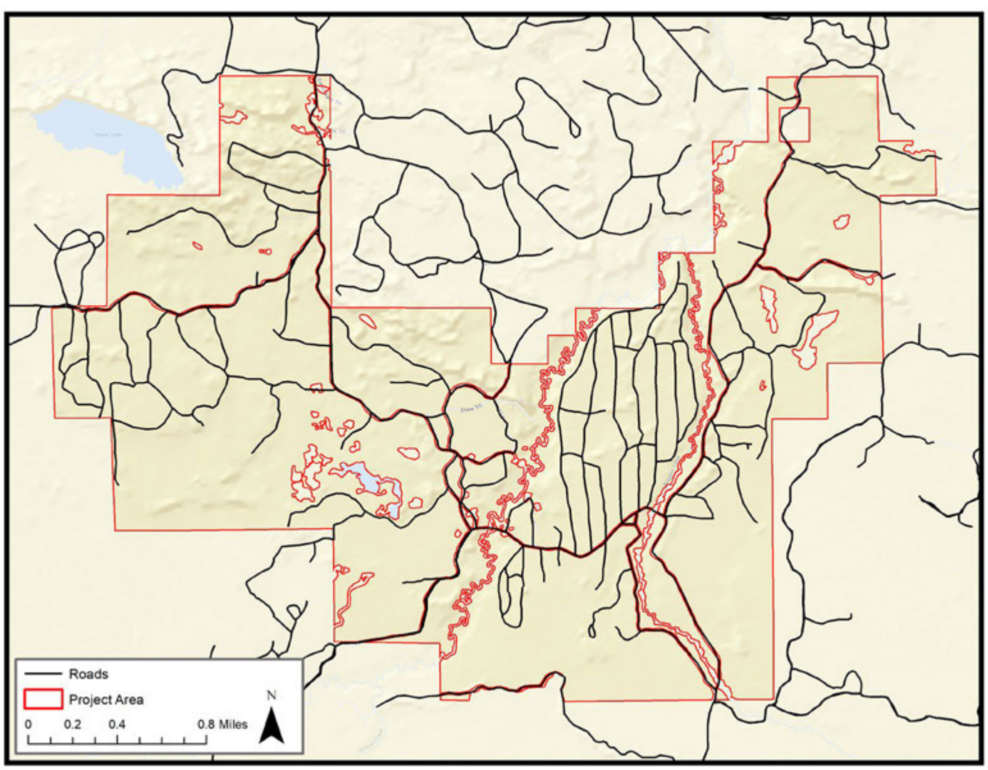
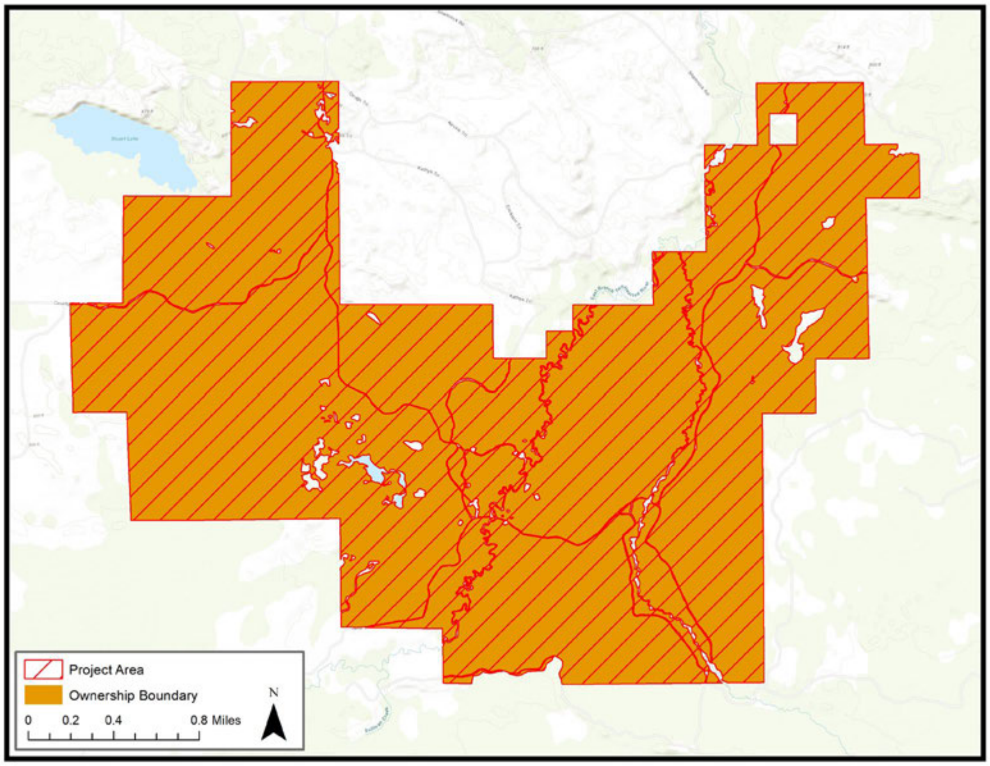


Figure A-6. Ownership Map



A5. BRIEF SUMMARY OF PROJECT

A5.1 Background Information

The Bluesource - East Branch IFM Project consists of approximately 3,822 acres of northern hardwood forest and conifer bog. The project is located in Luce County in Michigan's Upper Peninsula, and is split by the East Branch of the Two Hearted River. The land enrolled under this carbon project is owned by East Branch Sportsman's Club who serve as project proponent. The property is managed under a forest management plan for commercial timber harvest, forest health, recreation, and education.

A5.2 Description of Project Activity

The project activity is improved forest management, with East Branch's forest management practices representing a significant improvement in the carbon storage and conservation value than higher return, more aggressive management regimes of other 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 maintenance harvests for essential activities, recreation, wildlife habitat and forest health. The project ensures long-term sustainable management of the forest, which could otherwise undergo significant commercial timber harvesting.

