VALIDATION AND VERIFICATION REPORT

American Carbon Registry

ACR562: Finite Carbon – Hiawatha Sportsman's Club Improved Forest Management Project

Reporting Period:
02 July 2020 to 28 February 2021

Prepared for:

Finite Carbon

23 December 2021

AMERICAN CARBON REGISTRY

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Executive Summary

This report describes the validation and initial verification services provided for the Hiawatha Sportsman's Club project ("the project"), an Improved Forest Management project located in the upper peninsula of Michigan, USA, that was conducted by SCS Global Services. The overall goal of the validation engagement was to review impartially and objectively the GHG project plan against the requirements laid out in the ACR Standard and relevant methodology. The overall goal of the verification engagement was to review impartially and objectively the claimed GHG emission reductions/removal enhancements for the reporting period from 02 July 2020 to 28 February 2021 against relevant ACR standards and the approved methodology. The validation and verification engagements were carried out through a combination of document review, interviews with relevant personnel and on-site inspections. As part of the validation and verification engagements 14 findings were raised: 12 Non-Conformity Reports, 1 New Information Request and 1 Observation. These findings are described in Appendix A of this report. The project complies with the validation and verification criteria, and SCS holds no restrictions or uncertainties with respect to the compliance of the project with the validation and verification criteria.

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1 Introduction

1.1 About SCS Global Services

SCS Global Services (SCS) is a global leader in third-party certification, auditing, testing services, and standards. Established as an independent third-party certification firm in 1984, our goal is to recognize the highest levels of performance in environmental protection and social responsibility in the private and public sectors, and to stimulate continuous improvement in sustainable development. In 2012, Scientific Certification Systems, Inc. began doing business as SCS Global Services, communicating its global position with offices and representatives in over 20 countries.

SCS' Greenhouse Gas (GHG) Verification Program has been verifying carbon offsets since 2008 and to date has verified over 250 million tonnes of CO2e, providing GHG verification services to a wide array of industries including manufacturing, transportation, municipalities, and non-profit organizations. The GHG Verification Program draws upon SCS's established expertise to serve the global carbon market.

1.2 Objectives

1.2.1 Validation Objectives

The overall goal of third-party validation was to review impartially and objectively the GHG project plan against the requirements laid out in the ACR Standard and relevant methodology. SCS independently evaluated the project design and planning information, based on supporting documentation and GHG validation best practices.

The objectives of validation were to evaluate

- Conformance to the ACR Standard.
- GHG emissions reduction project planning information and documentation in accordance with the applicable ACR-approved methodology, including the project description, baseline, eligibility criteria, monitoring and reporting procedures, and quality assurance/quality control (QA/QC) procedures.
- Reported GHG baseline, ex ante estimated project emissions and emission reductions/removal enhancements, leakage assessment, and impermanence risk assessment and mitigation (if applicable).

SCS reviewed any relevant additional documentation provided by the project proponent to confirm the project's eligibility for registration on ACR.

1.2.2 Verification Objectives

The overall goal of third-party verification was to review impartially and objectively the claimed GHG emission reductions/removal enhancements against relevant ACR standards and the approved

methodology. SCS independently evaluated the GHG assertion, based on supporting evidence and GHG verification best practice. The objectives of verification were to evaluate

- Reported GHG baseline, project emissions and emission reductions/removal enhancements, leakage assessment, and impermanence risk assessment and mitigation (if applicable).

SCS reviewed the GHG project plan, GHG assertion, and any additional relevant documentation provided by the client to determine

- That the reported emissions reductions and/or removal enhancements are real.
- Degree of confidence in and completeness of the GHG assertion.
- That project implementation was consistent with the GHG project plan.
- Eligibility for registration on ACR.
- Sources and magnitude of potential errors, omissions, and misrepresentations, including the
    - Inherent risk of material misstatement.
    - Risk that the existing controls of the GHG project would not have prevented or detected a material misstatement.

1.3 Scope

1.3.1 Scope of Validation

The validation included examination of all of the following elements of the GHG project plan:

- Project boundary and procedures for establishing the project boundary
- Physical infrastructure, activities, technologies, and processes of the project
- GHGs, sources, and sinks within the project boundary
- Temporal boundary
- Description of and justification for the baseline scenario
- Methodologies, algorithms, and calculations that will be used to generate estimates of emissions and emission reductions/removal enhancements
- Process information, source identification/counts, and operational details
- Data management systems
- QA/QC procedures
- Processes for uncertainty assessments
- Project-specific conformance to ACR eligibility criteria

1.3.2 Scope of Verification

Verification included examination of some or all of the following elements of the GHG project plan:

- Physical infrastructure, activities, technologies, and processes of the GHG project

- GHG SSRs within the project boundary
- Temporal boundary
- Baseline scenarios
- Methods and calculations used to generate estimates of emissions and emission reductions/removal enhancements
- Original underlying data and documentation as relevant and required to evaluate the GHG assertion
- Process information, source identification/counts, and operational details
- Data management systems
- Roles and responsibilities of project participants or client staff
- QA/QC procedures and results
- Processes for and results from uncertainty assessments
- Project-specific conformance to ACR eligibility criteria

SCS examined the reported data, quantification methodologies, calculation spread-sheets or databases, source data, project data management systems, data quality controls in place, measurement and monitoring systems, and records pertaining to emissions quantification. Calculation and error checks, site inspections, interviews with project participants, an iterative risk assessment, sampling plan, and audit checklist were performed to the extent necessary for SCS to develop an understanding of how data are collected, handled, and stored for a specific project.

Finally, as a full verification, the verification services included a field visit to the project site and

- Such carbon stock measurements as SCS required to provide a reasonable level of assurance that the GHG assertion is without material discrepancy (per ACR's materiality threshold of ±5%).
- Updated assessment of the risk of reversal and an updated buffer contribution.

1.4 Validation and Verification Criteria

The validation and verification criteria were comprised of the following:

- ACR Standard, Version 6.0
- Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands, Version 1.3 ("the methodology")
- ACR Tool for Risk Analysis and Buffer Determination, Version 1.0

SCS will perform assessment services to meet the requirements of:

- ACR Validation and Verification Standard, Version 1.1 (May 2018)
- ISO 14064-3:2006, Greenhouse Gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions

1.5 Level of Assurance

The level of assurance was reasonable.

