



# KEY PROJECT INFORMATION & PROJECT DESIGN DOCUMENT (PDD)

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VERSION **v.1.2**

## RELATED SUPPORT

- **TEMPLATE GUIDE Key Project Information & Project Design Document v.1.2**
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This document contains the following Sections

KEY PROJECT INFORMATION	3
SECTION A. DESCRIPTION OF PROJECT	9
SECTION B. APPLICATION OF APPROVED GOLD STANDARD METHODOLOGY (IES) AND/OR DEMONSTRATION OF SDG CONTRIBUTIONS	40
SECTION C. DURATION AND CREDITING PERIOD	167
SECTION D. SUMMARY OF SAFEGUARDING PRINCIPLES AND GENDER SENSITIVE ASSESSMENT	169
SECTION E. SUMMARY OF LOCAL STAKEHOLDER CONSULTATION	176
APPENDIX 1 - SAFEGUARDING PRINCIPLES ASSESSMENT	182
APPENDIX 2 - CONTACT INFORMATION OF PROJECT PARTICIPANTS	204
APPENDIX 3 - LUF ADDITIONAL INFORMATION	205
APPENDIX 4 - SUMMARY OF APPROVED DESIGN CHANGES	209
APPENDIX 5 – THEORY OF CHANGE EXAMPLES	210
APPENDIX 6 – CHESTNUT PROPERTY MAPS	221
APPENDIX 7 – BIBLIOGRAPHY	231

## KEY PROJECT INFORMATION

GS ID of Project	GS12135
Title of Project	Chestnut Sustainable Restoration Project
Time of First Submission Date	24/02/2023
Date of Design Certification	13 and 14 June 2023, 6 July 2023
Version number of the PDD	V1.7
Completion date of version	23/05/2023
Project Developer	Forest Carbon Works, PBC
Project Representative	Briana Capra
Project Participants and any communities involved	Chestnut Carbon, LLC
Host Country (ies)	United States of America
Activity Requirements applied	<input type="checkbox"/> Community Services Activities <input type="checkbox"/> Renewable Energy Activities <input checked="" type="checkbox"/> Land Use and Forestry Activities/Risks & Capacities <input type="checkbox"/> N/A

Scale of the Project Activity	<input type="checkbox"/> Micro scale <input type="checkbox"/> Small Scale <input checked="" type="checkbox"/> Large Scale
	<p>Principles and Requirements 101_V1.2</p> <p>403_V2.0_LUF_AR-Methodology-GHGs-emission-reduction-and-Sequestration-Methodology</p> <p>Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM (clean development mechanism) project activities (version 01)</p>
Other Requirements applied	<p>103_V1.2_PAR_Safeguarding-Principles-Requirements</p> <p>203_V1.2.1_AR_LUF-Activity-Requirements</p> <p>102_V2.1_PAR_Stakeholder-Consultation-Requirements</p> <p>104_V1.1_PAR_Gender Equality Requirements &amp; Guidelines</p>

Methodology (ies) applied and version number	<p>403_V2.0_LUF_AR-Methodology-GHGs-emission-reduction-and-Sequestration-Methodology</p> <p>Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities (version 01);</p>
Product Requirements applied	<input checked="" type="checkbox"/> GHG Emissions Reduction & Sequestration <input type="checkbox"/> Renewable Energy Label <input type="checkbox"/> N/A
Project Cycle:	<input checked="" type="checkbox"/> Regular <input type="checkbox"/> Retroactive

### Land Use and Forest (LUF) Key Project Information<sup>1</sup>

Scope:	<input checked="" type="checkbox"/> Forestry <input type="checkbox"/> Agriculture
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<sup>1</sup> Refer to Appendix 3 for detailed information on LUF (land use and forest) projects.

Silvicultural system:	<input checked="" type="checkbox"/> Conservation (no use of timber) <input type="checkbox"/> Selective Harvesting <input type="checkbox"/> Rotation Forestry
Project Area (ha):	2,572 ha (6,356 ac)
Eligible Area (ha):	2,572 ha (6,356 ac)
10% Set Aside Conservation area (ha):	Not applicable, entire project area to be conserved
Evidence that Project Area Boundary is clearly distinguishable in the field:	Project area boundary is distinguishable in the field with use of natural boundaries such as forests and rivers. See Appendix 6 for more detail.
Planting Area	2,356 ha. See Appendix 6.
How many Modelling Units (MUs) are included in the eligible area:	1
Summary of New Areas added (copy and insert as needed):	
Size (ha):	None
Date Added	None

## **Table 1 – Estimated Sustainable Development Contributions**

The following table describes the estimated contributions of the project and the direct positive impact on the communities through mechanisms aligned with the Sustainable Development Goals. Further detail for each SDG Impact can be found in Section B.6.4, and calculation of each value is found in Annex M, “Ex-Ante SDG Impact Model”.

Table 1

<b>Sustainable Development Goals Targeted</b>	<b>SDG Impact (Defined in B.6.)</b>	<b>Estimated Annual Average</b>	<b>Units or Products</b>
13. Climate Action	Number of public partners	14.9 public partners per year	
	Community level awareness of climate change mitigation	3.48 average awareness score per year (on a scale of 0-5, 5 being highest)	
3. Good Health and Well Being	Infrastructure: Miles of trails and roads	39.73 new miles added per year	
	Community sense of social cohesion	4.6 average cohesion score per year (on a scale of 0-5, 5 being highest)	
6. Clean Water and Sanitation	Number of acres certified under FSC (Forest Stewardship Council)	8888 newly certified acres added per year	
	Number of acres planted	3900 new acres planted per year	
	Water quality	0.93 average TMDL (total maximum daily load) compliance per year	
8. Decent work and economic growth	Number of people employed	65 people employed per year	
	Product of number of workers trained on safety and hours spent training	390 hours of training per year	
	Economic productivity	0.01 average inflation-adjusted increase in relative household income per year	
11. Sustainable Cities and Communities	Number of public partners	14.9 public partners per year	
	Community level of support for the project	4.96 average support score per year (on a scale of 0-5, 5 being highest)	

15. Life on Land	Number of acres certified under FSC	8888 newly certified acres added per year
	Number of seedlings planted	1,926,600 seedlings planted per year
	Plantation survival	0.9 average survival rate for newly planted seedlings per year
17. Partnerships for the Goals	Number of public partners	14.9 public partners per year

## **SECTION A. DESCRIPTION OF PROJECT**

### **A.1 Purpose and General Description of the Project**

The United States is home to over 700 million acres of forestland, nearly 7.5% of the world's forests, that provide clean water, recreation, and other life-sustaining resources to Americans. The importance of American forests to the global ecosystem and climate is central to the work of Chestnut Carbon LLC, a US-based company that seeks to restore and conserve functional forestland throughout the United States for the primary purpose of increasing carbon sequestration.

Using the Gold Standard Land Use and Forest Activities Requirements and A/R (afforestation and reforestation) methodologies, Chestnut Carbon is implementing an afforestation project called the Chestnut Sustainable Restoration Project on multiple parcels of land in Arkansas and Alabama within the United States. See Section A.2 Table 2. Chestnut Carbon will be acquiring and leasing unproductive, intensively managed pasture and croplands to plant trees and restore diverse, native forests. The purpose of the project is to increase carbon stocks and sequester greenhouse gases while creating sustainably managed native forestland throughout the country. Chestnut Carbon will be working closely with Forest Carbon Works, a public benefit corporation with expertise in carbon project development and forest management. Forest Carbon Works will manage planted forests and maintain the project's Forest Stewardship Council certification.

Additional activities are created as the project evolves over time. The technologies and measures employed by the project are organized into eleven thematic groups of specific project activities. These thematic groups of project activities contribute directly to numerous Sustainable Development Goals (SDGs) and are summarized in Section A.3.1 - A.3.11.a.

For project boundary, a GIS vector layer will be submitted showing the following information: project region, project area, eligible areas, individual modelling units, infrastructure, water bodies, protected areas, biodiversity areas, where affected people are situated, and sites with special cultural, ecological, economic, religious, or spiritual significance. See Section B.3 for further information regarding the project boundary.

Chestnut Carbon determined that the most appropriate baseline would be leasing of land included in the project for agricultural uses. The following tool was used to identify the baseline scenario: A/R Methodological tool “*Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities*” (Version 01). See Section B.4 for a full description of the baseline scenario.

#### A.1.a Additional Benefits

In addition to tree planting, the project has or will be implementing other activities to protect the environment and preserve biodiversity. See Section A.3. for technologies and/or measures to be employed by the project. Furthermore, partnerships with local organizations and government entities will directly benefit community members.

The project contributes to the United Nations Sustainable Development Goals SDGs: 3 - Good Health and Well Being, 6 - Clean Water and Sanitation, 8 - Decent Work and Economic Growth, 11 - Sustainable Cities and Communities, 13 - Climate Action, 15 - Life on Land, and 17 - Partnership for the Goals. For example, the project plans to host community experience workshops in forest establishment, therefore increasing climate change awareness within the local community, contributing to SDG 13 and 17.

Local resources - including labor, seedlings, and expertise - are used for afforestation, promoting the local economy. Investments in the production of native seeds, seedlings, and nursery operations will also benefit third-party buyers and local suppliers while securing long-term access to seedlings for the lifetime of the project. Local partnerships are essential to ensure maximum leverage of the project implementation for these communities.

The project also plans to provide access to a portion of planted lands for public recreation, including hiking, hunting, and fishing. By working with public and private partners, the project intends to design and designate trail systems, support the establishment of trail networks, and help finance the long-term costs of trail maintenance.

Additionally, the project will identify cultural and native use lands to protect high conservation value areas. Mapping and maintaining these critical zones enhance neighborhoods and protects threatened species. Healthy ecosystems surrounding

communities have a myriad of co-benefits detailed in section A.3 below as required by the Forest Stewardship Council® (FSC® C180518).

#### A.1.b Forest Stewardship Council Certification

The Chestnut Sustainable Restoration Project adheres to the 10 principles of the Forest Stewardship Council. An annual audit of the FSC certificate by an independent third party ensures compliance with sustainable forest management practices, respect for Native peoples' rights, and enhancement of social and economic well-being within local communities<sup>2</sup>.

Further, the project maintains a policy to ensure water resources are conserved by prohibiting the obstruction of water flow, limiting the use of surface water, requiring the application of best management practices, and preventing the discharge of wastewater.

Chestnut Carbon continuously practices adaptive management to proactively mitigate potential negative effects identified through design analysis and ongoing stakeholder consultation beyond the requirements of any third-party standard.

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<sup>2</sup> Forest Stewardship Council. <https://fsc.org/en/fsc-standards>

Figure 1- Chestnut Sustainable Restoration Project FSC certification sign on project property.



### A.1.c Tools and Shapefiles

The project used the A/R Methodological tool “Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities” (Version 01) to find the baseline scenario. A GIS vector layer will be submitted showing the following information: project region, project area, eligible areas, individual modeling units, infrastructure, water bodies, protected areas, and biodiversity areas. Sites identified in the local stakeholder consultation with special cultural, ecological, economic, legal, religious or spiritual significance for indigenous people and local communities will also be delineated; specifically, where indigenous people and local communities are situated, and where indigenous people and local communities have legal, or customary, rights. See Annex A-Project GIS Files.

Additionally, the CDM “Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities” (Version 1.1.0) was used to quantify the soil organic carbon pool, an optional carbon pool included in this project. GS-VERs calculated using this tool may be issued after a successful performance certification, per the methodology. The associated approved spreadsheet calculator was used as well, version 1.1.0.

### A.1.1 Eligibility of the Project Under Gold Standard

#### *Assessment of General Criteria of Principles and Requirements*

This project meets all general criteria of the *Principles & Requirements (version 1.2)* of the Gold Standard, as outlined below:

General Criteria		Status	Further Information
(a) <b>Types of Project:</b>	Satisfied	A/R project types, such as the Chestnut Restoration Project, are pre-identified as being eligible.	
(b) <b>Location of Project:</b>	Satisfied	Projects may be located in any part of the world.	
(c) <b>Project Area, Project Boundary and Scale:</b>	Satisfied	The project area and project boundary has been clearly defined. Projects may be developed at any scale.	
(d) <b>Host Country Requirements:</b>	Satisfied	The project is in compliance with all applicable host country legal, environmental, ecological, and social regulations.	
(e) <b>Contact Details:</b>	Satisfied	The name and contact details of all project participants has been provided.	
(f) <b>Legal Ownership:</b>	Satisfied	The full and uncontested legal ownership of any products that are generated under Gold Standard Certification has been demonstrated by providing the Project Area Ownership Deeds (Annex C).	
(g) <b>Other Rights:</b>	Satisfied	There are no known or contested rights associated with the project, or land in which the project takes place.	
(h) <b>Official Development Assistance Declaration:</b>	N/A	The project takes place within the United States which is not on the OECD Development Assistance Committee's ODA recipient list.	

#### *Assessment of General Criteria of Land Use & Forests Activity Requirements*

Additionally, this project also meets all general criteria of the *Land Use & Forests Activity Requirements (version 1.2.1)* of the Gold Standard. Further information is provided below:

General Criteria	Status	Further Information
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<b>(a) Eligible Project Types:</b>	Satisfied	A/R project types, such as the Chestnut Restoration Project, are eligible.
<b>(b) No Deforestation:</b>	Exemption	There were two deforested areas within the El Ranchos Property which were discovered through analysis of historical data and title deeds in 2017. The deforestation activity that took place was done prior to any involvement by the project proponent and was done before there was any intention of implementing project activities that generate Gold Standard Products. Evidence is provided in Annex Q that Gold Standard has reviewed and approved the exemption to LUF Requirement 2.1.1(C) as of 1 March 2023.
<b>(c) Deforestation Review:</b>	Satisfied	A small portion of the project area was harvested prior to the acquisition of the property. The deforestation activity that took place was done prior to any involvement by the project proponent and was done before there was any intention of implementing project activities that generate Gold Standard Products. Evidence of this is provided as documentation sent as part of the Preliminary Review dictated by 1.49 of the PRR form. See(Annex Q).
<b>(d) Project Country:</b>	Satisfied	Projects can be located in any country. As this project is located in the United States, which does not have an operational mandatory national or pan-national cap-and-trade scheme to reduce GHG emission, Double Counting Requirements are not mandated.

This afforestation project is pre-identified as being eligible by being referenced in Gold Standard LUF Activity Requirements. The project meets the General Eligibility criteria of the LUF Activity Requirements because the areas being afforested have been shown to be unforested for at least the last 10 years, determined by analysis of historic aerial imagery and documentation provided by landowners.

However, the project sought and received an exemption to LUF Requirements, section 2.1.1(C), as there were two deforested areas within the El Ranchos Property which were discovered through analysis of historical data and title deeds in 2017. The deforestation activity that took place was done prior to any involvement by the project

proponent and was done before there was any intention of implementing project activities that generate Gold Standard Products. Evidence of this is provided as documentation sent as part of the Preliminary Review dictated by 1.49 of the PRR form. See (Annex Q).

All project parcels have been, and will continue to be, FSC certified at the time of planting. The project is not registered with any other voluntary or compliance schemes. See Annex B-FSC Documentation.

The activity is not located in a host country, region, locality, or state that has an emission reduction cap enforced OR has the possibility to trade emissions that include the scope of the proposed project. There is no potential for double counting of impacts with that of another Gold Standard or other voluntary or compliance standard program of a similar nature. The project complies with applicable United States of America legal, environmental, ecological, and social regulations.

The project proponent is required by law to comply with the following federal laws and regulations:

- Occupational Safety and Health Act (29 U.S.C. § 651 et seq.) establishes health standards for the workplace.
- Fair Labor Standards Act (29 U.S.C. § 201 et seq.) establishes labor standards, including minimum wage and overtime.
- Civil Rights Act of 1964 (Public Law 88-352, 78 Statute 241) prohibits discrimination based on race, color, religion, sex, or national origin.
- Americans with Disabilities Act (42 U.S.C. § 12101 et seq.) prohibits discrimination based on disability.

Models of both the baseline and project scenarios reflect all relevant regulations and laws. The following laws and regulations are relevant to the project:

- Federal Water Pollution Control Act (33 U.S.C § 1251 et seq.) establishes objectives for improving water quality and regulates pollution into waterways. Project activities encourage the ongoing improvement of stream water quality, and forest management plans intend to follow maximum state forestry recommendations for watershed quality protection.

- National Environmental Policy Act (42 U.S.C. § 4321 et seq.) establishes national goals for the protection and enhancement of the environment.
- Endangered Species Act (16 U.S.C. § 1531 et seq.) protects threatened and endangered species and regulates the management of their habitats.

In addition to the above environmental regulations, Chestnut Carbon will also abide by all state forest management regulations and requirements.

#### **A.1.2 Legal Ownership of Products Generated by the Project and Legal Rights to Alter the Use of Resources Required to Service the Project**

Chestnut Carbon has full and uncontested legal ownership of all land title/tenure and retains legal ownership of all products generated under the Gold Standard Certification. Additionally, Chestnut Carbon retains all legal rights concerning changes in use of resources required to service the project during implementation. Evidence of this ownership is provided at Preliminary Review. See Annex C-Project Ownership Deeds

#### **A.2 Location of Project**

This is a grouped project with project activities occurring in multiple locations throughout the United States. Prior to Design Certification, eight properties have been enrolled in the project in the states of Arkansas and Alabama.

**Table 2 – Location of Project**

Table 2

Address List			
Property Name	County	State	Address
Harding Freed	Conway	Arkansas	Parette Lake Road, Morrilton, AR 72110, United States  Lat: 35.08911 Long: -92.67622
Dickson Farm	Conway	Arkansas	Parette Lake Road, Morrilton, AR 72110, United States  Lat: 35.11364 Long: -92.68315

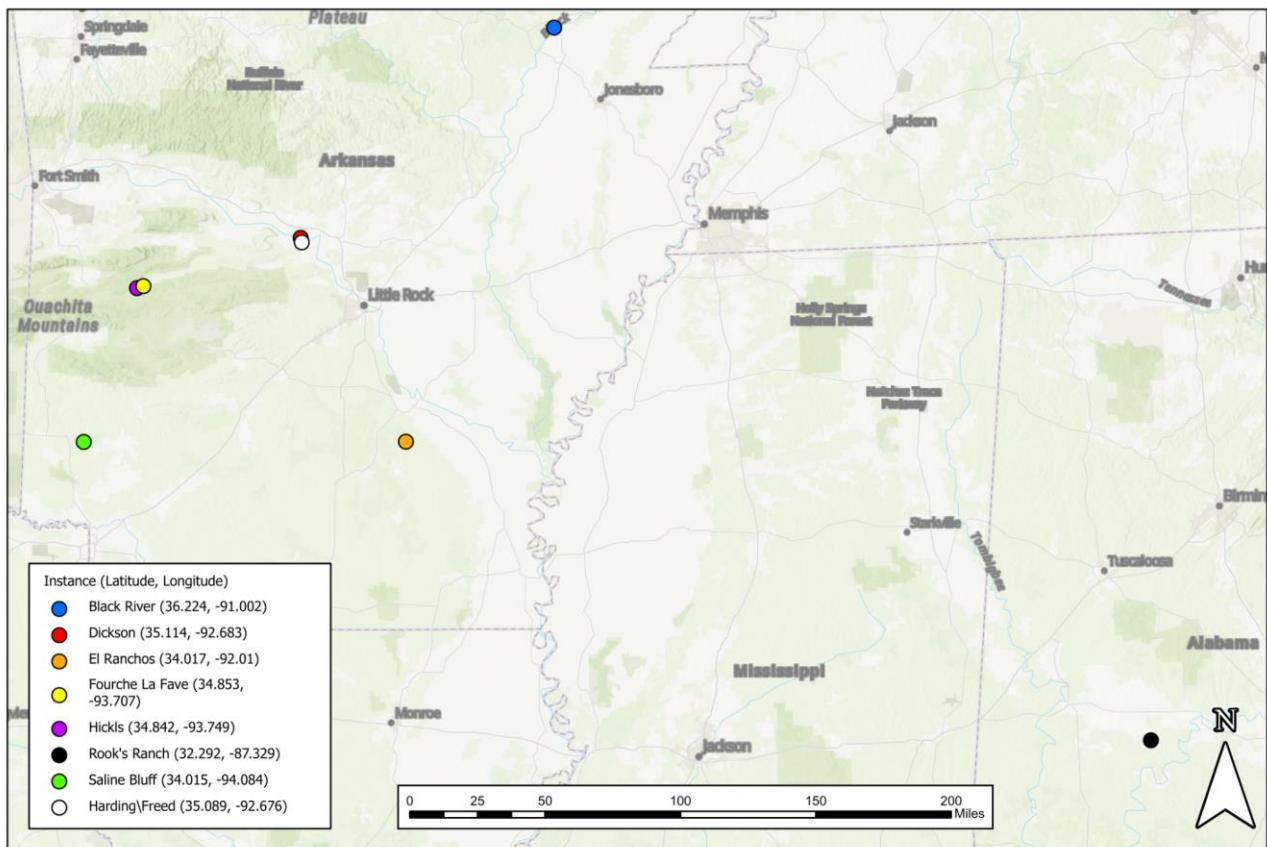
Saline Bluff	Sevier	Arkansas	Greyland Road, Lockesburg, AR 71846, United States Lat: 34.01479 Long: -94.08361
Black River	Randolph	Arkansas	824 Lamp Road Pocahontas, AR 72455, United States Lat: 36.22400 Long: -91.00236
Fourche La Fave	Scott / Yell	Arkansas	32872 Little Texas Road Bluffton, AR 72827, United States Lat: 34.85316 Long: -93.70724
Hicks	Scott	Arkansas	Little Texas Road, AR 72827, United States Lat: 34.84207 Long: -93.74853
EI Ranchos	Cleveland, Jefferson	Arkansas	6670 E Rodgers Road, Rison, AR 71655, United States Lat: 34.01696 Long: -92.00979
Rooks Ranch	Dallas	Alabama	AL Highway 22, Safford, AL 36773, United States Lat: 32.29207 Long: -87.32867

General locations of these properties are illustrated in the image below.

Map 1



## Initial Project Activity Instances



For better visualization of properties, please reference Appendix 6 – Chestnut Property Maps.

### A.3 Technologies and/or Measures

The purpose of the project is to increase carbon stocks and sequester greenhouse gases while creating sustainably managed native forestland throughout the United States of America. See Section A.1. The project reduces GHG emissions by planting native trees in unproductive pasture and agricultural lands that are either acquired or leased by Chestnut Carbon. As the trees mature, carbon dioxide is removed from the atmosphere. See Section B and Section C for more detailed information about GHG emission reductions and removals. Furthermore, additional activities are created as the project evolves over time. The technologies and measures employed by the project are organized into eleven thematic groups of specific project activities. These

thematic groups of project activities contribute directly to numerous Sustainable Development Goals (SDGs) and are summarized below. See Section A.3.1 - A.3.11.a for more detailed information about project activities and SDG contributions.

Table 3

<b>Thematic Group</b>	<b>Sustainable Development Goals</b>
Sustainable Tree Planting	6, 8, 11, 15
Tree Maintenance	11, 13, 15
Ecological Resilience	3, 6, 15,
Growing Markets	6, 8, 15
Public Education	3, 11, 13, 15, 17
Environmental Protection	3, 6, 11, 13, 15
Public Use	3, 11,
Special Use	6, 11, 15
Local Economy	3, 8, 11,
Worker's Safety	8
Highest and Best Use	8

### A.3.1 Theory of Change

The project maintains a Theory of Change model of the causal relationships between planned project activities and SDG impacts. Example diagrams are provided in Appendix 5. A Theory of Change model is a hypothesis that demonstrates how a project intends to achieve intended goals and objectives, including the social and biodiversity benefits, over time. With the Theory of Change model, the project tracks a causal relationship over time between short term project activities and outputs, short to mid-term outcomes, and longer-term impacts (Richards, 2011).

Chestnut Carbon identified causal relationships by conducting a Social and Biodiversity Impact Assessment (SBIA). The SBIA process identified activities that will likely occur because of the project implementation, the output parameters at which to measure

the identified activities as they occur, and the likely outcomes that will result from project activities as the project is implemented (Richards, 2011).

Social impacts consider the consequences to human population that alter the way in which people live, work, and play. The SBIA process also assisted the project in identifying stakeholders and helped determine which groups of people or organizations the project should work with in collaboration. Social impact assessment provides the project with information to analyze, monitor, and manage the intended and unintended social consequences. This includes both positive and negative consequences of project activities and any social change processes that occurred because of the project implementation. Additionally, SBIA considers cultural impacts that may cause a change to the norms, values, and beliefs of a society. The primary purpose of a social impact assessment is to bring about a more sustainable and equitable environment (Richards, 2011).

Biodiversity impact assessments ensure that biodiversity values are recognized and considered when making decisions regarding project implementation. Biodiversity impacts are changes that occur at different levels, such as within ecosystems and individual species. Impacts are then considered in terms of composition (presence and abundance of biological units), structure (how biological units are organized), and function (the role different biological units play in maintaining natural processes and dynamics) (Richards, 2011).

The Theory of Change model provides the basis for identifying monitoring indicators with a strong element of attribution. The model is expected to evolve over time because of adaptive management, continuous monitoring, and stakeholder feedback, and as a result, it will be updated prior to subsequent design certifications. The model follows the Social and Biodiversity Impact Assessment (SBIA) framework and guidelines, organized by thematic group and SDG (Richards, 2011).

### A.3.2 SDG Contributions of Sustainable Tree Planting

Forests are established and planted using novel and integral methods: the careful assessment of microsite conditions in the selection of tree species planted, employment of local contractors for planting, computer modeling of fire risk in plantation design, diversification of tree species in planting, and long-term forest

management planning based on requirements from the Forest Stewardship Council (FSC).

#### A.3.2.a Sustainable Tree Planting Contributions to SDG 6

The tree planting activities described in A.3.a contribute to SDG 6: Clean Water and Sanitation. Project properties are planted with native tree species that grow into forests. As the area of planted native trees expands, the acreage of forest ecosystems over time also increases, thus improving water quality and clean water since forests are essential to maintaining water quality in natural areas.

The activities related to sustainable tree planting further contribute to SDG 6 by maintaining and growing FSC certifications across multiple project locations. The FSC certification is a rigorous, internationally recognized, third-party certification system that ensures responsible management and protection for the world's forests and forest ecosystems. Project properties are automatically enrolled and certified under an FSC Forest Management group certificate managed by Forest Carbon Works, whose role in the project is defined in section A.1 above. Maintaining the FSC group certificate improves water quality on Chestnut Carbon properties since compliance with this standard requires mitigation or avoidance of negative environmental impacts. Over the years, water quality will improve through forest ecosystem protection as the project increases FSC-certified acres.

#### A.3.2.b Sustainable Tree Planting Contributions to SDG 8

Sustainable tree planting activities contribute to SDG 8: Decent Work and Economic Growth in many ways. Chestnut Carbon has local economies in mind and will utilize as many local employees as possible over the project's lifetime. By employing local people to plant trees and acquiring more acreage, the number of people required to plant those acres will continuously increase. More local job opportunities directly contribute to a boost in economic activity.

Chestnut Carbon maintains a policy of preferring local businesses for buying seedlings for tree planting on Chestnut Carbon acquired properties, further contributing to SDG 8. As the project expands, so does the volume of seedlings required, increasing economic activity. See Annex D-Chestnut Carbon Policies.

### **A.3.2.c Sustainable Tree Planting Contributions to SDG 11**

Establishing a local advisory committee and certifying the project to Gold Standard contribute to SDG 11: Sustainable Cities and Communities. As additional acres are certified and the number of local agencies represented increases, we expect to see a boost in community interaction and more protected cultural areas, contributing to sustainable cities and communities.

### **A.3.2.d Sustainable Tree Planting Contributions to SDG 15**

Sustainable tree planting also contributes to SDG 15: Life on Land by increasing forest cover, forest productivity, and ecosystem resilience through planting trees.

## **A.3.3 SDG Contributions of Tree Maintenance**

Tree maintenance activities are related to monitoring and managing newly planted forests. Young plantations must be regularly surveyed for signs of stress, pests, disease, and mortality using local contractors and crowdsourced resources. Where necessary, responsive activities to release planted trees from competing vegetation and reduce stand density using timber stand improvement and other related thinning methods shall be implemented based on analysis of monitoring results.

### **A.3.3.a Tree Maintenance Contributions to SDG 11**

SDG 11: Sustainable Cities and Communities is supported by tree maintenance activities. Chestnut Carbon policy requires public partners to locally crowd-source monitoring tasks and seedling surveys. The community's sense of stewardship will be enhanced by interaction with the project as the number of monitoring participants and hours spent monitoring increases. See Annex D- Chestnut Carbon Policies.

### **A.3.3.b Tree Maintenance Contributions to SDG 13**

Tree maintenance activities also contribute to SDG 13: Climate Action by soliciting crowd-sourced monitoring and increasing awareness of climate change. Chestnut Carbon is developing technologies to monitor planting success by creating regeneration surveys supported by local citizen scientists and partners. Community commitment to the project drives overall public engagement with climate change mitigation initiatives.

### A.3.3.c Tree Maintenance Contributions to SDG 15

Project activities related to tree maintenance contribute to SDG 15: Life on Land by increasing species diversity, decreasing chance of desertification, and increasing ecologically sustainable forests through the performance of pre-commercial thinning.

Thinning underperforming, stressed, or declining trees improves overall forest health and reduces competition. The project will demand constant maintenance throughout its development to boost ecosystem resilience and longevity, increase habitat diversity, and reduce likelihood of desertification.

### A.3.4 SDG Contributions of Ecological Resilience

Fire, pest, and invasive species risks must be controlled using sustainable plantation design, matching tree species to soil conditions, and utilizing quality growing stock. The project will also establish an expert advisory committee to inform planting decisions that promote ecological resilience.

#### A.3.4.a Ecological Resilience Contributions to SDG 3

SDG 3: Good Health and Well-Being are supported by ecological resilience activities by creating and maintaining access to recreational opportunities. Project areas shall maintain a sustainable, FSC-certified forest management plan that utilizes quality growing stock and considers fire risk mitigation in plantation design.

Using quality growing stock when converting bare land to forest plays a large role in determining the future survival and health of the forest. Chestnut Carbon only plants site-appropriate species with seed sources originating from local provenances to assure the future resiliency of the forest. Chestnut Carbon maintains Forest Management Plans (FMPs) that provide a framework to achieve forest management goals over the project area, including managing fire risk, recreational access, and responsible trail maintenance. A resilient, healthy forest secures access to green spaces and recreational opportunities for decades. See Annex B-FSC Documentation.

#### A.3.4.b Ecological Resilience Contributions to SDG 6

The growing stock used when converting bare land to forest plays a large role in the forest's effects on the local watershed, contributing to SDG 6: Clean Water and Sanitation. Chestnut Carbon only plants site-appropriate species with seed sources originating from local provenances to support the resiliency of the future forest. Using

high-quality seedstock improves the survival rate of planted sites so that healthy, robust forest ecosystems can do their part to maintain the local water cycle.

An active forest management plan also drives ecological resilience and further contributes to SDG 6. Chestnut Carbon maintains forest management plans that include long-term goals to grow a healthy, sustainable forest. Protection of forest ecosystems is critical to improving water quality.

#### A.3.4.c Ecological Resilience Contributions to SDG 15

Activities related to ecological resilience also contribute to SDG 15: Life on Land by boosting ecosystem productivity, increasing wildlife diversity, and decreasing chances of desertification. Project activities necessary to achieve these outcomes rely on following an FSC-certified forest management plan and using quality growing stock.

The growing stock used to convert bare land to forest plays a large role in determining the future survival and health of the forest. Chestnut Carbon only plants site-appropriate species with seed sources originating from local provenances to assure the future resiliency of the forest. All seedlings will be provided by a local nursery. See Annex D-Chestnut Carbon Policies. With every high-quality seedling planted, we expect to see an increase in ecosystem productivity, more wildlife diversity, and a decrease in potential desertification. These benefits go hand-in-hand with conserving life on land.

#### A.3.5 SDG Contributions of Growing Markets

Investing in the production of native seeds, seedlings, and nursery operations will benefit third-party buyers and local suppliers. Likewise, the project creates access to FSC certification for leased and acquired properties.

#### A.3.5.a Growing Markets Contributions to SDG 6

The activities related to growing markets contribute to SDG 6: Clean Water and Sanitation by creating access to FSC certification to project properties acquired and leased. Project properties are automatically enrolled and certified under an FSC Forest Management group certificate managed by Forest Carbon Works. Enrolling properties provides direct access to FSC certification to landowners, leading to an increasing number of FSC group members and increasing number of acres certified each year. Increasing the number of forested acres certified under FSC each year ensures

protection of forest ecosystems and improved water quality, which is critical to providing clean water.

#### A.3.5.b Growing Markets Contributions to SDG 8

The activities related to growing markets contribute to SDG 8: Decent Work and Economic Growth by procuring seeds from native seed suppliers and investing in local nurseries. Project properties are planted with a mixture of hardwoods and softwoods. While there is already an established market in place for softwood seeds and seedlings in the US South, the demand for hardwood seeds is currently small. By creating more demand for hardwood seeds, new business opportunities for seed suppliers at the local and national level will occur. Moreover, seed suppliers sell to tree nurseries, who grow the trees until they reach a marketable size. New revenue opportunities will drive employment growth and economic expansion.

#### A.3.5.c Growing Markets Contributions to SDG 15

Growing markets activities contribute to SDG 15: Life on Land by increasing species diversity and ecosystem productivity through access to FSC Certification. As FSC membership and FSC certified acreage increase, with additional properties added to the project, species diversity and ecosystem productivity will increase due to an increased number of protected lands.

### A.3.6 SDG Contributions of Public Education

Public education includes providing community experiences in forest establishment and management through workshops, interpretive signage, and public partnerships. Further, project profits shall be used to subsidize regional technical outreach in sustainable grazing and agricultural practices.

#### A.3.6.a Public Education Contributions to SDG 3

Public education contributes to SDG 3: Good Health and Well-Being by improving social cohesion via community experiences and planting events hosted by the project. Community events and workshops provide invaluable educational experiences that will gain popularity over time with increased attendance and engagement. See Annex E- Public events.

#### A.3.6.b Public Education Contributions to SDG 11

SDG 11: Sustainable Cities and Communities is supported by meaningful public education activities and events. Community planting events, informative signage, and new trails and recreation celebrations will increase in frequency over time and drive awareness for sustainability in urban areas.

#### A.3.6.c Public Education Contributions to SDG 13

Public education through community forest experiences, forest management workshops, and planting events supports SDG 13: Climate Action. The community experience and planting events will allow local community members to learn about how forests combat climate change, specifically afforestation. Public knowledge and awareness about climate change will be measured periodically with a survey.

#### A.3.6.d Public Education Contributions to SDG 15

By hosting public forest management workshops, the project will promote SDG 15: Life on Land with increased planting success, higher survival rates, and forest productivity. Forest management workshops will provide an educational experience the public can participate in. Over time, Chestnut Carbon expects to see the educational seminars gain in popularity, and the knowledge gained will further benefit communities.

#### A.3.6.e Public Education Contributions to SDG 17

SDG 17: Partnerships for Sustainable Development is strongly supported by public education. Governments and private partners will be encouraged to participate in and sponsor public workshops and events. Broadening community involvement through these partnerships will promote the project and its initiatives to further drive success.

### A.3.7 SDG Contributions of Environmental Protection

Environmental protection activities are related to enacting restrictive easements on land uses, prohibiting illegal uses, and protecting water quality. All project lands are FSC certified and shall abide by US environmental quality regulations for assurance of environmental protection.

#### A.3.7.a Environmental Protection Contributions to SDG 3

Environmental protection contributes to SDG 3: Good Health and Well-Being by creating and protecting recreational opportunities. Conservation easements with

public use requirements will be implemented by Chestnut Carbon on the properties for environmental protection and to create public access opportunities. As the number of acres under easement increases, more access will be provided to local communities for recreation. Illegal uses detracting from public enjoyment will be prohibited.

#### A.3.7.b Environmental Protection Contributions to SDG 6

Environmental protection through legally binding conservation easements contributes to SDG 6: Clean Water and Sanitation. Properties acquired by Chestnut Carbon are planted with native tree species that grow into forests and forest ecosystems, which are critical to improving water quality. As the number of forested acres under the conservation easement increases, additional legal protections will ensure forest ecosystems are conserved, thereby directly impacting water quality.

#### A.3.7.c Environmental Protection Contributions to SDG 11

Creating legally binding and protective conservation easements on properties contributes to SDG 11: Sustainable Cities and Communities by creating access to natural spaces for public use. As the number of acres under easement increases, we expect to observe more opportunities for recreation, cultural resource protection, trail networks, a community sense of stewardship and indigenous use.

#### A.3.7.d Environmental Protection Contributions to SDG 13

Legally binding conservation easements shall contribute to SDG 13 by protecting forestland and increasing tonnes of carbon dioxide sequestered by the project. See Annex D-Chestnut Carbon Policies

#### A.3.7.e Environmental Protection Contributions to SDG 15

Legally binding conservation easements shall contribute to SDG 15: Life on Land by protecting forestland and expanding the number of acres of forested land.

### A.3.8 SDG Contributions of Public Use

Access will be created on a portion of planted lands for public enjoyment including hiking, hunting, and fishing. Working with public partners, the project intends to designate trail systems, support the establishment of trail networks, and help finance the long-term costs of trail maintenance.

### A.3.8.a Public Use Contributions to SDG 3

Public use activities deliver SDG 3: Health and Well-Being contributions by boosting access to recreation opportunities and improving quality of life. These outcomes are accomplished through activities such as designing trails and subsidizing trail network construction.

Trail network design and construction will be subsidized with the help of public partners, such as local hiking groups, county parks, conservation districts, or volunteer organizations. As infrastructure and trail density increase, we expect to see further improvements in recreational opportunities and quality of life.

### A.3.8.b Public Use Contributions to SDG 11

Chestnut Carbon's policy requiring conservation easements to be placed on properties for public access supports SDG 11: Sustainable Cities and Communities. This includes provisions for public access trails to be created on project properties. As community infrastructure and trail density increases, initiatives for sustainability and community interaction will also gain momentum. See Annex D- Chestnut Carbon Policies.