A5.3 Project Purpose and Objectives

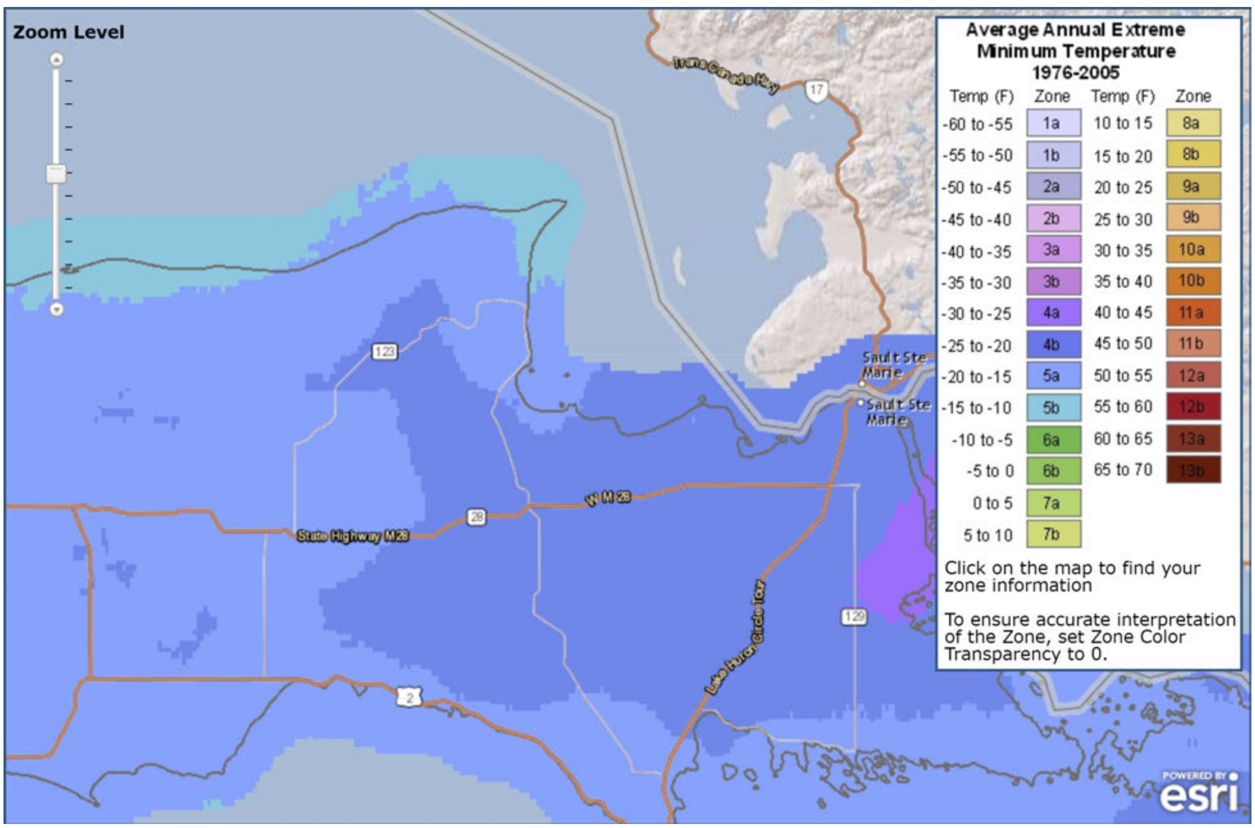
By committing to maintain forest CO2 stocks above the regional baseline level, the project will provide significant climate benefits through carbon sequestration. The aim of this project is also to ensure long-term continuance of all environmental benefits provided by the preservation of the hardwood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

A6. PROJECT ACTION

A6.1 Prior Physical Conditions

<u>Climactic zone</u>

The project area is in the Upper Peninsula of Michigan, which lies in zones 4b and 5a on the USDA plant hardiness zone map. In aggregate, average annual extreme minimum temperatures for these zones are -25°F to -20°F at the low end, and -20°F to -15°F at the high end.



<u>Ecosystem/Vegetation</u>

Forest types throughout the property include northern hardwoods, mixed hardwood, and mixed conifer forest types. Prevalent tree species in the carbon project region include beech, hemlock, white pine, yellow birch, oak, spruce, fir, aspen and black cherry. Understory species include balsam fir, red maple, paper birch, cherry and aspen.

<u>Land Use</u>

Regional land use is predominantly forestry. Other than commercial forestry, low-density development is common throughout the Upper Peninsula, especially for waterfront properties and second homes.

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

Commercial harvesting is intended for the carbon project area. Management considerations for the project area will promote uneven-aged silviculture practices. The landowner is committed to following state Best Management Practices so as not to impact water quality in the area.

A6.3 Project Action

By committing to maintain forest CO2 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 less intensive commercial harvesting than would otherwise be expected on similar properties in the region. Bluesource – East Branch Improved Forest Management Project will achieve GHG removals by sequestering more atmospheric CO_2 than a baseline scenario in live aboveground biomass, belowground biomass and dead wood.

A7. *EX ANTE* OFFSET PROJECTION

Total projected GHG removal is 326,607 $mtCO_2e$ (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:

Project Year	Year	Estimates of GHG emission reductions mt CO2e
0	2020	0
1	2021	52,924
2	2022	47,590
3	2023	47,590
4	2024	47,590
5	2025	40,506
6	2026	6,038
7	2027	6,038
8	2028	6,038
9	2029	6,038

10	2030	6,038
11	2031	6,575
12	2032	6,575
13	2033	6,575
14	2034	6,575
15	2035	6,575
16	2036	5,469
17	2037	5,469
18	2038	5,469
19	2039	5,469
20	2040	5,469

A8. PARTIES

The project was implemented by East Branch Sportsman's Club, the landowner, and Blue Source, LLC, a carbon offsets project developer. Project verification was completed by SCS Global Services and the forest carbon inventory was conducted by Compass Land Consultants. Technical modeling was conducted by Blue Source, LLC.