1.6 Treatment of Materiality

For validation purposes, a material misstatement was declared if any of the following circumstances were detected:

- The physical or geographic boundary of the GHG project plan was not reasonably accurate.
- In respect of the project baseline,
    - The procedures for determining baseline emissions were not technically sound.
    - Data representative of the operations and activities had not been used, either from a single year or a multi-year average.
    - The baseline scenario chosen was not one for which verifiable data are available.
- In respect of the quantification methodology,
    - The quantification method for each data type was not clearly defined, and/or the degree of supporting documentation provided was inadequate to support a reasonable level of assurance.
    - Methods were not appropriate for accurately quantifying each data type:
        - Activity data had not been correctly applied from the original documentation.
        - The most accurate activity data readily available had not been used.
        - The quantification methodology did not account for all variations in activity data over the relevant crediting period.
        - Any emission factors used did not meet the requirements of the approved methodology and/or are not appropriate to the activity.
        - Any emission factors used had not been correctly applied from the original documentation to the relevant activity data.
        - The most appropriate factors readily available had not been selected.
        - Where there was a choice among equally defensible emission factors, the principle of conservativeness had not informed the choice of emission factors.
    - Methods were not applied consistently to develop estimates of emission reductions and removal enhancements.
    - The ISO principle of conservativeness was not applied; i.e., the choice of assumptions, calculation methods, parameters, data sources, and emission factors was not more likely to lead to an underestimation than overestimation of net GHG emission reductions and removal enhancements.

For verification purposes, it was required that discrepancies between the emission reductions/removal enhancements claimed by the Hiawatha Sportsman's Club, the project proponent and estimated by SCS

be immaterial, i.e. be less than ACR's materiality threshold of ±5%, as calculated according to the equation in the ACR Standard.

1.7 Summary Description of the Project

Managed by a sportsman's club with a large consortium of users and multi-use management objectives, the Hiawatha Sportsman's Club forest assemblage is located in Michigan's Upper Peninsula. Current and future management of the land base will sustainably generate timber products while the carbon project diversifies revenue. The Project Proponent's management provides significant recreational, ecological, and environmental benefits, including the maintenance of large blocks of forest and wildlife habitat.

2 Assessment Process

2.1 Method and Criteria

The validation and verification services were provided through a combination of document review, interviews with relevant personnel and on-site inspections, as discussed in Sections 2.2 through 2.4 of this report. At all times, an assessment was made for conformance to the criteria described in Section 1.2 of this report. As discussed in Section 2.5 of this report, findings were issued to ensure conformance to all requirements. The verification services formally began with a kickoff call on April 5, 2021.

The audit team created a sampling plan following a proprietary sampling plan template developed by SCS. The audit team identified areas of "residual risk"—those areas where there existed risk of a material misstatement (see Section 1.6 above) that was not prevented or detected by the controls of the project. Sampling and data testing activities were planned to address areas of residual risk. The audit team then created a validation and verification plan that took the sampling plan into account.

2.2 Document Review

The GHG project plan (dated 27 October 2021; "PP") and monitoring report (dated 14 October 2021; "MR") were carefully reviewed for conformance to the validation and verification criteria. The following provides a list of additional documentation, provided by project personnel in support of the aforementioned documents, that was reviewed by the audit team.

Documentation Reviewed During the Course of Validation and Verification Activities		
Document	**File Name**	**Ref.**
GHG project plan	ACR562 GHG Project Plan Draft_111521.pdf	1
Monitoring Report	ACR562 RP1 Monitoring Report Draft_111521_wAttachment.pdf	2
Calculation Workbook	ACR562 GHGPP Calculations Draft_111521.xlsx	3
Inventory Data	ACR562 Inventory Data.xlsx	4

Inventory Methods	Hiawatha Sportsmans Club Cruise Spec 2.0 Voluntary 2020.pdf	5
Spatial Data	ACR562_RP1.gdb	6
Modeling File	Hiawatha_BSL_Package.out	7
Modeling File	ACR562 Hiawatha Sportsmans Club FVS Input DB v1.0 051121.accdb	8
Modeling File	ACR562 Hiawatha Sportsmans Club FVS Out FinalBaseline_051121.accdb	9
Modeling File	ACR562 Hiawatha Sportsmans Club Baseline Harvest Schedule Calculation.xlsx	10
Modeling File	ACR562 Hiawatha Sportsmans Club Keyword v 1.0.xlsx	11
Modeling File	Hiawatha Site Index Workup.xlsx	12
Modeling File	LuceAA_by_site_prod.accdb	13
Modeling File	MackinacAA_by_site_prod.accdb	14
Modeling File	Hiawatha_SSURGO_SiteIndexWorkup	15
Ownership documentation	All files in 'ACR562 Appendix A. Ownership Documentation'	16
Inventory specifications	ACR562 Appendix B. Inventory Specifications.pdf	17
Maps of project area	All files in folder 'ACR562 Appendix C. Project Maps v1.0'	18
Timber prices	Hiawatha_TimberPrices.pdf	19
Timber prices	Hiawatha_SawlogPriceCalc.xlsx	20
ATFS certificate	Hiawatha AmTreeFarm Certificate.pdf	21
Contractual agreement	Hiawatha Sportsmans Club Transaction Confirmation - Executed 2July2020.pdf	22
Timber sales	All files in 'Hiawatha_SalesActiveDuringRP1'	23
Harvest history map	Hiawatha_HarvHistoryMap.pdf	24
Mill capacity statistics	Hiawatha_MillCapacity.xlsx	25
Disaster prevention plans	Hiawatha_NatDisasterWildfirePrevPlan.pdf	26
Harvest volumes	Hiawatha_RP1HarvestVolumes.pdf	27
Common Practice statistics	HiawathaSuperSection_CP.xlsx	28
MI DNR mill study	MI_DNR_MillStudy.pdf	29
MI Timber sales	MI_DNR_StateSales_01-01-2019 to 12-31-2019.xlsx	30
MI best management practices	Michigan_BMPs.pdf	31
MI silvicultural practices	Michigan_SilvSystems.pdf	32
MI timber price trends	MichPriceTrends_Majorspecies-ProductPriceIndicesToPost.xlsx	33

2.3 Interviews

2.3.1 Interviews of Project Personnel

The process used in interviewing project personnel was a process wherein the audit team elicited information from project personnel regarding (1) the work products provided to the audit team in support of the PD and MR; (2) actions undertaken to ensure conformance with various requirements and (3) implementation status of the project activities. The following provides a list of personnel associated with the project proponent who were interviewed.