## A.3.9 SDG Contributions of Special Use

Traditional, cultural, and native uses will be promoted through the identification and protection of high conservation values areas. The project will map and maintain these critical areas for the benefit of local people and threatened species following the requirements of the FSC.

### A.3.9.a Special Use Contributions to SDG 6

Special use activities contribute to SDG 6: Clean Water and Sanitation by identifying and maintaining high conservation value (HCV) areas. A minimum of 10% of the total project area will be identified and used to protect or enhance biological diversity. Biological diversity comprises the following areas: existing patches of native tree species, single solitary stems of native tree species, habitats of rare, threatened, or endangered species, and areas relevant for habitat connectivity. HCV areas are natural or cultural habitats or areas where the values are of outstanding significance or critical importance. Forest ecosystems are of critical importance because they directly impact water quality.

### **A.3.9.b Special Use Contributions to SDG 11**

Chestnut Carbon policies for special use support SDG 11: Sustainable Cities and Communities. Chestnut Carbon policies require access for native and cultural uses of the properties and prioritize access for Native communities. Designations for special use will drive community stewardship and awareness of cultural and indigenous purposes. See Annex D- Chestnut Carbon Policies.

### **A.3.9.c Special Use Contributions to SDG 15**

Protecting forestland with special use designations contributes to SDG 15: Life on Land. As forest managers, Forest Carbon Works realizes that identifying and maintaining high conservation areas (HCVs) allows for specialized maintenance of these areas, thus maximizing their productivity and ecosystem health.

### **A.3.10 SDG Contributions of Local Economy**

Policies that encourage hiring local contractors whenever possible will be followed by Chestnut Carbon, participating private partners, and public partners. The local economy will also be stimulated by the promotion and support of micro-tourism arising from newly created access to land and the enhancement of connected wildlife habitats. See Annex D- Chestnut Carbon Policies.

#### **A.3.10.a Local Economy Contributions to SDG 3**

SDG 3: Good Health and Well-Being are supported by local economic development by improving quality of life. Public partners in the project will be required to favor local employment and subsidize the promotion of micro-tourism, (i.e., tourism within a few hours from home). Requiring public partners to employ locally improves the well-being of the community as more members achieve economic stability. Micro-tourism benefits communities with additional revenue generating opportunities and affordable options for local recreation and entertainment.

#### **A.3.10.b Local Economy Contributions to SDG 8**

New jobs within local economies also contribute to SDG 8: Decent Work and Economic Growth. Chestnut Carbon maintains policies for public partners and local contractors to utilize local workers wherever possible. As the number of public partners and local contractors engaged with the project grows, so do the expected number of local jobs because of these policies.

Local economies are further strengthened with the promotion of micro-tourism. Chestnut Carbon maintains a policy for ensuring subsidies are provided to promote micro-tourism on Chestnut-acquired properties. Promotions will encourage local tourists to travel to these areas, increasing job opportunities to meet new demands driven by tourists and boosting economic productivity.

#### A.3.10.c Local Economy Contributions to SDG 11

Local economic contributions to SDG 11: Sustainable Cities and Communities is the policy Chestnut Carbon has for requiring our public partners to prefer hiring from the local community. As more local people are employed, communities will thrive, and individuals will have better access to basic services.

#### A.3.11 SDG Contributions of Worker Safety

All employees, contractors, and partners performing work on behalf of the project will be required to maintain and implement safety risk assessment and training plans.

#### A.3.11.a Worker Safety Contributions to SDG 8

The activities related to worker safety contribute to SDG 8: Decent Work and Economic Growth by requiring vendors to provide worker safety training. In addition to ensuring all vendors comply with federal health and safety standards, Chestnut Carbon maintains a policy that obligates vendors to provide safety training for all workers operating on Chestnut Carbon properties. See Annex D- Chestnut Carbon Policies. As the number of Chestnut Carbon properties increases, more workers will need to be employed and more safety training conducted. As the number of workers trained in safety protocols increases, working environments become safer, contributing to decent work conditions.

#### A.3.12 SDG Contributions of Highest and Best Use

The value of project lands will be improved by boosting land utilization from degraded uses to productive uses in forestry. Specifically, these activities are related to large capital investments in land.

#### A.3.12.a Highest and Best Use Contributions to SDG 8

Chestnut Carbon is making significant capital investments in land to ensure highest and best use, contributing to SDG 8: Decent Work and Economic Growth. Property values improve when land use is transformed from activities with little financial

benefit to activities that have the potential to deliver significant benefits to communities. During the project lifetime, the value of project lands will be improved by boosting land utilization from degraded uses to productive uses in forestry and recreation. These future pristine forests will deliver co-benefits that maximize land value.

#### **A.4 Scale of the Project**

Per 2.1.2 a and b of the Rule Update: Smallholder, Small Scale and Microscale Definitions and Requirements for Land-use and Forestry (LUF) projects, projects are defined as small scale when:

A smallholder project shall; a. be either a small-scale or a micro-scale project, and b. generate no more than 16,000 tCO<sub>2</sub>e/yr. All Projects exceeding the small scale thresholds are defined as large scale. See Annex R for Rule update and clarification from Gold Standard. The project is large scale, exceeding 16,000 tCO<sub>2</sub>e/year. See Table 4 below for expected tCO<sub>2</sub>e/yr.

The modeling approach integrated the Gold Standard Afforestation/Reforestation Methodology with software – named the Forest Vegetation Simulator (FVS) - published by the United States Forest Service (USFS) for modeling forest growth over time. Each planting cycle is represented by a single modeling unit that contains multiple strata. Each stratum was mapped using GIS, defined on non-forested areas of each property. Synonymous with the methodological term of strata, representing a subpopulations defined for the purpose of statistical sampling of carbon stock, are planting blocks at the time of planting. Planting block is a term that refers to areas of distinct soil, topographic and drainage characteristics to which tree species for planting and planting densities are matched. Planting blocks were analyzed using publicly available United States Geological Survey (USGS) soil type information, USFS lists of appropriate species, and available seedling stock. With available seedling stock information, planting plans were created for each planting block, the carbon accretion in which to be measured as a stratum using statistical sampling. Over time, strata may be redefined to maximize the efficiency of statistical estimates of carbon stock. For each planting block, the slope, aspect, site index (the average height of a tree

species over a certain time period, which generally denotes site quality), and site species were determined by GIS analysis and recorded for each block. Where possible, site trees were cored on forestland adjacent to planting blocks to confirm site index assumptions. FVS models were then run for each block and carbon stocking outputs were generated that provided carbon density values in 10-year increments over a 100-year period, called L2 Analyses. There is an L2 Analysis workbook for each property included in the modeling unit, made available at Design Certification. These model outputs are then fed into the Ex-Ante Accounting Model to be integrated into the methodology. See section B.6.3.k for a description of the FVS models, calculation of carbon stocking outputs and quantification procedures, including all relevant equations applied in the ex-ante accounting models to forecast future crediting over the entire crediting period (Annex O).

The following tables exhibit the expected annual voluntary emission reductions (VERs) per year over the 50-year crediting period. Table 4 shows crediting estimates based on modeled stocking outputs for the planting blocks currently included in the project (see calculations in Annex O Ex-Ante Accounting Model). Conservatively, the first 5 years of benefit have been summed in year 6 to allow for tree growth.

Table 5 shows crediting estimates based on the annual crediting rate per acre multiplied by the expected number of acres to be planted in future years, adding acreage to the project over time (see calculations in Annex M Ex-Ante SDG Impact Model).

Table 4

<b>Year</b>	<b>Baseline Estimate (tCO<sub>2</sub>e)</b>	<b>Project Estimate (tCO<sub>2</sub>e)</b>	<b>Net Benefit (VERs/Year)</b>
Year 1	(16,432.95)	(4,721.67)	(3,777.34)

Year 2	0	6,345.91	5,076.73
Year 3	0	7,756.29	6,205.04
Year 4	0	9,767.15	7,813.72
Year 5	0	12,638.69	10,110.95
Year 6	0	16,745.15	13,396.12
Year 7	0	22,625.19	18,100.16
Year 8	0	31,054.72	24,843.78
Year 9	0	43,152.20	34,521.76
Year 10	0	60,531.05	48,424.84
Year 11	0	46,906.69	37,525.35
Year 12	0	52,393.54	41,914.83
Year 13	0	56,887.41	45,509.92
Year 14	0	60,388.28	48,310.62
Year 15	0	62,896.15	50,316.92
Year 16	0	64,411.04	51,528.83

Year 17	0	64,932.93	51,946.34
Year 18	0	64,461.83	51,569.46
Year 19	0	62,997.73	50,398.19
Year 20	0	60,540.65	48,432.52
Year 21	0	54,388.12	43,510.49
Year 22	0	51,319.22	41,055.38
Year 23	0	48,631.52	38,905.21
Year 24	0	46,324.99	37,060.00
Year 25	0	44,399.66	35,519.73
Year 26	0	42,855.51	34,284.41
Year 27	0	41,692.55	33,354.04
Year 28	0	40,910.77	32,728.62
Year 29	0	40,510.18	32,408.14
Year 30	0	40,490.77	32,392.62
Year 31	0	40,735.56	32,588.45
Year 32	0	40,776.57	32,621.26
Year 33	0	40,496.82	32,397.45
Year 34	0	39,896.29	31,917.03

Year 35	0	38,974.99	31,179.99
Year 36	0	37,732.92	30,186.34
Year 37	0	36,170.08	28,936.07
Year 38	0	34,286.47	27,429.18
Year 39	0	32,082.10	25,665.68
Year 40	0	29,556.95	23,645.56
Year 41	0	26,804.06	21,443.25
Year 42	0	24,195.55	19,356.44
Year 43	0	21,824.45	17,459.56
Year 44	0	19,690.75	15,752.60
Year 45	0	17,794.46	14,235.57
Year 46	0	16,135.58	12,908.47
Year 47	0	14,714.11	11,771.29
Year 48	0	13,530.05	10,824.04
Year 49	0	12,583.39	10,066.71
Year 50	0	11,874.14	9,499.31
Total	0	1,804,089.50	1,417,842.50

Table 5 shows crediting estimates based on the annual crediting rate per acre multiplied by the expected number of acres to be planted in future years, adding estimated acreage to the project over time using internal financial models (see calculations in Annex M Ex-Ante SDG Impact Model).

Ex-ante offset crediting for the expected expansion of project area is shown below, with expected crediting shown as Net VERs, and Cumulative Gross VERs as total VERs over the crediting period each year. Again, conservatively, all growth over the first 5 years of the project have been summed in year 6.

Table 5

<b>Year</b>	<b>Net VERs</b>	<b>Cumulative Net VERs</b>
Year 1	(3,777.13)	(3,777.13)
Year 2	20,366.50	16,589.37
Year 3	102,988.49	119,577.86
Year 4	184,391.52	303,969.37
Year 5	310,183.34	614,152.72
Year 6	410,965.70	1,025,118.41
Year 7	555,275.93	1,580,394.35
Year 8	762,156.52	2,342,550.87
Year 9	1,059,057.22	3,401,608.09
Year 10	1,485,575.43	4,887,183.52
Year 11	1,151,201.34	6,038,384.86

Year 12	1,285,861.81	7,324,246.66
Year 13	1,396,151.87	8,720,398.53
Year 14	1,482,071.54	10,202,470.07
Year 15	1,543,620.80	11,746,090.87
Year 16	1,580,799.66	13,326,890.53
Year 17	1,593,608.12	14,920,498.64
Year 18	1,582,046.17	16,502,544.82
Year 19	1,546,113.83	18,048,658.64
Year 20	1,485,811.08	19,534,469.73
Year 21	1,334,813.40	20,869,283.12
Year 22	1,259,495.46	22,128,778.58
Year 23	1,193,532.74	23,322,311.32
Year 24	1,136,925.23	24,459,236.55
Year 25	1,089,672.93	25,548,909.47
Year 26	1,051,775.84	26,600,685.31
Year 27	1,023,233.97	27,623,919.28
Year 28	1,004,047.31	28,627,966.59
Year 29	994,215.86	29,622,182.45

Year 30	993,739.62	30,615,922.07
Year 31	999,747.32	31,615,669.40
Year 32	1,000,753.84	32,616,423.24
Year 33	993,887.91	33,610,311.15
Year 34	979,149.52	34,589,460.67
Year 35	956,538.68	35,545,999.34
Year 36	926,055.37	36,472,054.72
Year 37	887,699.62	37,359,754.34
Year 38	841,471.41	38,201,225.74
Year 39	787,370.74	38,988,596.48
Year 40	725,397.62	39,713,994.10
Year 41	657,835.20	40,371,829.30
Year 42	593,816.17	40,965,645.48
Year 43	535,623.68	41,501,269.16
Year 44	483,257.74	41,984,526.90
Year 45	436,718.34	42,421,245.24
Year 46	396,005.49	42,817,250.73
Year 47	361,119.18	43,178,369.91

Year 48	332,059.42	43,510,429.32
Year 49	308,826.20	43,819,255.52
Year 50	291,419.52	44,110,675.04
<b>Total</b>	<b>44,110,675.04</b>	<b>44,110,675.04</b>

## A.5 Funding Sources of Project

No public funding will be received for any project activities.

## **SECTION B. APPLICATION OF APPROVED GOLD STANDARD METHODOLOGY (IES) AND/OR DEMONSTRATION OF SDG CONTRIBUTIONS**

### **B.1. Reference of Approved Methodology (ies)**

#### **B.1.a Methodology**

Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction and Sequestration Methodology (version 2, published October 2022)

#### **B.1.b Tools**

CDM (clean development mechanism) A/R Methodological tool “Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities” (Version 01)

A/R Methodological Tool “Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities” (Version 01.1.0)

#### **B.1.c Guidelines**

CDM Guidelines on the assessment of investment analysis (Version 05)

CDM Guidelines for objective demonstration and assessment of barriers (Version 01)

### **B.2. Applicability of Methodology (ies)**

#### **B.2.a Methodology: Gold Standard Afforestation/Reforestation (A/R) GHG Emissions Reduction and Sequestration Methodology Applicability**

This table provides the project justification for each of the requirements laid out in the methodology tool named above.

Table 6

No.	Methodology Requirement	Project Justification
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A.	<p>Projects can apply to all silvicultural systems:</p> <ul style="list-style-type: none"> <li>i. Conservation forests (no use of timber)</li> <li>ii. Forests with selective harvesting</li> <li>iii. Rotation forestry</li> </ul>	The project will be a conservation forest with the intention of long-term carbon storage through the application of periodic thinning to promote multi-aged forest structures.
B.	All projects can include agriculture (agroforestry) or pasture (silvopasture) activities.	The project will opt to apply neither (agroforestry) or pasture (silvopasture) activities.
C.	Project Areas shall not be on wetlands.	All afforestation activities will occur on land previously used for pasture, agriculture, or on bare ground not designated as wetlands (See Section A.1).
D.	Project Areas with organic soils shall not be drained or irrigated (except for irrigation for planting).	All afforestation activities will occur on land that will not be drained or irrigated.

E.	Soil disturbance (through ploughing, digging of pits, stump removals, infrastructure, etc.) on organic soils shall be in less than 10% of the area that is submitted to certification (not 10% of the entire project area).	Total soil disturbance on organic soils caused from afforestation activities will be less than 10% of the area that will be submitted for certification. There is 0% overlap of organic soils with the project area. See Annex L where USA Soils map in ARCGIS was used to create the soil maps of the project areas and soil data from USDA is used to demonstrate that no histosols are present.
F.	The most likely scenario without the project (baseline scenario) shall be defined for the project area. This scenario shall not show any significant increase of the Baseline biomass ('tree' and 'non-tree').	The baseline scenario will be defined for the entire project area and will not show a significant increase in biomass (See Section B.5 Step 4).

### B.2.b Tools Applicability: CDM A/R Methodological Tool “Combined Tool to Identify the Baseline Scenario and Demonstrate Additionality in A/R CDM Project Activities”

#### Applicability

This table provides the project justification for each of the requirements laid out in the methodology tool named above.

Table 7

No.	Methodology Requirement	Project Justification

1	Forestation of the land within the proposed project boundary performed with or without being registered as the A/R CDM project activity shall not lead to violation of any applicable law even if the law is not enforced.	All afforestation activities will follow all applicable laws, even if the laws are not enforced (See Section A.1.1).
2	This tool is not applicable to small - scale afforestation and reforestation project activities.	Large-scale afforestation project activities will be taking place.

### B.3. Project Boundary

#### B.3.a Project Boundary Definition

The proposed grouped project activity defines the project area boundary in line with the methodology applied to the project instances:

1. The project area is a spatial area or areas submitted for certification with clearly defined boundaries (See Appendix 6) managed to a set of explicit long-term management objectives. Source: Adapted from FSC, where the relevant term is 'Management Unit.'
2. Boundaries of the project area shall be clearly distinguishable in the field.
3. Under the Gold Standard, the project area is divided into modelling units (MU) for an efficient calculation of the amount of Certified SDG Impact Statement or Product (for example GSVERs).

#### B.3.b Project Boundary GIS

A GIS vector layer will be submitted showing the following information: project region, project area, eligible areas, individual modelling units, infrastructure, water bodies, protected areas, biodiversity areas, where affected people are situated, and sites with special cultural, ecological, economic, religious, or spiritual significance. See Annex A-Project GIS Files. Additionally, local stakeholder consultation will help identify sites with special significance for indigenous people and local communities, where

indigenous people and local communities are situated, where indigenous people and local communities have legal and customary rights, and sites with special cultural, ecological, economic, religious or spiritual significance (See Section E).

### B.3.c Project Boundary Emissions

No significant sources of greenhouse gas emissions are anticipated for either the baseline or the project scenarios. While the combustion of fossil fuels may occur from project activities, they are deemed insignificant and are therefore neglected, per The Gold Standard A/R Methodology.

This table provides sources of GHG emissions from the methodology and justifies their inclusion or exclusion from the project boundary.

Table 8

Source	GHGs Included? Justification/Explanation		
Baseline scenario	CO2	Yes	CO2 emissions are required by the methodology
	CH4	No	No CH4 emissions will be emitted from baseline
	N2O	No	No N2O emissions will be emitted from baseline
Project scenario	CO2	Yes	CO2 emissions are required by the methodology
	CH4	No	No CH4 emissions will be emitted from project activity
	N2O	No	No N2O emissions will be emitted from project activity

### B.4. Establishment and Description of Baseline Scenario

To identify the baseline scenario for the proposed project activity, the following tool was applied: *A/R Methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities"* (Version 01). By using this tool it was determined that the most appropriate Baseline would be leasing of land included in the project for agricultural uses. The steps taken in this determination are further outlined below. For more information, please see "Chestnut Restore Additionality Calculations v1.0".

The methodology used for this project (*Methodology For Afforestation/Reforestation (A/R) GHGs Emission Reduction & Sequestration*) requires project developers to demonstrate additionality and select a baseline per the *Land Use & Forests Activity Requirements*. To satisfy the requirements in the *Land Use & Forests Activity Requirements* the latest version of the *A/R Methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities"* was used.

As the baseline scenario includes revenue values that are realized by landholders for leasing out their land for agricultural purposes, all relevant legislative constraints have been included. In the baseline scenario, lessees would be subject to all relevant county, State, and Federal laws related to agricultural operations in the United States. These laws and regulations are considered to be effectively enforced.

## **B.5. Demonstration of additionality**

The following section outlines each step taken to determine the baseline scenario and demonstrate additionality through the use of the *A/R Methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities"* (Version 01):

### **STEP 0: Preliminary screening based on the start date of the A/R project activity**

The start date of the A/R project activity is the date of first planting, December 25th, 2022 (See Section C.1.1). See Annex F-Evidence of Project Start Date.

The only income the A/R Project will generate is from the sale of carbon offset credits and timber harvesting from thinning for timber stand improvement. Thinning operations shall be conducted at year 15 and year 25. A local forester estimates a profit of \$350/acre for year 15 and \$450/acre for year 25 used in these calculations. All thinning estimates were calculated using 200 acres as the estimated thinning area.

## **STEP 1: Identification of alternative land use scenarios to the proposed A/R CDM project activity**

*Sub-step 1a. Identify credible alternative land use scenarios to the proposed CDM project activity.*

Three alternative land use scenarios were assessed:

- 1) Land leased for raising cattle,
- 2) Land leased for agriculture,
- 3) Reforestation of the land within the project boundary performed without being registered as the A/R project activity.

*Sub-step 1b. Consistency of credible alternative land use scenarios with enforced mandatory applicable laws and regulations*

All alternative land use scenarios shall comply with local, state, and federal rules and regulations (See Section A.1.1). Scenarios one and two are a continuation of pre-project land use. These two alternatives were identified by surveying other common land use throughout the region and by prior documented use of the project areas.

Scenario three would conduct the same planting process as scenario one but would not register for or receive any A/R activity credit sales and would proceed without the use of carbon finance. While planting is not required in this scenario, if the land within the project boundary were planted, Best Management Practices for that area would be required as is consistent with applicable laws. Scenario three shall model thinning activity conducted at year 15 and year 25 - starting from year one. The thinning process will include 200 acres of planted area. The clear-cut harvest will include all planted acreage (6,356 acres) and will be conducted in year 25 and year 50 - starting

from year one. All harvesting activity shall be modeled on common regional forestry activities, all of which comply with federal, state, and local regulations.

## **STEP 2: Barrier analysis**

*Sub-step 2a. Identification of barriers that would prevent the implementation of at least one alternative land use scenario*

Investment barriers may exist to prevent these alternative scenarios; however, agriculture and cattle activities may benefit from possible federal, state, and county assistance.

*Sub-step 2b. Elimination of land use scenarios that are prevented by the identified barriers*

Although unlikely, local or regional governments could pass regulations preventing the scenarios described above; currently, no barriers have been identified that would prevent the implementation of the three alternative land use scenarios described above.

*Sub-step 2c. Determination of baseline scenario*

The list of alternative scenarios contains multiple scenarios, including forestation without being registered as an A/R CDM project activity. Per the additionality tool, continue to Step 3.

## **STEP 3: Investment analysis**

*Sub-step 3a: Determine the appropriate analysis method*

An investment comparison analysis using NPV (net present value) of costs and revenues is employed because all the additional land use scenarios can generate financial or economic benefits other than CDM-related income.

*Sub-step 3b - Option II. Apply investment comparison analysis*

Investment comparison of NPV shall be used to determine baseline and additioality.

The three alternative land use scenarios and the project scenario were assessed to determine which option would be the most financially attractive using locally available data and internally developed proposed project development costs.

*Sub-step 3c. Calculation and comparison of financial indicators*

Project with A/R activity costs and revenue:

- Planting/development @ year 1 costs - \$350/acre for 6,356 acres (This includes ripping, spray, trees, and contractor fees.)
- Harvesting through thinning @ year 15 revenue - \$350/acre for 200 acres
- Harvesting through thinning @ year 25 revenue - \$450/acre for 200 acres

*These estimates are provided by a local forester. The rate increase at year 25 is the result of value increase due to 10 years of growth with no harvesting.*

Lease rates for cattle and agricultural production:

- Pastureland - \$20.50/acre/year
- Cropland - \$118/acre/year

All lease rates were sourced from USDA Arkansas 2022 Land Values and Cash Rents.

Project without A/R CDM activity cost:

- Planting/development in year 1 costs - \$350/acre for 6,356 acres (This value includes ripping, spray, trees, and contractor fees.)
- Planting/development in year 26 costs after first clear-cut harvest - \$350/acre for 6,356 acres (This value includes ripping, spray, trees, and contractor fees.)
- Harvesting through thinning @ year 15 revenue - \$350/acre for 200 acres
- Clear-cut harvest @ year 25 – see below for revenue estimates
- Harvesting through thinning @ year 40 revenue - \$350/acre for 200 acres
- Clear-cut harvest @ year 50 – see below for revenue estimates

This scenario will also conduct a clear-cut harvest at year 25 and year 50 for the entire planted area of 6,356 acres. Our harvesting revenue rate will depend on the species type: hardwoods versus softwoods.

Hardwoods will be harvested at a profit of \$450 per acre. If the forest stand is planted at 435 trees per acre as average for the region, we expect most of the hardwood stand to be classified as pulpwood with the landowner receiving \$5/tonne, totaling about \$450 per acre if all acres are harvested.

Softwoods will be harvested at \$2,000 per acre. If the forest stand is planted at 545 trees per acre as average for the region, with a ~30% thin in year 15, we expect the stand to be 2/3 chipped/sawed and 1/3 sawtimber with the landowner receiving about \$2,000 per acre if all acres are harvested.

These rates were justified by our local forester and provided by the local timber market.

All scenarios were analyzed over a 50-year period matching the length of the project crediting period. Below are discounted estimates (7%) of revenues from NPV investment comparison analysis for 50 years:

Table 9

Project Activity	\$	(2,039,856.40)
Cattle Lease	\$	1,798,209.64
Ag Lease	\$	10,350,670.13
Forestation without GS Project	\$	766,529.06

The planned A/R project activity would generate no financial benefit other than carbon offset-related income. According to the decision tree in section 28 of the CDM Additionality tool, the baseline scenario selected shall have the highest NPV calculated. Leasing the land to farmers for agricultural production was found to have the most positive financial indicator.

#### *Sub-step 3d: Sensitivity analysis*

The A/R CDM activity is less financially attractive than other scenarios, even with an increase/decrease of 10% for costs and revenues for each scenario. See below for NPV sensitivity analysis results.

Table 10

	<b>Pessimistic</b>	<b>Current</b>	<b>Optimistic</b>
Harvest Volume	-10%	0%	+10%
Lease Income	-10%	0%	+10%
Costs	+10%	0%	-10%
Discount Rate	7%	7%	7%
NPV Project	<b>(\$2,248,155.04)</b>	<b>\$ (2,039,856.40)</b>	<b>\$ (1,831,557.77)</b>
NPV Cattle	\$ 1,512,512.78	\$ 1,798,209.64	\$ 1,848,626.73
NPV Ag	\$ 8,706,171.13	\$ 10,350,670.13	\$ 10,640,875.83
NPV w/o GS	\$ 490,785.95	\$ 766,529.06	\$ 1,042,272.17

Forestation without being registered as an A/R CDM project activity is not prevented by any barrier, so the selection of the baseline scenario is valid. The proposed A/R GS project will provide the least amount of revenue while the selected baseline activity of leasing the land to farmers for crop production would generate the highest amount of revenue based on this investment analysis.

#### **STEP 4: Common practice analysis**

Similar forestation activities have taken place in the geographical area of the proposed project. However, major distinctions exist between the proposed A/R Gold Standard activity and other forestation projects. The proposed project consists of planting a mixture of tree species (both hardwoods and softwoods) within the project area with the main goal of implementing long-term carbon sequestration rather than commercial harvesting.

According to local foresters, uneven-aged management, including activities like continuous thinning, as described in the project scenario in the Southeast is uncommon, and few publications exist outlining silviculture for this practice. Harvest in this analysis for the project scenario is assumed for current Chestnut Property

inventory data with conservative thinning of trees, once at the 15-year mark, while another harvest from thinning will be conducted at the 25-year mark. Each harvest will be done through selective thinning and income from each was accounted for in the NPV analysis in Section B.4.

Similar activities cannot be observed and essential distinctions between the proposed CDM project activity and similar activities can be made, hence the proposed CDM project activity is additional and is *not* the baseline scenario.

The baseline common practice scenario is leasing the land to farmers for agricultural production. This differs from most forestation activities in the proposed project's geographical area that generally have timber or fiber production as the driving objective. Revenue generated from leasing the land to commodity farmers is the main financial flow that makes these projects possible.

As determined in the above sections, no similar forestation activities are known in the region; hence the A/R CDM project activity is additional.

### B.5.1 Prior Consideration

Not applicable.

### B.5.2 Ongoing Financial Need

Not applicable.

## B.6. Sustainable Development Goals (SDG) outcomes

This table provides the relevant Target and Indicator for each of the SDGs.

Table 11

Sustainable Development Goals Targeted	Most relevant SDG Target	SDG Impact
		Indicator (Proposed or SDG Indicator)

3 Good Health and Well Being	3.9 – By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.	Infrastructure: Miles of trails and roads
3 Good Health and Well Being	3.9 – By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.	Community level sense of social cohesion
6 Clean Water and Sanitation	6.1 – By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.	Number of acres certified under FSC
6 Clean Water and Sanitation	6.1 – By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.	Number of acres planted
6 Clean Water and Sanitation	6.1 – By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.	Water quality

8 Decent Work and Economic Growth	<p>8.3 – Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.</p>	Number of people employed
8 Decent Work and Economic Growth	<p>8.8 – Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.</p>	Product of number of workers trained on safety and hours spent training
8 Decent Work and Economic Growth	<p>8.3 – Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity, and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.</p>	Economic productivity
11 Sustainable Cities and Communities	<p>11.7 – By 2030, provide universal access to safe, inclusive, and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities.</p>	Number of public partners

11 Sustainable Cities and Communities	11.7 – By 2030, provide universal access to safe, inclusive, and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities.	Community level of support for the project
13 Climate Action	13.0 - Remove GHG emissions	Tonnes of GHG emissions removed
13 Climate Action	13.3 – Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.	Number of public partners
13 Climate Action	13.3 – Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.	Community level awareness of climate change mitigation
15 Life on Land	15.2 – By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.	Number of acres certified under FSC

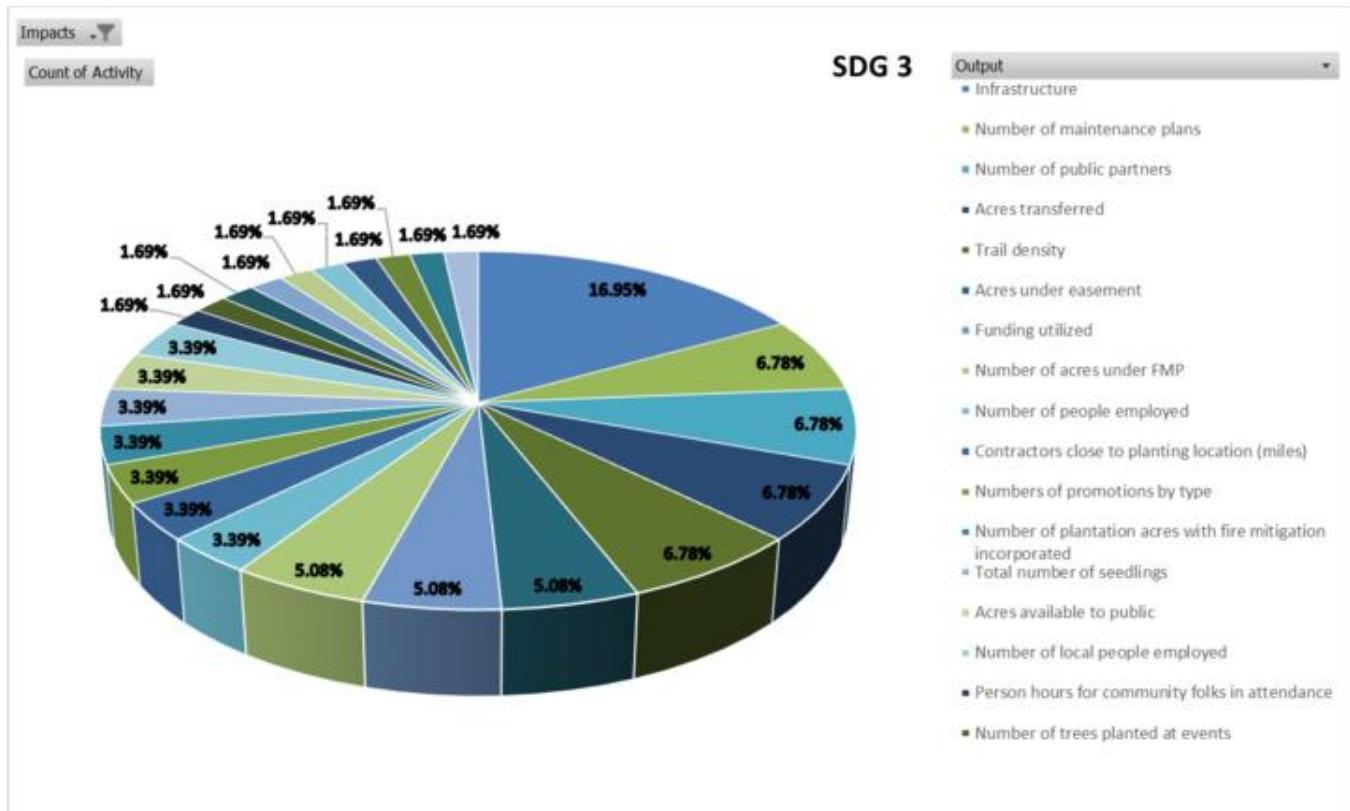
15 Life on Land	15.5 – Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.	Number of seedlings planted
15 Life on Land	15.1 – By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains, and drylands, in line with obligations under international agreements.	Plantation survival
17 Partnership for the Goals	17.17 – Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.	Number of public partners

#### B.6.1 Explanation of Methodological Choices/Approaches for Estimating the SDG Impact

This section provides graphic representation of the methodological choices used for estimating the SDG impacts.

## B.6.1.a SDG 3 Good Health and Well Being: Miles of Trails and Roads

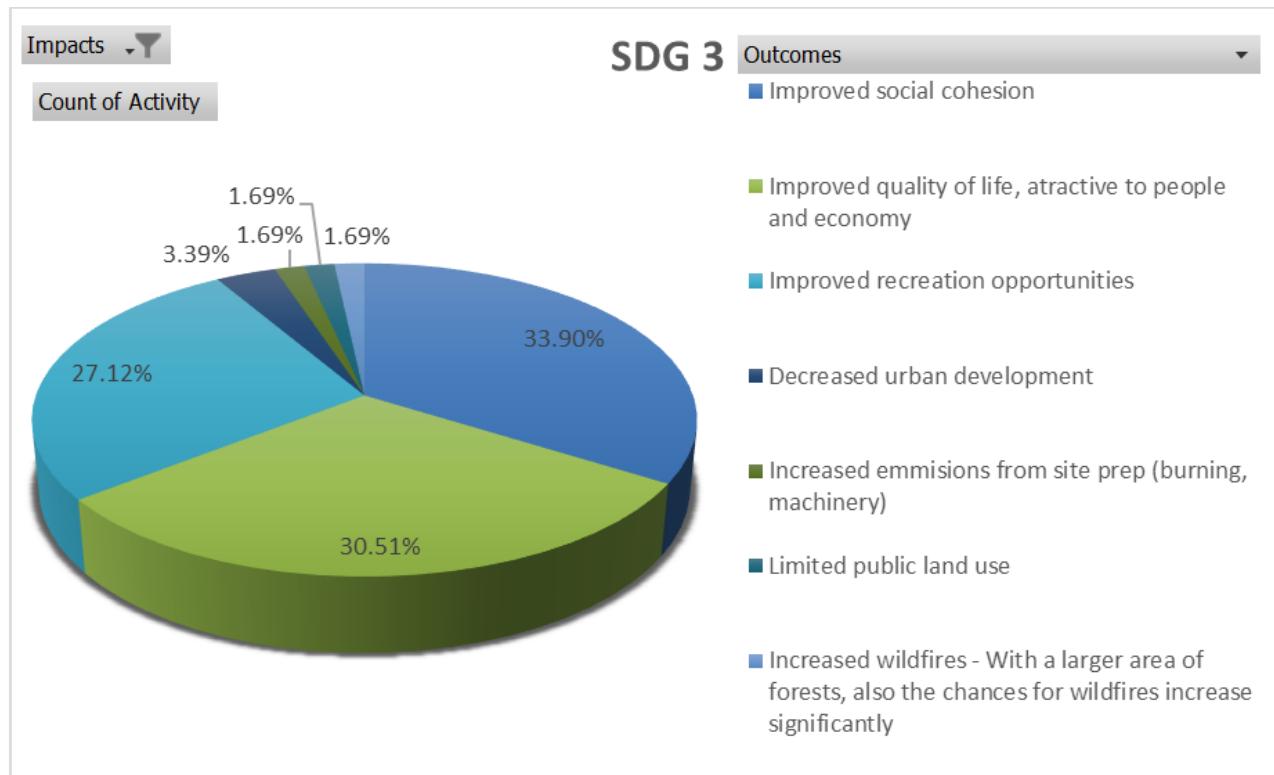
Figure 2



Based on an analysis of the Theory of Change, infrastructure, including trails and roads, was identified as an important project output for achieving SDG 3. This indicator had a relatively large causal relationship to delivering SDG 3 and therefore was selected as a monitoring indicator.