Table A-3. Project Partners & Responsibilities

Project Parties	Personnel/Point of Contact	Roles and Responsibilities	Contact Information
East Branch Sportsman's Club	William J Knapp, President	Project Proponent – financing and implementation of long-term project management	East Branch Sportsman's Club 7270 East DE Ave, Richland, MI 49083 Phone: 419-348-0804
Blue Source, LLC	Josh Strauss, Vice President	Offset Developer – coordination of project implementation, modeling,	Blue Source LLC 582 Market St., Suite 1505 San Francisco, CA 94104 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
Compass Land Consultants	Todd Bishop, Managing Partner	Contractor – Forest Inventory	Compass Land Consultants E3310 State Road M28 Au Train, MI, 49806

B. METHODOLOGY

B1. APPROVED METHODOLOGY

The methodology used for the Bluesource – East Branch 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 – East Branch Improved Forest Management Project:

1. The land committed to the East Branch Improved Forest Management Project is a non-federally owned private forestland.

2. East Branch Sportsman's Club controls the timber rights on the forestland and can legally harvest (Deeds provided.).

3. The landowner will harvest in the future. The property is certified under the American Tree Farm System.

4. N/A. The managing legal entity for Bluesource – East Branch Improved Forest Management project is East Branch Sportsman's Club, a private forestland owner.

5. N/A. Bluesource – East Branch Improved Forest Management Project is not on public, non-federal lands.

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

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

8. See attached Deeds.

9. 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 3,822 acres of forestland, shown in the maps in section A4.

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 Proponent 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. *For Bluesource – East Branch Improved Forest Management Project, standing dead wood will be included in all stands.*
Lying dead wood	Optional	Project proponent may elect to include the pool. Where included, the pool must be estimate in both the baseline and with project cases. *For Bluesource – East Branch Improved Forest Management Project, lying dead wood will **not** be included.*
Harvested wood products	Included	Major carbon pool subjected to the project activity,
Litter/Forest Floor	Excluded	Changes in the litter pool are considered *de minimis* as a result of project implementation.
Soil organic carbon	Excluded	Changes in the litter pool are considered *de minimis* as a result of project implementation.

Gas	Source	Included / Excluded	Justification / Explanation of choice
CO_2	Burning of biomass	Excluded	However, carbon stock decreases due to burning are accounted as a carbon stock change.
CH_4	Burning of biomass	Included	Non-CO_2 gas emitted from biomass burning.
N_2O	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 *de*

			minimis threshold will occur as a result of project implementation
	Crops	Excluded	Forestland eligible for this methodology do 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.

B5. BASELINE

The baseline scenario represents an aggressive harvest regime, targeted to maximize net present value at a 5% discount rate, typical of current practices in the project region on private, nonindustrial forestland.

Baseline practices are detailed in Section E. Quantification.

B6. PROJECT SCENARIO

The project scenario consists of managing the forestland using primarily uneven-aged silvicultural techniques for generation of wood products, focusing too on recreational and education values, as well as wildlife habitat promotion, as described in Section A6. Project Action.

B7. REDUCTIONS AND ENHANCED REMOVALS

The project will achieve greenhouse gas reductions through natural growth of forestland on lands that otherwise could be heavily cut in the baseline scenario. Introduction of uneven-aged harvest regimes will enhance removal rate to maintain carbon stocks above the common practice values of the region.

B8. PERMANENCE

Project Proponent 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 form each risk category that applies:

A	Financial	• 4% Default Value • 3% US Public and Tribal Lands
B	Project Management	• 4% Default Value • 3% US Public and Tribal Lands
C	Social/Policy	• 2% Default Value • 5% if project is located outside of the US • 3% if project is located outside of the US and demonstrates community engagements through ACR-approved mechanism
D	Conservation Easement Deduction	• -2% Default value • -3% if there is regular onsite monitoring of activities related to carbon-specific conservation activities

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

E	Fire	• 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 • 4% if project is located in high fire risk region • 2% if project is located in low fire risk region (verifiable evidence must be provided) • 1% for agriculture and grassland projects only
F	Diseases and Pests	• 8% if epidemic disease or infestation is present within project area, or within 30 mile radius of project area • 4% Default Value
G	Levee Failure and Water Table Changes	• 2% Default for all wetland projects (and for forest projects where more than 60% of the project area is a forested wetland)
H	Other Natural Disaster Events	• 2% Default Value for all sequestration projects