Interview Log: Individuals Associated with Project Proponent			
Individual	**Affiliation**	**Role**	**Date(s) Interviewed**
Nate Hanzelka	Finite Carbon	Project Developer	Throughout audit
Eric Downing	Finite Carbon	Technical Consultant	Throughout audit
Brian Sharer	Finite Carbon	Technical Consultant	Throughout audit
Gerald Grossman	Grossman Forestry Company	Property Forest Management Consultant	May 17, 2021

2.3.2 Interviews of Other Individuals

The process used in interviewing individuals other than project personnel was a process wherein the audit team made inquiries to confirm the validity of the information provided to the audit team. The following personnel not associated with the project proponent. The following provides a list of individuals not associated with the project proponent who were interviewed.

Interview Log: Individuals Not Associated with Project Proponent			
Individual	**Affiliation**	**Role**	**Date(s) Interviewed**
Karen Rodock	MI Dept Natural Resources	Managing Forester	September 24, 2021

2.4 Site Inspections

The objectives of the on-site inspections were as follows:

- Confirm the validity of the statements made in the GHG Project Plan (PP) and associated project documentation;
- Confirm baseline conditions and project conditions;
- Interview project personnel to determine if the PP correctly identifies the project activity and assess project personnel competencies;
- Select samples of data from on-the-ground measurements for verification in order to meet a reasonable level of assurance and to meet the materiality requirements of the Project; and

- Perform a risk-based review of the project area to ensure that the Project is in conformance with the eligibility requirements of the validation/verification criteria

In support of the above objectives, the audit team performed an on-site inspection of the project area on the dates 17 May 2021 through 18 May 2021. The main activities undertaken by the audit team were as follows:

- Conducted an in-depth assessment of the conformance of the Project to the assessment criteria
- Interviewed project personnel (see Section 2.3.1 of this report) to gather information regarding the monitoring procedures and project implementation
- Carried out on-site inspections of the project's measurement and/or monitoring methodologies through the following activities:
    - Toured the project area, visually observing posted boundary signs, old fence lines, and other objects for reference/boundary trees.
    - Selected samples of inventory data using random selection methods.
    - At each selected sample location, took on-the-ground measurements.
    - Verified the sample by running a paired sample t-test on the independently calculated Mt CO2e/acre on each plot.
- Review of management's commitment to the carbon project.
- Assessment of project during the reporting period to confirm that the project scenario consists of maintaining above baseline carbon stocks through carbon sequestration.

2.5 Resolution of Findings

Any potential or actual discrepancies identified during the audit process were resolved through the issuance of findings. The types of findings typically issued by SCS during this type of validation and verification engagement are characterized as follows:

- Non-Conformity Report (NCR): An NCR signified a discrepancy with respect to a specific requirement. This type of finding could only be closed upon receipt by SCS of evidence indicating that the identified discrepancy had been corrected. Resolution of all open NCRs was a prerequisite for issuance of a validation and/or verification statement.
- New Information Request (NIR): An NIR signified a need for supplementary information in order to determine whether a material discrepancy existed with respect to a specific requirement. Receipt of an NIR did not necessarily indicate that the project was not in compliance with a specific requirement. However, resolution of all open NIRs was a prerequisite for issuance of a validation and/or verification statement.
- Observation (OBS): An OBS indicates an area where immaterial discrepancies exist between the observations, data testing results or professional judgment of the audit team and the information reported or utilized (or the methods used to acquire such information) within the GHG assertion. A root cause analysis and corrective action plan are not required, but highly

recommended. Observations are considered by the audit team to be closed upon issuance, and a response to this type of finding is not necessary.

As part of the audit process, 12 NCRs, 1 NIR, and 1 OBS were issued. All findings issued by the audit team during the audit process have been closed. All findings issued during the audit process, and the impetus for the closure of each such finding, are described in Appendix A of this report.

2.6 Techniques and Processes Used to Test the GHG Information and GHG Assertion

The audit team applied various techniques and processes to test the GHG information and the GHG assertion over the course of the audit, listed below:

- Review of project documentation including the MR (Ref. 2), ownership documentation (Ref. 17), attestations (Ref. 23), spatial information (Ref. 6), modeling files (Refs. 7-15), referenced research (Refs. 29-33), and calculation workbooks (Refs. 3, 10) to check for project-specific conformance to the ACR standard and methodology, appropriateness of methodologies and tools applied, and accuracy of the GHG information and assertion.
- Assessment of baseline scenario including the forest management activities that are common practice in the region.
- Review of project scenario.
- Review of the sources, sinks and reservoirs of GHG emissions within the project boundary (Refs. 3-4).
- Assessment of eligibility, additionality, GHG emission reduction assertion and underlying monitoring data to determine if either contained material or immaterial misstatements.
- Assessment of the emission reduction calculation inputs and procedures was performed to review the quantitative analyses undertaken by Finite Carbon to convert the raw inventory data into emission reduction estimates through the project term. This included a re-calculation of project emissions, ERTs, and uncertainty using inventory data as described below in section 3.1 and 3.2 (Refs. 3-4, 10).
- Communicate with project personnel and project proponent via interviews, emails, and meetings to gain a better understanding of the project team's methodologies.
- Examine the data management and quality control processes and its controls for sources of potential errors and omissions.
- Review of project documentation including risk assessment and regulatory compliance.

3 Validation Findings

3.1 Project Boundary and Activities

3.1.1 Project Boundary and Procedures for Establishment

Appendix C of the PP contain maps showing the physical boundary and physical features across the project area, which is located on 29,330.8 acres of mixed northern hardwood and conifer forests in the upper peninsula of Michigan. The audit team confirmed that this boundary was well documented throughout both the document review and site visit activities. During the site visit the audit team independently checked the accuracy of spatial information on plot locations and project boundary, as used in delineation of the project area, by visiting a sample of corners or other ownership monuments and comparing actual locations to mapped locations. Likewise, during document review the audit team inspected project shapefiles (Ref. 6) to confirm project boundaries are accurately represented as compared to boundaries mapped during the site visit, maps provided in the PP, and available satellite imagery.

3.1.2 Physical Infrastructure, Activities, Technologies and Processes

The audit team reviewed the PP and project documentation (Refs. 19-21, 23-27) for any potential infrastructure, activities, and technologies used within the project area. The project activity consists of deferred harvesting, lengthened rotations, retention of standing dead wood during timber harvests, and protection of riparian areas, wetlands, and significant natural communities. The audit team concluded that project activities, infrastructure and technologies will be conducted where forest carbon stocks will be maintained above baseline levels and best management practices will be followed.