## B.6.1.b SDG 3 Good Health and Well Being: Community Level Sense of Social Cohesion

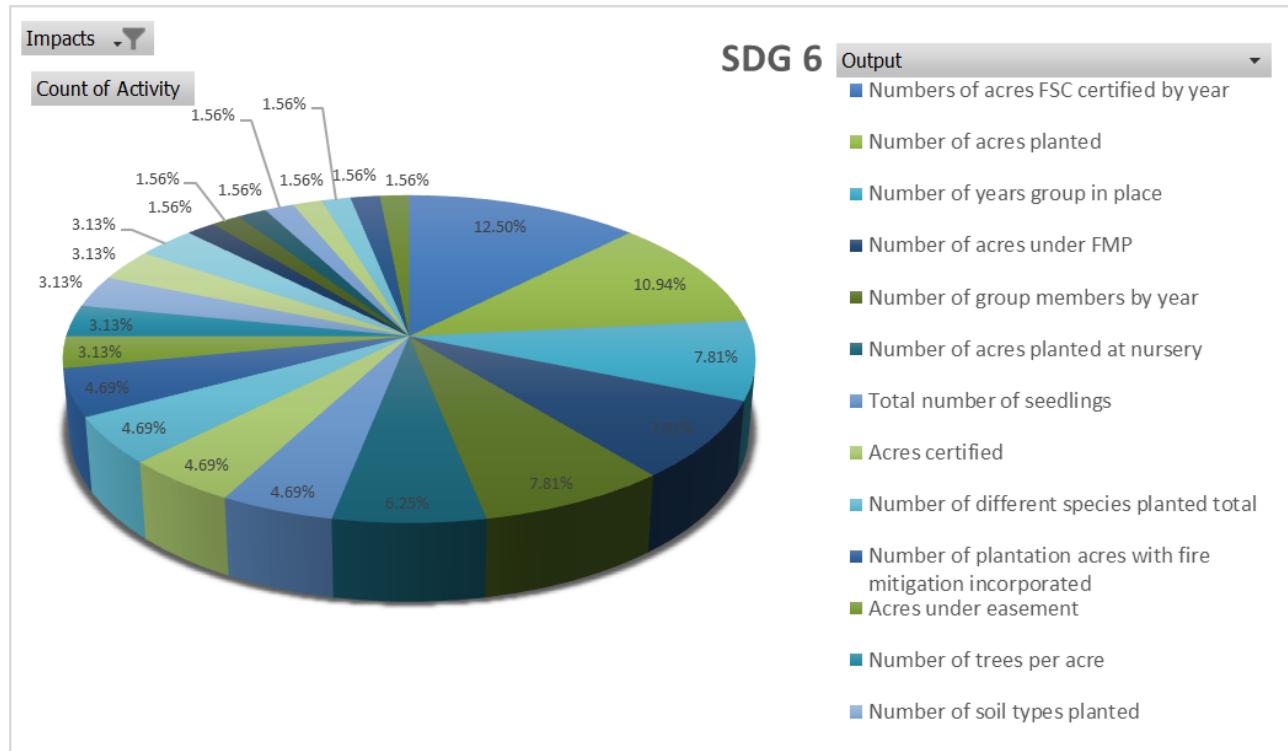
Figure 3



Based on an analysis of the Theory of Change, improving social cohesion among local communities was identified as an important project outcome for achieving SDG 3. This indicator had a relatively large causal relationship to delivering SDG 3 and therefore was selected as a monitoring indicator.

### B.6.1.c SDG 6 Clean Water and Sanitation: Number of Acres Certified Under FSC

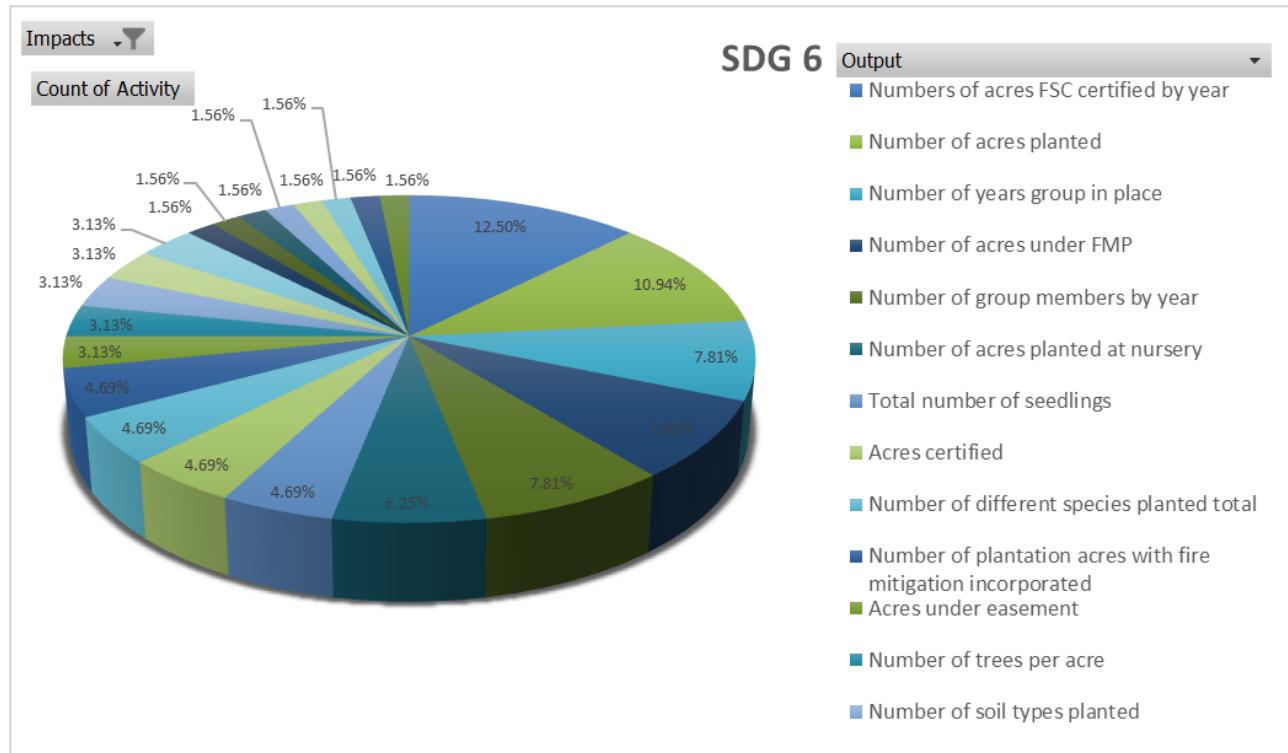
Figure 4



Based on an analysis of the Theory of Change, the number of acres under FSC certification was identified as an important project output for achieving SDG 6. This indicator had a relatively large causal relationship to delivering SDG 6 and therefore was selected as a monitoring indicator.

### B.6.1.d SDG 6 Clean Water and Sanitation: Number of Acres Planted

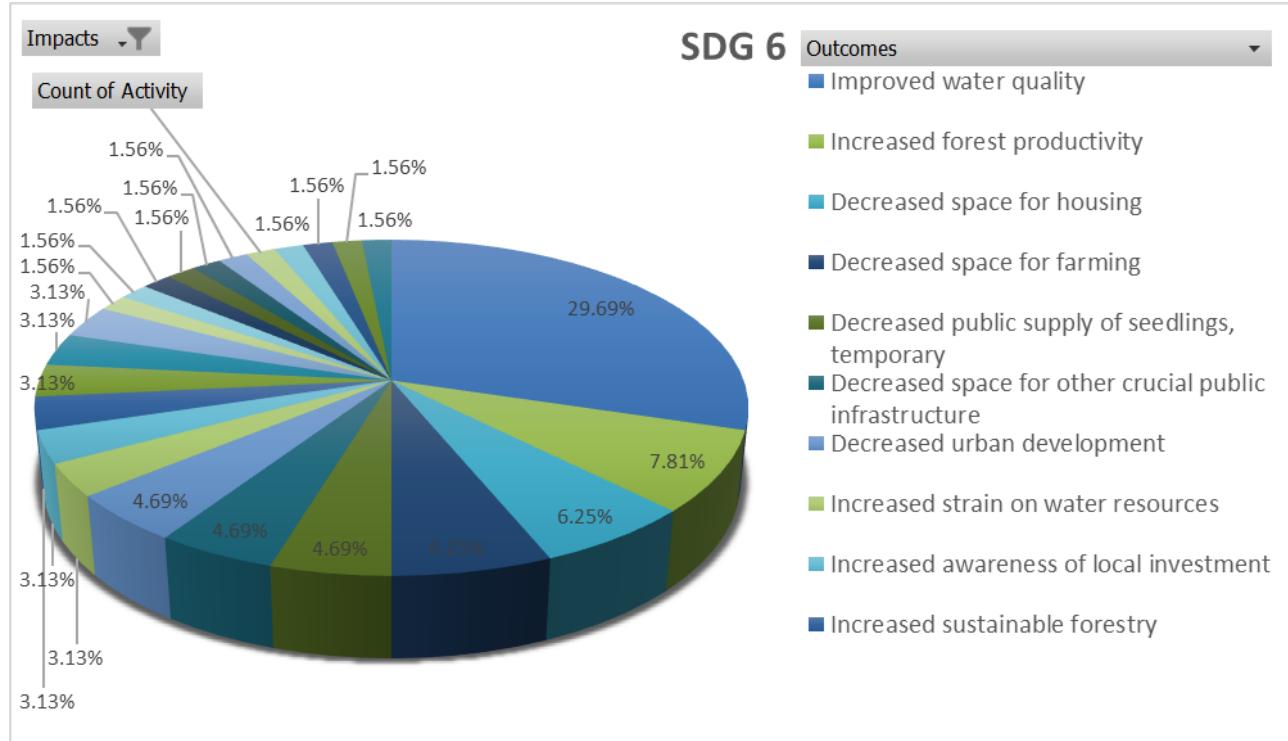
Figure 5



Based on an analysis of the Theory of Change, the number of acres planted was identified as an important project output for achieving SDG 6. This indicator had a relatively large causal relationship to delivering SDG 6 and therefore was selected as a monitoring indicator.

### B.6.1.e SDG 6 Clean Water and Sanitation: Water Quality

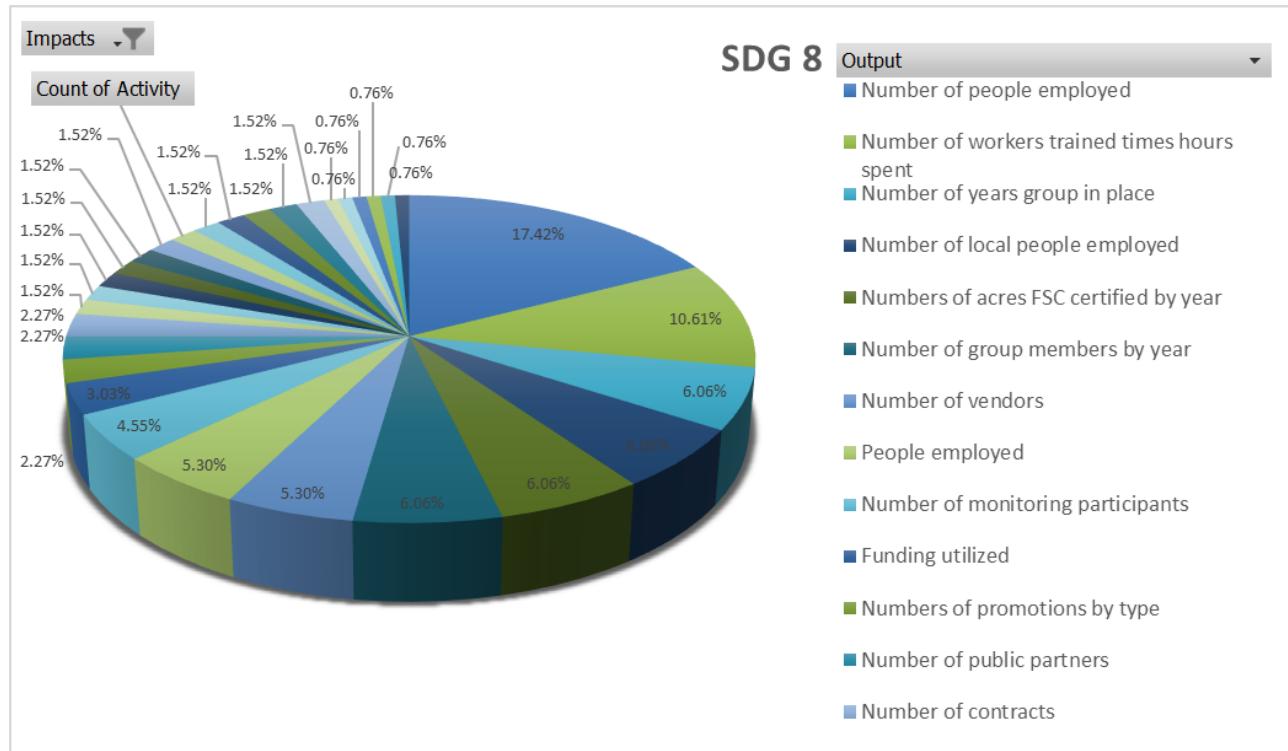
Figure 6



Based on an analysis of the Theory of Change, improving water quality was identified as an important project outcome for achieving SDG 6. This indicator had a relatively large causal relationship to delivering SDG 6 and therefore was selected as a monitoring indicator.

## B.6.1.f SDG 8 Decent Work and Economic Growth: Number of People Employed

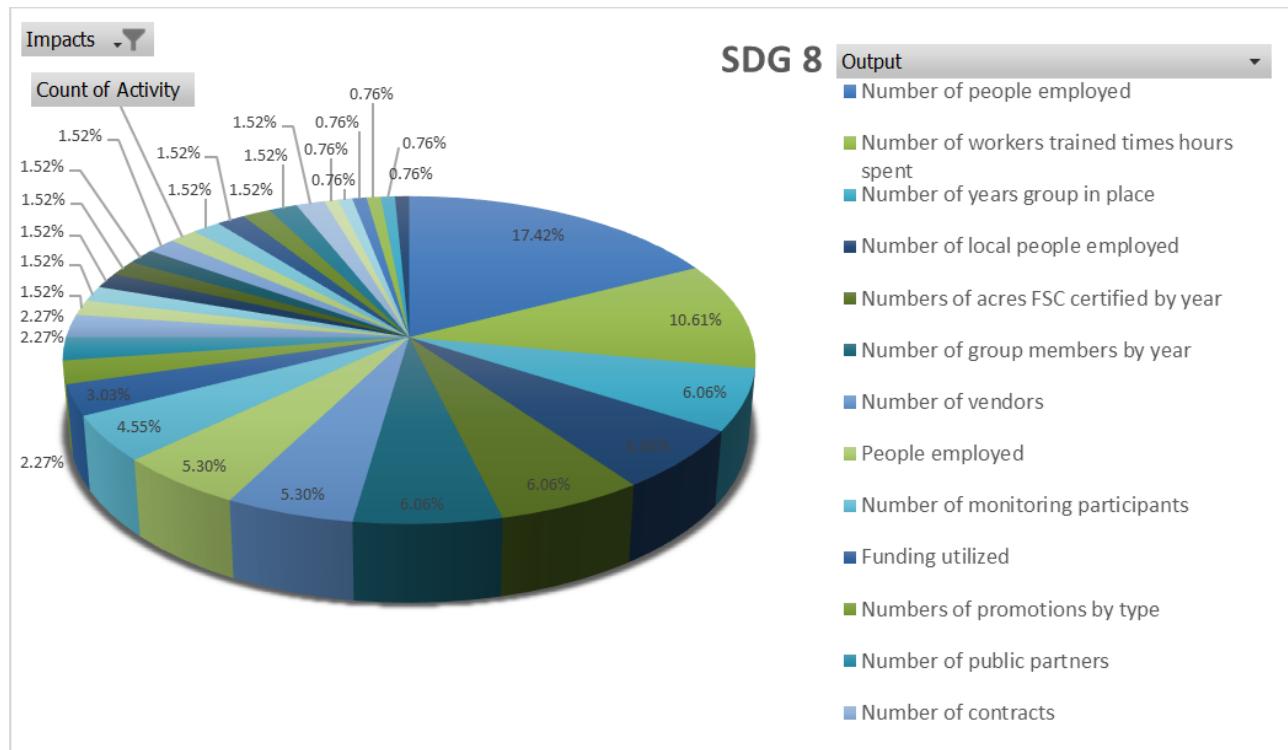
Figure 7



Based on an analysis of the Theory of Change, the number of people employed by the project was identified as an important project output for achieving SDG 8. This indicator had a relatively large causal relationship to delivering SDG 8 and therefore was selected as a monitoring indicator.

## B.6.1.g SDG 8 Decent Work and Economic Growth: Product of Number of Workers Trained on Safety and Hours Spent Training

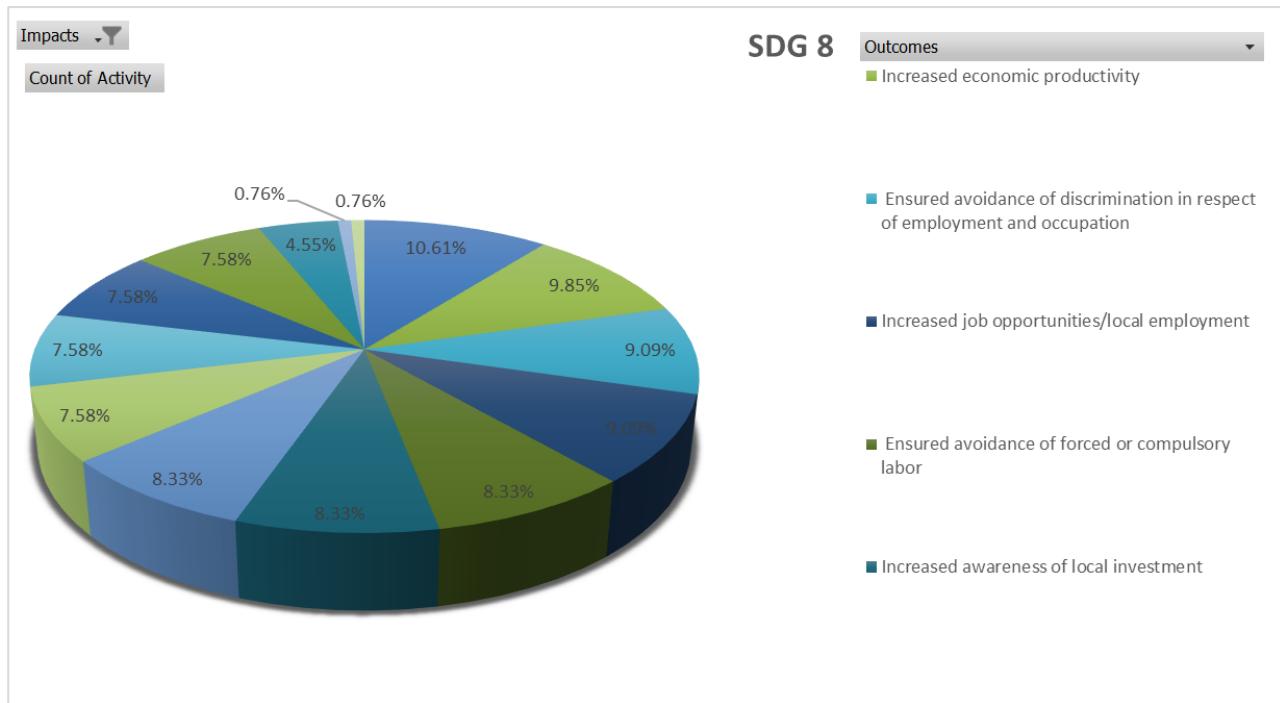
Figure 8



Based on an analysis of the Theory of Change, the number of workers trained and the amount of time training because of the project was identified as an important project output for achieving SDG 8. This indicator had a relatively large causal relationship to delivering SDG 8 and therefore was selected as a monitoring indicator.

## B.6.1.h SDG 8 Decent Work and Economic Growth: Economic Productivity

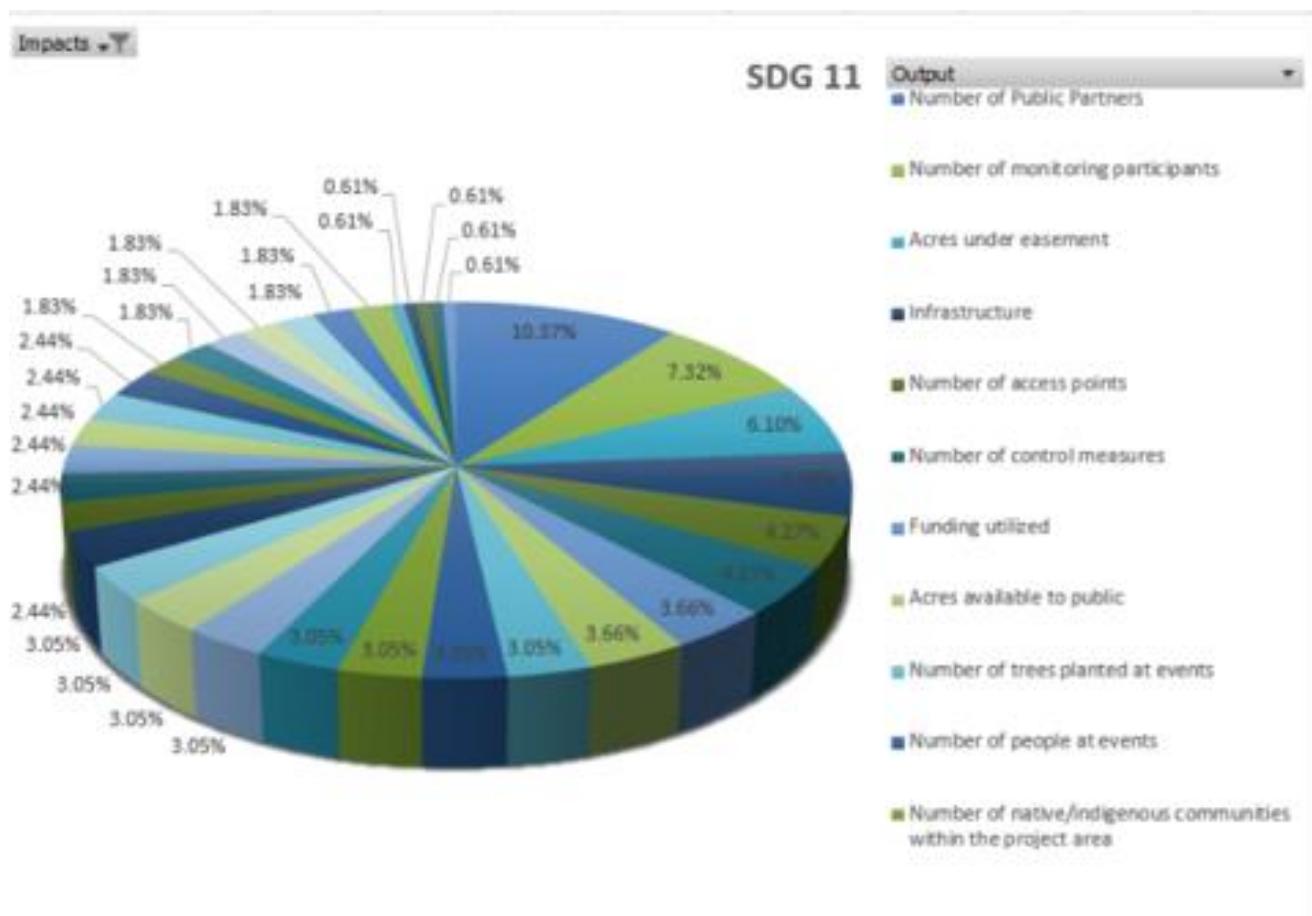
Figure 9



Based on an analysis of the Theory of Change, increasing economic activity was identified as an important project outcome for achieving SDG 8. This indicator had a relatively large causal relationship to delivering SDG 8 and therefore was selected as a monitoring indicator.

### B.6.1.i SDG 11 Sustainable Cities and Communities: Number of Public Partners

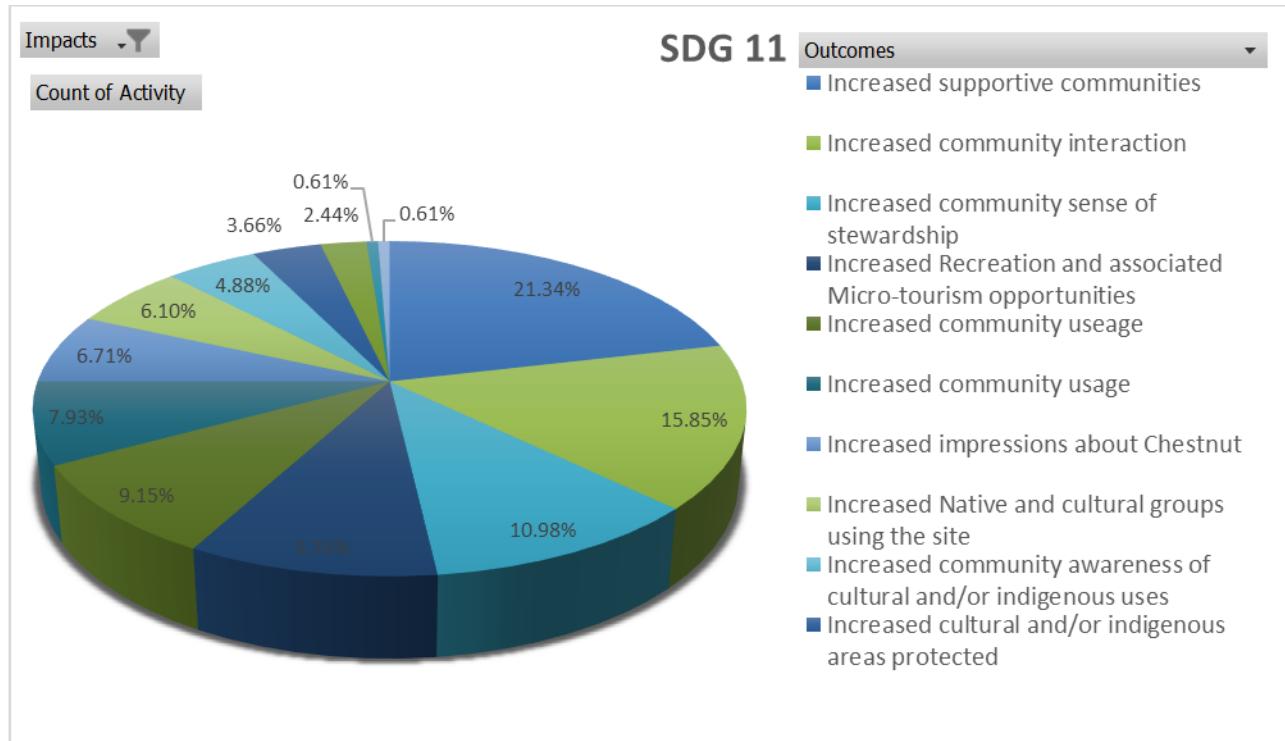
Figure 10



Based on an analysis of the Theory of Change, the number of public partners was identified as an important project output for achieving SDG 11. This indicator had a relatively large causal relationship to delivering SDG 11 and therefore was selected as a monitoring indicator.

## B.6.1.j SDG 11 Sustainable Cities and Communities: Community Level of Support for the Project

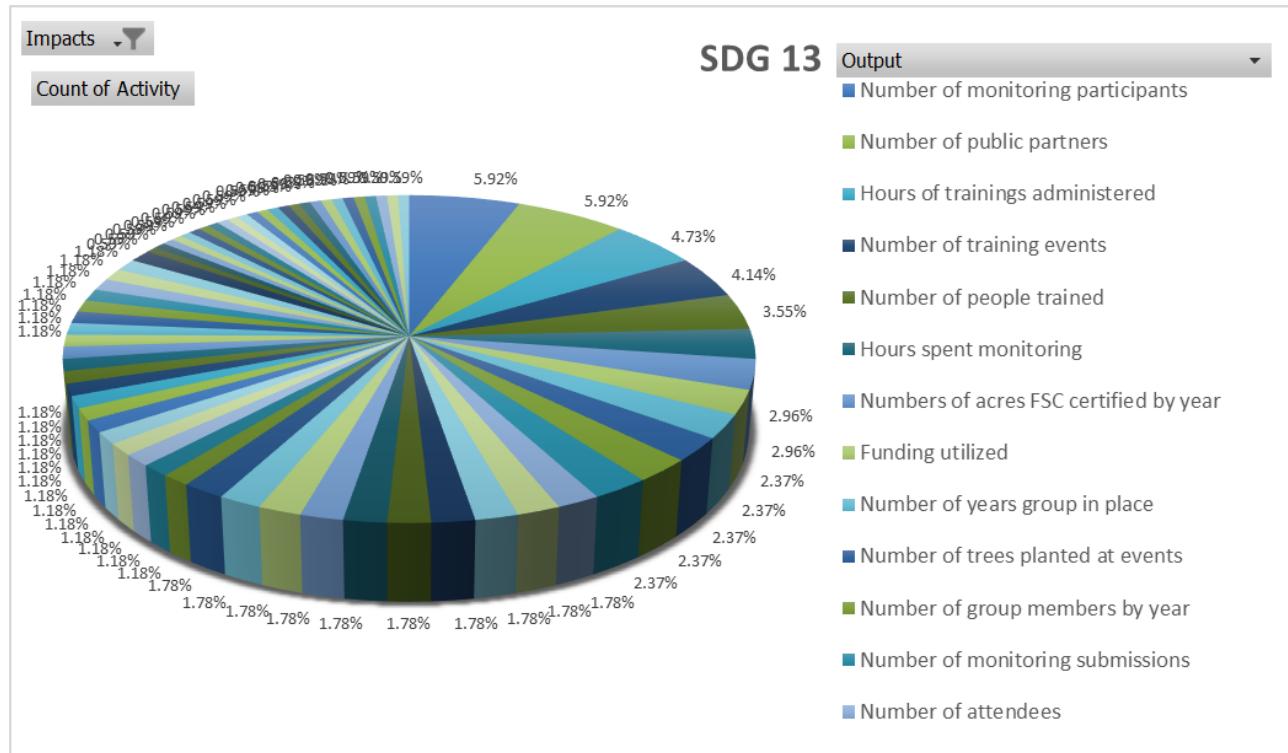
Figure 11



Based on an analysis of the Theory of Change, improving community level of support for the project was identified as an important project outcome for achieving SDG 11. This indicator had a relatively large causal relationship to delivering SDG 11 and therefore was selected as a monitoring indicator.

### B.6.1.k SDG 13 Climate Action: Number of Public Partners

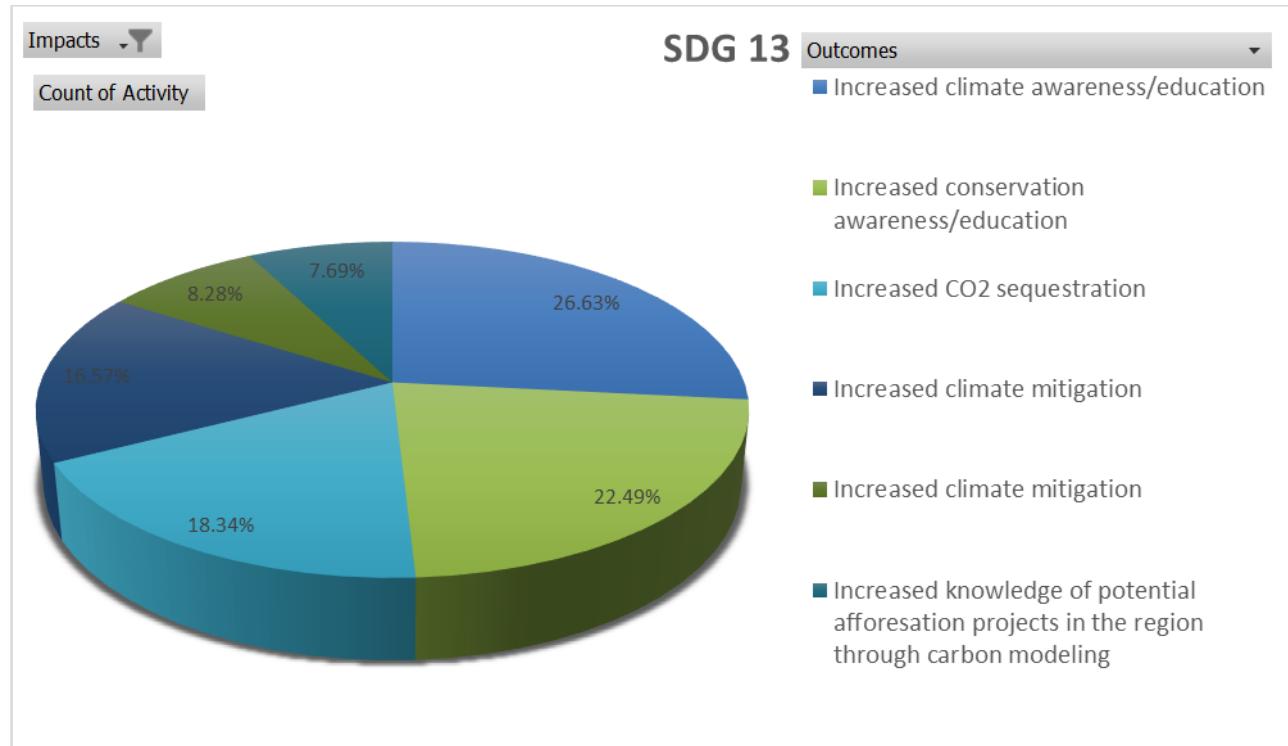
Figure 12



Based on an analysis of the Theory of Change, the number of public partners was identified as an important project output for achieving SDG 13. This indicator had a relatively large causal relationship to delivering SDG 13 and therefore was selected as a monitoring indicator.

## B.6.1.I SDG 13 Climate Action: Community Level Awareness of Climate Change Mitigation

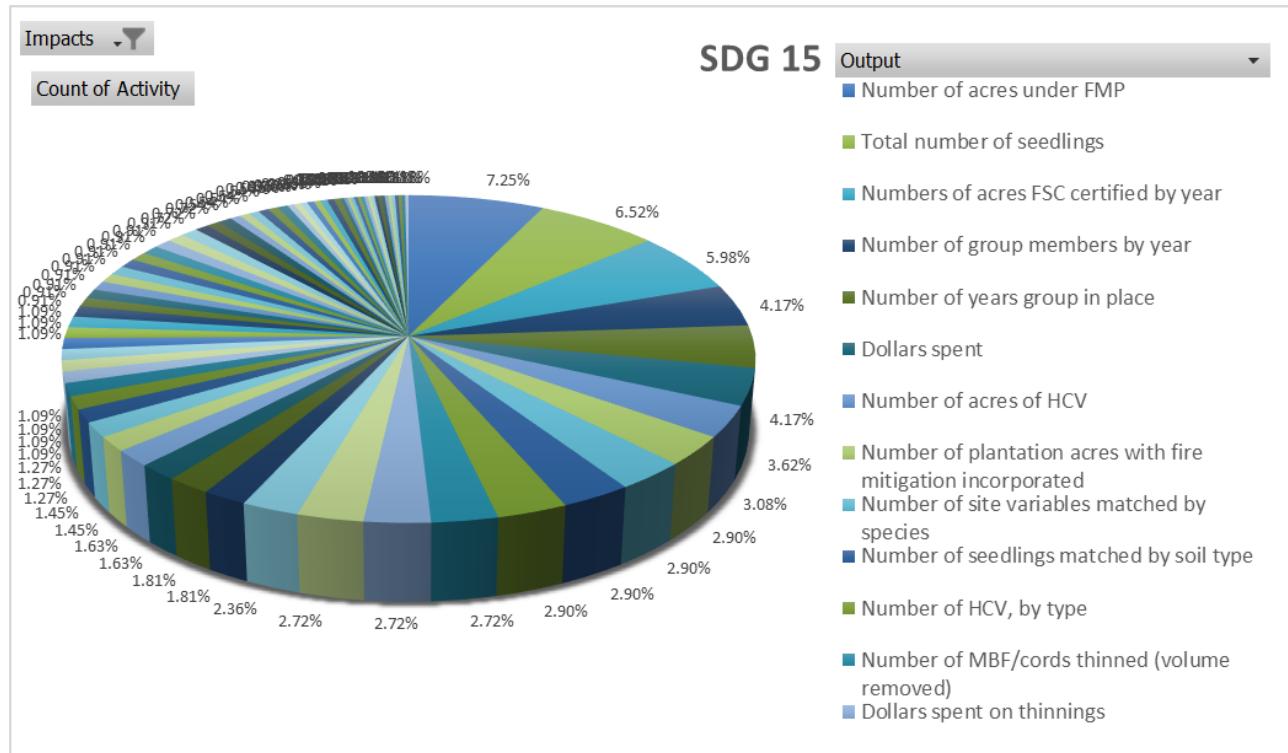
Figure 13



Based on an analysis of the Theory of Change, increased climate awareness and education were identified as an important project outcome for achieving SDG 13. This indicator had a relatively large causal relationship to delivering SDG 13 and therefore was selected as a monitoring indicator.

### B.6.1.m SDG 15 Life on Land: Number of Seedlings Planted

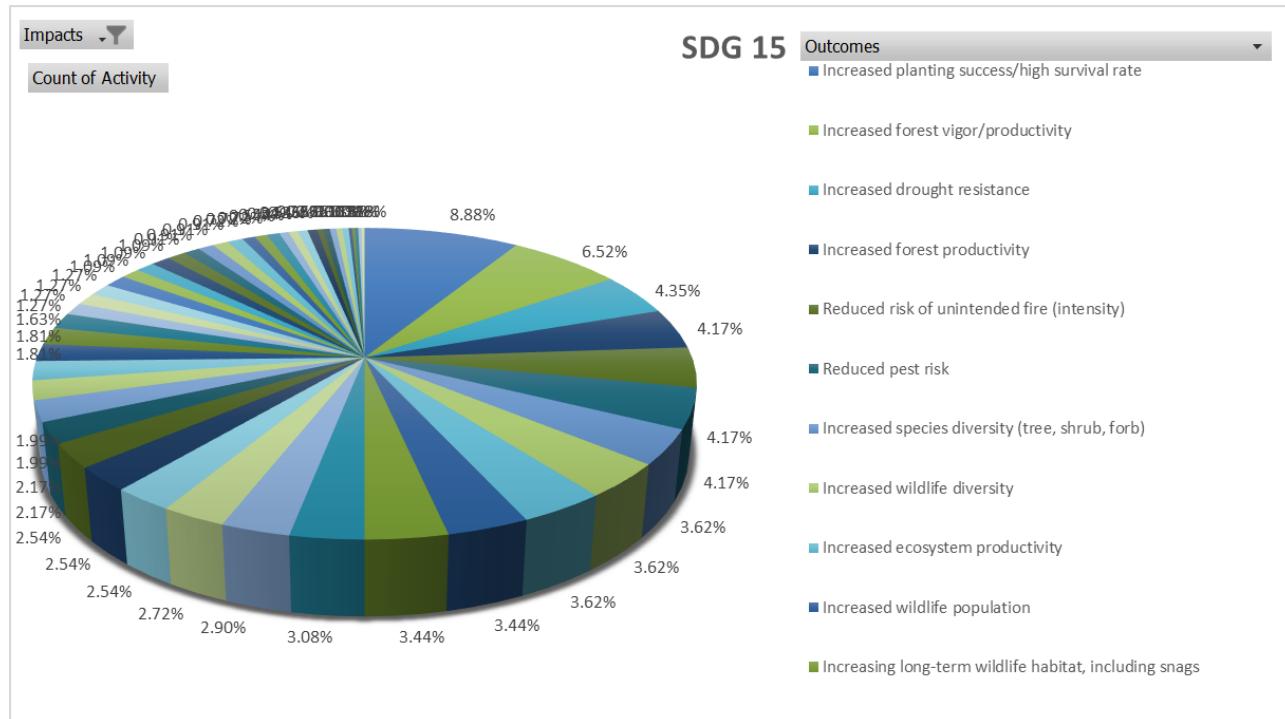
Figure 14



Based on an analysis of the Theory of Change, the number of seedlings planted was identified as an important project output for achieving SDG 15. This indicator had a relatively large causal relationship to delivering SDG 15 and therefore was selected as a monitoring indicator.