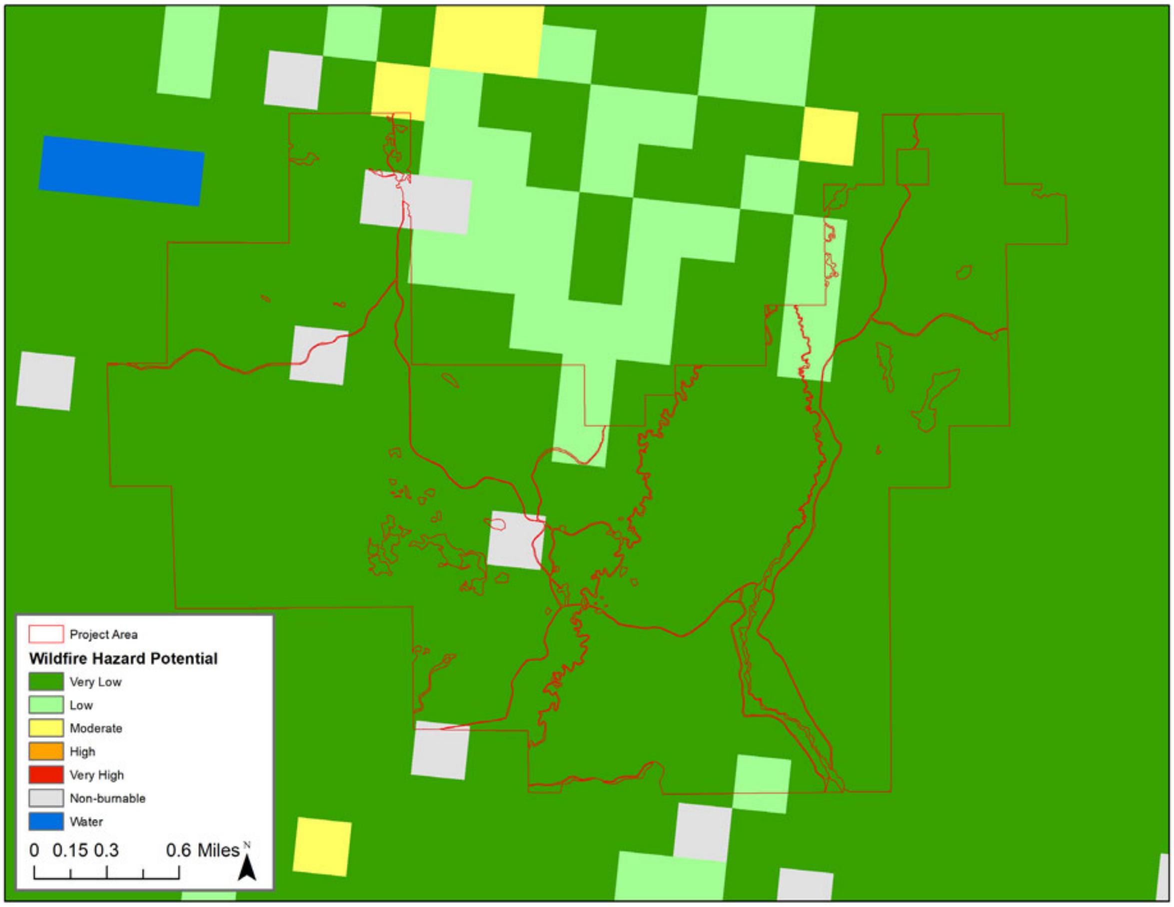
Calculated Risk Score

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%

*Project area is in a majority low fire risk region according to the Wildfire Hazard Potential (WHP) map provided by the USFS.

Figure B8. Wildfire risk map using Wildfire Hazard Potential, Version 2014 from USDA Forest Service



C.ADDITIONALITY

C1. REGULTORY 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.

Michigan Department of Natural Resources: Forestry Best Management Practices for Soil and Water Quality
Michigan Commercial Forest Act

Binding International Agreements.

Kyoto Protocol (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 of July 1, 2020 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 Bluesource – East Branch Improved Forest Management Project located in the Upper Peninsula of Michigan. A wide range of wood products, including hard and softwood sawtimber, hardwood veneer, and mixed pulp are distributed to mills throughout this region. The region and particularly the ownership have a history of timber harvesting and contracting to logging companies. The forest type for this project is most similar to private, nonindustrial forestland ownership due to the size of the property and its status

as private landholding. Throughout the geographic region, private forestland is heavily cut, often through clear-cutting and high-grading, and is managed to maximize NPV of the forestland investment. According to Bluesource's interviews with professionals familiar with the regional industry, as well as the Timber Mart North stumpage report, wood product demand in this region is strong and consistent across species and product types. If the Bluesource – East Branch Improved Forest Management Project was not implemented, the forest management could feasibly resemble that of a private, nonindustrial 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*

Implementation Barriers	*Choose one of the following three:*
Financial	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? **Yes = Pass; No = Fail**
Technological	Does the project face significant technological barriers such as R&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? **Yes = Pass; No = Fail**
Institutional	Does this project face significant organizational, cultural, or social barriers to implementation, and are carbon market incentives a key element in overcoming these barriers? **Yes = Pass; No = Fail**
If the project passes the Regulatory Surplus and Common Practice tests, and at least one Implementation Barrier test, ACR considers the project additional.	

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?

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 – East Branch Improved Forest Management project uses the three-pronged approach; therefore, this step is not required.

D.MONITORING PLAN

D1. MONITORED DATA AND PARAMETERS

List all relevant data and parameters that will be monitored using the tables below.

Data or Parameter Monitored	A_1
Unit of Measurement	Acres
Description	Area of IFM Project
Data Source	Provided by the project proponent
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:	3,822
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	Year
Description	Number of years between monitoring time t and t1 (T = t2 – t1)
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 1/10th 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 > 5 inches 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	Handheld 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	Consistent with East Branch Carbon Inventory Methodology
Data Uncertainty	None
Monitoring Frequency	Every 5 years after the first inventory
Value applied:	
Reporting Procedure	Handheld 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	Tree defect is qualitatively assessed for missing biomass in the bole from 1ft stump to total height. The exception is for broken tops below 4" DOB when the percent biomass missing is calculated from 1ft stump to broken top. Tree defect is assessed by dividing the tree into thirds, estimating percentage of missing carbon volume in each third, and assign a deduction value. Top height and phantom height are measured and missing biomass in the broken portion is calculated post-inventory. For dead tree defect, only bole defect will be estimated from 1ft stump to 4"DOB.
Data Uncertainty	None
Monitoring Frequency	Every 5 years after the first inventory
Value applied:	Tree-specific
Reporting Procedure	Handheld 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_2
Description	Carbon remaining in stored wood products 40 years after harvest for the project in year t.
Data Source	Project Proponent
Measurement Methodology	Pre-harvest cruise reports and volume estimates or mill slips, as available
Data Uncertainty	None
Monitoring Frequency	Annual data summed for the monitoring period, applied as average annual for the monitoring period
Value applied:	
Reporting Procedure	Self-reported by Project Proponent and incorporated into annual calculations by Bluesource
QA/QC Procedure	Harvested areas are visited to assess affected plots for removed trees. Aerial imagery review and subsequent site visits will confirm harvested areas conform to those written in harvest plans.
Purpose of Data	Calculation of project emissions
Calculation method:	Described in Section E
Notes	

Data or Parameter Monitored	Forest Carbon
Unit of Measurement	Metric tons of CO_2
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 East Branch Carbon Inventory Methodology
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 East Branch Carbon Inventory Methodology - The inventory will use a random sample design and re-measure the same permanent plots established in 2020 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.