3.1.3 GHGs, Sources, and Sinks within the Project Boundary

The GHG sources, sinks and/or reservoirs that are applicable to the Project were confirmed. The sources, sinks, and reservoirs of GHG emissions within the project boundary are listed in the table below. This is the case for both the baseline and project scenarios.

Description	Included / Excluded	Gas	Justification
Above-ground biomass carbon	Included	CO_2	Major carbon pool subjected to the project activity.
Below-ground biomass carbon	Included	CO_2	Major carbon pool subjected to the project activity.
Standing dead wood	Included	CO_2	Major carbon pool in unmanaged stands subjected to the project activity.
Harvested wood products	Included	CO_2	Major carbon pool subjected to the project Activity.
Burning of biomass	Included	CH_4	Non-CO2 gas emitted from biomass burning.

3.1.4 Temporal Boundary

In accordance with Chapter 3 of the ACR Standard, the start date is defined as the date that the Project Proponent entered into a contractual relationship to implement a carbon project. SCS was able to review the PP and a contractual agreement (Ref. 22) for authenticity and to confirm that each document consummated "a contractual relationship to implement a carbon project." SCS concluded that the documents provided indicate the project start date is eligible.

In ACR the minimum project term is 40 years and the eligible crediting period for this type of project is also listed as 40 years. SCS confirmed that the PP included a timeline with a first crediting period of 20 years and a minimum project term of 40 years. The crediting period for this project is 7/2/2020 to 7/1/2040.

3.2 Description of and Justification for the Baseline Scenario

The methodology defines the baseline scenario as an estimation of the GHG emissions or removals that would have occurred if the Project Proponent did not implement the project. The PP indicates that "Previous management included aggressive, even-age harvest regimes for pulp production, leaving portions of the property in a silviculturally degraded condition," (Section A6) and "The baseline scenario represents an aggressive industrial harvest regime, targeted to maximize net present value at a discount rate of 5%, typical of practices in the project region on private lands" (Section B.5). The audit team

confirmed that the prescriptions are common in Michigan on private lands, as well as recommended under published sources (Refs. 29, 32).

3.3 Project-Specific Conformance to ACR Eligibility Criteria

The audit team reviewed the demonstration of conformance, as set out in the PP, to each of the relevant eligibility criteria listed in the ACR Standard. The audit team confirmed the full conformance of the project with the relevant eligibility criteria. A more detailed assessment of the audit team's findings is provided below.

Actions Undertaken to Confirm Conformance to Eligibility Criteria		
Criterion	**ACR Requirement**	**Validation Activities**
Start Date, All Projects	Non-AFOLU Projects must be validated within 2 years of the project Start Date. AFOLU Projects must be validated within 3 years of the project Start Date.	Confirmation that this report was issued less than 3 years after 02 July 2020, the start date of the project according to the PP.
Start Date Definition, Non-AFOLU Projects	ACR defines the Start Date for all projects other than AFOLU as the date on which the project began to reduce GHG emissions against its baseline.	Not applicable; this project is an AFOLU project.
Start Date Definition, AR or Wetland Projects	For AR or Wetland restoration/revegetation projects, the Start Date is when the Project Proponent began planting or site preparation.	Not applicable; the project is not an AR or wetland project.
Start Date Definition, IFM Projects	For IFM, the Start Date may be denoted by one of the following: 1. The date that the Project Proponent began to apply the land management regime to increase carbon stocks and/or reduce emissions relative to the baseline. 2. The date that the Project Proponent initiated a forest carbon inventory. 3. The date that the Project Proponent entered into a contractual relationship to implement a carbon project. 4. The date the project was submitted to ACR for listing review. Other dates may be approved by ACR on a case by case basis.	The audit team confirmed point 3 (Ref 22).
Start Date Definition, Avoided Conversion Projects	For Avoided Conversion of non-forest, the Start Date is when the Project Proponent implemented the project action physically and/or legally, such as securing a concession or placing a land conservation agreement on the project land.	Not applicable; the project is not an avoided conversion project.

Start Date Definition, Other Agricultural Land-based Projects	For other Agricultural Land-based projects, the Start Date is the date by which the Project Proponent began the Project Activity on project lands, or the start of the cultivation year during which the Project Activity began.	Not applicable; the project is not an other agriculture land-based project.
Minimum Project Term (AFOLU Projects Only)	Project Proponents of AFOLU projects with a risk of reversal shall commit to a Minimum Project Term of 40 years. The minimum term begins on the Start Date, not the first or last year of crediting. This requirement applies only to AFOLU projects that have had ERTs issued that are associated with GHG removals (sequestration). AFOLU projects that have claimed only avoided emissions are not subject to this requirement.	Review of the PP to confirm that the minimum term is 40 years, as required.
Crediting Period	The Crediting Period for non-AFOLU projects shall be 10 years. All AR projects shall have a Crediting Period of 40 years. All IFM projects shall have a Crediting Period of 20 years. Avoided Conversion projects on both forest and non-forest land with land conservation agreements in place shall have a Crediting Period of 40 years, unless otherwise specified in chosen methodologies. Wetland Restoration/Revegetation projects shall have a Crediting Period of 40 years. The Crediting Periods for agriculture projects that avoid emissions by changing to lower GHG practices and those that include a soil sequestration component will be specified in the applicable methodology.	Review of the PP to confirm that the crediting period is 20 years, as required given the project type.
Real	GHG reductions and/or removals shall result from an emission mitigation activity that has been conducted in accordance with an approved ACR Methodology and is verifiable. ACR will not credit a projected stream of offsets on an ex-ante basis.	Review of the emission mitigation activity, as described in the PP, to confirm that it conforms to the requirements of the methodology and will be verifiable if implemented as described.
Emission or Removal Origin (Direct Emissions)	The Project Proponent shall own, have control over, or document effective control over the GHG sources/sinks from which the emissions reductions or removals originate. If the Project Proponent does not own or control the GHG sources or sinks, it shall document that effective control exists over the GHG sources and/or sinks from which the reductions/ removals originate.	Reviewed the supporting documentation, as described in the PP, and a sample of the ownership documentation provided (Refs. 16) to confirm that Project Proponent have control over the GHG sources/sinks from which the emissions reductions or removals originate on their respective properties. Evidence of land