## B.6.1.n SDG 15 Life on Land: Plantation Survival

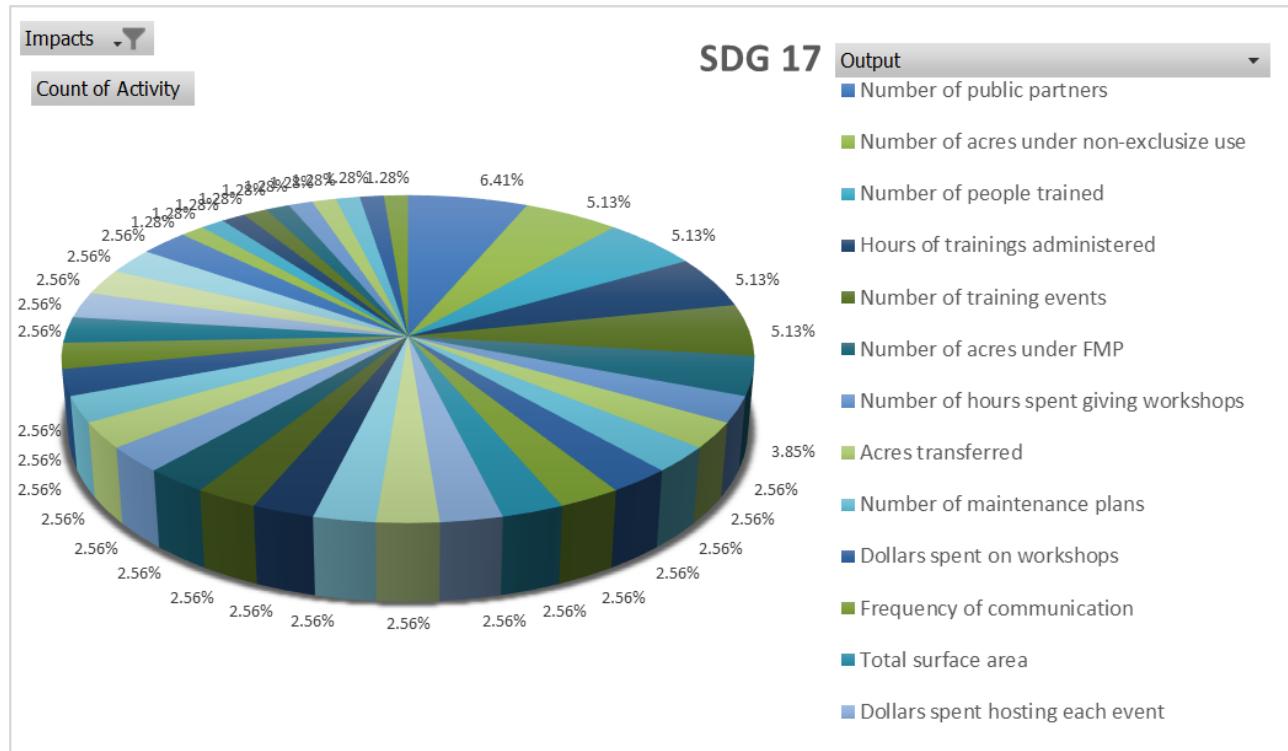
Figure 15



Based on an analysis of the Theory of Change, the increasing plantation survival was identified as an important project output for achieving SDG 15. This indicator had a relatively large causal relationship to delivering SDG 15 and therefore was selected as a monitoring indicator.

### B.6.1.o SDG 17 Partnership for the Goals: Number of Public Partners

Figure 16



Based on an analysis of the Theory of Change, the number of public partners was identified as an important project output for achieving SDG 17. This indicator had a relatively large causal relationship to delivering SDG 17 and therefore was selected as a monitoring indicator.

## B.6.2 Data and parameters fixed ex ante

The following fixed data and parameters are related to the ex-ante estimation of the Sustainable Development Goals derived from the SDG Ex-Ante SDG Impact Model Annex M.

### B.6.2.a SDG 3

Data/parameter	Infrastructure: Pre-project miles of trails and roads
Unit	Miles
Description	The miles of trails and roads in the absence of the project.
Source of data	Initial FSC forest management plans
Value(s) applied	0
Choice of data or Measurement methods and procedures	Data were obtained from management plans for each property
Purpose of data	Baseline ex-ante estimates of SDG 3
Additional comment	N/A

Data/parameter	Pre-project community level sense of cohesion
Unit	Average score on a scale from one to five
Description	A value of 1 means no sense of social cohesion, while a value of 5 means a very strong sense of social cohesion.
Source of data	Baseline survey
Value(s) applied	1
Choice of data or Measurement methods and procedures	Score was obtained from the baseline survey conducted by the project proponent

Purpose of data	Baseline ex-ante estimates of SDG 3
Additional comment	N/A

#### B.6.2.b SDG 6

Data/parameter	Pre-project number of acres FSC certified each year
Unit	Acres
Description	The number of acres under certification prior to inclusion in the project.
Source of data	Initial FSC forest management plans
Value(s) applied	0
Choice of data or Measurement methods and procedures	Data were obtained from management plans for each property
Purpose of data	Baseline ex-ante estimates of SDG 6
Additional comment	N/A

Data/parameter	Pre-project number of acres planted
Unit	Acres
Description	The number of acres of native tree species planted to create forests in the baseline scenario.
Source of data	Initial FSC forest management plans
Value(s) applied	0

Choice of data or Measurement methods and procedures	Data were obtained from management plans for each property
Purpose of data	Baseline ex-ante estimates of SDG 6
Additional comment	N/A

### B.6.2.c SDG 8

Data/parameter	Pre-project number of people employed
Unit	Number of people
Description	Counting the number of people employed full-time in the production of cattle or agricultural outputs in the baseline scenario.
Source of data	Diligence reports in land acquisition
Value(s) applied	0
Choice of data or Measurement methods and procedures	Data were obtained from due diligence reports during land acquisition
Purpose of data	Baseline ex-ante estimates of SDG 8
Additional comment	N/A

Data/parameter	Pre-project number of workers trained on safety times hours spent
Unit	Number of hours trained
Description	The number of hours trained on safety procedures

Source of data	Diligence reports in land acquisition
Value(s) applied	0
Choice of data or Measurement methods and procedures	Data were obtained from due diligence reports during land acquisition
Purpose of data	Baseline ex-ante estimates of SDG 8
Additional comment	N/A

#### B.6.2.d SDG 11

Data/parameter	Pre-project number of public partners
Unit	Stakeholder
Description	Number of public partners participating in the land management prior to the project, representative of the baseline scenario.
Source of data	Diligence reports in land acquisition
Value(s) applied	0
Choice of data or Measurement methods and procedures	Data were obtained from due diligence reports during land acquisition
Purpose of data	Baseline ex-ante estimates of SDG 11
Additional comment	N/A

### B.6.2.e SDG 13

Data/parameter	Pre-project number of public partners
Unit	Stakeholder
Description	Number of public partners participating in the land management prior to the project, representative of the baseline scenario.
Source of data	Diligence reports in land acquisition
Value(s) applied	0
Choice of data or Measurement methods and procedures	Data were obtained from due diligence reports during land acquisition
Purpose of data	Baseline ex-ante estimates of SDG 13
Additional comment	Number of public partners also contributes to SDG 11 and SDG 17

Data/parameter	Root to Shoot Ratio for non-tree biomass
Unit	Dimensionless
Description	Conversion factor for aboveground to belowground biomass
Source of data	Default provided in GS Methodology for A/R GHGs Emission Reduction & Sequestration v2.0
Value(s) applied	4
Choice of data or Measurement methods and procedures	Calculation of project and baseline scenarios

Purpose of data	Calculation of belowground non-tree biomass for baseline and project scenarios
Additional comment	N/A

Data/parameter	Carbon fraction for tree biomass
Unit	tC/tdm
Description	Carbon fraction for tree biomass is total carbon content of tree biomass in tonnes of dry matter
Source of data	Default provided in GS Methodology for A/R GHGs Emission Reduction & Sequestration v2.0
Value(s) applied	0.5
Choice of data or Measurement methods and procedures	Default value per methodology
Purpose of data	Calculation of project and baseline scenarios
Additional comment	N/A

Data/parameter	Carbon fraction for non-tree biomass
Unit	tC/tdm
Description	Carbon fraction for non-tree biomass is total carbon content of non-tree biomass in tonnes of dry matter
Source of data	Default provided in GS Methodology for A/R GHGs Emission Reduction & Sequestration v2.0
Value(s) applied	0.4

Choice of data or Measurement methods and procedures	Default value per methodology
Purpose of data	Calculation of project and baseline scenarios
Additional comment	N/A

Data/parameter	Conversion factor - Carbon to CO <sub>2</sub> equivalent
Unit	tCO <sub>2</sub> /tC
Description	Converts content of carbon-to-carbon dioxide equivalent
Source of data	Default provided in GS Methodology for A/R GHGs Emission Reduction & Sequestration v2.0
Value(s) applied	44/12
Choice of data or Measurement methods and procedures	Default value per methodology
Purpose of data	Calculation of project and baseline scenarios for both tree and non-tree biomass conversions from tC to tCO <sub>2</sub> e
Additional comment	N/A

Data/parameter	Baseline non-tree biomass
Unit	tCO <sub>2</sub> /ha
Description	Existing biomass in any non-tree species such as grass, forbs, and roots thereof in the most likely scenario without project activity

Source of data	Rangelands.app, a widely accepted source of truth for grassland data compiled by United States Bureau of Land Management, Natural Resources Conservation Service, and National Parks Service inventory data
Value(s) applied	6.39
Choice of data or Measurement methods and procedures	As a grouped project, taking aggregate statewide biomass averages is the best choice for determining baseline non-tree biomass. The federal data sources are rigorous and tested.
Purpose of data	Determining baseline scenario
Additional comment	N/A

Data/parameter	Baseline Tree biomass
Unit	tCO2/ha
Description	Existing biomass in any non-planted tree species existing
Source of data	Aerial imagery, Google Earth
Value(s) applied	0
Choice of data or Measurement methods and procedures	Tree biomass occurring on the project area shall be conservatively excluded
Purpose of data	Determining baseline scenario
Additional comment	N/A

Data/parameter	Carbon in soil estimated per strata
Unit	tCO2/ha

Description	Per stratum soil organic carbon
Source of data	GS Soil Carbon Tool
Value(s) applied	1.14
Choice of data or Measurement methods and procedures	Methodology approved tool for estimating soil carbon
Purpose of data	Determining baseline scenario
Additional comment	N/A

#### B.6.2.f SDG 15

Data/parameter	Pre project number of acres FSC certified each year
Unit	Acres
Description	The number of acres under certification prior to inclusion in the project.
Source of data	Initial FSC forest management plans
Value(s) applied	0
Choice of data or Measurement methods and procedures	Data were obtained from management plans for each property
Purpose of data	Baseline ex-ante estimates of SDG 15
Additional comment	N/A

Data/parameter	Pre-project number of seedlings planted
Unit	Seedling

Description	The number of seedlings planted within the project area prior to the initialization of the project.
Source of data	Land acquisition diligence reports
Value(s) applied	0
Choice of data or Measurement methods and procedures	Data were obtained from due diligence reports during land acquisition
Purpose of data	Baseline ex-ante estimates of SDG 15
Additional comment	N/A

Data/parameter	Pre-project plantation survival
Unit	Average percentage of seedlings surviving in the baseline scenario
Description	No seedlings would have been planted in the baseline scenario, so therefore no seedlings can survive.
Source of data	Land acquisition diligence reports
Value(s) applied	0
Choice of data or Measurement methods and procedures	Data were obtained from due diligence reports during land acquisition
Purpose of data	Baseline ex-ante estimates of SDG 15
Additional comment	N/A

### B.6.2.g SDG 17

Data/parameter	Pre-project number of public partners
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Unit	Stakeholder
Description	Number of public partners participating in the land management prior to the project, representative of the baseline scenario.
Source of data	Diligence reports in land acquisition
Value(s) applied	0
Choice of data or Measurement methods and procedures	Data were obtained from due diligence reports during land acquisition
Purpose of data	Baseline ex-ante estimates of SDG 17
Additional comment	N/A

### B.6.3 Ex-ante estimation of SDG Impact

To calculate the ex-ante estimations of the SDG impacts the project will produce over the life of the project, we have applied an adoption factor to each impact unit to quantify the results. An adoption factor quantifies the impacts of the project or receipt of project benefits to the community and illustrates how the project benefits, perceptions and impacts are scaled over time.

For the Chestnut Sustainable Restoration Project, the adoption factor is driven entirely by the number of acres of trees planted each year. As the number of acres of trees planted increases, we assume the impacts outlined in each SDG will increase as well.

#### B.6.3.a SDG 3 Good Health and Well-Being – Miles of Trails and Roads

As the number of acres acquired and leased increases and as the number of acres of trees planted increases, we expect the density of trails per acre to also increase. An accelerated rate has been assumed for the density of miles per acre during the first 25 years of the project.

The standard density of trails and roads within parks is 20 kilometers per hectare. We converted 20 km per hectare to miles per acre, then applied the adoption factor to that conversion value, which is 0.0124274 miles divided by 2.47105 acres. With the adoption factor applied, we then calculate the miles of trails added per year over the first 25 years of the project. The average miles per year begins at 4 miles in year 1 and maximizes at 1,987 miles in year 26. The average miles of trails added each year is 39.73 new miles added per year over the 50-year life of the project (See Section B.6.4.a).

#### **B.6.3.b SDG 3 Good Health and Well-Being – Community Sense of Social Cohesion**

With tree planting progressively increasing over the first seven years of the project, we expect the community's sense of social cohesion to also increase each year during the first seven years as we engage more closely with stakeholders (See Section A.3.a). We have assumed an accelerated rate for this score of average social cohesion during the initial seven years and applied an adoption factor of five to the average cohesion score per year. With the adoption factor of five applied, the average cohesion score starts at 2.5 and scales up to 4.8 in year seven, when planting reaches the expected maximum total acreage planted. The average score modeled for community sense of social cohesion is 4.6 out of 5 over the 50-year life of the project (See Section B.6.4.b).

#### **B.6.3.c SDG 6 Clean Water & Sanitation – Number of Acres Certified Under FSC**

As the number of acres Chestnut Carbon acquires and leases increases and the number of acres of trees planted increases, we expect the number of acres certified under FSC will also increase during the first 25 years of the project (See Table 1). Each land parcel acquired is considered a group member within the FSC group certificate. As the number of parcels increases, the number of group members also increases, thus increasing the acres certified under FSC.

We have assumed an accelerated rate of group members increasing and applied an adoption factor of .125 as a group multiplier each year over the first 25 years to determine the total acres certified under FSC each year. The total acres certified

under FSC is based on the total acres acquired each year. With the adoption factor of .125 applied to the rate of group member increase per year, the total acres of FSC-certified acres each year begins at 6,356 acres and scales up to 444,375 acres through year 26 when land acquisitions reach the maximum. The average net benefit score modeled for the number of acres newly certified under FSC each year is 444,375 over 8,888 acres per year over the 50-year life of the project (See Section B.6.4.c).

#### B.6.3.d SDG 6 Clean Water & Sanitation – Number of Acres Planted

As the number of acres Chestnut Carbon acquires and leases increases over the first seven years of the project, we also expect planting to substantially increase over the first seven years. In the first year of the project, we acquired acres of land and planted 6,356 of those acres. The total acquired acres per year and acres of trees planted per year will substantially increase until year five, where we expect to have acquired 395,000 acres of land and expect to have planted 195,000 of those acres. The average number of acres planted per year is calculated by dividing the total number of acres planted over the 50-year period, by 50 years, to arrive at planting 3,900 acres per year on average over the 50-year life of the project (See Section B.6.4.d).

#### B.6.3.e SDG 6 Clean Water & Sanitation – Water Quality

With the number of states Chestnut Carbon acquires and leases land within increases, we expect the yearly average total maximum daily loads of pollutants (TMDL) per state to increase, particularly after year five. We have assumed an accelerated rate of TMDL compliance percentage each year and have applied an adoption factor each year. We are assuming TMDL compliance latency to take five years before one state will have TMDL percent measurements at around 22% compliance.

With the adoption factor applied to the yearly TMDL compliance percentage, the TMDL percentages begin at 10% in year one and scales up through year 9, where 100% TMDL percentages are reached when the number of states where acres of land are acquired reaches its maximum at 20 states. The average yearly percentage modelled for TMDL compliance each year is 93% over the 50-year life of the project (See Section B.6.4.e).

### B.6.3.f SDG 8 Decent Work & Economic Growth – Number of People Employed

As the number of acres Chestnut Carbon acquires and leases increases and the number of acres of trees planted increases (See Section B.6.3.d), we assume the number of workers required to maintain the planted acres to also increase. Tree planting is expected to substantially increase within the first five years, beginning with 6,356 acres planted in year one and 195,000 acres planted in the fifth year. The acres maintained each year is equal to the number of acres maintained in the prior year plus the number of acres planted in the prior year. We determined that one worker is required to plant 200 acres, and one worker is required to maintain 400 acres.

To calculate the number of workers required to plant new acres each year and the number of workers required to maintain the previous year's acres planted, we divided the number of new acres planted by 200, then divided the number of acres maintained by 400 and added those results together, determining the total number of workers needing to be employed in order to plant new acres and maintain existing acres each year.

The average number of people employed each year is 65, starting with 32 people in year one and scaling up to 263 people in year five. In year six, no new acres are expected to be planted, but the number of acres-maintained increases to the maximum average of 195,000. Since no new acres are being planted after year six, the average number of people needed to maintain the 195,000 acres is 65 people per year, through the 50-year life of the project (See Section B.6.4.f).

### B.6.3.g SDG 8 Decent Work & Economic Growth – Product of Number of Workers Trained on Safety and Hours Spent Training

As the number of acres Chestnut Carbon acquires and leases increases and the number of acres of trees planted increases, we expect the number of workers required to maintain the planted acres to also increase. Workers will be required to participate in safety training in all project areas. See Annex D- Chestnut Carbon Policies.

As described above in B.6.3.f, the average number of workers estimated to maintain the project planting area is 65 per year. We expect that each employee will spend 6

hours of safety training each year. The average hours of safety training workers shall participate in each year is 390 hours (See Section B.6.4.g).

#### **B.6.3.h SDG 8 Decent Work & Economic Growth – Economic Productivity**

As the number of acres Chestnut Carbon acquires and leases increases and the number of acres of trees planted increases, we assume the number of workers required to maintain the planted acres to also increase. With more workers required to plant and maintain project acres, we assume the economic activity to increase in each project area.

To measure the economic productivity impacts of the project, we determined the average inflation-adjusted increase in relative household income per year and applied an adoption factor of .125 percent each year. With the adoption factor of .125 percent applied each year, the average inflation adjusted increase in relative household income each year begins at .125 percent increase and scales up to 1.25 percent increase in year 26 and remains at 1.25 percent increase through the remaining years. The average inflation-adjusted increase in relative household income per year is .87% increase each year over the 50-year life of the project (See Section B.6.4.h).

#### **B.6.3.i SDG 11 Sustainable Cities & Communities – Number of Public Partners**

As the number of acres Chestnut Carbon acquires and leases increases and the number of acres of trees planted increases, we expect the number of states where acres are acquired within would also increase. The number of states where acres are acquired within is expected to substantially increase over the first five years of the project, reaching 7 states by year five. The total number of public partners across 7 states over the first 25 years will increase to 21 public partners. An adoption factor of three is applied to the number of partners per state per year over the course of 50 years. With the adoption factor of three applied, the average public partners per state per year is 15 partners, starting at one partner in year one, increasing to 21 partners in year 25, and remaining constant afterwards through year 50 (See Section B.6.4.i).

### B.6.3.j SDG 11 Sustainable Cities and Communities – Community Level of Support for the Project

As the number of acres Chestnut Carbon acquires and leases increases and the number of acres of trees planted increases, we expect the level of community support for the project to also increase as we engage more closely with local communities, specifically within the first five years (See Section B.6.4.j). We have assumed an accelerated rate for this score of average support per year during the first five years and applied an adoption factor of eight to the average support score each year. The average support score begins at four and scales up to five in year four, when planting has reached the expected maximum total acreage planted in a year. The average score modelled for community of support is 4.96 out of 5 over the 50-year life of the project (See Section B.6.4.j).

### B.6.3.k SDG 13 Climate Action – Tonnes of GHG Emissions Removed

The contributions to SDG 13 shall be quantified as tonnes of CO<sub>2</sub> sequestered by applying the methodology GS A/R GHG Emissions Reductions and Sequestration v2.0. The contribution shall be certified allowing for generation of carbon credits (VERs) under the Gold Standard. The following sections describe the entire emissions reduction calculation process:

- B.6.3.k.1: Equations
- B.6.3.k.2: Methodology Application
  - Baseline Emissions, Leakage Emissions, Other Emissions
- B.6.3.k.3: Tools Used
  - Soil Organic Carbon Tool

#### B.6.3.k.1 – Equations

Per the Methodology Section 3.9, volume conversion factors shall be determined at the Modeling Unit level: Wood Density (WD), Biomass Expansion Factor (BEF), and Root-to-Shoot ratio (RS). These factors shall be based on the best available scientific sources. In this case, the California Air Resources Board (CARB) Climate Offset Protocol (COP) from 2015 was used ([source](#)), for which all equations and reference material is included in Annex P. This rigorous Protocol provides guidance for biomass equations for volume of tree species in the United States, derived from United States Forest Service Forest Inventory and Analysis data.

Equations for species of each tree in each stratum were derived from CARB using Visual Basic for Applications (VBA) in Microsoft Excel which accesses the USFS FVS software. Each property L2 workbook has this proprietary computer code included to be able to run models for varying parameters with inputs such as soil type, species of trees planted, maximum and minimum trees per acre (TPA), slope, aspect, and elevation, among others (more detail in Section A.4). These workbooks are dynamic in nature and may change over the course of the project to reflect accurate field data such as TPA and mortality as of field data from summer 2023 and are provided in Annex O for each property. L2 growth models output biomass in estimated tCO<sub>2</sub>e/acre for each planting block in the case of different carbon scenarios with all possible combinations of the following factors on ten-year cycle:

1. High, expected, or low site index (defined in A.4), a proxy for site productivity
  - a. Expected site is height in feet of the dominant tree species over 50 years
  - b. High being + 10 feet of growth over 50 years
  - c. Low being - 10 feet of growth over 50 years
2. High, medium, or low mortality (%)

- a. Table of forest type and density scenario:

<b>Species Type</b>	<b>Density Scenario</b>	<b>Low</b>	<b>Medium</b>	<b>High</b>
Hardwood	Minimum Density	0%	5%	10%
Softwood	Minimum Density	0%	5%	10%
Hardwood	Maximum Density	0%	6%	13%
Softwood	Maximum Density	0%	6%	13%

3. High, medium, or low planting density (TPA)
  - a. Prior to planting, TPA is a prescription for the planting block
  - b. After planting, high and low TPA are calculated from 90% confidence intervals based on field inventory average of each planting block

(more detail on stratification and sampling design in B.7.2 and B.7.3). All combinations of the above 3 factors create different carbon curves which estimate carbon sequestered on all planting blocks of each project property. In the carbon accounting model Annex O, the carbon scenario used is conservative and likely the average scenario: minimum density, low mortality, expected site. In this carbon scenario, the minimum trees per acre is computed with low mortality as defined by field surveys, and expected (i.e. average) site index, or productivity.

### B.6.3.k.2 – Methodology Application

The CARB equations provide both volume and biomass, provided in Annex O as a Microsoft Access Database created using FVS files from the L2 model. In the database, these FVS files were converted to individual tree records that each have data such as diameter and height, and each tree record “grows” forward in time in 10 year increments, using data from the FVS model. Each tree record has additional data created from the CARB biomass generated such that the reader may perform the methodology equations without VBA and achieve the same result, thus validating the use of computer code to improve processing time. Within this Access Database, there are columns entitled “Biomass Expansion Factor” and “Root to Shoot Ratio (mt/cf),” both of which are required by the methodology. Each tree will have a unique root to shoot ratio and BEF due to the nature of varying species types and growth trajectories.

RS = belowground biomass (mt) / aboveground biomass (mt)

BEF = aboveground biomass (mt) / cubic foot gross volume (cubic ft)

These two factors are applied to stem volume per Section 3.9 of the Methodology using the following equations:

Aboveground Tree Biomass (tCO<sub>2</sub>e) = stem volume (cubic feet) \* BEF \* 0.5 \* 44/12

Belowground Tree Biomass (tCO<sub>2</sub>e)= Aboveground Tree Biomass (tCO<sub>2</sub>e) \* RS.

Using the Access Database, the user can apply the methodology equations to arrive at total carbon per acre as: Carbon (tCO<sub>2</sub>e/ac) = VOLGRS (tCO<sub>2</sub>e/ac) \* BEF \* (1+RS) \* 0.5 \* 44/12.

Carbon values generated, the output in tCO<sub>2</sub>e of each planting block for every L2 workbook is then aggregated into the Ex-Ante Accounting Model, provided in Annex O, for all properties in the modeling unit. At the time of writing, all properties are contained in one modeling unit.

Since the L2 workbooks' FVS models generate carbon values in 10-year increments, the Ex-Ante Accounting Model applies a mathematical interpolation using VBA of these values to calculate annual growth in carbon. The interpolation method for the first ten-year cycle is an exponential growth curve, and for subsequent cycles a polynomial spline. Stratum-level carbon (tCO<sub>2</sub>e) is then divided by the number of hectares in the stratum area to convert to tCO<sub>2</sub>e/ha for each year of the 50-year crediting period, the preferred unit of the methodology. Carbon is then presented in terms of AGBG (tCO<sub>2</sub>e) per year per stratum, then summed over the entire modeling unit, per year. Once carbon is calculated for all sources (see following sections), Equations 1 and 2 from the methodology are applied:

CO<sub>2</sub> removal units MU,t = (CO<sub>2</sub>-removal MU,t – Baseline MU,t – Leakage MU,t – Other Emissions MU,t) × Eligible planting area MU (Eq 1)

$$\text{CO2}_{\text{removal}} \text{Project area, } t = \sum_{\text{MU}=1}^{\text{MUs}} \sum_{t=1}^{\text{CP}} \text{CO2\_removal MU, } t$$

(Eq. 2)

Net benefit (GS-VERs) is the difference between quantified CO<sub>2</sub> sequestration in the project scenario minus the modelled CO<sub>2</sub> sequestration in the baseline scenario, less the 20% Gold Standard buffer as required for all projects per Section 11.1 of Gold Standard GHG Emissions Reductions and Sequestration Product Requirements. Expected VERs are calculated for the first 50-year crediting period, presented in Section A.4 Table 4 (calculations found in Annex O).

Long term CO<sub>2</sub> removal units are not calculated in this accounting model (Equation 4 of the methodology) due to the project proponents selection of Option I of the methodology, Section 3.6.7. See Land Use and Forest (LUF) Key Project Information, page 6 for selection of "Conservation Forest."

Section B.6.4.k shows a table of estimated Baseline and Project carbon, as well as the expected Net Benefit over the first crediting period.

#### B.6.3.k.2a - Baseline Scenario

The baseline scenario was a combination of leasing the land for agricultural uses, as determined in Section B.4, Baseline Scenario. Baseline tree and non-tree carbon pools were calculated using Section 3.5 of the methodology. Baseline tree biomass is calculated as 0 tCO<sub>2</sub>/ha, per aerial imagery analysis that no trees were present in the planting area, confirmed by field visits. The baseline non-tree biomass volume value was determined by the Rangelands Analysis Platform using United States Natural Resource Conservation Service (NRCS) data for the state of Arkansas, which contains most of the project area ([source](#)). This volume is then converted into tCO<sub>2</sub>/ha, computed by using default conversion factors per the methodology section 3.10.4, defined in Section B.6.2.e. Baseline non-tree biomass is calculated to be 6.39 tCO<sub>2</sub>/ha, deducted in Year 1 only per the methodology.

Once both tree and non-tree biomass has been calculated, Equation 3 of the methodology is applied:

$$\begin{aligned} & \text{Baseline MU}_t \text{ [tCO}_2\text{/ha]} \\ &= \text{Baseline Eligible planting area [tCO}_2\text{]} \div \text{Eligible planting area [ha]} \end{aligned} \quad \text{Eq. 3}$$

Where, the Baseline is deducted in the first year (t=1).

Baseline non-tree biomass is calculated to be 6.39 tCO<sub>2</sub>/ha, deducted in Year 1 only per the methodology. See Annex O for detailed Ex-Ante Accounting Model. Section B.6.4.k shows a table of estimated Baseline and Project carbon, as well as the expected Net Benefit over the first crediting period.

#### B.6.3.k.2b – Leakage

There is no leakage caused by the project. Although there were cattle grazed and some land in agricultural use prior to the project scenario (Section B.4), no cattle or agricultural leakage occurred due to implementation of the project. All previously grazing cattle were removed off the land and taken to sale. No deforestation occurred as a result of pastureland in this project being taken out of land use. Additionally, no agricultural leakage occurred. Previous land users have confirmed that no deforestation occurred because of the project area being taken out of previous land use. Evidence was provided at Preliminary Review, see Annex Q, Annex G, Evidence

Regarding Leakage, and Annex O for application of leakage to the Ex-Ante Accounting Model.

#### B.6.3.k.2c – Other Emissions

No emissions from site preparation were caused, and no fertilizers were used in planting. No existing “tree” nor “non-tree” biomass of the Baseline was burned for land preparation.

#### B.6.3.k.3 – Tools Used

To estimate soil organic carbon, the IPCC Gold Standard-approved tool for estimating soil carbon was used (Annex O). Soil carbon calculations resulting from this tool were added to the total carbon calculated in Equation 1. An estimated 2931.5 tCO<sub>2</sub> per year of soil organic carbon shall be sequestered over the project lifetime (Annex O). Per the methodology section 3.1.4, GS-VERS calculated using this tool may be issued following a successful performance certification.

#### B.6.3.l SDG 13 Climate Action – Number of Public Partners

As described in B.3.6.i above, 15 average yearly public partners are expected to be made during the lifetime of the project.

#### B.6.3.m SDG 13 Climate Action – Community Level of Awareness of Climate Change Mitigation

As the number of acres Chestnut Carbon acquires and leases increases and the number of acres of trees planted increases, we expect the community level of awareness of climate change mitigation will also increase. As we engage with more communities through planting events and other community experiences in project areas, we expect the level of awareness of climate change mitigation to increase during the first 25 years of the project.

We have assumed an accelerated rate for this score of average awareness during the first 25 years and applied an adoption factor of five to the average awareness score per year. With the adoption factor of five applied, the average awareness score begins at .5 and scales up to 4.9 by the end of year four, when planting has reached the

expected maximum total acreage planted in a year. The average score modelled for average awareness of climate change mitigation is 3.48 out of 5 over the 50-year life of the project (See Section B.6.4.l).

#### B.6.3.n SDG 15 Life on Land – Number of Acres Certified Under FSC

As described in section B.6.3.c above, the average net benefit score modeled for the number of acres certified under FSC each year is 444,375 over 8,888 acres per year over the 50-year life of the project(See Section B.6.4.m).

#### B.6.3.o SDG 15 Life on Land – Number of Seedlings Planted

As the number of acres Chestnut Carbon acquires and leases increases over the first seven years of the project, we also expect planting to substantially increase over the same seven years. In the first year of the project, we acquired 8,383 acres of land and planted 6,356 of those acres. We have determined that 494 seedlings per acre, on average were planted. The total acquired acres per year and acres of trees planted per year will substantially increase until year five, when we expect to have acquired 395,000acres of land and expect to have planted 195,000 of those acres.

The average number of acres planted is calculated by dividing the total number of acres planted over a 50-year period by 50 years to arrive at planting 3,900 acres per year. Then, multiply 3,900 by 494 seedlings per acre to determine that 1,926,600 seedlings will be planted per year (See Section B.6.4.n).

#### B.6.3.p SDG 15 Life on Land – Plantation Survival

As the number of acres Chestnut Carbon acquires and leases increases and the number of acres of trees planted increases, we expect the average survival rate for newly planted seedlings per year to also increase. The first year is pivotal for survival. The average survival rate increases as higher volumes of mature trees contribute to the average rate.

We have determined the survival rate per year to be 81.5% per year and have applied an adoption factor each year through year 26, where the rate of survival maximizes at 95% survival rate. Over the first seven years of the project activities, the rate of

plantation survival increases incrementally from 81.5% (Year 1) to 82.7% (Year 7). This is because the Project Developer will become better at planting seedlings over time through improved protocols. Additionally, all planting occurs within the first seven years of the project start date and as time passes and the seedlings age their expected survival rate increases. The average survival rate for newly planted seedlings per year is 90.5% over the 50-year life of the project (See Section B.6.4.o).

#### B.6.3.q SDG 17 Partnership for the Goals – Number of Public Partners

As the number of acres Chestnut Carbon acquires and leases increases and the number of acres of trees planted increases, we expect the number of states where acres are acquired within would also increase. The number of states where acres are acquired within is expected to substantially increase over the first seven years of the project, reaching 7 states by year five. The total number of public partners across 7 states over the first 25 years will increase to 21 public partners. An adoption factor of three is applied to the number of partners per state per year over the course of 50 years. With the adoption factor of three applied, the average public partners per state per year is 15 partners, starting at one partner in year one and increasing to 21 partners in year 25 and remains constant afterwards through year 50 (See Section B.6.4.p).

#### B.6.4 Summary of Ex Ante Estimates of Each SDG Impact

This section provides tables for each of the SDG impacts discussed in Section B.6.3. Tables measure baseline and project estimates by year and calculate the net benefit achieved by project activities, as well as the annual averages over the crediting period. Each table section letter correlates with the SDG impacts adoption factor explained in Section B.6.3 in the corresponding lettered section.

#### B.6.4.a SDG 3 Good Health and Well-Being: Miles of Trails and Roads

This table shows the miles of trails and roads that are expected to be added to the project area in the baseline and project scenarios per year. See Section B.6.3.a for an explanation of the calculations.

<b>Year</b>	<b>Baseline Estimate</b>	<b>Project Estimate</b>	<b>Net Benefit</b>
Year 1	0	4	4
Year 2	0	42	42
Year 3	0	125	125
Year 4	0	201	201
Year 5	0	291	291
Year 6	0	320	320
Year 7	0	352	352
Year 8	0	387	387
Year 9	0	426	426
Year 10	0	468	468
Year 11	0	515	515
Year 12	0	567	567
Year 13	0	623	623
Year 14	0	686	686
Year 15	0	754	754
Year 16	0	830	830

Year 17	0	913	913
Year 18	0	1,004	1,004
Year 19	0	1,104	1,104
Year 20	0	1,215	1,215
Year 21	0	1,336	1,336
Year 22	0	1,470	1,470
Year 23	0	1,617	1,617
Year 24	0	1,779	1,779
Year 25	0	1,957	1,957
Year 26	0	1,987	1,987
Year 27	0	1,987	1,987
Year 28	0	1,987	1,987
Year 29	0	1,987	1,987
Year 30	0	1,987	1,987
Year 31	0	1,987	1,987
Year 32	0	1,987	1,987
Year 33	0	1,987	1,987
Year 34	0	1,987	1,987

Year 35	0	1,987	1,987
Year 36	0	1,987	1,987
Year 37	0	1,987	1,987
Year 38	0	1,987	1,987
Year 39	0	1,987	1,987
Year 40	0	1,987	1,987
Year 41	0	1,987	1,987
Year 42	0	1,987	1,987
Year 43	0	1,987	1,987
Year 44	0	1,987	1,987
Year 45	0	1,987	1,987
Year 46	0	1,987	1,987
Year 47	0	1,987	1,987
Year 48	0	1,987	1,987
Year 49	0	1,987	1,987
Year 50	0	1,987	1,987
Total	0	1,987	1,987

<b>Total number of crediting years</b>	50	50	50
<b>Annual average over the crediting period</b>	0	1385.034075	1385.034075

#### B.6.4.b SDG 3 Good Health and Well Being: Community Level of Sense of Social Cohesion

This table shows the average cohesion score per year in the baseline and project scenarios. See Section B.6.3.b for an explanation of the calculations.

<b>Year</b>	<b>Baseline Estimate</b>	<b>Project Estimate</b>	<b>Net Benefit</b>
Year 1	2.5	2.5	-
Year 2	2.5	2.8	0.3
Year 3	2.5	3.0	0.5
Year 4	2.5	3.3	0.8
Year 5	2.5	3.7	1.2
Year 6	2.5	4.0	1.5
Year 7	2.5	4.4	1.9
Year 8	2.5	4.8	2.3
Year 9	2.5	4.8	2.3

Year 10	2.5	4.8	2.3
Year 11	2.5	4.8	2.3
Year 12	2.5	4.8	2.3
Year 13	2.5	4.8	2.3
Year 14	2.5	4.8	2.3
Year 15	2.5	4.8	2.3
Year 16	2.5	4.8	2.3
Year 17	2.5	4.8	2.3
Year 18	2.5	4.8	2.3
Year 19	2.5	4.8	2.3
Year 20	2.5	4.8	2.3
Year 21	2.5	4.8	2.3
Year 22	2.5	4.8	2.3
Year 23	2.5	4.8	2.3
Year 24	2.5	4.8	2.3
Year 25	2.5	4.8	2.3
Year 26	2.5	4.8	2.3
Year 27	2.5	4.8	2.3

Year 28	2.5	4.8	2.3
Year 29	2.5	4.8	2.3
Year 30	2.5	4.8	2.3
Year 31	2.5	4.8	2.3
Year 32	2.5	4.8	2.3
Year 33	2.5	4.8	2.3
Year 34	2.5	4.8	2.3
Year 35	2.5	4.8	2.3
Year 36	2.5	4.8	2.3
Year 37	2.5	4.8	2.3
Year 38	2.5	4.8	2.3
Year 39	2.5	4.8	2.3
Year 40	2.5	4.8	2.3
Year 41	2.5	4.8	2.3
Year 42	2.5	4.8	2.3
Year 43	2.5	4.8	2.3
Year 44	2.5	4.8	2.3
Year 45	2.5	4.8	2.3

Year 46	2.5	4.8	2.3
Year 47	2.5	4.8	2.3
Year 48	2.5	4.8	2.3
Year 49	2.5	4.8	2.3
Year 50	2.5	4.8	2.3
Total	2.5	4.8	2.3
<b>Total number of crediting years</b>	50	50	50
<b>Annual average over the crediting period</b>	2.5	4.61	2.11

#### B.6.4.c SDG 6 Clean Water and Sanitation: Number of Acres Certified Under FSC

This table shows the number of acres that will be newly certified by FSC per year in the baseline and project scenarios. See Section B.6.3.c for an explanation of the calculations.