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 150 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 once 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. [3]

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 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.

Blue Source 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 in the project area, and an inventory crew will conduct inventory measurements and data collection. After forest inventory data collection, an inventory crew 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 ten years.

QA/QC Field Procedures

Field Procedures

3 The details of the carbon inventory methodology are considered commercially sensitive material as the methodology is the result of considerable investment of Blue Source LLC s resources.

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 though 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

Inventory Development Overview

The carbon inventory of the project was conducted from 2020-09-21 – 2020-10-29. The inventory employed a sample of 150 nested, fixed-radius circular plots installed in a random distribution across the project area. The nested plots consist of a 1/15th acre plot recording tees >= 5" and a 1/100th acre plot recording trees >=1' and <5" DBH. The entire project area (3,822 acres) was assigned to 3 strata, as shown in Table E1-1. See the Baseline Stratification section below for details.

Table E1-1. Area by Strata

Strata	Project Area (acres)	Constrained Area (acres)	Number of Plots
CB	1,152.40	129.20	47.00
NH	2,156.34	55.21	87.00
PSF	513.75	189.95	16.00
Total	**3,822.49**	**374.36**	**150.00**

Growth Model Overview

Field measurement protocols are documented in East Branch Carbon Inventory Methodology. The ACR protocol 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 (USFS), to project carbon stocks and timber revenues under the range of harvest scenarios considered in the baseline. We selected the FVS-LS variant of the FVS growth and yield model, which encompasses the upper peninsula of Michigan, with model equations for each plot regionally calibrated to the US National Forest located nearest to the East Branch project, as shown in Table E1-2.

Table E1-2. Plot Location for FVS Calibration

Nearest National Forest Region	FVS Location Code	Number of Plots
Hiawatha National Forest	910	150

We used the regionally-calibrated FVS to 'degrow' the inventory from the plot-specific inventory date to the project start date (July 01, 2020), because the plots were inventoried after the project start date. We first initialized FVS with the original inventory measured on the plot's inventory date, and projected the model forward with no harvest in order to estimate tree-level annual growth rates. We ran a single 10-year FVS projection cycle, the default cycle length for the FVS-LS variant. We then computed height and diameter growth for each tree over this 10-year interval and divided by 10 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 CO2e stocks on the project start date (July 01, 2020). We similarly estimated CO2e stocks on the project reporting period end date (June 30, 2021) by 'growing' the inventory from the plot-specific inventory date to the Reporting Period Date. We added estimated height and diameter growth according to the months that had elapsed between the inventory and the project reporting period end date.

Total aboveground biomass carbon was estimated from inventory data applying species group-specific allometric equations sourced from Jenkins et al 2003[4]. Root biomass was then estimated from total aboveground biomass using component ratios from Jenkins et al 2003, to produce total live tree biomass. Total live tree biomass was converted from pounds to metric tons, multiplied by 0.5 to estimate carbon fraction, then multiplied by 3.664 to calculate t CO2e.

Carbon in standing dead wood was estimated in the same way as live trees, with deductions for decay class recorded in the field. Decay classes were recorded according to the ACR standard using the methodology Decay Class (Table E1-3).

Table E1-3. ACR decay classes (applied to dead trees)

Decay Class	Decay Factor	Description
1	0.97	Tree with branches and twigs that resembles a live tree (except for leaves).
2	0.95	Tree with no twigs but with persistent small and large branches
3	0.9	Tree with large branches only.
4	0.8	Bole only, no branches.

Growth and Yield Simulation

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. These estimates were calculated using tree cores. One dominant or co-dominant tree with a DBH of less than 30 inches within the overstory plot was

[4] Jenkins, J.C., Chojnacky, D.C., Heath, L.S. and R.A. Birdsey. 2003. National-scale biomass estimators for United States tree species. Forest Science 49:12-35

selected as a site index tree for each plot. Site Index was calculated from tree cores taken in the field and processed by Rocky Mountain Tree Ring Research. The available outputs following processing tree cores included tree species, DBH, Height, Pith Date (calendar year), DBH Age (years). From these outputs, Site Index was calculated using species-specific site index curves[5].

The FVS "NoTriple" command was entered to avoid excessive tree records and speed processing.

Initial carbon stock estimates for the project start date were back-modeled via FVS-LS with the approach outline below:

- Inventory Start Date -End Date data were entered into FVS-LS and grown for 10 years with no management (with "NoTriple" keyworded to track individual trees and permit cross-referencing to raw inventory dataset).
- For each live tree (ascribed a unique identifier), annual diameter growth was derived assuming linear growth during the 10-year projection interval (i.e. for DBH, annual growth calculated as DBH at end of 10-year interval *minus* DBH at beginning of 10-year interval, reported in the FVS Treelist output, *divided by* 10).
- For each live tree, diameter data from the Inventory Start Date - End Date inventory were degrown referencing the annual rates derived in step 2 above, subtracting one year annual growth (i.e. one growing season) from the Inventory Start Date - End Date measurement value.
- Initial carbon stocks were recalculated using the degrown data. No harvests or significant disturbances took place during the intervening period. Diameter of standing dead trees were assumed to be constant through the period.
- The baseline scenarios were subsequently modeled entering the degrown inventory data into FVS-LS.

Table E1-4. De-grown results for total live tree biomass.

Strata	Avg Live C02e	Std Dev Live C02e	No. of Plots	Std Error	Total Live C02e	Uncertainty %
CB	168.86	82.93	47	12.10	194,595	11.78%
NH	130.30	61.68	87	6.61	280,960	8.35%
PSF	143.52	72.48	16	18.12	73,731	20.77%
Total	**143.70**	**-**	**150**	**-**	**549,286**	**6.59%**

Table E1-5. De-grown results for total dead tree biomass.