		title for each parcel in the project area was provided and confirmed (Refs. 16).
Emission or Removal Origin (Indirect Emissions)	For projects reducing or removing non-energy indirect emissions, the following requirement applies: The Project Proponent shall document that no other entity may claim GHG emission reductions or removals from the Project Activity (i.e., that no other entity may make an ownership claim to the emission reductions or removals for which credits are sought).	Not applicable; the project is not reducing or removing non-energy indirect emissions.
Offset Title (All Projects)	The Project Proponent shall provide documentation and attestation of undisputed title to all offsets prior to registration. Title to offsets shall be clear, unique, and uncontested.	Confirmed by reviewing attestation that no offsets exist or were sold prior to registration of the project (Refs. 16, 22).
Land Title (AFOLU Projects Only)	For U.S. projects with GHG emissions reductions resulting from terrestrial sequestration, Project Proponents shall provide documentation of clear, unique, and uncontested land title. For international projects, Project Proponents shall provide documentation and/or attestation of land title; ACR may require a legal review by an expert in local law. Land title may be held by a person or entity other than the Project Proponent, provided the Project Proponent can show clear, unique, and uncontested offsets title. AFOLU projects that result only in the crediting of avoided emissions with no risk of reversal may not require demonstration of land title.	
Additional	Every project shall use either an ACR-approved performance standard and pass a regulatory surplus test, or pass a three-pronged test of additionality in which the project must: 1. Exceed regulatory/legal requirements; 2. Go beyond common practice; and 3. Overcome at least one of three implementation barriers: institutional, financial, or technical.	Confirmation that the project meets all relevant additionality requirements (see Section 3.4 below for more details).
Regulatory Compliance	Projects must maintain material regulatory compliance. To do this, a regulatory body/bodies must deem that a project is not out of compliance at any point during a reporting period. Projects deemed to be out of compliance with regulatory requirements are not eligible to earn ERTs during the period of non-compliance. Regulatory compliance violations related to	After performing extensive regulatory compliance checks during this reporting period, the audit team found no indication of any violations regarding regulatory compliance. EPA and ECHO were checked, no violations observed. OSHA records were also check during the reporting period and no violations

	administrative processes (e.g., missed application or reporting deadlines) or for issues unrelated to integrity of the GHG emissions reductions shall be treated on a case-by-case basis and may not disqualify a project from ERT issuance. Project Proponents are required to provide a regulatory compliance attestation to a verification body at each verification. This attestation must disclose all violations or other instances of non-compliance with laws, regulations, or other legally binding mandates directly related to Project Activities.	observed that pertained to the project. Correspondence area foresters from the Michigan DNR indicates that no forestry or clean water violations were observed during the reporting period within the project area. The audit team also reviewed the regulatory compliance section of the MR submitted (Ref. 2).
Permanence (All AFOLU Projects)	AFOLU Project Proponents shall assess reversal risk using ACR's Tool for Risk Analysis and Buffer Determination, and shall enter into a legally binding Reversal Risk Mitigation Agreement with ACR/Winrock that details the risk mitigation option selected and the requirements for reporting and compensating reversals.	Confirmed a total risk percentage of 18% using the ACR Tool for Risk Analysis and Buffer Determination as required by the ACR methodology.
Permanence (Terrestrial Sequestration, Avoided Conversion Projects)	Proponents of terrestrial sequestration or avoided conversion projects shall mitigate reversal risk by contributing ERTs to the ACR Buffer Pool or using another ACR-approved insurance or risk mitigation mechanism.	Confirmed a total risk percentage of 18% using the ACR Tool for Risk Analysis and Buffer Determination as required by the ACR methodology.
Permanence (Geologic Sequestration Projects)	Proponents of geologic sequestration projects shall mitigate reversal risk during the project term by contributing ERTs to the ACR Reserve Account and post-project term by filing a Risk Mitigation Covenant, which prohibits any intentional reversal unless there is advance compensation to ACR, or by using another ACR-approved insurance or risk mitigation mechanism.	Not applicable; the project is not a geologic sequestration project.
Permanence (All Projects)	All projects must adhere to ongoing monitoring, reversal reporting, and compensation requirements as detailed in relevant methodologies and legally binding agreements (e.g., the ACR Reversal Risk Mitigation Agreement).	Confirmed that section D of the PP includes a detailed Monitoring Plan relevant to the methodology.
Net of Leakage	ACR requires Project Proponents to address, account for, and mitigate certain types of leakage, according to the relevant sector requirements and methodology conditions. Project Proponents must deduct leakage that reduces the GHG emissions reduction and/or removal benefit of a project in excess of any applicable threshold specified in the methodology.	Confirmed that a 40% leakage deduction, was applied which is consistent with market-leakage per the methodology. The PP indicates that "No activity‐shifting leakage is allowed by the ACR IFM methodology beyond de minimis levels. The project includes a moderate level of harvest activity within the first reporting period, and moderate levels are

		projected for future reporting periods, as well. Forest management plans and historical records provided for verification demonstrate no deviation from management plans or from historical trends." The audit team verified the ATFS certification (Ref. 21), and with reasonable assurance that it covers the extent of Hiawatha timberland holdings. The PP also states "The quantification of leakage for the project is limited to market leakage. Where project activities decrease total wood products produced by the project relative to the baseline by 25% or more over the Crediting Period, the market leakage deduction is 40%."
Independently Validated	ACR requires third-party validation of the GHG Project Plan by an accredited, ACR-approved VVB once during each Crediting Period and prior to issuance of ERTs.	The PP has been independently validated by SCS, an accredited, ACR-approved validation/verification body.
Independently Verified	Verification must be conducted by an accredited, ACR-approved VVB prior to any issuance of ERTs and at minimum specified intervals.	The PP has been independently verified by SCS, an accredited, ACR-approved validation/verification body.
Environmental And Community Assessments	ACR requires that all projects develop and disclose an impact assessment to ensure compliance with environmental and community safeguards best practices. Environmental and community impacts should be net positive, and projects must "do no harm" in terms of violating local, national, or international laws or regulations. Project Proponents must identify in the GHG Project Plan community and environmental impacts of their project(s). Projects shall also disclose and describe positive contributions as aligned with applicable sustainable development goals. Projects must describe the safeguard measures in place to avoid, mitigate, or compensate for potential negative impacts, and how such measures will be monitored, managed, and enforced. Project Proponents shall disclose in their Annual Attestations any negative environmental or community impacts or claims thereof and the appropriate mitigation measure.	Confirmed by reviewing the PP and the ATFS certificate (Ref. 21) that the project has no anticipated negative community or environmental impacts.