Year	Baseline Estimate	Project Estimate	Net benefit
Year 1	0	8,488	8,488
Year 2	0	76,538	76,538
Year 3	0	208,608	208,608

Year 4	0	304,991	304,991
Year 5	0	402,229	402,229
Year 6	0	402,952	402,952
Year 7	0	403,747	403,747
Year 8	0	404,622	404,622
Year 9	0	405,584	405,584
Year 10	0	406,642	406,642
Year 11	0	407,807	407,807
Year 12	0	409,087	409,087
Year 13	0	410,496	410,496
Year 14	0	412,046	412,046
Year 15	0	413,750	413,750
Year 16	0	415,625	415,625
Year 17	0	417,688	417,688
Year 18	0	419,956	419,956
Year 19	0	422,452	422,452
Year 20	0	425,197	425,197
Year 21	0	428,217	428,217

Year 22	0	431,539	431,539
Year 23	0	435,193	435,193
Year 24	0	439,212	439,212
Year 25	0	443,633	443,633
Year 26	0	444,375	444,375
Year 27	0	444,375	444,375
Year 28	0	444,375	444,375
Year 29	0	444,375	444,375
Year 30	0	444,375	444,375
Year 31	0	444,375	444,375
Year 32	0	444,375	444,375
Year 33	0	444,375	444,375
Year 34	0	444,375	444,375
Year 35	0	444,375	444,375
Year 36	0	444,375	444,375
Year 37	0	444,375	444,375
Year 38	0	444,375	444,375
Year 39	0	444,375	444,375

Year 40	0	444,375	444,375
Year 41	0	444,375	444,375
Year 42	0	444,375	444,375
Year 43	0	444,375	444,375
Year 44	0	444,375	444,375
Year 45	0	444,375	444,375
Year 46	0	444,375	444,375
Year 47	0	444,375	444,375
Year 48	0	444,375	444,375
Year 49	0	444,375	444,375
Year 50	0	444,375	444,375
Total	0	444,375	444,375
<b>Total number of crediting years</b>	50	50	50
<b>Annual average over the crediting period</b>	0	409,313.48	409,313.48

#### B.6.4.d SDG 6 Clean Water and Sanitation: Number of Acres Planted

This table shows the number of new acres planted per year in the baseline and project scenarios. See Section B.6.3.d for an explanation of the calculations.

<b>Year</b>	<b>Baseline estimate</b>	<b>Project estimate</b>	<b>Net benefit</b>
Year 1	0	6,356	6,356
Year 2	0	19,144	19,144
Year 3	0	80,000	80,000
Year 4	0	44,500	44,500
Year 5	0	45,000	45,000
Year 6	0	0	0
Year 7	0	0	0
Year 8	0	0	0
Year 9	0	0	0
Year 10	0	0	0
Year 11	0	0	0
Year 12	0	0	0
Year 13	0	0	0
Year 14	0	0	0
Year 15	0	0	0
Year 16	0	0	0

Year 17	0	0	0
Year 18	0	0	0
Year 19	0	0	0
Year 20	0	0	0
Year 21	0	0	0
Year 22	0	0	0
Year 23	0	0	0
Year 24	0	0	0
Year 25	0	0	0
Year 26	0	0	0
Year 27	0	0	0
Year 28	0	0	0
Year 29	0	0	0
Year 30	0	0	0
Year 31	0	0	0
Year 32	0	0	0
Year 33	0	0	0
Year 34	0	0	0

Year 35	0	0	0
Year 36	0	0	0
Year 37	0	0	0
Year 38	0	0	0
Year 39	0	0	0
Year 40	0	0	0
Year 41	0	0	0
Year 42	0	0	0
Year 43	0	0	0
Year 44	0	0	0
Year 45	0	0	0
Year 46	0	0	0
Year 47	0	0	0
Year 48	0	0	0
Year 49	0	0	0
Year 50	0	0	0
<b>Total</b>	<b>195,000.00</b>	<b>195,000.00</b>	<b>195,000.00</b>

<b>Total number of crediting years</b>	50.00	50.00	50.00
<b>Annual average over the crediting period</b>	3,900.00	3,900.00	3,900.00

#### B.6.4.e SDG 6 Clean Water and Sanitation: Water Quality

This table shows the average TMDL compliance per year in the baseline and project scenarios. See Section B.6.3.e for an explanation of the calculations.

<b>Year</b>	<b>Baseline estimate</b>	<b>Project estimate</b>	<b>Net benefit</b>
Year 1	0	0.100	0.100
Year 2	0	0.110	0.110
Year 3	0	0.121	0.121
Year 4	0	0.133	0.133
Year 5	0	0.218	0.218
Year 6	0	0.685	0.685
Year 7	0	0.712	0.712
Year 8	0	0.678	0.678
Year 9	0	0.686	0.686
Year 10	0	0.847	0.847

Year 11	0	1.000	1.000
Year 12	0	1.000	1.000
Year 13	0	1.000	1.000
Year 14	0	1.000	1.000
Year 15	0	1.000	1.000
Year 16	0	1.000	1.000
Year 17	0	1.000	1.000
Year 18	0	1.000	1.000
Year 19	0	1.000	1.000
Year 20	0	1.000	1.000
Year 21	0	1.000	1.000
Year 22	0	1.000	1.000
Year 23	0	1.000	1.000
Year 24	0	1.000	1.000
Year 25	0	1.000	1.000
Year 26	0	1.000	1.000
Year 27	0	1.000	1.000
Year 28	0	1.000	1.000

Year 29	0	1.000	1.000
Year 30	0	1.000	1.000
Year 31	0	1.000	1.000
Year 32	0	1.000	1.000
Year 33	0	1.000	1.000
Year 34	0	1.000	1.000
Year 35	0	1.000	1.000
Year 36	0	1.000	1.000
Year 37	0	1.000	1.000
Year 38	0	1.000	1.000
Year 39	0	1.000	1.000
Year 40	0	1.000	1.000
Year 41	0	1.000	1.000
Year 42	0	1.000	1.000
Year 43	0	1.000	1.000
Year 44	0	1.000	1.000
Year 45	0	1.000	1.000
Year 46	0	1.000	1.000

Year 47	0	1.000	1.000
Year 48	0	1.000	1.000
Year 49	0	1.000	1.000
Year 50	0	1.000	1.000
<b>Total</b>	<b>0</b>	<b>1.000</b>	<b>1.000</b>
<b>Total number of crediting years</b>	<b>50</b>	<b>50</b>	<b>50</b>
<b>Annual average over the crediting period</b>	<b>0</b>	<b>0.886</b>	<b>0.886</b>

#### B.6.4.f SDG 8 Decent Work and Economic Growth: Number of People Employed

This table shows the average number of people employed per year because of project activities in the baseline and project scenarios. See Section B.6.3.f for an explanation of the calculations.

Year	Baseline estimate	Project estimate	Net benefit
Year 1	0	55	32
Year 2	0	97	97
Year 3	0	406	406
Year 4	0	249	249

Year 5	0	263	263
Year 6	0	49	49
Year 7	0	49	49
Year 8	0	49	49
Year 9	0	49	49
Year 10	0	49	49
Year 11	0	49	49
Year 12	0	49	49
Year 13	0	49	49
Year 14	0	49	49
Year 15	0	49	49
Year 16	0	49	49
Year 17	0	49	49
Year 18	0	49	49
Year 19	0	49	49
Year 20	0	49	49
Year 21	0	49	49
Year 22	0	49	49

Year 23	0	49	49
Year 24	0	49	49
Year 25	0	49	49
Year 26	0	49	49
Year 27	0	49	49
Year 28	0	49	49
Year 29	0	49	49
Year 30	0	49	49
Year 31	0	49	49
Year 32	0	49	49
Year 33	0	49	49
Year 34	0	49	49
Year 35	0	49	49
Year 36	0	49	49
Year 37	0	49	49
Year 38	0	49	49
Year 39	0	49	49
Year 40	0	49	49

Year 41	0	49	49
Year 42	0	49	49
Year 43	0	49	49
Year 44	0	49	49
Year 45	0	49	49
Year 46	0	49	49
Year 47	0	49	49
Year 48	0	49	49
Year 49	0	49	49
Year 50	0	49	49
Total	0	49	49
<b>Total number of crediting years</b>	50	50	50
<b>Annual average over the crediting period</b>	0	65	65

#### B.6.4.g SDG 8 Decent Work and Economic Growth: Product of Number of Workers Trained on Safety and Hours Spent Training

This table shows the average number of person hours spent in training per year in the baseline and project scenarios. See Section B.6.3.g for an explanation of the calculations

<b>Year</b>	<b>Baseline estimate</b>	<b>Project estimate</b>	<b>Net benefit</b>
Year 1	0	190.68	190.68
Year 2	0	583.854	583.854
Year 3	0	2438.25	2438.25
Year 4	0	1493.25	1493.25
Year 5	0	1575	1575
Year 6	0	292.5	292.5
Year 7	0	292.5	292.5
Year 8	0	292.5	292.5
Year 9	0	292.5	292.5
Year 10	0	292.5	292.5
Year 11	0	292.5	292.5
Year 12	0	292.5	292.5
Year 13	0	292.5	292.5
Year 14	0	292.5	292.5
Year 15	0	292.5	292.5
Year 16	0	292.5	292.5

Year 17	0	292.5	292.5
Year 18	0	292.5	292.5
Year 19	0	292.5	292.5
Year 20	0	292.5	292.5
Year 21	0	292.5	292.5
Year 22	0	292.5	292.5
Year 23	0	292.5	292.5
Year 24	0	292.5	292.5
Year 25	0	292.5	292.5
Year 26	0	292.5	292.5
Year 27	0	292.5	292.5
Year 28	0	292.5	292.5
Year 29	0	292.5	292.5
Year 30	0	292.5	292.5
Year 31	0	292.5	292.5
Year 32	0	292.5	292.5
Year 33	0	292.5	292.5
Year 34	0	292.5	292.5

Year 35	0	292.5	292.5
Year 36	0	292.5	292.5
Year 37	0	292.5	292.5
Year 38	0	292.5	292.5
Year 39	0	292.5	292.5
Year 40	0	292.5	292.5
Year 41	0	292.5	292.5
Year 42	0	292.5	292.5
Year 43	0	292.5	292.5
Year 44	0	292.5	292.5
Year 45	0	292.5	292.5
Year 46	0	292.5	292.5
Year 47	0	292.5	292.5
Year 48	0	292.5	292.5
Year 49	0	292.5	292.5
Year 50	0	292.5	292.5
Total	0	19443.534	19443.534

Total number of crediting years	50	190.68	190.68
Annual average over the crediting period	0	583.854	583.854

#### B.6.4.h SDG 8 Decent Work and Economic Growth: Economic Productivity

This table shows the average inflation-adjusted increase in relative household income per year in the baseline and project scenarios. See Section B.6.3.h for an explanation of the calculations.

Year	Baseline estimate	Project estimate	Net benefit
Year 1	0.125%	0.125%	0.000%
Year 2	0.125%	0.138%	0.013%
Year 3	0.125%	0.151%	0.026%
Year 4	0.125%	0.166%	0.041%
Year 5	0.125%	0.183%	0.058%
Year 6	0.125%	0.201%	0.076%
Year 7	0.125%	0.221%	0.096%
Year 8	0.125%	0.244%	0.119%
Year 9	0.125%	0.268%	0.143%

Year 10	0.125%	0.295%	0.170%
Year 11	0.125%	0.324%	0.199%
Year 12	0.125%	0.357%	0.232%
Year 13	0.125%	0.392%	0.267%
Year 14	0.125%	0.432%	0.307%
Year 15	0.125%	0.475%	0.350%
Year 16	0.125%	0.522%	0.397%
Year 17	0.125%	0.574%	0.449%
Year 18	0.125%	0.632%	0.507%
Year 19	0.125%	0.695%	0.570%
Year 20	0.125%	0.764%	0.639%
Year 21	0.125%	0.841%	0.716%
Year 22	0.125%	0.925%	0.800%
Year 23	0.125%	1.018%	0.893%
Year 24	0.125%	1.119%	0.994%
Year 25	0.125%	1.231%	1.106%
Year 26	0.125%	1.250%	1.125%
Year 27	0.125%	1.250%	1.125%

Year 28	0.125%	1.250%	1.125%
Year 29	0.125%	1.250%	1.125%
Year 30	0.125%	1.250%	1.125%
Year 31	0.125%	1.250%	1.125%
Year 32	0.125%	1.250%	1.125%
Year 33	0.125%	1.250%	1.125%
Year 34	0.125%	1.250%	1.125%
Year 35	0.125%	1.250%	1.125%
Year 36	0.125%	1.250%	1.125%
Year 37	0.125%	1.250%	1.125%
Year 38	0.125%	1.250%	1.125%
Year 39	0.125%	1.250%	1.125%
Year 40	0.125%	1.250%	1.125%
Year 41	0.125%	1.250%	1.125%
Year 42	0.125%	1.250%	1.125%
Year 43	0.125%	1.250%	1.125%
Year 44	0.125%	1.250%	1.125%
Year 45	0.125%	1.250%	1.125%

Year 46	0.125%	1.250%	1.125%
Year 47	0.125%	1.250%	1.125%
Year 48	0.125%	1.250%	1.125%
Year 49	0.125%	1.250%	1.125%
Year 50	0.125%	1.250%	1.125%
Total	0.125%	1.250%	1.125%
<b>Total number of crediting years</b>	50	50	50
<b>Annual average over the crediting period</b>	.125%	.871%	.746%

#### B.6.4.i SDG 11 Sustainable Cities and Communities: Number of Public Partners

This table shows the number of public partners per year in the baseline and project scenarios. See Section B.6.3.i for an explanation of the calculations.

Year	Baseline estimate	Project estimate	Net benefit
Year 1	0	1	1
Year 2	0	3	3
Year 3	0	4	4
Year 4	0	4	4

Year 5	0	4	4
Year 6	0	4	4
Year 7	0	4	4
Year 8	0	5	5
Year 9	0	5	5
Year 10	0	5	5
Year 11	0	6	6
Year 12	0	6	6
Year 13	0	7	7
Year 14	0	8	8
Year 15	0	8	8
Year 16	0	9	9
Year 17	0	10	10
Year 18	0	11	11
Year 19	0	12	12
Year 20	0	13	13
Year 21	0	15	15
Year 22	0	16	16

Year 23	0	18	18
Year 24	0	19	19
Year 25	0	21	21
Year 26	0	21	21
Year 27	0	21	21
Year 28	0	21	21
Year 29	0	21	21
Year 30	0	21	21
Year 31	0	21	21
Year 32	0	21	21
Year 33	0	21	21
Year 34	0	21	21
Year 35	0	21	21
Year 36	0	21	21
Year 37	0	21	21
Year 38	0	21	21
Year 39	0	21	21
Year 40	0	21	21

Year 41	0	21	21
Year 42	0	21	21
Year 43	0	21	21
Year 44	0	21	21
Year 45	0	21	21
Year 46	0	21	21
Year 47	0	21	21
Year 48	0	21	21
Year 49	0	21	21
Year 50	0	21	21
Total	0	21	21
<b>Total number of crediting years</b>	50	50	50
<b>Annual average over the crediting period</b>	0	14.86	14.86

#### B.6.4.j SDG 11 Sustainable Cities and Communities: Community Level of Support for the Project

This table shows the average community support score for project activities per year in the baseline and project scenarios. See Section B.6.3.j for an explanation of the calculations.

<b>Year</b>	<b>Baseline estimate</b>	<b>Project estimate</b>	<b>Net benefit</b>
Year 1	0	4	4
Year 2	0	4	4
Year 3	0	4.5	4.5
Year 4	0	4.96	4.96
Year 5	0	5	5
Year 6	0	5	5
Year 7	0	5	5
Year 8	0	5	5
Year 9	0	5	5
Year 10	0	5	5
Year 11	0	5	5
Year 12	0	5	5
Year 13	0	5	5
Year 14	0	5	5
Year 15	0	5	5
Year 16	0	5	5

Year 17	0	5	5
Year 18	0	5	5
Year 19	0	5	5
Year 20	0	5	5
Year 21	0	5	5
Year 22	0	5	5
Year 23	0	5	5
Year 24	0	5	5
Year 25	0	5	5
Year 26	0	5	5
Year 27	0	5	5
Year 28	0	5	5
Year 29	0	5	5
Year 30	0	5	5
Year 31	0	5	5
Year 32	0	5	5
Year 33	0	5	5
Year 34	0	5	5

Year 35	0	5	5
Year 36	0	5	5
Year 37	0	5	5
Year 38	0	5	5
Year 39	0	5	5
Year 40	0	5	5
Year 41	0	5	5
Year 42	0	5	5
Year 43	0	5	5
Year 44	0	5	5
Year 45	0	5	5
Year 46	0	5	5
Year 47	0	5	5
Year 48	0	5	5
Year 49	0	5	5
Year 50	0	5	5
Total	0	5	5

<b>Total number of crediting years</b>	50	50	50
<b>Annual average over the crediting period</b>	0	4.96	4.96

#### B.6.4.k SDG 13 Climate Action: Tonnes of GHG Emissions Removed

This table shows the cumulative tonnes of GHG emissions sequestered per year in the baseline and project scenarios. Project and Baseline Estimates are listed in tonnes CO<sub>2</sub> equivalent, while Net Benefit is tCO<sub>2</sub> less the 20% Gold Standard buffer requirement, per Section 11.1 of Gold Standard GHG Emissions Reductions and Sequestration Product Requirements. See Section B.6.3.k for an explanation of the calculations. No expected benefit is listed for the first five years of the project to allow for tree growth. Years 1-5 are listed as zero here, and the benefit of all of these years is summed in year 6.

<b>Year</b>	<b>Baseline Estimate (tCO<sub>2</sub>e)</b>	<b>Project Estimate (tCO<sub>2</sub>e)</b>	<b>Net benefit (VERs)</b>
Year 1	(16,432.95)		
Year 2	0		
Year 3	0		
Year 4	0		
Year 5	0		
Year 6	0	48,531.52	13,396.12
Year 7	0	22,625.19	18,100.16
Year 8	0	31,054.72	24,843.78

Year 9	0	43,152.20	34,521.76
Year 10	0	60,531.05	48,424.84
Year 11	0	46,906.69	37,525.35
Year 12	0	52,393.54	41,914.83
Year 13	0	56,887.41	45,509.92
Year 14	0	60,388.28	48,310.62
Year 15	0	62,896.15	50,316.92
Year 16	0	64,411.04	51,528.83
Year 17	0	64,932.93	51,946.34
Year 18	0	64,461.83	51,569.46
Year 19	0	62,997.73	50,398.19
Year 20	0	60,540.65	48,432.52
Year 21	0	54,388.12	43,510.49
Year 22	0	51,319.22	41,055.38
Year 23	0	48,631.52	38,905.21
Year 24	0	46,324.99	37,060.00
Year 25	0	44,399.66	35,519.73
Year 26	0	42,855.51	34,284.41
Year 27	0	41,692.55	33,354.04
Year 28	0	40,910.77	32,728.62
Year 29	0	40,510.18	32,408.14

Year 30	0	40,490.77	32,392.62
Year 31	0	40,735.56	32,588.45
Year 32	0	40,776.57	32,621.26
Year 33	0	40,496.82	32,397.45
Year 34	0	39,896.29	31,917.03
Year 35	0	38,974.99	31,179.99
Year 36	0	37,732.92	30,186.34
Year 37	0	36,170.08	28,936.07
Year 38	0	34,286.47	27,429.18
Year 39	0	32,082.10	25,665.68
Year 40	0	29,556.95	23,645.56
Year 41	0	26,804.06	21,443.25
Year 42	0	24,195.55	19,356.44
Year 43	0	21,824.45	17,459.56
Year 44	0	19,690.75	15,752.60
Year 45	0	17,794.46	14,235.57
Year 46	0	16,135.58	12,908.47
Year 47	0	14,714.11	11,771.29
Year 48	0	13,530.05	10,824.04
Year 49	0	12,583.39	10,066.71
Year 50	0	11,874.14	9,499.31

Total	<b>0</b>	<b>1,804,089.50</b>	<b>1,417,842.50</b>
<b>Total number of crediting years</b>	50	50	50
<b>Annual average over the crediting period</b>	(328.66)	36,081.79	28,356.85

#### B.6.4.I SDG 13 Climate Action: Number of Public Partners

This table shows the number of public partners per year in the baseline and project scenarios. See Section B.6.3.I for an explanation of the calculations.

Year	Baseline estimate	Project estimate	Net benefit
Year 1	0	1	1
Year 2	0	3	3
Year 3	0	4	4
Year 4	0	4	4
Year 5	0	4	4
Year 6	0	4	4
Year 7	0	4	4
Year 8	0	5	5
Year 9	0	5	5
Year 10	0	5	5
Year 11	0	6	6

Year 12	0	6	6
Year 13	0	7	7
Year 14	0	8	8
Year 15	0	8	8
Year 16	0	9	9
Year 17	0	10	10
Year 18	0	11	11
Year 19	0	12	12
Year 20	0	13	13
Year 21	0	15	15
Year 22	0	16	16
Year 23	0	18	18
Year 24	0	19	19
Year 25	0	21	21
Year 26	0	21	21
Year 27	0	21	21
Year 28	0	21	21
Year 29	0	21	21

Year 30	0	21	21
Year 31	0	21	21
Year 32	0	21	21
Year 33	0	21	21
Year 34	0	21	21
Year 35	0	21	21
Year 36	0	21	21
Year 37	0	21	21
Year 38	0	21	21
Year 39	0	21	21
Year 40	0	21	21
Year 41	0	21	21
Year 42	0	21	21
Year 43	0	21	21
Year 44	0	21	21
Year 45	0	21	21
Year 46	0	21	21
Year 47	0	21	21

Year 48	0	21	21
Year 49	0	21	21
Year 50	0	21	21
Total	0	21	21
<b>Total number of crediting years</b>	50	50	50
<b>Annual average over the crediting period</b>	0	14.86	14.86

#### B.6.4.m SDG 13 Climate Action: Community Level of Awareness of Climate Change Mitigation

This table shows the average community awareness score of climate change mitigation per year in the baseline and project scenarios. See Section B.6.3.m for an explanation of the calculations.

Year	Baseline estimate	Project estimate	Net benefit
Year 1	0	0.50	0.50
Year 2	0	0.55	0.55
Year 3	0	0.61	0.61
Year 4	0	0.67	0.67
Year 5	0	0.73	0.73

Year 6	0	0.81	0.81
Year 7	0	0.89	0.89
Year 8	0	0.97	0.97
Year 9	0	1.07	1.07
Year 10	0	1.18	1.18
Year 11	0	1.30	1.30
Year 12	0	1.43	1.43
Year 13	0	1.57	1.57
Year 14	0	1.73	1.73
Year 15	0	1.90	1.90
Year 16	0	2.09	2.09
Year 17	0	2.30	2.30
Year 18	0	2.53	2.53
Year 19	0	2.78	2.78
Year 20	0	3.06	3.06
Year 21	0	3.36	3.36
Year 22	0	3.70	3.70
Year 23	0	4.07	4.07

Year 24	0	4.48	4.48
Year 25	0	4.92	4.92
Year 26	0	5.00	5.00
Year 27	0	5.00	5.00
Year 28	0	5.00	5.00
Year 29	0	5.00	5.00
Year 30	0	5.00	5.00
Year 31	0	5.00	5.00
Year 32	0	5.00	5.00
Year 33	0	5.00	5.00
Year 34	0	5.00	5.00
Year 35	0	5.00	5.00
Year 36	0	5.00	5.00
Year 37	0	5.00	5.00
Year 38	0	5.00	5.00
Year 39	0	5.00	5.00
Year 40	0	5.00	5.00
Year 41	0	5.00	5.00

Year 42	0	5.00	5.00
Year 43	0	5.00	5.00
Year 44	0	5.00	5.00
Year 45	0	5.00	5.00
Year 46	0	5.00	5.00
Year 47	0	5.00	5.00
Year 48	0	5.00	5.00
Year 49	0	5.00	5.00
Year 50	0	5.00	5.00
<b>Total</b>	<b>0</b>	<b>5.00</b>	<b>5.00</b>
<b>Total number of crediting years</b>	<b>50</b>	<b>50</b>	<b>50</b>
<b>Annual average over the crediting period</b>	<b>0</b>	<b>3.48</b>	<b>3.48</b>

#### B.6.4.n SDG 15 Life on Land: Number of Acres Certified Under FSC

This table shows the number of acres that will be newly FSC certified per year in the baseline and project scenarios. See Section B.6.3.n for an explanation of the calculations.

<b>Year</b>	<b>Baseline Estimate</b>	<b>Project Estimate</b>	<b>Net benefit</b>
Year 1	0	8,488	8,488
Year 2	0	76,538	76,538
Year 3	0	208,608	208,608
Year 4	0	304,991	304,991
Year 5	0	402,229	402,229
Year 6	0	402,952	402,952
Year 7	0	403,747	403,747
Year 8	0	404,622	404,622
Year 9	0	405,584	405,584
Year 10	0	406,642	406,642
Year 11	0	407,807	407,807
Year 12	0	409,087	409,087
Year 13	0	410,496	410,496
Year 14	0	412,046	412,046
Year 15	0	413,750	413,750
Year 16	0	415,625	415,625

Year 17	0	417,688	417,688
Year 18	0	419,956	419,956
Year 19	0	422,452	422,452
Year 20	0	425,197	425,197
Year 21	0	428,217	428,217
Year 22	0	431,539	431,539
Year 23	0	435,193	435,193
Year 24	0	439,212	439,212
Year 25	0	443,633	443,633
Year 26	0	444,375	444,375
Year 27	0	444,375	444,375
Year 28	0	444,375	444,375
Year 29	0	444,375	444,375
Year 30	0	444,375	444,375
Year 31	0	444,375	444,375
Year 32	0	444,375	444,375
Year 33	0	444,375	444,375
Year 34	0	444,375	444,375

Year 35	0	444,375	444,375
Year 36	0	444,375	444,375
Year 37	0	444,375	444,375
Year 38	0	444,375	444,375
Year 39	0	444,375	444,375
Year 40	0	444,375	444,375
Year 41	0	444,375	444,375
Year 42	0	444,375	444,375
Year 43	0	444,375	444,375
Year 44	0	444,375	444,375
Year 45	0	444,375	444,375
Year 46	0	444,375	444,375
Year 47	0	444,375	444,375
Year 48	0	444,375	444,375
Year 49	0	444,375	444,375
Year 50	0	444,375	444,375
Total	0	444,375	444,375

<b>Total number of crediting years</b>	50	50	50
<b>Annual average over the crediting period</b>	0	409,313.48	409,313.48

#### B.6.4.o SDG 15 Life on Land: Number of Seedlings Planted

This table shows the number of seedlings planted in the project area per year in the baseline and project scenarios. See Section B.6.3.o for an explanation of the calculations.

<b>Year</b>	<b>Baseline estimate</b>	<b>Project estimate</b>	<b>Net benefit</b>
Year 1	0	3,139,864	3,139,864
Year 2	0	3,139,864	3,139,864
Year 3	0	3,139,864	3,139,864
Year 4	0	3,139,864	3,139,864
Year 5	0	3,139,864	3,139,864
Year 6	0	0	0
Year 7	0	0	0
Year 8	0	0	0
Year 9	0	0	0

Year 10	0	0	0
Year 11	0	0	0
Year 12	0	0	0
Year 13	0	0	0
Year 14	0	0	0
Year 15	0	0	0
Year 16	0	0	0
Year 17	0	0	0
Year 18	0	0	0
Year 19	0	0	0
Year 20	0	0	0
Year 21	0	0	0
Year 22	0	0	0
Year 23	0	0	0
Year 24	0	0	0
Year 25	0	0	0
Year 26	0	0	0
Year 27	0	0	0

Year 28	0	0	0
Year 29	0	0	0
Year 30	0	0	0
Year 31	0	0	0
Year 32	0	0	0
Year 33	0	0	0
Year 34	0	0	0
Year 35	0	0	0
Year 36	0	0	0
Year 37	0	0	0
Year 38	0	0	0
Year 39	0	0	0
Year 40	0	0	0
Year 41	0	0	0
Year 42	0	0	0
Year 43	0	0	0
Year 44	0	0	0
Year 45	0	0	0

Year 46	0	0	0
Year 47	0	0	0
Year 48	0	0	0
Year 49	0	0	0
Year 50	0	0	0
<b>Total</b>	<b>0</b>	<b>3,139,864</b>	<b>3,139,864</b>
<b>Total number of crediting years</b>	<b>50</b>	<b>50</b>	<b>50</b>
<b>Annual average over the crediting period</b>	<b>0</b>	<b>313,986.40</b>	<b>313,986.40</b>

#### B.6.4.p SDG 15 Life on Land: Plantation Survival

This table shows the average survival rate for newly planted seedlings in the project area per year in the baseline and project scenarios. See Section B.6.3.p for an explanation of the calculations.

<b>Year</b>	<b>Baseline estimate</b>	<b>Project estimate</b>	<b>Net benefit</b>
Year 1	0%	82%	82%
Year 2	0%	82%	82%
Year 3	0%	82%	82%

Year 4	0%	82%	82%
Year 5	0%	82%	82%
Year 6	0%	82%	82%
Year 7	0%	83%	83%
Year 8	0%	83%	83%
Year 9	0%	83%	83%
Year 10	0%	84%	84%
Year 11	0%	84%	84%
Year 12	0%	84%	84%
Year 13	0%	85%	85%
Year 14	0%	85%	85%
Year 15	0%	86%	86%
Year 16	0%	86%	86%
Year 17	0%	87%	87%
Year 18	0%	88%	88%
Year 19	0%	88%	88%
Year 20	0%	89%	89%
Year 21	0%	90%	90%

Year 22	0%	91%	91%
Year 23	0%	92%	92%
Year 24	0%	93%	93%
Year 25	0%	95%	95%
Year 26	0%	95%	95%
Year 27	0%	95%	95%
Year 28	0%	95%	95%
Year 29	0%	95%	95%
Year 30	0%	95%	95%
Year 31	0%	95%	95%
Year 32	0%	95%	95%
Year 33	0%	95%	95%
Year 34	0%	95%	95%
Year 35	0%	95%	95%
Year 36	0%	95%	95%
Year 37	0%	95%	95%
Year 38	0%	95%	95%
Year 39	0%	95%	95%

Year 40	0%	95%	95%
Year 41	0%	95%	95%
Year 42	0%	95%	95%
Year 43	0%	95%	95%
Year 44	0%	95%	95%
Year 45	0%	95%	95%
Year 46	0%	95%	95%
Year 47	0%	95%	95%
Year 48	0%	95%	95%
Year 49	0%	95%	95%
Year 50	0%	95%	95%
Total	0%	95%	95%
<b>Total number of crediting years</b>	50	50	50
<b>Annual average over the crediting period</b>	0	90.45%	90.45%

#### B.6.4.q SDG 17 Partnership for the Goals: Number of Public Partners

This table shows the number of public partners per year in the baseline and project scenarios. See Section B.6.3.q for an explanation of the calculations.

<b>Year</b>	<b>Baseline estimate</b>	<b>Project estimate</b>	<b>Net benefit</b>
Year 1	0	1	1
Year 2	0	3	3
Year 3	0	4	4
Year 4	0	4	4
Year 5	0	4	4
Year 6	0	4	4
Year 7	0	4	4
Year 8	0	5	5
Year 9	0	5	5
Year 10	0	5	5
Year 11	0	6	6
Year 12	0	6	6
Year 13	0	7	7
Year 14	0	8	8
Year 15	0	8	8
Year 16	0	9	9

Year 17	0	10	10
Year 18	0	11	11
Year 19	0	12	12
Year 20	0	13	13
Year 21	0	15	15
Year 22	0	16	16
Year 23	0	18	18
Year 24	0	19	19
Year 25	0	21	21
Year 26	0	21	21
Year 27	0	21	21
Year 28	0	21	21
Year 29	0	21	21
Year 30	0	21	21
Year 31	0	21	21
Year 32	0	21	21
Year 33	0	21	21
Year 34	0	21	21

Year 35	0	21	21
Year 36	0	21	21
Year 37	0	21	21
Year 38	0	21	21
Year 39	0	21	21
Year 40	0	21	21
Year 41	0	21	21
Year 42	0	21	21
Year 43	0	21	21
Year 44	0	21	21
Year 45	0	21	21
Year 46	0	21	21
Year 47	0	21	21
Year 48	0	21	21
Year 49	0	21	21
Year 50	0	21	21
Total	0	21	21

<b>Total number of crediting years</b>	50	50	50
<b>Annual average over the crediting period</b>	0	14.86	14.86

## B.7. Monitoring plan

The monitoring plan for this afforestation project includes a detailed summary of key indicators for the Sustainable Development Goals described in section B. Some portions of the monitoring plan, like the stakeholder feedback process, have begun already. More information regarding updates on stakeholder feedback received during the validation period and any actions taken in response can be found in section E.1 and the separate Stakeholder Consultation Report.

### B.7.a Monitoring Plan Key Indicators

The monitoring plan includes key indicators (see Section B.6) which will be measured across four phases:

1. Within one year of performance certification: Upon adding to the project area, these indicators are monitored to establish a reference for measuring change.
2. Prior to performance certification: These indicators are regularly monitored to measure rapid change over time, particularly related to direct project outputs.
3. Every five years: These indicators are periodically monitored to measure the progressive changes in state over time, typically using stakeholder surveys.
4. Every ten years: These indicators are periodically monitored to measure gradual changes over time, typically using third-party measurements.

### B.7.b Monitoring Plan Key Indicators Summary Table

The following table summarizes the key indicators of the monitoring plan as they relate to phases in monitoring frequencies. These indicators have been carefully

vetted to ensure there are no ethical restrictions on the collection and/or reporting of collected information.

Table 12

Data / Parameter	SDG #	Description and Units	Measurement Methods and Procedures	Monitoring Frequency
Infrastructure: Miles of Trails and Roads	3	The miles of trails and roads created by the project	Inventoried in GIS and FSC forest management plans	Prior to each performance certification
Improved Social Cohesion	3	A 1 to 5 scale. The low end of the scale indicates "Social Cohesion has not improved in the slightest" and higher score indicates "Total Social Cohesion"	Survey	Every 5 years
Number of Acres FSC Certified Each Year	6, 15	The number of acres under FSC certificate. FSC certification ensures forests are responsibly managed and the forest ecosystem protected, leading to improved water quality and clean water	Number of acres are recorded in the FSC audit report	Prior to each performance certification
Number of Acres Planted	6	The number of acres of native tree species planted to create forests	Inventoried in GIS and FSC forest management plans	Prior to each performance certification
Improved Water Quality	6	Measurements of temperature, ppm/ppb for sediment loads, inorganic chemistry, and toxic metals and organic compounds; mg/L dissolved oxygen; ph for acidity ranges	Measurement of water quality samples evaluated against different variables to determine water quality improvements	Within one year of design certification and every 10 years thereafter
Number of People Employed	8	The number of people employed at local businesses as a result of the implementation of project activities	Reporting through vendor and partner agreements	Prior to each performance certification
Total Hours Spent on Safety Training	8	The number of hours trained on safety procedures	Reporting through vendor and partner agreements	Prior to each performance certification
Increased Economic Productivity	8	Increased household income (USD) in counties where there are project activity instances	When census data is released for the public, evaluate household income by region to determine if it increased	Within one year of design certification and every 10 years thereafter

			or decreased since project activity inception	
Number of Public Partners	11, 13, 17	The number of public partners	Categorized and tracked in stakeholder list	Prior to each performance certification
Community Level of Support for the Project	11	A 1 to 5 scale. The low end of the scale indicates "no support" and the high end of the scale indicates "overwhelming support."	Survey	Every 5 years
Tonnes of CO2 Sequestered/Removed	13	Tonnes of carbon dioxide (tCO2/ha) removed through afforestation	Average tCO2/ha removed per year based on GS approved forest inventory methods (see Section B.7.2)	Prior to each performance certification
Community Level of Awareness of Climate Change Mitigation	13	A 1 to 5 scale. The low end of the scale indicates "Little awareness of climate change mitigation" and a higher score indicates "High awareness of climate change mitigation"	Survey	Every 5 years
Total Number of Seedlings Planted	15	The number of seedlings that are planted in the project area	Tracked in planting plans	Prior to each performance certification
Increased Planting Success/High Survival Rate	15	The measurement of success and survival of each seedling planted as measured by tree status updates conducted by contractors/foresters	Survival survey	Within one year of design certification and prior to each performance certification thereafter

### B.7.c Monitoring Frequency for Each Parameter

The following table presents the key monitoring indicators by phase.

Table 13

Within one year of design certification	Prior to each performance certification	Every 5 years	Every 10 years
Increased planting success/high survival rate	Infrastructure: Miles of trails and roads	Improved social cohesion	Improved water quality
	Number of acres FSC certified each year	Community level of support for the project	Increased economic productivity

	Number of acres planted	Community level awareness of climate change mitigation	
	Number of people employed		
	Number of hours spent on safety training		
	Number of public partners		
	Tonnes of CO2 sequestered/removed		
	Total number of seedlings planted		

### B.7.1 Data and parameters to be monitored

The following tables contain data from Year 1 of the Ex-Ante Impact Model, found in Annex M.