Strata	Avg Dead C02e	Std Dev Dead C02e	No. of Plots	Std Error	Total Dead C02e	Uncertainty %
CB	8.52	23.69	47	3.45	9,815	66.73%
NH	2.99	6.23	87	0.67	6,450	36.71%
PSF	7.05	14.44	16	3.61	3,622	84.24%
Total	**5.20**	**-**	**150**	**-**	**19,888**	**38.23%**

[5] Site index curves are provided separately for verification purposes.

Table E1-6. De-grown results for total tree biomass.

Strata	Avg Total C02e	Std Dev Total C02e	No. of Plots	Std Error	Total C02e	Uncertainty %
CB	177.38	79.81	47	11.64	204,410	10.80%
NH	133.29	62.50	87	6.70	287,410	8.27%
PSF	150.57	76.80	16	19.20	77,354	20.98%
Total	**148.90**	**-**	**150**	**-**	**569,174**	**6.37%**

*Sums may not total due to rounding

Baseline Stratification

The project is divided into three strata mainly: Conifer-Bog (CB), Northern Hardwood (NH), and Pine-Spruce-Fir (PSF). Stand layer for stratification was provided by the landowner.

Baseline Harvest Schedule Scenario Overview

The Baseline Scenario represents an aggressive harvest regime designed to maximize the annual cashflows from a 100-year Net Present Value (NPV) at a 5% discount rate, subject to operational considerations in the region. The area selection for each prescription by plot was determined using a linear programming model (*lpSolve* package), which found the combination of prescriptions that maximizes the NPV over 100 years. There are 7 silvicultural prescriptions in the linear programming model, shown in Table E1-7.

Table E1-7. Silvicultural prescriptions used for the baseline harvest schedule

Prescription	Prescription Description
GROW	Grow stand through end of baseline projection, with no silvicultural treatment. Allow existing stocks to grow 100 years. This prescription applies to all constrained acres (i.e., RMZ areas, bat buffers).
SHW (Shelterwood)	[redacted]
STS75BA (Single Tree Selection)	[redacted] This prescription applies to all constrained acres (i.e., RMZ areas).

[6] Natural sprouting and regeneration parameters are provided separately for verification purposes.

STS50BA (Single Tree Selection)	[redacted] This prescription applies to all constrained acres (i.e., RMZ areas).
CC (clearcut)	[redacted]

Volume yields were output for 100-year projection from FVS-LS, with annual yields interpolated between 10-year cycle outputs.

We then projected the revenues from sawlogs and pulp using the average stumpage price for each species, as provided separately. Stumpage prices were sourced from Timber Mart North Price Report – Volume 27, No. 2 (2021). Diameter thresholds for sawlogs and pulpwood use the default merchantable diameters in FVS-LS variant.

Cost Assumptions

To estimate net revenue from timber harvest, stumpage by species was used by taking an average from Timber Mart North Price Report – Volume 27, No. 2 (2021). It is assumed that all variable management costs are included in the stumpage estimate. Fixed cost estimates for the property were provided by the landowner.

Ultimately, the financial analysis shows that the baseline harvest activities would be financially viable over a 100-year term using the cost and pricing estimates cited above.

Baseline Constraints

Management regimes in the baseline scenario were developed under legal constraints as described in Section C1. For conservatism, harvest was limited to single tree selection in the SMZs or other constrained areas, described above in Table E1-7.

ERT Calculation Overview

The ERTs were computed based on the equations and coefficients provided in ACR's 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.

The baseline and project scenarios were projected in FVS-LS for 100 years. Projections were annualized using linear interpolation. Direct biomass carbon estimates for live trees were output via FVS FFE carbon reports, using Jenkins et al 2003 biomass predictions in metric tons of carbon per acre, matching the calculations applied to the forest inventory measurements.

Standing dead wood was modeled using the Fire and Fuels Extension of FVS (FVS FFE) to produce detailed snag lists for each model cycle. Biomass carbon of each snag was estimated using model output cubic foot volumes of hard and soft components of dead wood, multiplied by dead wood density. Dead wood densities were referenced from the US Forest Service Wood Handbook or from Miles and Smith 2009, and

incorporated deductions for decay classes corresponding to the hard and soft dead wood components output from the FVS FFE model and summarized in the Table E1-3. Belowground biomass was estimated for hard classes of standing dead wood applying component ratios from Jenkins et al 2003. Standing dead biomass was converted to carbon applying a carbon fraction of 0.5, and carbon converted to carbon dioxide equivalent (CO_2e) applying a conversion factor of 3.664.

Harvested wood products were incorporated into ERT calculations following the below steps:

Step 1:

Long-term storage in wood products was calculated from FVS projections of removals. Projected harvested volumes were broken out into the following categories: softwood sawlog, softwood pulp, hardwood pulp and hardwood sawlog. Pulp/saw breakdowns referenced merchantability standards in the FVS-LS variant[7].

Volumes were converted to biomass by applying species-level specific gravities referenced from the USFS Wood Handbook 2010 Table 5-3a or from Miles and Smith 2009. Biomass was converted to carbon applying a carbon fraction of 0.5, and then converting to t CO_2e by multiplying by 3.664. Harvest t CO_2e/acre (before delivery to mill) for each modeled group (i.e. baseline stratum) were summed for two categories: hardwood sawtimber and softwood sawtimber.

Step 2:

Carbon transformed to wood products was estimated applying mill efficiency values referenced from the ARB 2015 forest protocol "Regional Mill Efficiency Data.xls" database[8], for the region specified in Table E1-8. The mill efficiencies are broken down by species group (hardwood vs. softwood) and wood product (pulp vs. sawlog). However, since FVS provides no estimates of carbon by species or wood product, we determined species and product estimates from the ACR wood product class distribution for the project's Supersection, as defined by the California ARB 2015 Forest Protocol, shown below in Table E1-9.