3.4 Demonstration of Additionality

The audit team reviewed the demonstration of additionality, as set out in the PP, and confirmed that the additionality requirements set out in the ACR Standard have been met. A more detailed assessment of the audit team's findings is provided below.

3.4.1 Common Practice Test

The Finite Carbon – Hiawatha Sportsman's Association Improved Forest Management Project showed that similarities exist with the project and nearby private industrial forestland in the region. During the site visit through interviews with local managers and review of published data for the region, the audit team verified that aggressive timber harvesting practices involving the silvicultural prescriptions claimed in the baseline scenario are common practice in the region.

The audit team issued a finding over the common practice assumptions, and a portion of Finite Carbon's response provides more data:

"Please see workbook 'Hiawatha_SuperSection_CP' workbook (Ref 28) for comparison of project stocks to regional, 'Common Practice' stocking levels derived from FIA data. Through the landowner's commitment to retain and sequester carbon per their enrollment in the IFM project, they will aim to increase the carbon stocking levels to above those of the regional Common Practice values. This is demonstrated by the 20-year Crediting Period total of Above Ground Carbon Mean (mtCO2e/acre) for the project stocks vs. Common Practice."

3.4.2 Implementation Barriers Test

The "financial barrier" option was chosen by the project proponent as an implementation barrier. SCS Global Services received guidance from ACR personnel, in an email dated 6 June 2019, stating the following:

The intent of the financial implementation barrier test encompasses the interpretation and wording in Table 2, in which "carbon funding is reasonably expected to incentivize the implementation of the project scenario", yielding increased carbon stocks compared to the baseline. A quantitative assessment demonstrating forgone profit as a result of employing the project scenario suffices for passing this test.

Given this guidance, a financial barrier was demonstrated through a quantitative assessment demonstrating foregone profit as a result of employing the project scenario (i.e., demonstrating that the net present value of the baseline scenario was higher than the project net present value of the project scenario). The audit team's findings regarding this assessment are provided below.

The PP indicates that "The project activity faces a financial barrier. The net present value of the baseline scenario and its intensive management is calculated in the 'NPV_Model' tab of the 'ACR562 GHGPP Calculations' workbook (Ref. 3). Revenue generated by the carbon project will always fall short of the

NPV-maximizing baseline scenario. However, the carbon revenue will be a key driver of the financial viability of the project's action and the landowner's long-term sustainability goals."

The audit team independently conducted a financial feasibility assessment by using local stumpage prices to verify that the baseline scenario could feasibly occur in the project area in the lifetime of the carbon project if the project was not implemented.

3.5 Processes for Emission Reductions/Removal Enhancements Quantification

3.5.1 Methods, Algorithms, and Calculations To Be Used to Generate Estimates of Emissions and Emission Reductions/Removal Enhancements

The audit team validated the methodologies applied to quantify GHG emissions and emission reductions in the baseline and project scenarios. The objective was to determine whether the methods are clearly defined with supporting documentation, appropriate for accurately quantifying each data parameter, applied consistently, and result in a conservative estimate of GHG emissions reductions and removal enhancements.

Section 4.2 provides further detail on the methods, algorithms, and calculations used to generate and validate emissions reductions estimates.

3.5.2 Process Information, Source Identification/Counts, and Operational Details

The forest inventory serves as the primary source of data and information used to quantify emissions reductions. The PP and inventory methodology (Ref. 5) describe the process including sample size, determination of plot numbers, plot layout, data collected, and measurement techniques. Through site visit and document review (Refs. 3-5), the audit team verified the forest inventory methodologies and application.

The inventory data was then run within the Forest Vegetation Simulator with baseline prescriptions to project the baseline condition and a grow-only scenario to estimate the project scenario. The audit team confirmed that the baseline prescriptions were feasible and representative of common practice conditions in the region (see section 3.4.2).

3.5.3 Data Management Systems

SCS verified that data management system described in the PP have been established by the project personnel. The PP states: "Once field measurements have been collected, the raw inventory data will be compiled by the inventory contractor. A database is then transferred to Finite Carbon in an MS Excel worksheet and/or MS Access database. The database contains multiple tables with the plot and individual tree measurements recorded by the cruisers. After receiving the data, Finite Carbon reviews it and executes a quality control/assurance process for validation. Keys are also setup to standardize

relations between spatial and tabular data. Once the raw data has been assured for quality, it is formatted into a MS Access database for input to the Forest Vegetation Simulator (see below) using Finite Carbon's proprietary *Carbon Modules*. The Carbon Modules are a set of proprietary MS Access relational databases setup to process and compile raw inventory data, prepare FVS input tables, and calculate carbon stocks from FVS Output. The carbon modules are built upon a series of queries that select data and perform the calculations necessary to summarize onsite and harvested carbon stocks."

3.5.4 QA/QC Procedures

Section D of the PP and Appendix B (17) identify field and desk QA/QC procedures. The field QA/QC procedures include review of field collected data and remeasurement of any plots that cannot be reconciled. Further Appendix B states that "In order to verify the quality of the data collection, the contractor shall perform an internal audit of the data. Finite Carbon may also contract with a local forestry firm to conduct joint and or independent auditing on the project. Contract auditor representatives will work cooperatively to ensure that the data quality meets the standards of the CA ARB program and Finite Carbon expectations.

The audit will consist of a minimum of 5% of the samples collected. Initially, audits will address all cruisers equally. If however, individual cruisers are found to be consistently out of compliance, the auditor or audit team may focus on individuals in order to verify compliance with the specifications. Additional audits may be conducted by Finite Carbon or their assigns. Any such audits will be completed jointly with the successful inventory contractor whenever possible."

Also, "Based on the results of audits, if a cruiser repeatedly cannot or did not meet the quality standards (fails two consecutive audits) for allowable error, all plots for that cruiser must be re-done at the expense of the contractor by a cruiser that can consistently meet quality thresholds."

These field QA/QC procedures were confirmed on-site and during interviews. The QA/QC procedures and the quantification approach employed by the project team conform to the parameters and quantification methods required by the Methodology. SCS determined that the Project Proponent sufficiently documented and quantified each parameter.

3.5.5 Processes for Uncertainty Assessments

The PP describes how baseline and project uncertainty were calculated. The PP states that uncertainty in the combined carbon stocks in the baseline is quantified using equation 10 of the methodology (Ref. 1). The percentage uncertainty in the combined carbon stocks in the project during the reporting period is calculated using equation 18 of the methodology (Ref. 1). The total project uncertainty (percentage) during the reporting period is quantified using equation 19 of the methodology, as evidenced in their calculations workbook (Ref. 3). SCS confirmed that the approaches for assessing uncertainty that are identified in the PP are in conformance with the quantification methods required by the Methodology.