#### B.7.1.a SDG 3

Data / Parameter	<b>Infrastructure: Miles of trails and roads</b>
Unit	Miles
Description	Quantifying the number of miles of trails and roads added within the local area due to project activities.
Source of data	Inventoried in GIS and FSC forest management plans
Value(s) applied	39.73
Measurement methods and procedures	Prior to every performance certification, miles of roads and trails added within the project area will be quantified in GIS and recorded.
Monitoring frequency	Prior to each performance certification
QA/QC procedures	Multiple datasets and aerial images will be used in GIS to determine the total number of miles of trails and roads in existence
Purpose of data	Provide proof of progress towards SDG 3 - Health and Well-Being (Target 3.9)
Additional comment	N/A

<b>Data / Parameter</b>	<b>Community level of sense of social cohesion</b>
Unit	Scale from 1 to 5
Description	A 1 to 5 scale. A lower score indicates "Social cohesion has not improved in the slightest" and a higher score indicates "Total social cohesion".
Source of data	Survey results and quantification of recreational opportunities.
Value(s) applied	<p>2.5</p> <p>Survey:</p> <p>1 - Social cohesion has not improved in the slightest</p> <p>2 - A small amount of social cohesion improvements but there is still work to be done.</p> <p>3 - Recognizable Social Cohesion but public is still unsure about the Chestnut Project</p> <p>4 - Decent amount of Social Cohesion within the public but could provide more based on the public's willingness to participate.</p> <p>5 - Total social cohesion</p>
Measurement methods and procedures	We will initially provide a survey to the public and stakeholders. This will gather data on the public's feelings towards the project. We will also be working with the community and hiring local contractors for planting and project maintenance. The public's ability/inability to partner with projects will be evaluated. Are community members willing to work with Chestnut? Has the project benefited the community by Gold Standards credentials?
Monitoring frequency	Every 5 years
QA/QC procedures	Providing feedback to the public and understanding grievances in terms of recreational opportunities.
Purpose of data	Provide proof of progress towards SDG 3 - Health and Well-Being (Target 3.9)
Additional comment	N/A

### B.7.1.b SDG 6

Data / Parameter	<b>Number of acres FSC certified each year</b>
Unit	Acres
Description	The number of acres acquired by Chestnut Carbon that are enrolled in the Forest Carbon Works FSC certificate. FSC certification ensures forests are responsibly managed and ensure forest ecosystem protection, leading to improved water quality and clean water.
Source of data	FSC internal audit reports, Salesforce reports
Value(s) applied	8,383
Measurement methods and procedures	Upon acquisition of Chestnut Carbon properties, an internal audit of the property is conducted. The number of acres is recorded in the audit report and entered in Salesforce.
Monitoring frequency	Prior to each performance certification
QA/QC procedures	Ensuring annual internal audits of FSC group members are conducted by Forest Carbon Works and include acres from each group member.
Purpose of data	Provide proof of progress towards SDG 6 – Clean Water and Sanitation (Target 6.6)
Additional comment	N/A

Data / Parameter	<b>Number of acres planted</b>
Unit	Acres
Description	The number of acres of native tree species planted to create forests. Forest ecosystems are critical to improved water quality and clean water.
Source of data	Salesforce reports
Value(s) applied	6,356

Measurement methods and procedures	Upon acquisition of Chestnut Carbon properties, planting plans and Level 1 and 2 analysis is conducted on the property. This analysis includes the number of acres with favorable conditions for planting.
Monitoring frequency	Prior to each performance certification
QA/QC procedures	Any updates on L2 or planting plans, potential additions to project property, updates to species type, potential changes in number of hardwoods and softwoods planted, and seedling inventory surveys
Purpose of data	Provide proof of progress towards SDG 6 – Clean Water and Sanitation (Target 6.6)
Additional comment	N/A

Data / Parameter	<b>Water quality</b>
Unit	Ppm, ppb, ph, mg/l
Description	Measurements of temperature, ppm/ppb for sediment loads, inorganic chemistry, and toxic metals and organic compounds; mg/L dissolved oxygen; ph for acidity ranges
Source of data	State department of natural resources, foresters, contractors, soil and water quality associations
Value(s) applied	N/A (To be measured every 10 years))
Measurement methods and procedures	Every 10 years, Chestnut Carbon will contract with the local department of natural resources, contractors, foresters or soil and water quality associations to conduct water quality samples evaluated against different variables to determine water quality improvements on Chestnut Carbon acquired properties.
Monitoring frequency	Within one year of design certification and every 10 years thereafter
QA/QC procedures	Determine procedures if water quality results are not as expected, implement modified management plans on Chestnut Carbon acquired properties.
Purpose of data	Provide proof of progress towards SDG 6 – Clean Water and Sanitation (Target 6.6)
Additional comment	N/A

### B.7.1.c SDG 8

<b>Data / Parameter</b>	<b>Number of people employed</b>
Unit	Number of people
Description	Counting the number of people employed by the project.
Source of data	HR employee count records at each local business
Value(s) applied	55
Measurement methods and procedures	Prior to each certification audit, employee counts are provided from local businesses
Monitoring frequency	Prior to each performance certification
QA/QC procedures	Ensuring a list of local businesses are kept and maintained in each project area.
Purpose of data	Provide proof of progress towards SDG 8 – Decent Work and Economic Growth (Target 8.3)
Additional comment	N/A

<b>Data / Parameter</b>	<b>Number of workers employed by the project trained on safety and hours spent on training</b>
Unit	Number of hours trained
Description	The number of hours trained on safety procedures
Source of data	Safety training records from employers, accident and near miss reports from employers, for those employed by the project.
Value(s) applied	330
Measurement methods and procedures	Requiring employers to provide safety records, such as accident reports, near miss reports, records of hours spent training employees
Monitoring frequency	Prior to each performance certification

QA/QC procedures	Prior to each performance certification, the safety training records are reviewed to ensure safety trainings occurred at each business.
Purpose of data	Provide proof of progress towards SDG 8 – Decent Work and Economic Growth (Target 8.8)
Additional comment	N/A

Data / Parameter	<b>Economic productivity</b>
Unit	Household income by region– USD
Description	Measuring the increased household income in regions where project activity occurs.
Source of data	Census report, showing household income in USD by region
Value(s) applied	N/A (To be assessed every 10 years)
Measurement methods and procedures	When census data is released for the public, evaluate household income by region to determine if it increased or decreased since project activity inception.
Monitoring frequency	Within one year of design certification and every 10 years thereafter
QA/QC procedures	Ensure census data is evaluated for all new regions the project has added activity in, to ensure a comprehensive evaluation.
Purpose of data	Provide proof of progress towards SDG 8 – Decent Work and Economic Growth (Target 8.3)
Additional comment	N/A

#### B.7.1.d SDG 11

Data / Parameter	<b>Number of public partners</b>
Unit	Engaged Stakeholder
Description	

	The number of federal, state, county and local partners that serve the public interest as government, quasi-government or non-profit groups, engaged with the project as an active stakeholder. Engaged stakeholders are individuals and organizations that have reciprocal interaction in the project through a business relationship, by registering for a mailing list, submitting a comment or meeting with staff.
Source of data	Total number of engaged stakeholders from the list of stakeholders categorized as public or private, and active or inactive.
Value(s) applied	1
Measurement methods and procedures	Immediately upon identification, stakeholders are registered in the list of stakeholders and categorized as public or private. Reciprocal interactions with stakeholders are recorded for each stakeholder in the list upon interaction.
Monitoring frequency	Prior to each performance certification
QA/QC procedures	Prior to each performance certification, the list is reviewed for potential duplicate entries. The project maintains a policy for adding stakeholders to the list and recording all reciprocal interactions with stakeholders.
Purpose of data	Provide proof of progress towards SDG 11 - Sustainable Cities and Communities (Target 11.7)
Additional comment	The list of stakeholders may be maintained in Salesforce.

Data / Parameter	<b>Community level of support for the project</b>
Unit	Scale from 1 to 5
Description	The low end of the scale indicates "no support" and the high end of the scale indicates "overwhelming support."
Source of data	Average of survey results
Value(s) applied	N/A (To be surveyed every 5 years)
Measurement methods and procedures	An open survey for the general public and by invitation to all identified stakeholders.

Monitoring frequency	Every 5 years
QA/QC procedures	The survey will be conducted in an unbiased and non-suggestive format. Results will be screened for duplicates and non-response. The project maintains an SOP for standardized design and analysis of survey results.
Purpose of data	Provide proof of progress towards SDG 11 - Sustainable Cities and Communities (Target 11.7)
Additional comment	N/A

### B.7.1.e SDG 13

Data / Parameter	<b>Tonnes of CO2 sequestered/removed through afforestation</b>
Unit	tCO2/ha
Description	Tonnes of carbon dioxide removed through afforestation activities
Source of data	Growth model, and in future, forest inventories to be recorded in project monitoring report.
Value(s) applied	0
Measurement methods and procedures	Average tCO2/ha removed per year based on GS approved forest inventory methods (see Section B.7.2)
Monitoring frequency	Prior to each performance certification
QA/QC procedures	Winrock BioCarbon forest inventory guidelines
Purpose of data	Determining GHG emissions removals due to project scenario
Additional comment	Current sequestration is 0 due to baseline carbon dioxide being subtracted in year 1

Data / Parameter	<b>Number of public partners</b>
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Unit	Engaged Stakeholder
Description	The number of federal, state, county and local partners that serve the public interest as government, quasi-government or non-profit groups, engaged with the project as an active stakeholder. Active stakeholders are individuals and organizations that have reciprocal interaction in the project through a business relationship, by registering for a mailing list, submitting a comment or meeting with staff.
Source of data	Total number of engaged stakeholders from the list of stakeholders categorized as public or private, and active or inactive.
Value(s) applied	1
Measurement methods and procedures	Immediately upon identification, stakeholders are registered in the list of stakeholders and categorized as public or private. Reciprocal interactions with stakeholders are recorded for each stakeholder in the list upon interaction.
Monitoring frequency	Prior to each performance certification
QA/QC procedures	Prior to each performance certification, the list is reviewed for potential duplicate entries. The project maintains a policy for adding stakeholders to the list and recording all reciprocal interactions with stakeholders.
Purpose of data	Provide proof of progress towards SDG 13 – Climate Action (Target 13.3)
Additional comment	N/A

Data / Parameter	<b>Community level awareness of climate change mitigation</b>
Unit	Number of workshops, training local contractors, communicating with advisory committees, informing community about planting projects
Description	Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
Source of data	Questionnaires / surveys to users trained
Value(s) applied	<ol style="list-style-type: none"> <li>1. Number of participants</li> <li>2. Summative assessments (per workshop), such as:           <ol style="list-style-type: none"> <li>1. Tests</li> <li>2. Quizzes</li> </ol> </li> </ol>

	<p>3. Performance in activities workshops (To be determined every 5 years)</p>
Measurement methods and procedures	LMS - Learning Management System (On-line or in Person)
Monitoring frequency	Every 5 years
QA/QC procedures	Feedback from workshop users. Start a database to track training, workshops and follow-up about sharing information of interest to the parties involved in the project.
Purpose of data	Provide proof of progress towards SDG 13 – Climate Action (Target 13.3)
Additional comment	N/A

#### B.7.1.f SDG 15

Data / Parameter	<b>Number of acres certified under FSC</b>
Unit	Acres
Description	The number of acres acquired by Chestnut Carbon that are enrolled in the Forest Carbon Works FSC certificate. FSC certification ensures forests are responsibly managed and ensure forest ecosystem protection, leading to improved water quality and clean water.
Source of data	FSC internal audit reports, Salesforce reports
Value(s) applied	8,383
Measurement methods and procedures	Upon acquisition of Chestnut Carbon properties, an internal audit of the property is conducted. The number of acres is recorded in the audit report and entered in Salesforce.
Monitoring frequency	Prior to each performance certification
QA/QC procedures	Ensuring annual internal audits of FSC group members are conducted by Forest Carbon Works and include acres from each group member.

Purpose of data	Provide proof of progress towards SDG 15 - Life and Land (Target 15.2)
Additional comment	N/A

Data / Parameter	<b>Number of seedlings planted</b>
Unit	Number of seedlings
Description	The growing stock used to convert bare land to forest plays a large role in determining the future survival and health of the forest. Chestnut Carbon plants only site-appropriate species with seed sources originating from local provenances to ensure the future resiliency of the forest. This process increases the total number of seedlings planted. Chestnut will provide an accurate count of each seedling planted. See Annex H-Seedling Documentation.
Source of data	Contractors and foresters
Value(s) applied	3,139,864
Measurement methods and procedures	Documenting each seedling once planted
Monitoring frequency	Prior to each performance certification
QA/QC procedures	Area where and where not to plant. Decreasing planting of unsuccessful tree species.
Purpose of data	Provide proof of progress towards SDG 15 - Life and Land (Target 15.5)
Additional comment	N/A

Data / Parameter	<b>Plantation survival</b>
Unit	Tree status updates conducted by contractors and foresters
Description	The measurement of success and survival of each seedling planted.

Source of data	Contractors and foresters
Value(s) applied	81%
Measurement methods and procedures	Documenting each seedling planted and measuring its growth rate and ability to survive over time.
Monitoring frequency	Within one year of design certification and prior to each performance certification thereafter. See Annex H-Seedling Documentation.
QA/QC procedures	Improvements on species to and not to plant. Analyze which species perform best in certain areas of property.
Purpose of data	Provide proof of progress towards SDG 15 - Life and Land (Target 15.1)
Additional comment	N/A

### B.7.1.g SDG 17

Data / Parameter	<b>Number of public partners</b>
Unit	Engaged Stakeholder
Description	The number of federal, state, county and local partners that serve the public interest as government, quasi-government or non-profit groups, engaged with the project as an active stakeholder. Active stakeholders are individuals and organizations that have reciprocal interaction in the project through a business relationship, by registering for a mailing list, submitting a comment or meeting with staff.
Source of data	Total number of stakeholders from the list of stakeholders categorized as public or private, and active or inactive.
Value(s) applied	1
Measurement methods and procedures	Immediately upon identification, stakeholders are registered in the list of stakeholders and categorized as public or private. Reciprocal interactions with stakeholders are recorded for each stakeholder in the list upon interaction.

Monitoring frequency	Prior to each performance certification
QA/QC procedures	Prior to each performance certification, the list is reviewed for potential duplicate entries. The project maintains a policy for adding stakeholders to the list and recording all reciprocal interactions with stakeholders.
Purpose of data	Provide proof of progress towards SDG 17 - Partnerships for the goals (Target 17.17)
Additional comment	N/A

### B.7.2 Sampling plan

Per Section B.7.1 above, all parameters monitored over the project shall be measured, except in the case of tCO<sub>2</sub> (B.7.1.e), which shall be sampled according to the Winrock Biocarbon Fund forest inventory guidelines. All inventories shall be documented and easily replicated per Gold Standard for the Global Goals Land Use Activity Requirements v1.2.1. Inventories shall be repeated at minimum before every performance certification. Inventory details shall be shared at validation.

A sampling plan shall be prepared to minimize standard error, and the maximum error shall be no more than +/- 20% at a 90% confidence interval, per the methodology Section 3.11.5. The number of plots required for each stratum shall be calculated to reduce sampling error based on the size of the strata. If results of inventory indicate adjustments are required, growth models for all MUs shall be adjusted or confirmed if not required. Additionally, all forest inventory guidelines of the BioCarbon Fund shall be followed, documented, and easily replicated per Gold Standard for the Global Goals Land Use Activity Requirements v1.2.1. Inventories shall be repeated at minimum before every performance certification.

The project area is initially stratified using soil class boundaries from the United States Department of Agriculture Natural Resources Conservation Service Soil Survey Geographic Database (SSURGO) along with aspect and topological considerations. Distinctions in soil types over the project area determine appropriate tree species planted, called “planting blocks” which are synonymous with strata at the time of planting. Strata may be redefined over time as necessary to minimize sampling error.

A total of 45 planting blocks exist on the project as of the first planting cycle. Details on creation of and species contained within planting blocks can be found in the "Ex-Ante Accounting Model," Annex O. See section A.4 and B.6.3.a for more information.

### **B.7.3 Other elements of monitoring plan**

The stratification of the project area is subject to change as the project conditions develop over time, and may deviate from the original planting blocks. For example, a stratum may become partially flooded or suffer the effects of another type of natural disturbance which may require creation of a new stratum to minimize sampling error. Additionally, as field surveys occur prior to every performance certification, planning parameters may change, such as mortality and species, depending on success rates. Prior to trees reaching 5 inches in diameter, models generating carbon will use trees per acre (TPA) as an input to generate tree lists and counts of planted trees, with field surveys that follow the Winrock forest inventory guidelines (defined in B.7.1) shall occur.

## **SECTION C. DURATION AND CREDITING PERIOD**

### **C.1. Duration of Project**

#### **C.1.1 Start Date of Project**

The start date per LUF Requirements is A/R specific. The project start date shall be the earliest date when the first trees were planted. This date is 25/12/2022 (December 25, 2022.) See Annex F-Evidence of Project Start Date which includes objective evidence that planting activities were contracted to occur and did occur on this date. Per GS4GG Principle 4 the project start date is considered regular as the first round of stakeholder consultation was conducted prior to the project start date.

#### **C.1.2 Expected Operational Lifetime of Project**

The expected operational lifetime of the project is 50 years.

### **C.2. Crediting Period of Project**

#### **C.2.1 Start Date of Crediting Period**

To conform to section 3.1.11 of *Land Use and Forests Activity Requirements version 1.2.1*, the start date of the crediting period shall be 25/12/2022 (December 25, 2022.)

#### **C.2.2 Total Length of Crediting Period**

The total length of the crediting period shall be 50 years. Per 203\_V1.2.1\_AR\_LUF Activity Requirements 3.1.9 the crediting period shall be a minimum of 30 years and maximum 50 years. The Project Developer shall select the crediting period based on the characteristics of the project. 50 years represents roughly two rotations of regular harvest activities and approaches peak carbon sequestration uptake.

For the duration of the crediting period Chestnut Carbon shall: i. own the CO<sub>2</sub> user rights or carbon sequestration rights for the project area, AND ii. hold an uncontested legal land title for the Project Area, AND iii. own the rights for timber and non-timber forest products for the project area, AND iv. hold all necessary permits to implement the project (planting permits, infrastructure permits, harvesting permits, etc.), AND v. participate in the financing of the project. See Annex C- Project Area Ownership Deeds.

If Chestnut Carbon does not meet all of the above requirements through offtake of project areas to public partners, the persons or legal entities that do meet those respective requirements shall endorse the proposed project through an agreement that aligns with the duration of the crediting period.

## **SECTION D. SUMMARY OF SAFEGUARDING PRINCIPLES AND GENDER SENSITIVE ASSESSMENT**

The Gold Standard Safeguarding Principles and Requirements are a set of checks that projects undergo to ensure that they meet international standards, including The World Bank's International Finance Corporation Performance Standard, UNDP's Social and Environmental Standards (SES), and the UN Environment's Environmental, Social and Economic Sustainability Framework. The Safeguarding principles promote all aspects of sustainability beyond the scope of environmental benefits such as social and economic equality efforts. By adhering to these checks, the Chestnut Sustainable Restoration Project delivers many benefits to local communities beyond the restoration of forests.

### **D.1 Safeguarding Principles That Will Be Monitored**

A completed Safeguarding Principles Assessment is in Appendix 1, ongoing monitoring is summarized below.

Table 14

<b>Principles</b>	<b>Mitigation Measures Added to the Monitoring Plan</b>
<b>Principles 1-7, and 9</b>	Gold Standard allows modules or elements from other partners or endorsed Standards (for example, Forest Stewardship Council) to be considered as evidence that may be used to demonstrate conformity to certain Gold Standard Requirements. Gold Standard recognizes that FSC certification can be used to demonstrate conformity with the Safeguarding Principles Assessment.  The project has FSC certification (SCS-FM/CoC-009247) and is in conformance with the FSC requirements, therefore satisfying these requirements within these principles. Please see Appendix 1 for more information on how FSC certification applies to these principles. See Annex B-FSC Documentation.
<b>Principle 8</b>	No mitigation measures are required.



## **D.2. Assessment That Project Complies with GS4GG Gender Sensitive Requirements**

The table below provides an assessment of the GS4GG Gender Sensitive requirements.

Table 15`

	<p>The project has FSC certification and is in conformance with the FSC requirements, therefore satisfying this question. More information can be found in section A.1.b Forest Stewardship Council Certification. See Annex B-FSC Documentation.</p> <p>The FSC policy <a href="#">FSC-GUI-60-005</a> Promoting Gender Equality in National Forest Stewardship Standards V(1-0) requires:</p> <p>“2.2: The Organization shall promote gender equality in employment practices, training opportunities, awarding of contracts, processes of engagement, and management activities. This criterion is further elaborated in several of FSC’s IGIs:</p> <p>2.2.1 Systems are implemented that promote gender equality and prevent gender discrimination in employment practices, training opportunities, awarding of contracts, processes of engagement, and management activities.</p> <p>2.2.2 Job opportunities are open to both women and men under the same conditions, and women are encouraged to participate actively in all levels of employment.</p> <p>2.2.3 Work typically carried out by women (nurseries, silviculture, non-timber forest product harvesting, weighing, packing, etc.) is included in training and health and safety programs to the same extent as work typically carried out by men.</p> <p>2.2.4 Women and men are paid the same wage when they do the same work.</p> <p>2.2.5 Women are paid directly and using mutually agreed methods (e.g., direct bank transfer, direct payments for school fees, etc.) to ensure they safely receive and retain their wages.</p>
Question 1 - Explain how the project reflects the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy.	

	<p>2.2.6 Maternity leave is no less than a six-week period after childbirth.</p> <p>2.2.7 Paternity leave is available and there is no penalty for taking it.</p> <p>2.2.8 Meetings, management committees, and decision-making forums are organized to include women and men, and to facilitate the active participation of both.</p> <p>2.2.9 Confidential and effective mechanisms exist for reporting and eliminating cases of sexual harassment and discrimination based on gender, marital status, parenthood, or sexual orientation."</p> <p>In addition to being certified by FSC as adhering to these requirements, Chestnut Carbon is also taking other proactive steps to exceed the requirements of Gender Sensitive Design. These measures are all accounted for in greater detail in the Chestnut Stakeholder Consultation Report. See Annex I-Stakeholder Documentation.</p> <ol style="list-style-type: none"> <li>1. Collection of sex disaggregated data at all stakeholder events to monitor any impacts that disproportionately affect any particular gender.</li> <li>2. Identifying and promoting the participation of more female stakeholders.</li> <li>3. Sponsorship of forestry events designed to encourage women to participate in the field.</li> <li>4. Internal adherence to the National Policy on Gender Equity and Equality.</li> <li>5. Equal opportunity employment and public training and education events for all genders hosted by primarily female foresters.</li> </ol>
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<p>Question 2 - Explain how the project aligns with existing country policies, strategies, and best practices.</p>	<p>The project is being implemented in the United States and aligns with its <u>National Strategy on Gender Equity and Equality</u>, as follows:</p> <p>"b. Increase Gender Parity and Diversity in Leadership Roles. We will promote transparency about diversity, equity, inclusion, and accessibility in leadership positions across a broad array of sectors, including public, private, multilateral, and civil society, taking steps to incentivize disclosure of representation in managerial positions and board composition, which strengthen companies' bottom lines. We will support research into best practices to advance gender parity and diversity, equity, inclusion, and accessibility in leadership positions across a range of sectors. We will invest in and evaluate initiatives to promote civil and political engagement and leadership for women and girls to close gaps and promote gender parity, diversity, equity, and inclusion."</p> <p>The project has FSC certification and is in conformance with the FSC requirements which include the above referenced policy on Promoting Gender Equality, therefore satisfying this question.</p>
<p>Question 3 - Is an Expert required for the Gender Safeguarding Principles and Requirements?</p>	<p>The need for an Expert for Gender Safeguarding Principles and Requirements has not been identified for this project.</p> <p>The project has FSC certification and is in conformance with the FSC requirements which include the above referenced policy on Promoting Gender Equality.</p> <p>Gold Standard may direct whether an expert stakeholder opinion (with a specific emphasis on gender and environmental expertise) is required to support the gender safeguards assessment process depending on project type, scale, and context.</p>

Question 4 - Is an Expert required to assist with Gender issues at the Stakeholder Consultation?	<p>The need for an Expert to assist with Gender issues at the Stakeholder Consultation has not been identified for this project.</p> <p>The project has FSC certification and is in conformance with the FSC requirements which include the above referenced policy on Promoting Gender Equality.</p> <p>Gold Standard may require that the project seek the input of a Gender and Environmental Expert/Stakeholder and to include their recommendations in the Project design.</p>
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## **SECTION E. SUMMARY OF LOCAL STAKEHOLDER CONSULTATION**

Gold Standard requires two phases of stakeholder consultation to be conducted for all projects certifying to the Gold Standard. The first phase involves an in-person stakeholder consultation meeting. The second phase requires a stakeholder feedback round, communicating any updates to the project that were made based on the initial feedback received during the first phase. As the project evolves, Chestnut Carbon will hold additional rounds of stakeholder consultation meetings that correspond temporally to planting seasons and spatially to planting locations. See Annex I-Stakeholder Documentation.

Prior to implementing the stakeholder consultation meetings, Chestnut Carbon conducted a Theory of Change model following the Social and Biodiversity Impact Assessment framework, which helped identify possible impacts to stakeholders. See Annex J-SBIA. See Section A.3.1. Stakeholder feedback and input has been identified as a key monitoring indicator towards ensuring Chestnut Sustainable Restoration Project contributes to SDG goals. See Section B.7.b for a summary of key indicators to be monitored and Section B.7.c for the frequency of monitoring for each indicator. Monitoring stakeholder feedback directly contributes to SDG 11 (See Section B.7.1.), SDG 13 (See Section B.7.1.e) and SDG 17 (See Section B.7.1.g)

Chestnut Carbon hosted the in-person stakeholder consultation meeting on 02/12/2023 (December 2, 2023) in Little Rock, AR. The second phase stakeholder feedback round was hosted virtually on 02/12/2023 (February 2, 2023.) Additional stakeholder consultation rounds are planned as part of the project design and will follow the GS4GG requirements even though these meetings will be supplementary to the requirements.

Below is a summary of the 2-step GS4GG Consultation for monitoring purposes. Please refer to the separate Stakeholder Consultation Report in Annex I for a complete report on the initial consultation and stakeholder feedback round.

### **E.1. Summary of Stakeholder Mitigation Measures**

Please refer to the separate Stakeholder Consultation Report in Annex I for a complete report on the initial consultation and stakeholder feedback round that took

place in Little Rock, Arkansas on 02/12/2022 (December 2, 2022) and virtually on 02/02/2023 (February 2, 2023.)

### **E.1.a Summary of Feedback and Input from Stakeholders**

Stakeholders provided valuable feedback and input during the initial stakeholder consultation meeting and the stakeholder feedback round. Below is a summary of the input received and mitigation measures. Chestnut Carbon maintains and monitors any mitigation measures identified during stakeholder engagement cycles in the Chestnut Carbon Stakeholder Engagement Plan. See Annex I:

Table 16

<b>Stakeholder Feedback</b>	<b>Mitigation Measures</b>
Consulting with local communities is critical prior to engagement with public partners	Chestnut Carbon will continue to conduct stakeholder meetings on an annual basis and continue outreach efforts. See Section E. Additionally, Chestnut Carbon will form an Advisory Committee to monitor and help keep goals on track and will contact stakeholders who expressed interest in joining the Advisory Committee on an annual basis. See Section A.3.1.c.
Use of the term 'degraded pastureland and agricultural land' is insensitive.	Chestnut Carbon removed this term from our website and project description where it is not necessary from a technical perspective. Monitoring is not required.
Improve relationships with State agencies and share information	Chestnut Carbon reached out to individuals that had questions and resources to share and confirmed our resources align. Monitoring is done through continuous stakeholder outreach. See Annex I -

	Stakeholder Documentation and Section A.3.1.c.
What defines a high conservation value (HCV) area? What about wetlands or other landscapes that could or should be restored?	Chestnut Carbon plans for forest management can be better communicated. This project is defined by restoring forests, and other landscapes are not in the scope of this project. Chestnut Carbon will monitor and ensure the appropriate land use by consulting with local foresters, experts, and databases on an annual basis, in addition to communicating plans for forest management activities with our partners and on our website.

## E.2 Final Continuous Input and Grievance Mechanism

This section describes the grievance redress procedure Chestnut Carbon has identified in the event of stakeholder conflicts or disputes during project implementation. This process also explains how stakeholders can submit continuous input outside of a scheduled stakeholder consultation meeting.

### E.2.a Grievance Redress Procedure

Table 17

Method	Include all details of Chosen Method(s) so that they may be understood and, where relevant, used by readers.

<p><b>Continuous Input and Grievance Expression Process Book (Mandatory)</b></p>	<ul style="list-style-type: none"> <li>• The project will have multiple culturally appropriate methods for submitting a grievance: self-identified, confidential, or anonymous procedures. All stakeholders will be informed of the procedures in advance of project implementation.</li> <li>• The project will have a form available on the website to submit grievances. The form can be submitted with or without the stakeholder's identity attached.</li> <li>• Additionally, the project will accept grievances submitted by mail to the publicly available address and will designate a central point of contact to compile all the letters received.</li> <li>• All grievances received will be publicly available after submission on the project's website, and the stakeholder will receive confirmation of receipt if contact information is provided. The grievance will be screened and evaluated. The grievance will be deemed ineligible if it is not project-related, the complainant has no standing to file, or is not a local stakeholder.</li> <li>• If another company or other community procedures are more appropriate to address the issue, the stakeholder will be referred as appropriate. The project will classify the grievance as minor or major and one-time or repetitive to inform the approach to resolution.</li> </ul>
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- Following classification and evaluation, a project representative will formulate a response and select the most appropriate local resolution approach. There are several different local approaches that can be implemented to resolve the grievance (CAO 2008):
  - Internal decision-making process: The project develops and proposes a solution in response to the grievance and allows an appeals process.
  - Joint problem solving: The project and stakeholder work together to develop a solution acceptable to both parties.
  - Third-party decision-making: If a resolution cannot be reached between the parties, a third-party mediator can be brought in to develop a solution.
- Once the project representative and stakeholder agree to a proposed solution, the project will implement the approach in a timely manner and periodically check in with the complainant to ensure satisfaction. The project will also develop performance metrics (when applicable) to track progress, review feedback, and refine the solution.
- Post-implementation, the project representative will review resolution metrics to see if targets are being met. The project proponent will also communicate the results of the metrics with the stakeholder and the general public via email and the project's website. To evaluate success,

	<p>the project will ask the following questions (CAO 2008):</p> <ul style="list-style-type: none"> <li>▫ How well is the solution accomplishing its purpose and goals?</li> <li>▫ Is the system making a difference?</li> <li>▫ What actions would increase effectiveness?</li> <li>• The project will make modifications to the proposed solution or develop a new solution based on the several local approaches until the grievance is resolved.</li> <li>• When the grievance is resolved, the project will post the resolution and results on the website for public accessibility and exhibit steps taken to avoid similar feedback in the future.</li> </ul>
GS Contact (mandatory)	<a href="mailto:help@goldstandard.org">help@goldstandard.org</a>
Other	

## **APPENDIX 1 - SAFEGUARDING PRINCIPLES ASSESSMENT**

### **1.1 Introduction**

The interconnected nature of climate and development projects calls for appropriate safeguarding mechanisms. These safeguards help projects identify, prevent, and mitigate negative, unintended consequences that may arise from a given intervention implemented during the lifetime of a project. Credible safeguards are important for ensuring development outcomes are not undermined as well as gaining public support for climate actions.

### **1.2 Elements of the Safeguarding Principles Assessment s**

The Gold Standard Safeguarding Principles and Requirements include the key following elements:

- a. Principles: The overarching principles and rationale for the inclusion of the given assessment.
- b. Assessment Questions: The safeguarding assessment questions identify potential risks and adverse outcomes of the project and determine how the requirements shall be met for each principle.
- c. Requirements: The requirements define what a project shall achieve through design, management, or risk mitigation.

### **1.3 Definition of Assessment Responses**

The Safeguarding Principles Assessment requires Chestnut Carbon to provide responses to questions and include justifications for each response following the below guidance:

- a. Yes: The risk or expected issue identified in the assessment question is relevant to the project and context.
- b. Potentially: The risk or expected issue may be relevant at some point in the project's cycle but is not necessarily relevant now and may never arise.
- c. No: The risk or expected issue is not relevant to the project. Justification shall be provided to support this conclusion, with evidence provided where required.

#### **1.4 Results of Safeguarding Principles Assessment**

The table below summarizes the results of the Safeguarding Principles Assessment completed by Chestnut Carbon .

Table 18

<b>Assessment Questions/ Requirements</b>	<b>Justification of Relevance (Yes/Potentially/No)</b>	<b>How Project Will Achieve Requirements Through Design, Management, or Risk Mitigation.</b>	<b>Mitigation Measures Added to the Monitoring Plan (if Required)</b>
<b>Principle 1. Human Rights</b>			

<p>1. The Project Developer and the Project shall respect internationally proclaimed human rights and shall not be complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights</p> <p>2. The Project shall not discriminate with regards to participation and inclusion</p>	<p>No</p>	<p>The United States FSC Forest Management Standard v1.0 (See Section A.1.b.) Principle 2 addresses workers' rights and employment conditions. Specific criteria and indicators are included to ensure the application of the International Labor Organization's (ILO's) core conventions, gender equality in the workplace (See Section D2), health, and safety practices, 'living' wages, training, conflict resolution, workers' engagement, and damage avoidance and compensation.</p> <p>The project has FSC certification and is in conformance with the FSC requirements, therefore satisfying this requirement. See Section A.1.b.</p>	<p>Maintain FSC Certification</p>
<p><b>Principle 2. Gender Equality</b></p>			

<ol style="list-style-type: none"> <li>1. The Project shall not directly or indirectly lead to or contribute to adverse impacts on gender equality and/or the situation of women</li> <li>2. Projects shall apply the principles of non-discrimination, equal treatment, and equal pay for equal work</li> <li>3. The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks</li> <li>4. Where required: Summary of opinions and recommendations of an Expert Stakeholder(s)</li> </ol>	No	<p>The Chestnut Carbon Sustainable Restoration Project upholds the Gold Standard Gender Equality Requirements and Guidelines through internally and externally focused strategies (See Section D2). Chestnut Carbon is dedicated to exceeding national policies and best practices regarding gender equality. The US National Strategy on Gender Equity and Equality (2021) lays out ten strategies to advance gender equality. Chestnut Carbon directly contributes to all relevant sections of the document, including strategy one and eight: economic security and climate change. Strategy one aims to ensure that everyone has equal access to employment by tackling workforce discrimination and barriers on the basis of gender. The eighth strategy emphasizes the unique and disproportionate risks posed to women and girls under a changing climate regime with anthropogenic (human) causes.</p> <p>Additionally, as Chestnut Carbon is FSC certified (See Section A.1.b.), it adheres to other recommendations within the National Policy "b. Increase Gender Parity and Diversity in Leadership Roles," as FSC has a similar requirement: "The Organization shall promote gender equality in employment practices, training opportunities, awarding of contracts, processes of engagement, and management activities" (FSC, SDG 5 Requirements). See Section A.1.b.</p>	Maintain FSC certification; track stakeholder data
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	<p>Chestnut Carbon has previously supported female-oriented forestry events such as the Women's Forestry Congress and put on several training events led by our female foresters in the southeast region of the US. These events help with outreach to women in the community and show that forestry is an industry that they should consider joining. In line with these actions, we are dedicated to following the US National Policy for Gender Equity and Equality. See Annex E.</p> <p>Lastly, the project has already been certified to comply with the United States FSC Forest Management Standard v1.0 Principle 2 addresses workers' rights and employment conditions. In line with this certification requirement, specific criteria and indicators are included to ensure gender equality in the workplace. FSC also requires that men and women are paid the same wage when they do the same work.</p> <p>In the future, Chestnut Carbon will continue to support and promote events like the Women's Forestry Congress. Moreover, Chestnut Carbon is planning to host publicly available trainings hosted by female foresters with the goal of championing women to feel more empowered within the field. See Annex E.</p> <p>Additionally, more comprehensive data will be tracked on stakeholders to analyze trends and see what effect the project is having on women.</p>	
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	<p>Unexpected and disproportionately negative outcomes will be dealt with as they arise. This data will include questions that will give the project developer information about the participation of various genders, time commitment disparities, comfort participating in the process as a stakeholder, and whether or not stakeholders feel comfortable engaging in the consultation process:</p> <ul style="list-style-type: none"> <li>● What gender do you identify as?           <ul style="list-style-type: none"> <li>○ Male, Female, Non-Binary, Other (Please Specify), Prefer Not To State</li> </ul> </li> <li>● How comfortable do you feel engaging in the stakeholder process           <ul style="list-style-type: none"> <li>○ 1 (Not at All) to 10 (Fully Comfortable)</li> </ul> </li> <li>● What are the time commitments like for you to engage in this process?           <ul style="list-style-type: none"> <li>○ 1 (Minor) to 10 (Major)</li> </ul> </li> <li>● Do you feel supported by this process?           <ul style="list-style-type: none"> <li>○ 1 (Not at All) to 10 (Fully)</li> </ul> </li> </ul> <p>The answers to these questions will be collected via form at the next in-person or online stakeholder meetings and will then be stored and analyzed for insights into how the stakeholder process can be improved or made more equitable.</p>	
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		More information can be found in the Stakeholder Consultation Report.	
<b>Principle 3. Community Health, Safety and Working Conditions</b>			
1. The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community.	No	<p>The United States FSC Forest Management Standard v1.0 (See Section A.1.b.) Principle 2 addresses workers' rights and employment conditions. Specific criteria and indicators are included to ensure the ILO's health and safety practices are implemented in the workplace.</p> <p>The project has FSC certification and is in conformance with the FSC requirements, therefore satisfying this requirement. See Section A.1.b.</p>	Maintain FSC certification
<b>Principle 4.1 Sites of Cultural and Historical Heritage</b>			
Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional, or religious values or intangible forms of culture?	Potentially	<p>The United States FSC Forest Management Standard v1.0 (See Section A.1.b.) Principle 9 requires forest management to maintain any high conservation value (HCV) areas, which include cultural or historic areas. FSC also developed the FSC-US National HCVF Assessment Framework, which provides guidance and resources on HCV areas.</p> <p>The project has FSC certification and is in conformance with the FSC requirements, therefore satisfying this requirement. See Section A.1.b.</p>	Maintain FSC certification
>>			

#### **Principle 4.2 Forced Eviction and Displacement**

Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	No  >>	The United States FSC Forest Management Standard v1.0 (See Section A.1.b.) Principle 2 requires long-term tenure and use rights to the land and requires that forest resources shall be clearly defined, documented, and legally established. FSC does not allow for eviction or displacement of people.  The project has FSC certification and is in conformance with the FSC requirements, therefore satisfying this requirement. See Section A.1.b.	Maintain FSC certification
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#### **Principle 4.3 Land Tenure and Other Rights**

a. Does the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership?	No	The United States FSC Forest Management Standard v1.0 (See Section A.1.b.) Principle 2 requires long-term tenure and use rights to the land and requires that forest resources shall be clearly defined, documented, and legally established.  The project has FSC certification and is in conformance with the FSC requirements, therefore satisfying this requirement. See Section A.1.b.	Maintain FSC certification
b. For Projects involving land use tenure, are there any uncertainties with regards to land tenure, access rights, usage rights or land ownership?			