Table E1-8. Regional Mill Efficiency for Wood Products

Mill Region	Hardwood Sawlog Efficiency	Hardwood Pulp Efficiency	Softwood Sawlog Efficiency	Softwood Pulp Efficiency
Lake-States (LS)	0.585	0.685	0.630	0.514

Table E1-9. Wood Product Class Distribution

Supersection	Softwood lumber	Hardwood lumber	Plywood	Oriented strand board	Non-structural panels	Miscellaneous	Paper

[7] Dixon, Gary E.; Keyser, Chad E., comps. 2008 (revised November 2, 2020). Lakes States (LS) Variant Overview – Forest Vegetation Simulator. Internal Rep. Fort Collins, CO: U. S. Department of Agriculture, Forest Service, Forest Management Service Center. 82p.

[8] Sourced at: *https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/usforestprojects_2015.htm*

Laurentian Mixed Forest NLP/EUP	22.84	34.58	0.13	36.72	3.34	2.4	0

Steps 3 and 4:

Transformed carbon was summed across the hardwood/softwood/pulp/sawtimber categories and then distributed among a range of end wood product classes. Distributions of end wood product classes reference ARB 2015 forest protocol values derived from the supersection (Table E1-9).

Wood product amounts retained in storage for 100 years in in-use wood products and landfills were then calculated referencing end wood product class-specific 100-year average storage factors provided in the methodology[9], shown in Table E1-10.

Table E1-10. 100-Year Storage Factors

Category	In-Use	Landfills
Softwood Lumber	0.234	0.405
Hardwood Lumber	0.064	0.49
Softwood Plywood	0.245	0.4
Oriented Strandboard	0.349	0.347
Non Structural Panels	0.138	0.454
Miscellaneous Products	0.003	0.518
Paper	0	0.151

Step 5:

Carbon in long-term storage was then summed across in-use wood products and landfills and across modeled groups/baseline strata to produce annual total t CO_2e stored in in-use wood products and landfills after 100 years from wood harvested in a given year.

Emissions due to burning logging slash are conservatively assumed in the baseline to be zero. Thus, parameter BS_{BSL} equals zero and the outcome of equation 4 of the methodology, parameter GHG_{BSL}, equals zero.

Baseline Harvest Mix

[9] Sourced from Smith JE, Heath LS, Skog KE, Birdsey RA (2006) Methods for calculating forest ecosystem and harvested carbon with standard estimates for forest types of the United States. In: General Technical Report NE-343 (eds USDAFSUSDAFS), PP. 218. USDA Forest Service, Washington, DC, USA.

Table E1-11 includes the baseline mix of harvest practices that maximizes the net present value (NPV) of annual cash flows over a 100-year projection.

Table E1-11. Baseline and Project Prescription Acreages.

RX	Baseline Optimized Area	Project Optimized Area
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Projections of live tree, standing dead wood and harvested wood products carbon stocks in the project area in the baseline scenario for the first crediting period from 2020 - 2040 are as shown in Table E1-12.

Table E1-12. Baseline CO_2e Stocks

Year	Total Live CO2e (t/ac)	Standing Dead CO2e (t/ac)	Harvested Wood Products CO2e (t/ac)
2020	143.70	5.20	1.00
2021	123.59	4.48	1.00
2022	103.48	3.75	1.00
2023	83.36	3.03	1.00
2024	63.25	2.30	1.00
2025	43.14	1.57	1.00
2026	42.20	1.43	1.00
2027	41.26	1.30	1.00
2028	40.33	1.16	1.00
2029	39.39	1.02	1.00
2030	38.45	0.88	1.00
2031	38.10	0.80	1.00
2032	37.75	0.73	1.00
2033	37.40	0.65	1.00
2034	37.05	0.58	1.00
2035	36.70	0.50	1.00
2036	38.11	0.47	1.00

2037	39.53	0.44	1.00
2038	40.94	0.42	1.00
2039	42.35	0.39	1.00
2040	43.76	0.36	1.00

The figure below depicts the projected baseline stocks, average baseline stock for the first crediting period, and projected with-project stocks (see below for derivation of with-project stock projections).

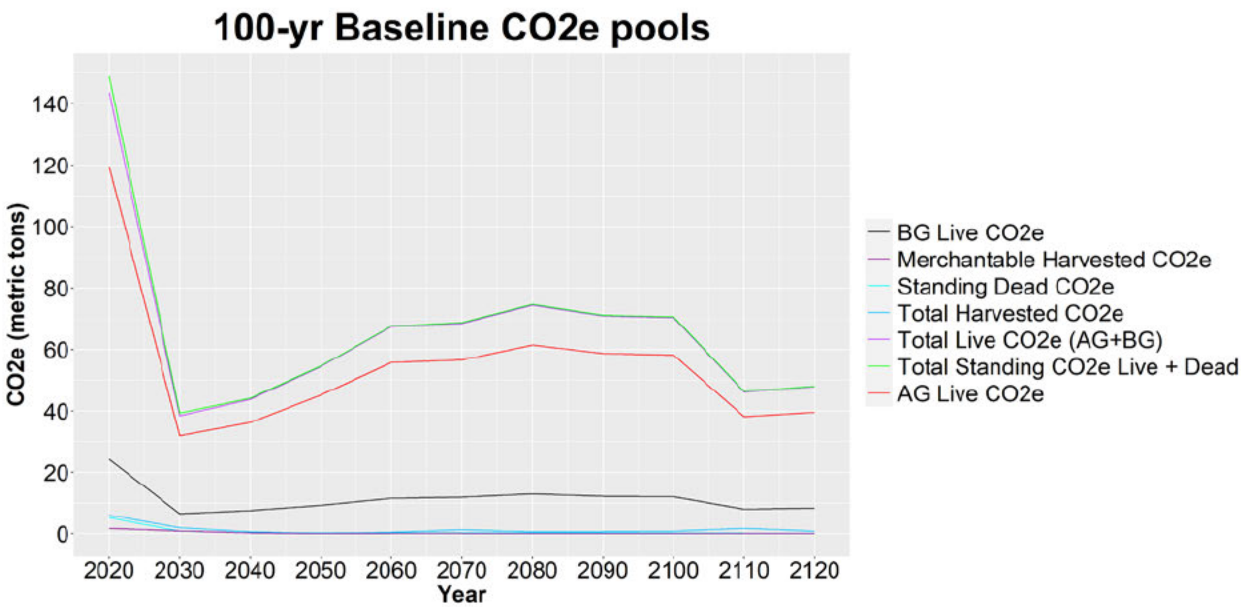


Figure E1-1 Total standing (Live+Dead) CO_2e under baseline and project scenarios

E2. 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 harvest types described in Section A6.2.