Further detail on uncertainty quantification is in sections 4.1.

4 Verification Findings

4.1 Results of Quantitative Uncertainty Assessment

SCS devoted a portion of the verification assessment to the review of the manner and propriety by which the project personnel quantified uncertainty associated with the individual GHGs in the project, in addition to the uncertainty of the calculation of GHG emission reductions and removals. The project uncertainty of 9.7% (Ref. 3) was verified within independent re-quantification. The audit team also calculated the total materiality of the GHG reduction and removal assertion. See below.

4.2 Analysis of the Quantification Methodologies and Applicable Data Sets and Sources

The audit team re-quantified baseline and project emissions, emissions reductions, and baseline and project uncertainty from the raw inventory data provided by the client. This process entailed verifying that the methods detailed in the PP and MR were applied as indicated. The team confirmed the emissions reduction by conducting the following analysis:

- Recalculate the live aboveground, live belowground, and standing dead carbon pools using Woodall equations and component ratio method using the inventory data provided by the client (Refs. 3-4).
- Recalculate site index by using the yield-soils overlay approach. NRCS SSURGO data was used for this recalculation (Refs. 12-15).
- Randomly select a random prescription from the baseline scenario. Run the selected prescription in FVS for all data and follow methodologies specified in the PP to calculate carbon stocks. Compare to the client's calculations for the selected prescription to calculate a material difference of the stratum-level carbon stocks for the crediting period (Refs. 7-11).
- Upon verification of the FVS model set-up, compute the harvested merchantable bole volume at the stratum-level using cutlist data from SCS's FVS model run with the previously randomly selected prescription and compare to the client's output across the crediting period (Ref. 10).
- After verifying the client's harvested merchantable bole volume calculation procedure from raw FVS output, calculate carbon stocks and merchantable volume across the client's entire raw Woodstock output (Ref 10).
- Calculate the change in the baseline carbon stock stored in live trees and standing dead trees using equations 1 and 2 of the methodology. Calculate the 20-year average value of carbon remaining stored in wood products 100 years after harvest using equation 3 (Refs. 3,10).
- With the outputs from equations 1, 2 and 3, calculate the long-term average baseline stocking level for the crediting period using equation 5 of the methodology. Use equation 6 to calculate the annual change in the baseline carbon stock (Ref. 3).
- Calculate the baseline uncertainty in the combined carbon stocks in the baseline using equation 10 (Ref. 3).

- Calculate the change in project carbon stock stored in live trees using equations 11 and 12 (Ref. 3).
- Calculate the change in the project carbon stock and GHG emissions during the reporting period using equation 14 (Ref. 3).
- Calculate the percentage uncertainty in the combined carbon stocks in the project during the reporting period using equation 18 (Ref. 3).
- Calculate the total project uncertainty (percentage) during the reporting period using equation 19 (Ref. 3).

Calculate the net greenhouse gas emission reductions (in metric tons CO2e) during the reporting period and during each annual vintage using equation 20 in the methodology (Ref. 3).

Emission Reductions

The audit team verified that the project personnel used the appropriate emissions factors and GWP's to calculate total emission reductions, which is adherent to the ACR Methodology. The team recalculated the final emission reductions and confirmed that they are without material discrepancy.

The ERT's associated with the first reporting period are reported in the MR and ERT workbook (Refs. 2-3) and are verified by the verification team are as follows:

- 330,575 tCO2e (Emissions reductions at the end of the current reporting period without risk buffer deductions)
- 271,071 tCO2e (Emissions reductions at the end of the current reporting period including risk buffer deductions)
- 59,504 tCO2e Risk buffer contribution
- 220,384 tCO2e Leakage deduction

Variances or Deviations

For this reporting period, there were no variances or deviations.

Uncertainty

The reported total Project Uncertainty (UNC_t) value of 8.81% was independently re-quantified by SCS using equation 19 in the methodology. No issues were found (see table below). The audit team found the difference reasonable and immaterial.

	SCS Values	Client Values	Difference
Year	**UNCt**	**UNCt**	
2020	8.95%	8.81%	0.14%

Materiality

$$\%\ Error = \frac{(Project\ Emission\ Reduction\ Assertion - Verifier\ Emission\ Reduction\ Recalculation)}{Verifier\ Emission\ Reduction\ Recalculation} * 100$$

$$\%\ Error = \frac{(271{,}071 - 273{,}098)}{273{,}098} * 100 = \frac{-2{,}027}{273{,}098} * 100 = \ 0.74\%$$

4.3 Basis of Data and Information Supporting the GHG Assertion

The following table indicates whether the data and information supporting the GHG assertion were based on assumptions and industry defaults, future projections, and/or actual historical records.

Assumptions and Industry Defaults	☒
Future Projections	☒
Actual Historical Records	☒

4.4 Leakage Assessment

Section E3 of the PP states: "The project includes a moderate level of harvest activity within the first reporting period, and moderate levels are projected for future reporting periods, as well. Forest management plans and historical records provided for verification demonstrate no deviation from management plans or from historical trends." The audit team verified that the Hiawatha Sportsman's Club's ATFS certification is valid based upon review of the ATFS document. The team concluded with reasonable assurance that the ATFS certification covers the managed timberlands held by the Hiawatha Sportsman's Club.

SCS confirmed that the applicable market leakage factor of 0.4 was applied.

4.5 Risk Assessment

The reported value of the total risk score, as determined based on the risk analysis documented in the PP and MR, was 18%. The audit team performed a complete review of the risk assessment against the requirements of the ACR Tool for Risk Analysis and Buffer Determination. The audit team concludes that the assignment of risk scores is appropriate and in conformance to the ACR Tool for Risk Analysis and Buffer Determination. A more detailed review of the audit team's conclusions may be found below.