#### **Principle 4.4 - Indigenous people**

Are indigenous peoples present in or within the area of influence of the Project and/or is the Project located on land/territory claimed by indigenous peoples?  ->>	No	The United States FSC Forest Management Standard v1.0 (See Section A.1.b.) Principle 3 requires recognition and respect of legal and customary rights of indigenous peoples to own, use, and manage their lands, territories, and resources. FSC also ensures that indigenous people will not be threatened or diminished, either directly or indirectly. The project has FSC certification and is in conformance with the FSC requirements, therefore satisfying this requirement. See Section A.1.b.	Maintain FSC certification
<b>Principle 5. Corruption</b>			
1. The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	No	The <a href="#">FSC and Corruption v2 December 2018</a> provides an overview of how corruption is dealt with in the FSC standards (See Section A.1.b.) and their implementation. All certificate holders must abide by the FSC Policy for Association (FSC-POL-01-004 V2-0 EN), which is the tool by which FSC will disassociate organizations known to be corrupt.  The project has FSC certification and conforms with the FSC requirements, thus satisfying this requirement. See Section A.1.b.	Maintain FSC certification
<b>Principle 6.1 Labor Rights</b>			

<p>1. The Project Developer shall ensure that all employment complies with national labour occupational health and safety laws and with the principles and standards embodied in the ILO fundamental conventions</p> <p>2. Workers shall be able to establish and join labour organisations</p> <p>3. Working agreements with all individual workers shall be documented and implemented and include:</p> <ul style="list-style-type: none"> <li>a) Working hours (must not exceed 48 hours per week on a regular basis), AND</li> <li>b) Duties and tasks, AND</li> <li>c) Remuneration (must include provision for payment of overtime), AND</li> <li>d) Modalities on health insurance, AND</li> <li>e) Modalities on termination of the contract with provision</li> </ul>	No	<p>The FSC Policy for Association (FSC-POL-01-004 V2-0 EN, See Section A.1.b.) Part 1 only allows its association with organizations that are not directly or indirectly involved in unacceptable activities including: f) Violation of any of the ILO Core Conventions as defined in the ILO Declaration on Fundamental Principles and Rights at Work.</p> <p>The ILO Declaration on Fundamental Principles and Rights at Work was adopted in 1998. The Declaration commits Member States to respect and promote principles and rights in four categories, whether or not they have ratified the relevant Conventions.</p> <p>These categories are:</p> <ol style="list-style-type: none"> <li>1. Freedom of association and the effective recognition of the right to collective bargaining</li> <li>2. The elimination of forced or compulsory labor</li> <li>3. The abolition of child labor</li> <li>4. The elimination of discrimination with respect to employment and occupation.</li> </ol> <p>The project has FSC certification and conforms with the FSC requirements, thus satisfying this requirement. See Section A.1.b.</p>	Maintain FSC certification
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<p>for voluntary resignation by employee, AND</p> <p>f) Provision for annual leave of not less than 10 days per year, not including sick and casual leave.</p> <p>4. No child labor is allowed (Exceptions for children working on their families' property requires an <a href="#">Expert Stakeholder</a> opinion)</p> <p>5. The Project Developer shall ensure the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures.</p>			
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#### **Principle 6.2 Negative Economic Consequences**

<p>1. Does the project cause negative economic consequences during and after project implementation?</p>	<p>No</p>	<p>The United States FSC Forest Management Standard v1.0 (See Section A.1.b.) Principle 4 addresses the need for the forest owner or manager to consider the social and economic</p>	<p>Maintain FSC certification</p>
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>>		<p>consequences of the practices they undertake. Social and economic responsibilities are recognized by FSC as key components in FSC-certified forestry.</p> <p>The project has FSC certification and conforms with the FSC requirements, thus satisfying this requirement. See Section A.1.b.</p>	
<b>Principle 7.1 Emissions</b>			
Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	<p>The United States FSC Forest Management Standard v1.0 (See Section A.1.b.) Principle 5: Benefits from the Forest, indicator 5.5a requires that the forest owner or manager identifies and defines appropriate measures for maintaining and/or enhancing forest services and resources that serve public values, including municipal watersheds, fisheries, carbon storage and sequestration, recreation, and tourism.</p> <p>The project has FSC certification and conforms with the FSC requirements, thus satisfying this requirement. See Section A.1.b.</p>	Maintain FSC certification
<b>Principle 7.2 Energy Supply</b>			

Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No	The project will not use energy from a local grid or fuel resource that provides for other local users.	Not applicable
>>			
<b>Principle 8.1 Impact on Natural Water Patterns/Flows</b>			
Will the Project affect the natural or pre-existing pattern of watercourses, groundwater and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?	No	The project will not adversely affect patterns of watercourses, ground water, or watersheds. The project will plant and maintain trees on previously degraded pasture or agricultural lands, contributing to the improvement of groundwater quality. A minimum buffer zone of 15 meters extending from the banks of both sides of water bodies will be maintained. A shapefile of the buffers derived from NHD hydrography data can be found within Annex A. More information on management within the buffer zones can be found within Appendix 3 – Water Bodies.	Not applicable
>>			
<b>Principle 8.2 Erosion and/or Water Body Instability</b>			

a. Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion?	No	<p>The project will not cause additional erosion, water body instability, or disrupt any natural pattern of erosion. Likewise, the project area will not be susceptible to excessive erosion or water body instability. The project will be planting and maintaining trees on previously degraded pasture and agricultural lands, therefore contributing to reducing the potential for erosion.</p>	Not applicable
b. Is the Project's area of influence susceptible to excessive erosion and/or water body instability?			

>>

#### Principle 9.1 Landscape Modification and Soil

Does the Project involve the use of land and soil for production of crops or other products?	No	<p>The project does not involve the use of land and soil for the production of crops or other products.</p> <p>The project has FSC certification and is in conformance with the FSC requirements, therefore satisfying this requirement. See Section A.1.b.</p>	Not applicable
>>			

#### Principle 9.2 Vulnerability to Natural Disaster

Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No	<p>The project shall avoid or minimize the exacerbation of impacts caused by natural or man-made hazards, such as landslides or floods. The United States FSC Forest Management (See Section A.1.b.) Principle 6 focuses on maximizing</p>	Not applicable
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>>		<p>positive environmental impacts and minimizing adverse environmental impacts from forest management operations through the assessment of impacts, protection of species and communities, maintenance of ecological functions, the use of pesticides and forest conversion.</p> <p>Principle 10: Plantations, criteria 10.7 require that measures shall be taken to prevent and minimize outbreaks of pests, diseases, fire, and invasive plant introductions.</p> <p>The project has FSC certification and is in conformance with the FSC requirements, therefore satisfying this requirement. See Section A.1.b.</p>	
<b>Principle 9.3 Genetic Resources available</b>			
Could the Project be negatively impacted by or involve genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development, or take place in facilities or farms that include GMOs in their processes and production)?	No	<p>The FSC Principles &amp; Criteria (See Section A.1.b.) include two references to GMOs:</p> <p>Criterion 6.8 states that the use of genetically modified organisms shall be prohibited.</p> <p>Genetically modified organisms are defined as biological organisms which have been induced by</p>	Not applicable

>>		<p>various means to consist of genetic structural changes.</p> <p>See FSC Policy FSC-POL-30-602 (2000) EN on genetically modified organisms which prohibits the use of GMOs in certified forests.</p> <p>The project has FSC certification and conforms with the FSC requirements, thus satisfying this requirement. See Section A.1.b.</p>	
<b>Principle 9.4 Release of pollutants</b>			
Could the Project potentially result in the release of pollutants to the environment?  >>	No	<p>The United States FSC Forest Management (See Section A.1.b.) Principle 1 is concerned with adherence to international treaties and agreements and national, state, and local legal requirements, including legislation, forest practice regulations, mandatory best management practices (BMPs). In addition, as designed, this project would not result in the release of pollutants to the environment.</p> <p>The project has FSC certification and is in conformance with the FSC requirements, therefore satisfying this requirement. See Section A.1.b.</p>	Not applicable
<b>Principle 9.5 Hazardous and Non-hazardous Waste</b>			

Will the Project involve the manufacture, trade, release, and/or use of hazardous and non-hazardous chemicals and/or materials?  =>	No	<p>The United States FSC Forest Management (See Section A.1.b.) Principle 1 is concerned with adherence to international treaties and agreements and national, state, and local legal requirements, including legislation, forest practice regulations, mandatory best management practices (BMPs). In addition, as designed, this project would not involve the manufacture, trade, release, and/or use of hazardous and non-hazardous chemicals and/or materials.</p> <p>The project has FSC certification and conforms with the FSC requirements, thus satisfying this requirement. See Section A.1.b.</p>	Not applicable
<b>Principle 9.6 Pesticides &amp; Fertilisers</b>			

Will the Project involve the application of pesticides and/or fertilisers?	Yes	<p>The United States FSC Forest Management (See Section A.1.b.) Principle 6 focuses on maximizing positive environmental impacts and minimizing adverse environmental impacts from forest management operations through the assessment of impacts, protection of species and communities, maintenance of ecological functions, the use of pesticides and forest conversion.</p> <p>See also the FSC Pesticides Policy (FSC-POL-30-001) Key elements for implementation of these requirements include:</p> <ul style="list-style-type: none"> <li>a) Identification and avoidance of 'highly hazardous' pesticides</li> <li>b) Promotion of 'non-chemical' methods of pest management as an element of an integrated pest management strategy</li> <li>c) Appropriate use of the pesticides that are used</li> </ul> <p>The project has FSC certification and conforms with the FSC requirements, thus satisfying this requirement. See Section A.1.b.</p>	Not applicable
>>			
<b>Principle 9.7 Harvesting of Forests</b>	No	The United States FSC Forest Management (See Section A.1.b.) Principle 5 primarily focuses on	Not applicable

>>		<p>making the most efficient use of harvested resources, maintaining the capacity of both the FMU (forest management unit) and the forest operation to provide long-term economic, environmental, and social benefits. Indicator 5.6.b requires that the average annual harvest levels, over rolling periods of no more than 10 years, do not exceed the calculated sustained yield harvest level.</p> <p>The project has FSC certification and conforms with the FSC requirements, thus satisfying this requirement. See Section A.1.b.</p>	
<b>Principle 9.8 Food</b>			
Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No	<p>The project, as designed, will not modify the quantity or nutritional quality of food available. The project activity will not negatively influence access to and availability of food for people affected.</p>	Not applicable
>>			
<b>Principle 9.9 Animal Husbandry</b>			
Will the Project involve animal husbandry?	No	<p>The project, as designed, does not involve animal husbandry.</p>	Not applicable
>>			
<b>Principle 9.10 High Conservation Value Areas and Critical Habitats</b>			

<p>Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?</p>	<p>No</p>	<p>The United States FSC Forest Management Standard (See Section A.1.b.), Principle 9 is the Maintenance of High Conservation Value Forests. Management activities in high conservation value forests shall maintain or enhance the attributes which define such forests. Decisions regarding high conservation value forests shall always be considered in the context of a precautionary approach. FSC introduced the concept of high conservation value forests (HCVFs) in 1999 to ensure identification and proper management of forest areas with exceptional conservation value. The FSC-US National HCVF Assessment Framework is used as a resource for assessing the presence of HCVs on the FMU and includes definitions, data resources, and guiding questions. This framework is currently available in the Standards section of the FSC-US website, <a href="http://www.fscus.org">www.fscus.org</a>.</p>	
<p>&gt;&gt;</p>		<p>The project has FSC certification and conforms with the FSC requirements, thus satisfying this requirement. See Section A.1.b.</p>	<p>Not applicable</p>

#### **Principle 9.11 Endangered Species**

<p>a. Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)?</p> <p>1. Does the Project potentially impact other areas where endangered species may be present through transboundary affects?</p>	<p>No</p>	<p>The United States FSC Forest Management Standards (See Section A.1.b.), Principle 6, Criteria 6.2 requires that safeguards shall exist which protect rare, threatened, and endangered species and their habitats (e.g., nesting and feeding areas). Conservation zones and protection areas shall be established, appropriate to the scale and intensity of forest management and the uniqueness of the affected resources.</p>	<p>Not applicable</p>
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>>	<p>Inappropriate hunting, fishing, trapping, and collecting shall be controlled.</p> <p>If there is a probable presence of RTE (rare, threatened, or endangered) species, then:</p> <ul style="list-style-type: none"> <li>a. A field survey verifies the species' presence or absence prior to site-disturbing management activities, or</li> <li>b. Management occurs with the assumption that potential RTE species are present.</li> </ul> <p>Surveys are conducted by biologists with the appropriate expertise in the species of interest and with appropriate qualifications to conduct the surveys. If an RTE species is determined to be present, its location should be reported to the manager of the appropriate database.</p> <p>No RTE species have been identified in the project area or boundary areas.</p> <p>The project has FSC certification and conforms with the FSC requirements, thus satisfying this requirement. See Section A.1.b.</p>	
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## APPENDIX 2 - CONTACT INFORMATION OF PROJECT PARTICIPANTS

Table 19

Organization name	Chestnut Carbon, LLC
Registration number with relevant authority	N/A
Street/P.O. Box	412 W 15th St, Floor 11
Building	
City	New York
State/Region	New York
Postcode	10011
Country	United States of America
Telephone	+1 646-517-7259
E-mail	info@chestnutcarbon.com
Website	chestnutcarbon.com
Contact person	Joseph Byrnes
Title	Vice President
Personal e-mail	joe.byrnes@kimmeridge.com

## APPENDIX 3 - LUF ADDITIONAL INFORMATION

The table below addresses the Land Use and Forestry additional information required by GS4GG.

Table 20

Risk of change to the Project Area during Project Certification Period:	Low
Risk of change to the Project activities during Project Certification Period:	Low
Land-use history and current status of Project Area:	Project areas have been historically used for agriculture and cattle grazing.
Socio-Economic history:	The area is rural, and an agricultural-based economy is prevalent.
Forest management applied (past and future)	Minimal in the past. Forest Stewardship Council certified Forest Management plans are currently in place. See sections A.1.1, A.3.3.a and A.3.3.b.

Forest characteristics (including main tree species planted)	<p>Native hardwoods and softwoods.</p> <p>Overcup Oak</p> <p>Southern red oak</p> <p>Swamp white oak</p> <p>Pecan</p> <p>Sugarberry</p> <p>Shumard Oak</p> <p>Swamp chestnut oak</p> <p>White oak</p> <p>Black walnut</p> <p>Green Ash</p> <p>Sweetgum</p> <p>Water Hickory</p> <p>Northern Red Oak</p> <p>Cottonwood</p> <p>Water Oak</p> <p>Nuttal Oak</p> <p>Post oak</p> <p>Chesnut oak</p> <p>Water tupelo</p> <p>Loblolly Pine</p>
Main social impacts (risks and benefits)	See Section A.3 above

Main environmental impacts (risks and benefits)	See Section A.3 above
Financial structure	N/A
Infrastructure (roads/houses etc):	Established roads and access are in place. Homesteads are not included in the project area.
Water bodies:	<p>The Arkansas River borders at least one project area with the Ouchita and Arkansas River watershed areas overlapping all project areas.</p> <p>A buffer zone of 15 meters on both sides of water bodies will be maintained. In these buffer zones:</p> <ul style="list-style-type: none"> <li>(a) All existing native trees shall be kept, AND</li> <li>(b) No fertilizer and pesticides shall be used, AND</li> <li>(c) No logging activities shall take place, AND</li> <li>(d) No heavy machinery shall be used, AND</li> <li>(e) No cropping is allowed, AND</li> <li>(f) When trees are being planted, these need to be native tree species.</li> </ul>
Sites with special significance for indigenous people and local communities - resulting from the Stakeholder Consultation:	None identified
Where indigenous people and local communities are situated:	None identified

Where indigenous people and local communities have legal rights, customary rights or sites with special cultural, ecological, economic, religious or spiritual significance:

None identified

## APPENDIX 4 - SUMMARY OF APPROVED DESIGN CHANGES

None.

### Revision History

Table 21

Version	Date	Remarks
1.2	14 October 2020	<p>Hyperlinked section summary to enable quick access to key sections</p> <p>Improved clarity on Key Project Information</p> <p>Inclusion criteria table added</p> <p>Gender sensitive requirements added</p> <p>Prior consideration (1 yr rule) and Ongoing Financial Need added</p> <p>Safeguard Principles Assessment as annex and a new section to include applicable safeguards for clarity</p> <p>Improved Clarity on SDG contribution/SDG Impact term used throughout</p> <p>Clarity on Stakeholder Consultation information required</p> <p>Provision of an <a href="#">accompanying Guide</a> to help the user understand detailed rules and requirements</p>
1.1	24 August 2017	Updated to include section A.8 on 'gender sensitive' requirements
1.0	10 July 2017	Initial adoption

## APPENDIX 5 – THEORY OF CHANGE EXAMPLES

See Section A.3.1 for more information on how the project used a Social Biodiversity Impact Assessment (SBIA) and Theory of Change model to determine how the project impacts contribute directly to multiple Sustainable Development Goals (SDGs).

The diagrams below illustrate the activities, outputs, and outcomes that have a strong causal relationship leading towards impacts that contribute directly to specific SDG goals.

- Project activities occur as the project is implemented.
- Project outputs are the tangible short-term results of project activities that normally take the form of products or services provided during the project lifetime.
- Project outcomes are the results of the project activities occurring as the project is implemented over time.
- Impacts are the specific SDG goal that the project activities and project outcomes contribute to directly.

The dark red line in each diagram below illustrates the strongest causal relationship between specific project activities being implemented and specific project outcome results, which contributes directly towards a specific SDG goal.

*Full resolution PDFs of the diagrams below in Appendix 5 can be provided upon request. See Annex K.*

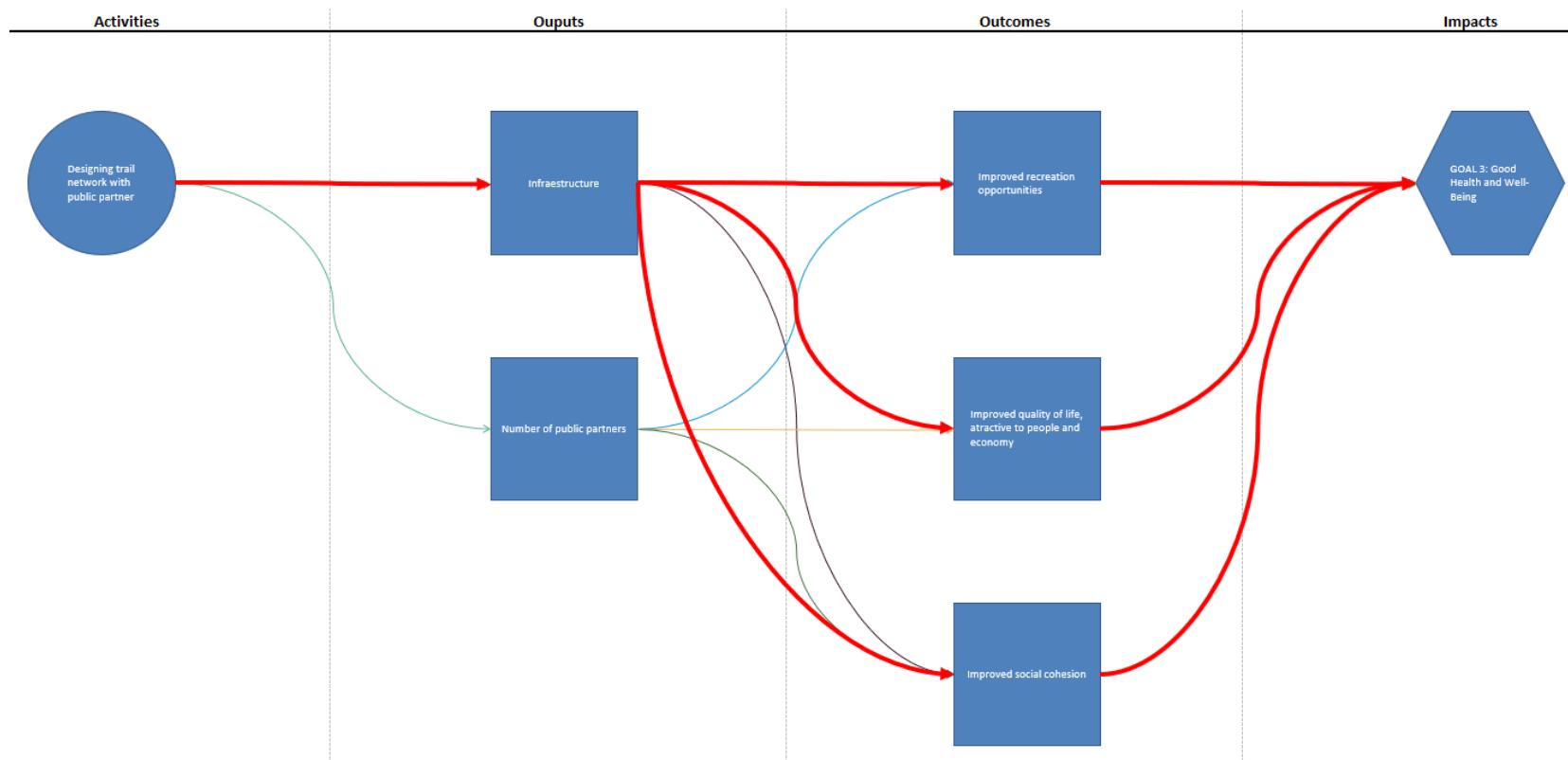
### **SDG 3: Good Health and Well-Being**

The project will be developed to improve public use of land in the future. One design element of increasing public use is the creation of trail networks that will increase both local infrastructure and the number of public partners we have through

implementation and maintenance. As a result, we expect to see improvements in recreational opportunities, quality of life, and social cohesion. These outcomes are key to developing good health and well-being within communities adjacent to project instances. See Figure 17.

Figure 17

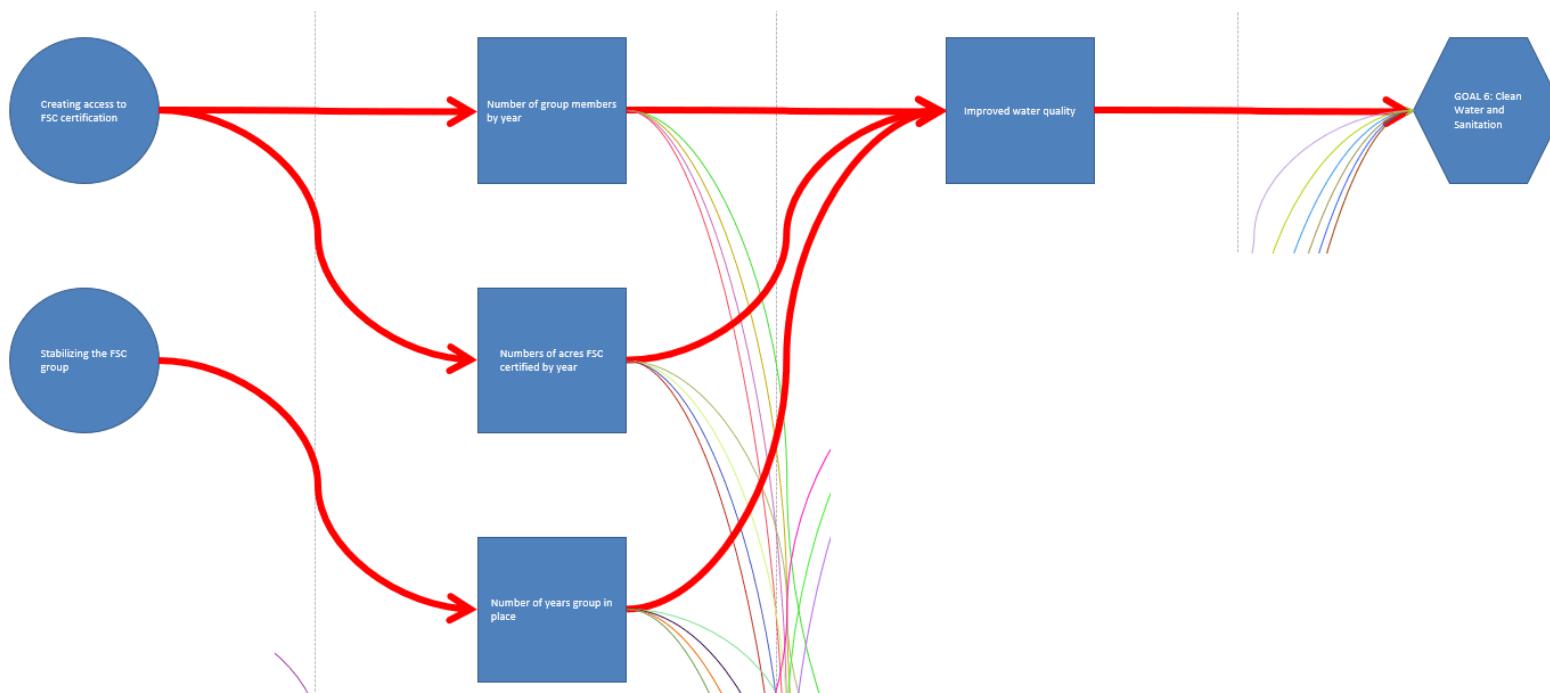
**Theory of Change Diagram: ToC Activity Matrix**



## SDG 6: Clean Water and Sanitation

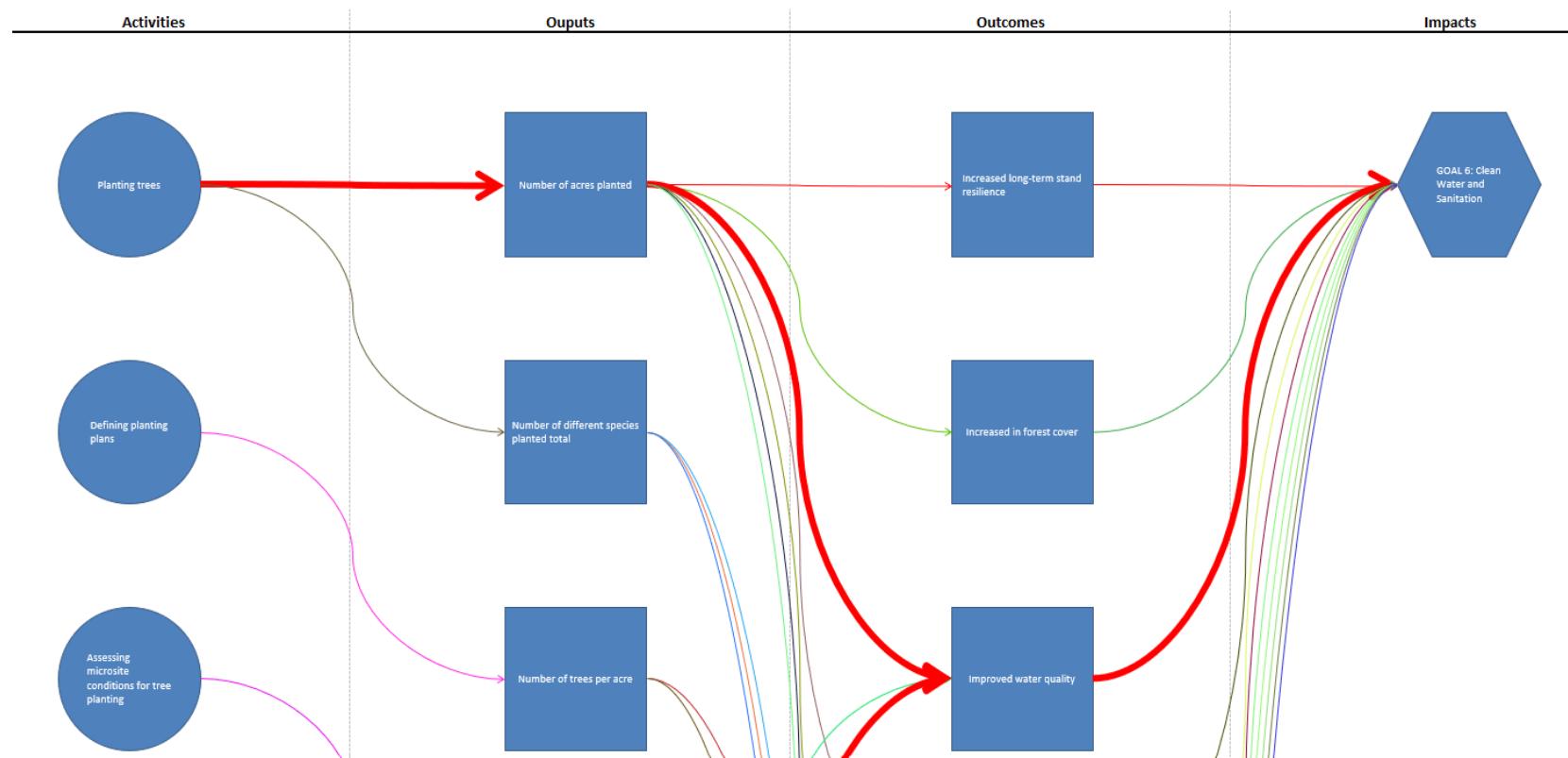
FSC certification contributes to improved water quality. By streamlining the process for land to pass FSC certification, the number of FSC certified acres included in the certificate increases. More forested areas that are FSC-certified will directly and positively impact water quality as FSC mandates rigorous water quality standards. See Figure 18.

Figure 18



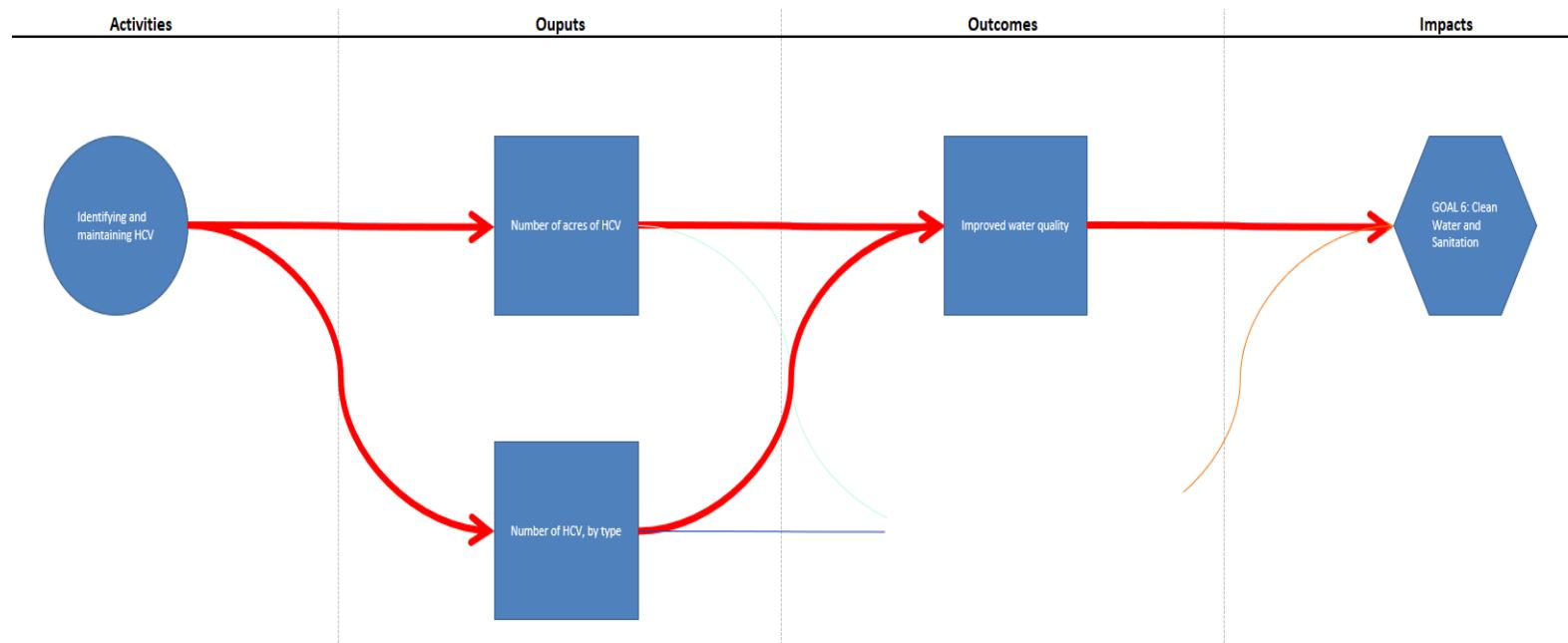
Forest ecosystems are also critical to improving water quality. By increasing the number of acres of native trees planted, forests ecosystems acres will also increase, contributing to improved water quality. See Figure 19.

Figure 19



High conservation value (HCV) areas are natural or cultural habitats or areas where the values are of outstanding significance or critical importance. Forest ecosystems are of critical importance since these ecosystems improve water quality. As the acres identified as HCV areas increase, we expect that water quality will improve, which will also contribute directly to the goal of clean water. See Figure 20.

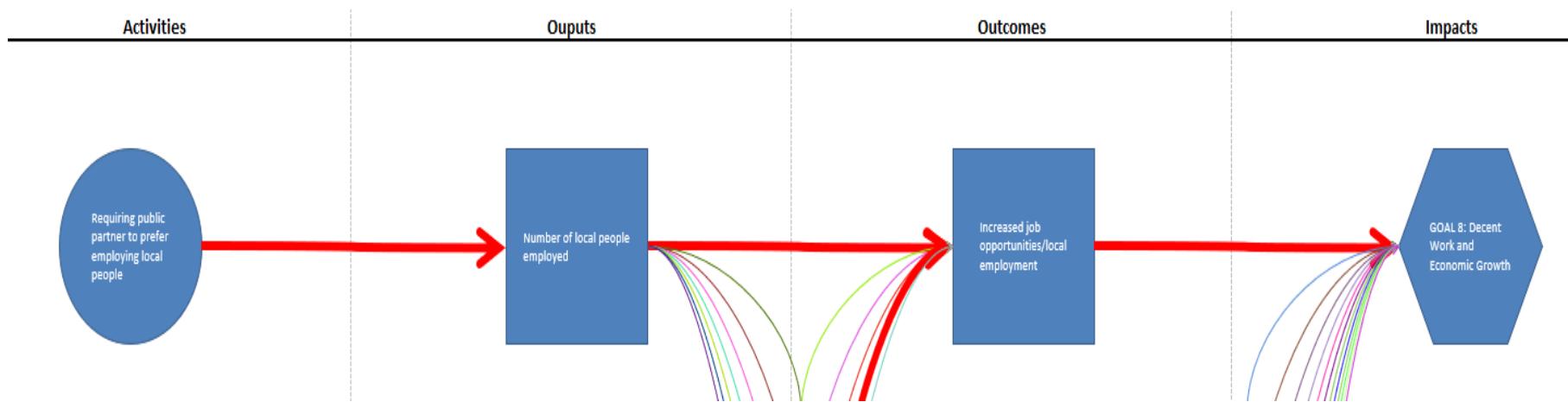
Figure 20



## SDG 8: Decent Work and Economic Growth

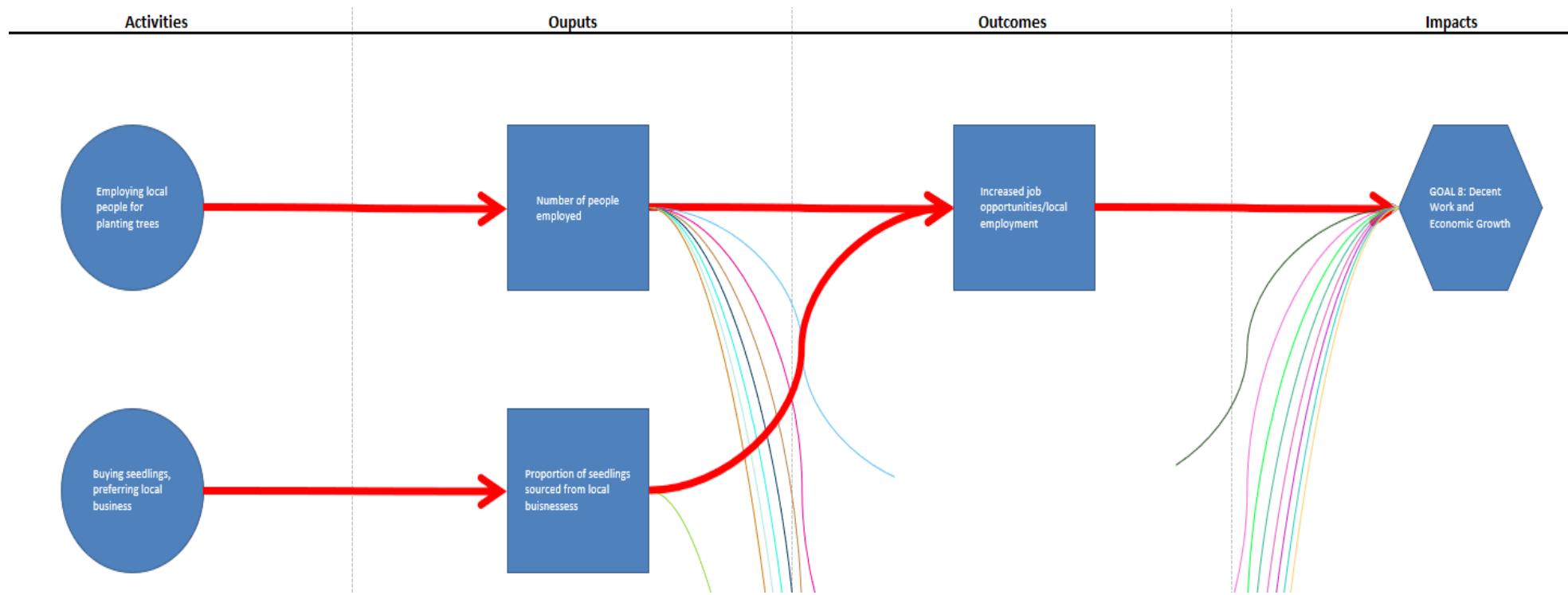
Requiring public partners to employ local people contributes to local economic growth by incentivizing labor sourcing from locals and enhancing the level of capital circulating in the community. See Figures 21 & 22.