E3. LEAKAGE

Quantification of leakage is limited to market leakage. Activity-shifting leakage is not applicable because all forestlands owned by East Branch Sportsman's Club are certified under the American Tree Farm System and included in the project.

Market leakage was determined by quantifying the merchantable carbon removed in both the baseline and with-project cases. Carbon in long-term storage in in-use wood products and landfills, calculated above, was used to assess relative amounts of "total wood products produced" in the two scenarios. The decrease in wood production relative to the baseline was then calculated and the applicable market leakage discount factor was determined.

Table E3-1. Baseline leakage factors

Period	Total HWP stored for 20 yr crediting period Baseline Scenario (tCO2e)	Total HWP stored for 20 yr crediting period Project Scenario (tCO2e)	Decrease in Wood Products as Percentage of Baseline Stocks	Applicable Leakage Factor (%)
2020 - 2040	76,750	0.00	100.00%	40.00%

E4. UNCERTAINITY

We computed uncertainty in project and baseline CO_2e according to equations 10 and 18 of the ACR protocol. Error terms for live and dead CO_2e are calculated using the inventory. As required by ACR equations 10 and 18, these error terms (e_{TREE} and e_{DEAD}), estimated from the most recent inventory data, are used for computing total CO_2e uncertainty in both the project and baseline scenarios. The ACR protocol also specifies that the error term for live CO_2e (e_{TREE}) be used as the uncertainty estimate for CO_2e stored in wood products. No slash burning is anticipated, so expected greenhouse gas emissions (GHG) under both the project and baseline scenarios are zero. Total uncertainty in combined baseline CO_2e stocks (ACR equation 10) is 6.59%.

E5. REDUCTIONS AND REMOVAL ENHANCEMENTS

Table A7-1 shows estimated net reductions and removal enhancements attributable to the EastBranch project over the first 20-year crediting period (2020 - 2040). As the annual project-level uncertainty was 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 A7-1 incorporate the assumed 40% market leakage. ERTs are dated beginning on July 01, 2020, the project Start Date. Annual values in Table A7-1 correspond to the 1-year interval ending on July 01 of each year.

E6. EX-ANTE ESTIMATION METHODS

Table E6-1 shows projected CO2e stocks under the project scenario described in Sections A6.2 and E2.

Table E6-1. Project CO_2e Stocks

Year	Total Live CO2e (t/ac)	Standing Dead CO2e (t/ac)	Harvested Wood Products CO2e (t/ac)
2020	143.70	5.20	0.00
2021	146.94	5.20	0.08
2022	147.78	5.20	0.08
2023	148.62	5.20	0.08
2024	149.46	5.20	0.08

2025	150.30	5.20	0.08
2026	152.85	5.20	0.08
2027	155.41	5.20	0.08
2028	157.96	5.20	0.08
2029	160.52	5.20	0.08
2030	163.07	5.20	0.08
2031	165.86	5.20	0.08
2032	168.65	5.20	0.08
2033	171.44	5.20	0.08
2034	174.23	5.20	0.08
2035	177.02	5.20	0.08
2036	179.33	5.20	0.08
2037	181.63	5.20	0.08
2038	183.94	5.20	0.08
2039	186.25	5.20	0.08
2040	188.56	5.20	0.08

F. COMMUNITY & ENVIRONMENTAL IMPACTS

F1. NET POSITIVE IMPACTS

Community and Environmental Assessment

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

2. See section C1. Regulatory Surplus Test

3. The Bluesource – East Branch Improved Forest Management project comprises forestland owned by East Branch Sportsman's Club, a private forestland owner. No formal stakeholder consultation was conducted in advance of the project, nor was any required because the property is privately held. If Project Proponent is contacted by any persons regarding the project, the Project Proponent will provide references to the publicly available documentation for the project.

4. The below identify Sustainable Development Goals to which the project aligns and the positively contributes:

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, 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

The Bluesource – East Branch 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. The Bluesource – East Branch Improved Forest Management project is not a community-based project.

F2. STAKEHOLDER COMMENTS

N/A. The Project Proponent, East Branch Sportsman's Club is a private forestland owner, and adhered to their internally agreed upon practices of project consultation and notification on associated decision making. East Branch Sportsman's Club 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, East Branch Sportsman's Club, who holds full legal titles and thus have long term control of the land. The relevant documents are available for review by verifier.

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 area defined by the Bluesource – East Branch Improved Forest Management project was previously registered and issued credits through the Chicago Climate Exchange (CCX). All previously issued credits have been retired.

H. PROJECT TIMELINE

H1. START DATE

The project "Bluesource – East Branch Improved Forest Management Project" has a project start date of July 1, 2020, the date by which of the contractual signing agreement between the Project Proponent (East Branch Sportsman's Club) and the Offset Developer (Blue Source LLC) was completed. This start date is appropriate and consistent with the ACR Standard v. 6.0.

H2. PROJECT TIMELINE

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

Project Activity	Date	Source/Notes
Project Start Date (Initiation of project activities)	July 1, 2020	CDMA contract signing
Frequency of monitoring, reporting and verification		Every 5 years after the first verification
Length of First Crediting period	Through June 30, 2040	20 years
Expected project longevity	Minimum Project Term of at least 40 years	40 years