Figure 21



Employing local people to plant trees on Chestnut Carbon properties increases job opportunities and supports local economic growth.

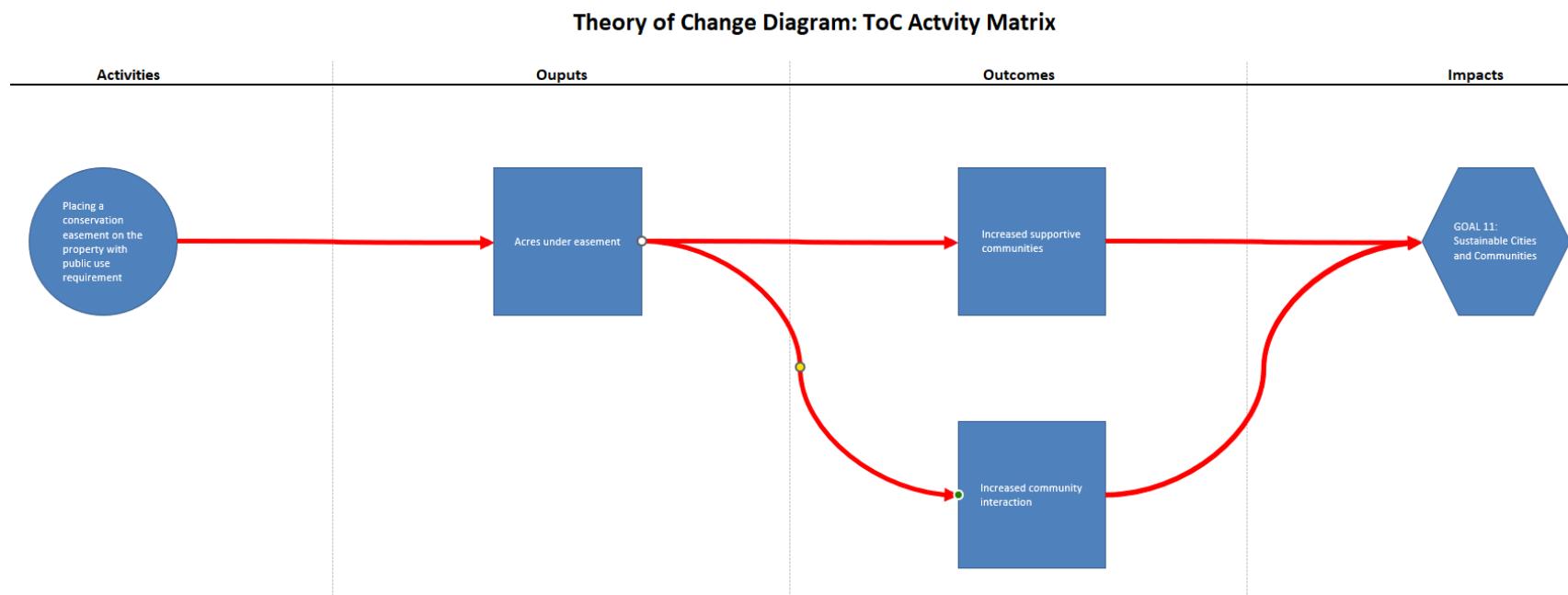
Figure 22



## SDG 11: Sustainable Cities and Communities

As more project acres are placed under conservation easement with a public use requirement, we expect to observe increased opportunities for recreation, cultural resource protection, trail networks, community sense of stewardship, and indigenous use. These outcomes related to environmental protection activities are expected to contribute to sustainable cities and communities. See Figure 23.

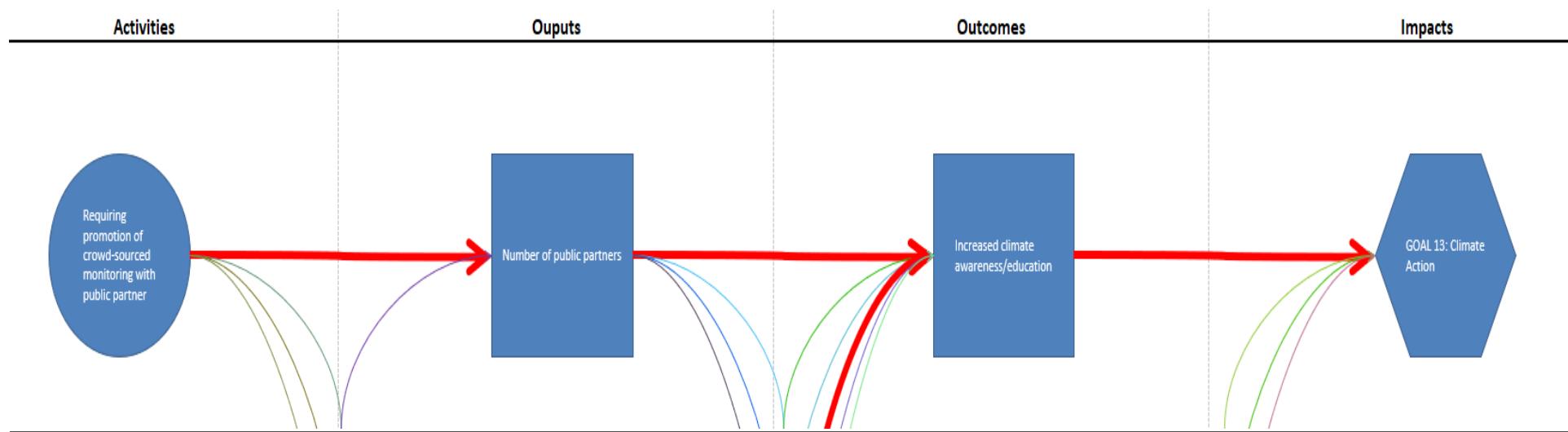
Figure 23



## SDG 13: Climate Action

Public education activity group is the highest-ranking activity by count of outcomes and percentage in SDG 13: Climate Action followed by tree maintenance and growing markets. Public education is a role where all parties must participate to increase awareness. By increasing widespread knowledge of the project, it can bolster long-term commitment, which is critical for the success of the project. See Figure 24.

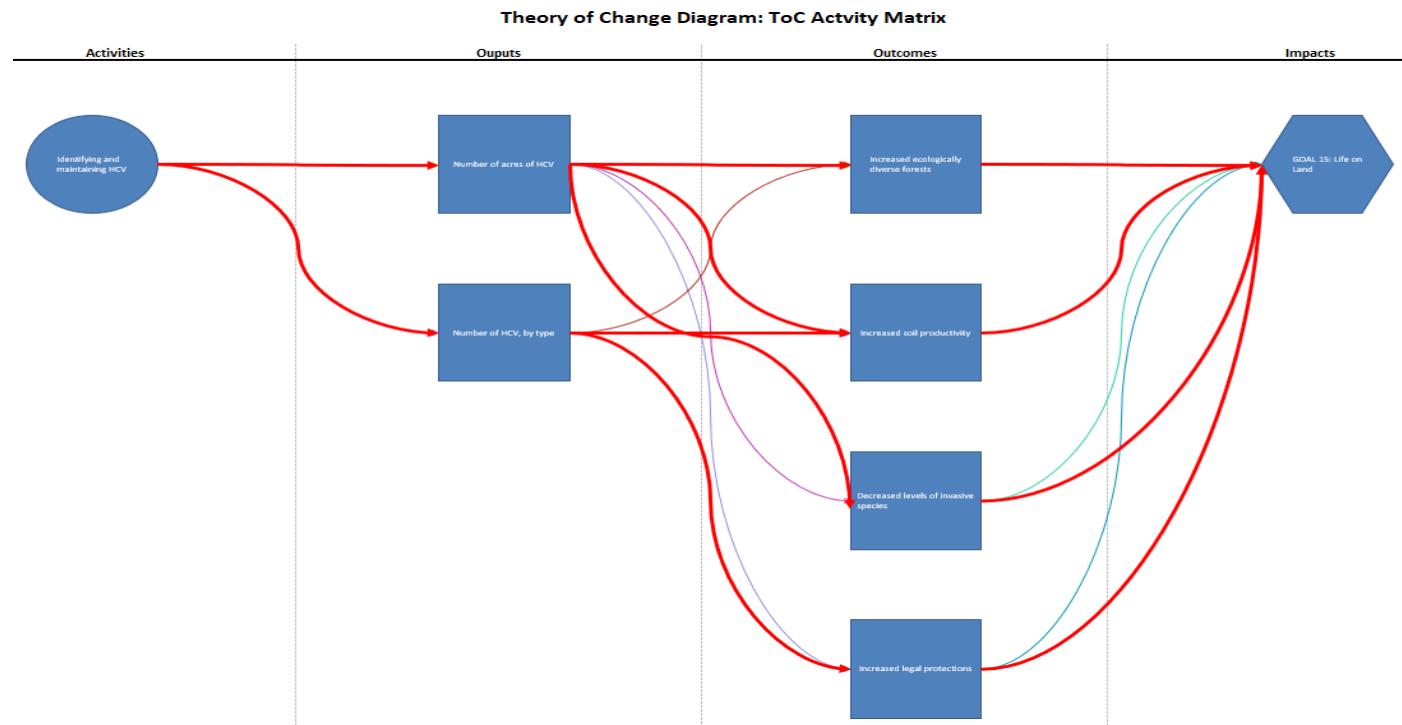
Figure 24



## SDG 15: Life on Land

High conservation value (HCV) () areas are classified as natural habitats where their conservation value is of the highest importance essential to the area around it (see “Special Use” section above). Identifying and maintaining HCV lands is a critical contribution to Life on Land. We evaluate our HCV areas by quantifying the acreage of HCV and number of HCV (by type). This analysis leads to an increase in ecological sustainability, soil productivity, and legal protections while decreasing levels of invasive species. See Figure 25.

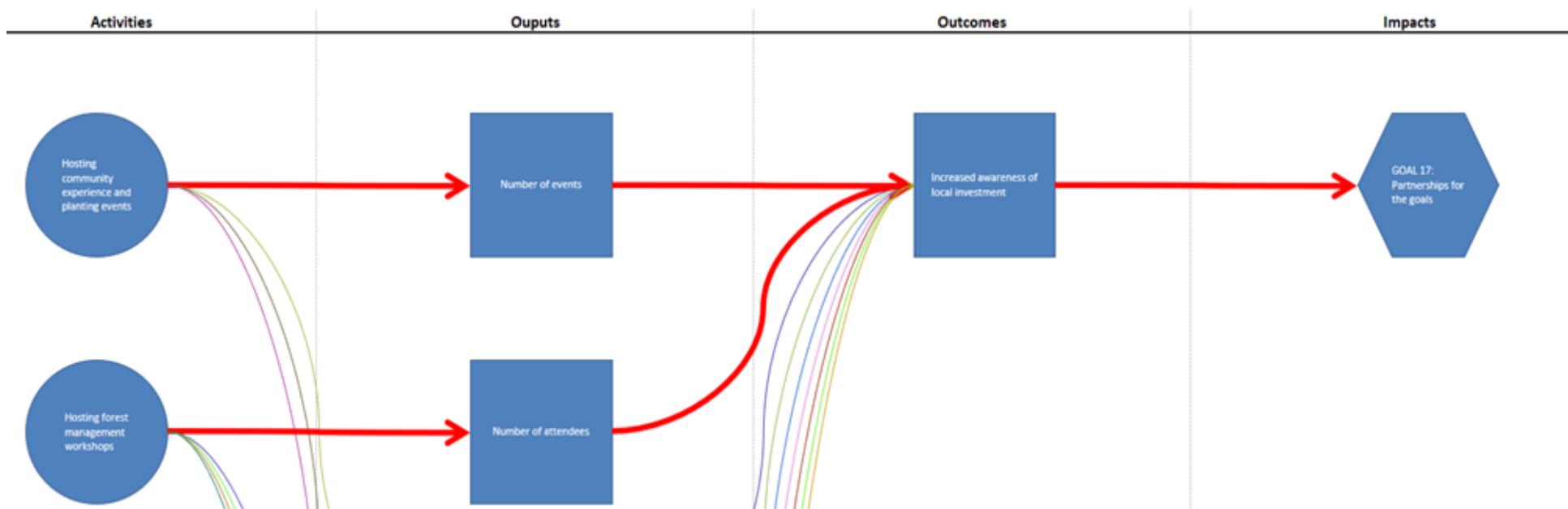
Figure 255



## SDG 17: Partnerships for the Goals

As the number of forest management workshops and community planting events increases, we expect more of the local community to be aware of the Chestnut Sustainable Restoration Project and the many benefits the project will provide. By increasing this awareness, partnerships with public, public-private, and civil society partnerships will occur to ensure the project encompasses various local organizations, which contribute directly to SDG 17, Partnership for the Goals. See Figure 26.

Figure 266



## **APPENDIX 6 – CHESTNUT PROPERTY MAPS**

For coordinates of each Project Areas location, refer to section A.2.

National Agricultural Imagery Program (NAIP) aerial imagery collected November of 2021. A resolution of 0.3 m was used as the base imagery for all maps within Appendix 6. See Annex A-Project GIS Files.

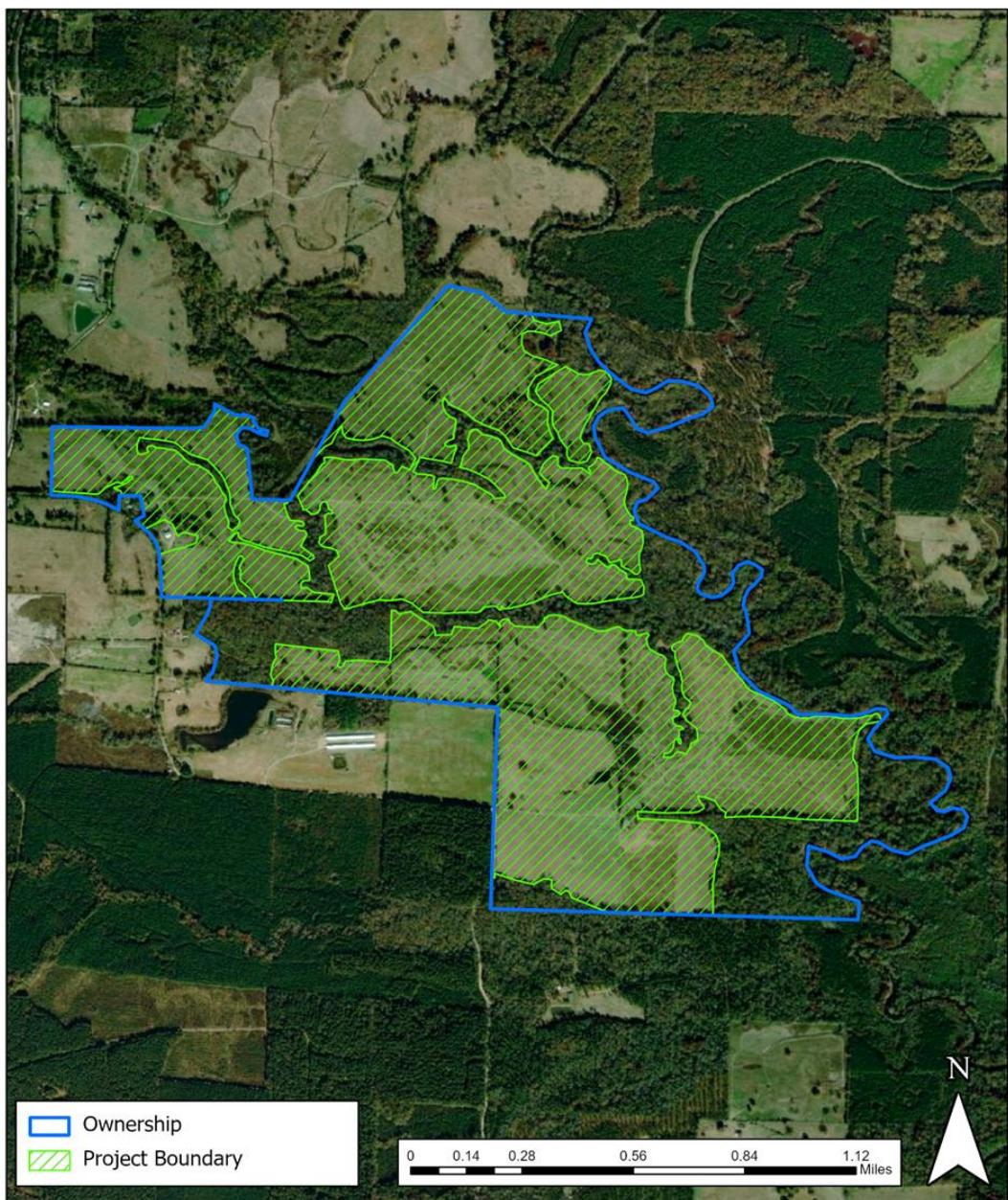
## Saline Bluff Property (Sevier County, AR):

Planting Area: 243.9 acres

Map 2



Project Area Map:  
Saline Bluff



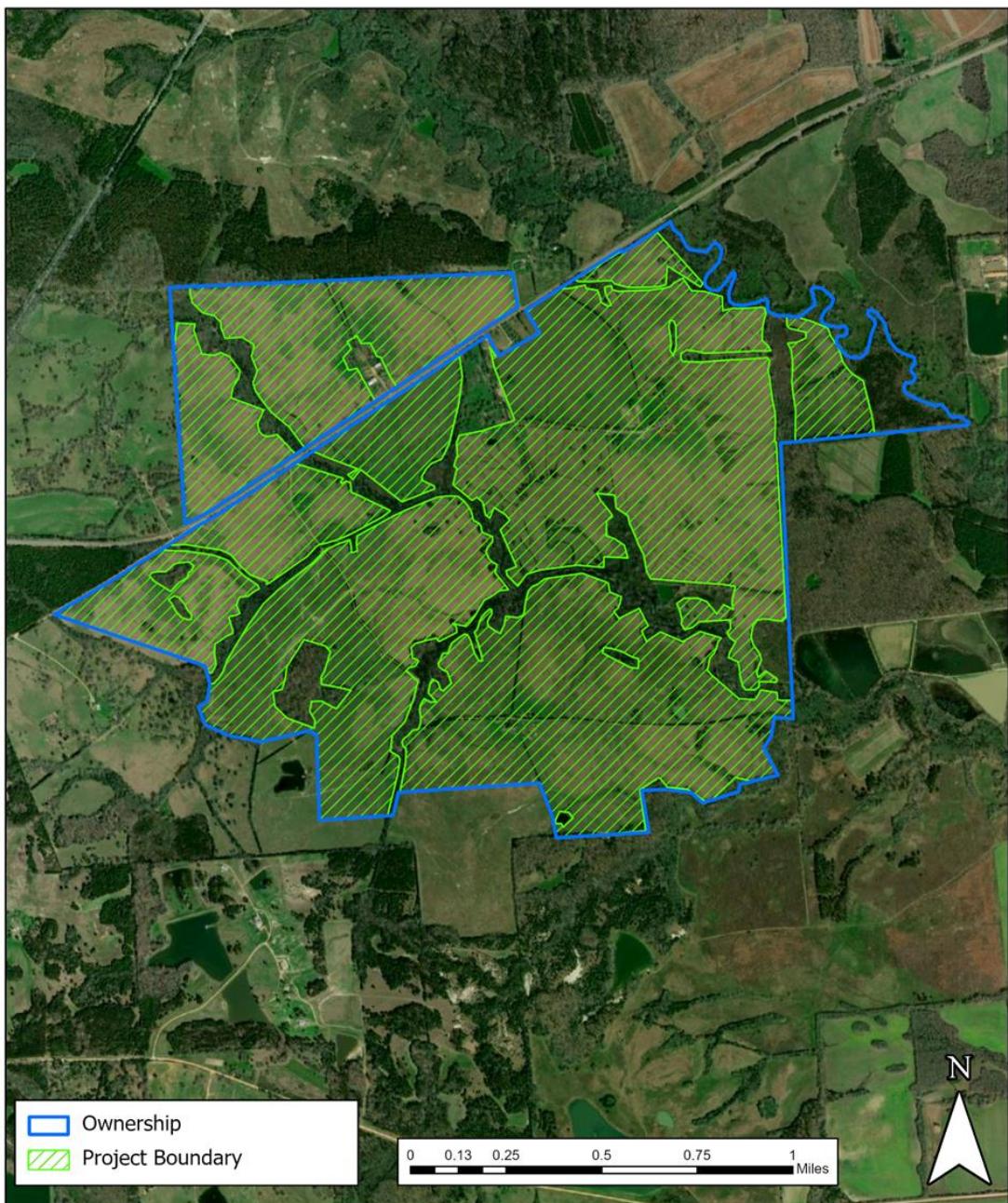
## Rooks Ranch (Dallas County, AL):

Planting Area: 183.3 acres

Map 3



Project Area Map:  
Rooks Ranch



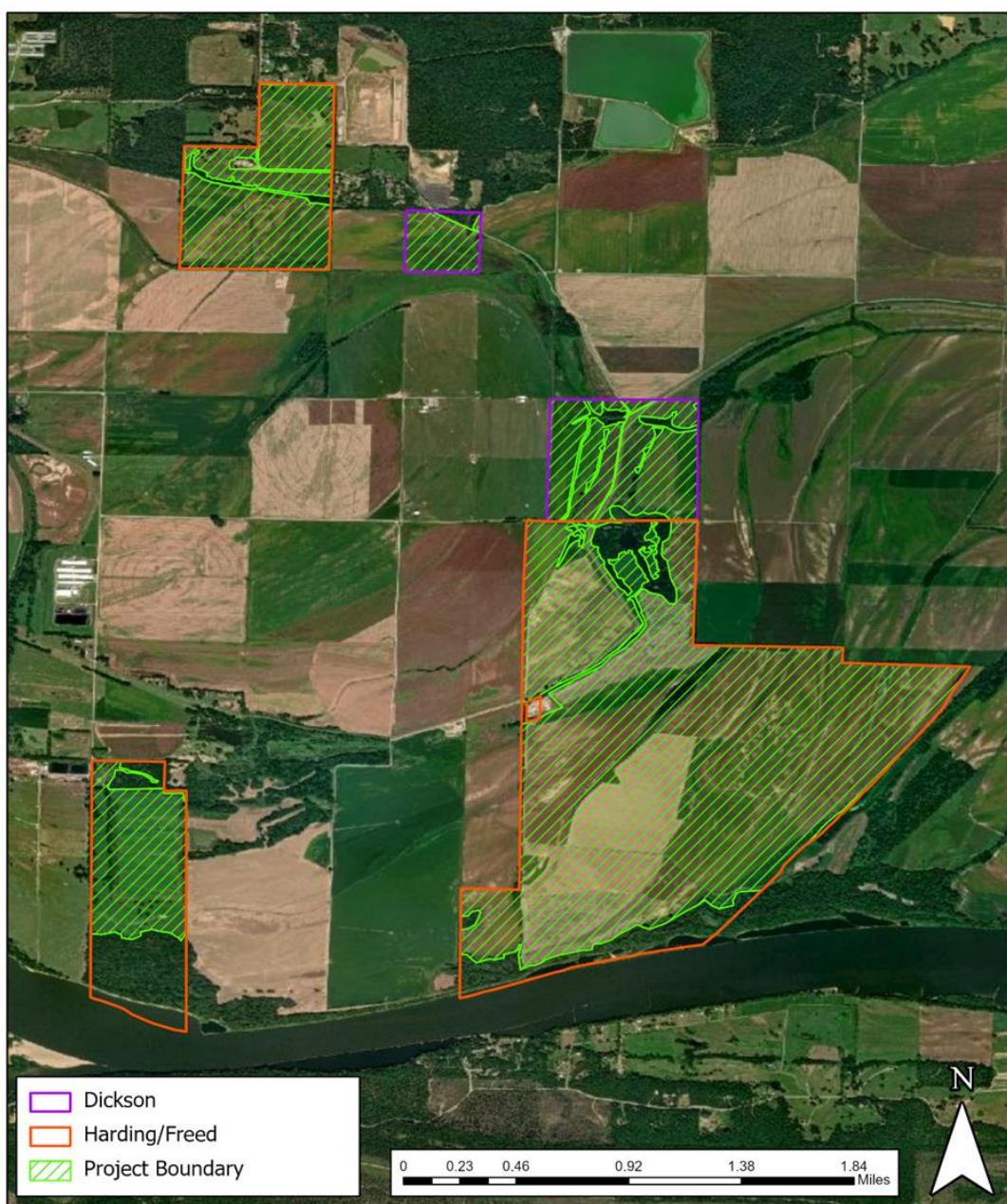
## **Harding/Freed & Dickson Property Map (Conway and Perry Counties, AR):**

Planting Area: 1,491.9 acres

Map 4



**Project Area Map:  
Harding/Freed & Dickson**



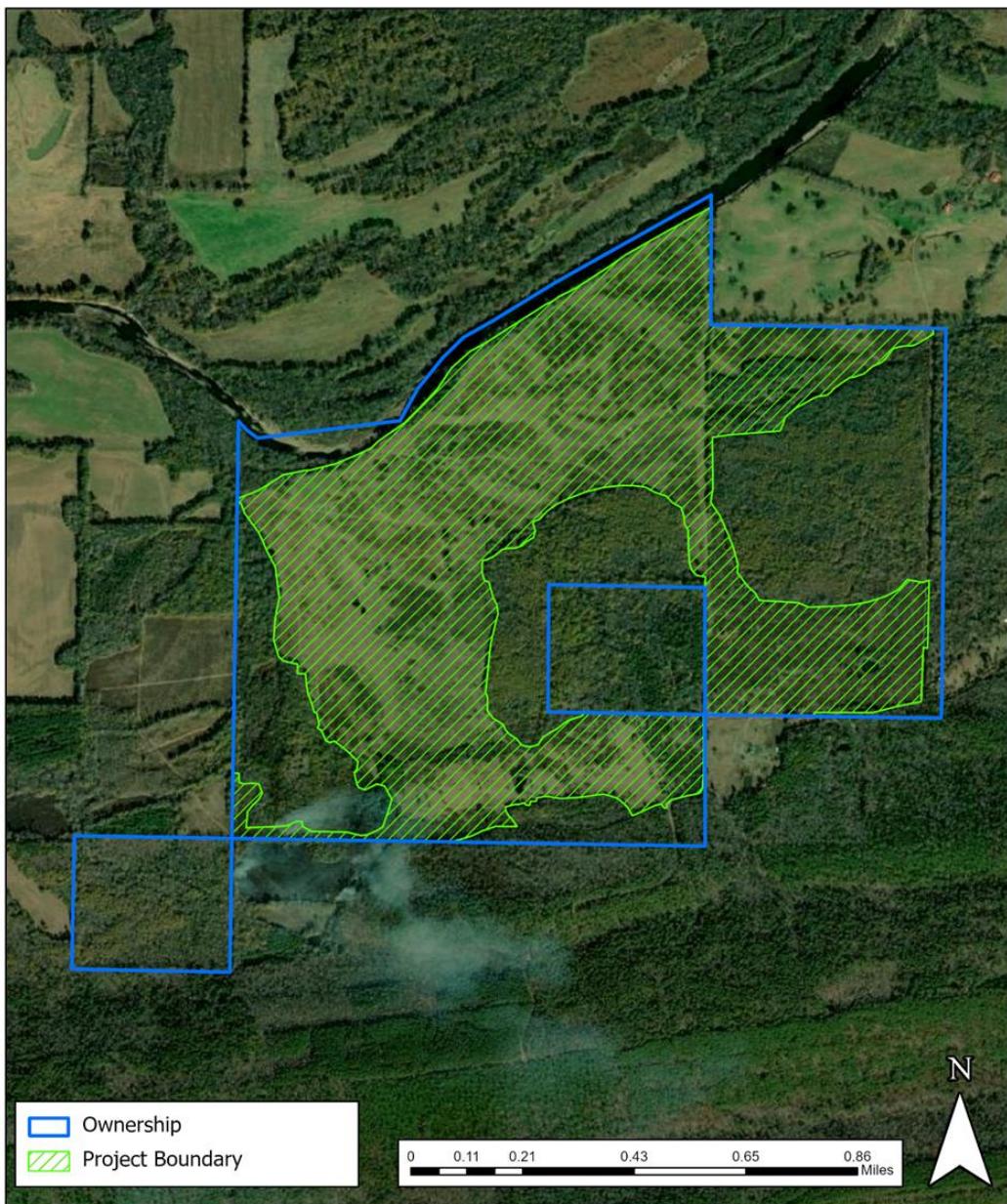
## Hickls Property Map (Scott County, AR):

Planting Area: 377.1 acres

Map 5



Project Area Map:  
Hickls

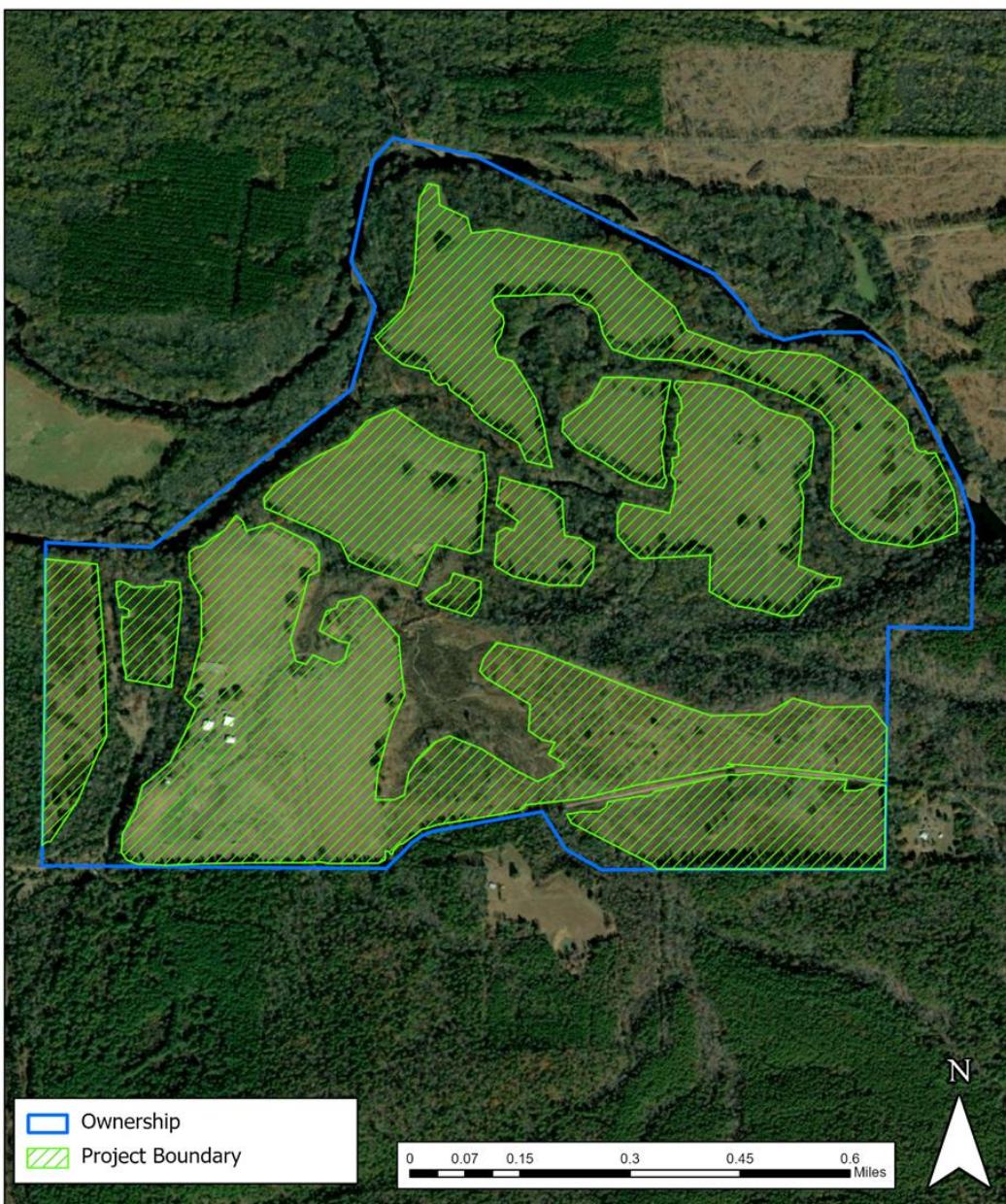


## **Fourche La Fave Property Map (Scott and Perry Counties, AR):**

Planting Area: 262.0 acres



Project Area Map:  
Fourche La Fave



## Black River Ranch Property Map (Randolph County, AR):

Planting Area: 571.5 acres

Map 7



Project Area Map:  
Black River



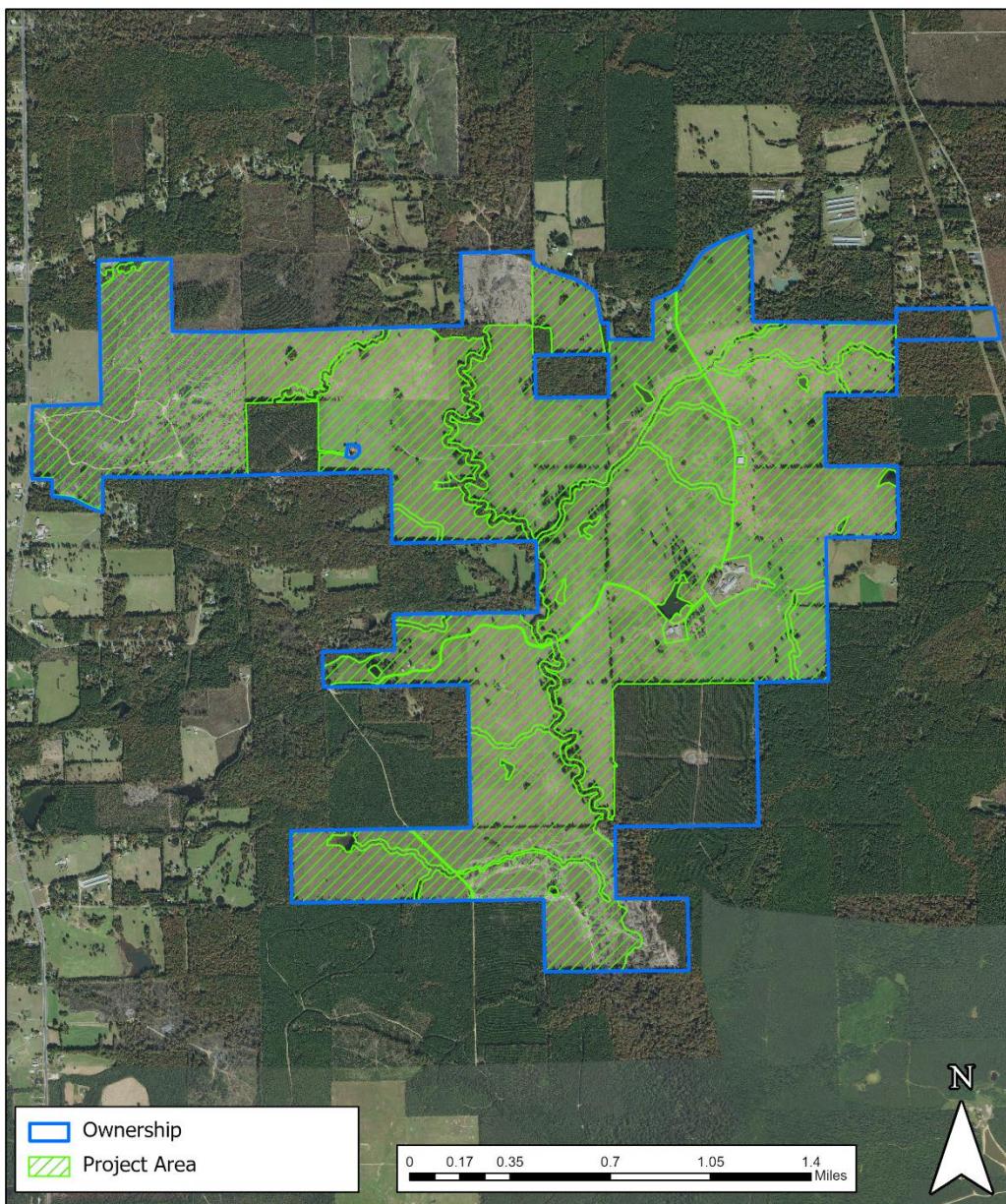
## El Ranchos Property Map (Jefferson County, AR):

Planting Area: 1,877.9 acres

Map 8



Project Area Map:  
El Ranchos





## APPENDIX 7 – BIBLIOGRAPHY

Michael Richards, Steven Panfil, *Social and Biodiversity Impact Assessment (SBIA) Manual for REDD+ Projects*, 2011