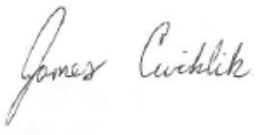
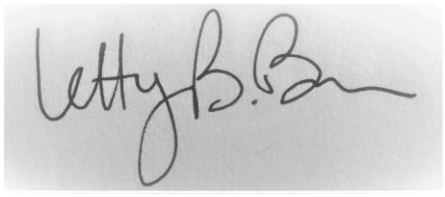
Actions Undertaken to Evaluate Whether the Risk Assessment Has Been Conducted Correctly		
Risk Category	**Value Selected**	**Verification Activities**

A	4%	Confirmation, through site inspections, that project is not located on public or tribal lands
B	4%	Confirmation, through site inspections, that project is not located on public or tribal lands
C	2%	Confirmation, through site inspections, that the project is not located outside the United States
D	0%	Confirmation, through independent review of documentation, that a conservation easement does not cover entire project area
E	2%	Confirmation, through independent review of documentation, that project is located in a low risk fire region
F	4%	Confirmation, through independent review of documentation, that epidemic disease or infestation is not present within project area, or within 30 mile radius of project area
G	0%	Confirmation, through site inspections, that project is not a wetland project or a forest project where more than 60% of the project area is not a forested wetland
H	2%	Confirmation that default value has been applied in the risk assessment calculation

5 Conclusion

The audit team asserts, with no qualifications or limitations, that

- The PP conforms, in full, to the validation criteria.
- The quantification of GHG emission reductions and/or removal enhancements, as reported in the MR, conforms to the verification criteria and is without material discrepancy.

Lead Auditor Approval	 James Cwiklik, 19 November 2021
Internal Reviewer Approval	 Letty B. Brown, 19 November 2021

Appendix A: List of Findings

Please see Section 2.5 above for a description of the findings issuance process and the categories of findings issued. It should be noted that all language under "Project Personnel Response" is a verbatim transcription of responses provided to the findings by project personnel. Findings begin on next page, due to the first finding not fitting on this page.

NIR 1 Dated 10 Aug 2021
Standard Reference: ACR Validation and Verification Standard
Document Reference: ACR562 GHG Project Plan Draft.pdf, ACR562 GHGPP Calculations Draft.xls, Hiawatha Sportsmans Club Cruise Spec 2.0 Voluntary 2020.pdf, ACR562 Inventory Data.xls
Finding: The ACR Validation and Verification Standard requires that VVB's Validate quantification methods. In addition, it states "Validating quantification methods requires review of four elements:
1) The quantification method for each data parameter is clearly defined, and supporting documentation provided is adequate to support the level of assurance required.
2) The methods are appropriate for accurately quantifying each data parameter based on the required level of assurance.
3) The methods are applied consistently to develop estimates of emission reductions and removal enhancements.
4) The ISO principle of conservativeness is applied (i.e., the choice of assumptions, calculation methods, parameters, data sources, and emission factors is more likely to lead to an underestimation than overestimation of net GHG emission reductions and removal enhancements).

During the review of the quantification the audit team found that the supporting documentation describes the collection of tree defect under the heading "Soundness Deduction". More specifically, the Inventory Methodology states "For all living and standing dead trees that have visible or observable missing wood, bark, or advanced decay (loose, frangible rot) a soundness deduction shall be made. Soundness deductions are made for the main bole only to a 4 inch top for trees 5.0 inches dbh and larger using the USDA FS table included at the end of this document. Cruisers are to use the table in combination with their best judgement to calculate/assess one soundness deduction value for the entire bole to a 4 inch top diameter outside bark. Record the metric as a percent for the tree. Trees less than 5.0 inches dbh may be assessed a soundness deduction using the cruisers best estimate and ocular estimate." In addition, Section E1.3.6.1 of the GHG Plan states "The quantification methodology of Woodall et al (2011) was used to quantify above ground and below ground biomass for live trees. Missing bole biomass due to defect was applied to trees with recorded defect as a percentage of total bole volume."

However, the audit team has been unable to locate this specific parameter (defect or soundness deduction) in the quantification workbooks provided. Please provide the Verification Team with updated workbooks which clearly show recorded defect or "Soundness Deduction" which was collected as part of the forest carbon inventory.

Project Personnel Response: This application of the Woodall equations for the North Central region is supported by guidance from ACR (email correspondence forwarded to SCS). Please refer to Page 27 of Woodall et al (2011): "Table 5.-Sound cubic-foot volume (VOLCFSND) equation forms for all regions." For the North Central region (which includes MI and WI), the VOLCFSND is derived from VOLCFGRS and the coefficients associated with the assigned Tree Class Code, which includes a standardized defect percentage. There is no variable in the VOLCFSND equation for a specific defect percentage. Only the Northeast, Rocky Mountain, Pacific Northwest, and Southern regions allow for this variable.

As supplemantary reference, please also see the California ARB guidance for estimating volume and biomass using Woodall et a. (2011) in the link below. Under Step 5a, for projects located in the North Central region, it states that "The VOLCFSND equations incorporate standard volume deduction coefficiants that must be obtained from the coefficients database." Step 6 includes a Tree Class Code definition table with the same codes as provided in the Inventory Methodology, but with language more specific to biological defect loss rather than merchantabile defect loss. For the verifier's consideration, the inventory contractor used for Hiawatha (Green Timber Consulting) has successfully completed several previous inventories for ARB projects in the North Central region. Therefore, we believe it is reasonably understood that the inventory was completed with working knowledge of the Tree Class Codes as they apply to both biological and merchantable defect loss.

https://ww2.arb.ca.gov/our-work/programs/compliance-offset-program/compliance-offset-protocols/us-forest-projects/2015/instr-45states
Auditor Response: The audit team confirms receipt of the guidance from ACR and acknowledges that VOLCFSND equation was applied in conformance with the methodology. This finding is closed.
Bearing on Material Misstatement or Conformance (M/C/NA): C

NCR 2 Dated 10 Aug 2021
Standard Reference: ACR Validation and Verification Standard
Document Reference: ACR562 GHG Project Plan Draft.pdf, ACR562 GHGPP Calculations Draft.xls
Finding: The ACR Validation and Verification Standard requires that VVB's Validate quantification methods. In addition, it states "Validating quantification methods requires review of four elements:
1) The quantification method for each data parameter is clearly defined, and supporting documentation provided is adequate to support the level of assurance required.
2) The methods are appropriate for accurately quantifying each data parameter based on the required level of assurance.
3) The methods are applied consistently to develop estimates of emission reductions and removal enhancements.
4) The ISO principle of conservativeness is applied (i.e., the choice of assumptions, calculation methods, parameters, data sources, and emission factors is more likely to lead to an underestimation than overestimation of net GHG emission reductions and removal enhancements).

During the review of the GHG plan, the audit team found that the description of the quantification method and the actual methods employed were inconsistent with one another. For example, Section E1.3.6.1 of the GHG Plan states the following regarding the quantification of carbon in standing dead trees: "Biomass was estimated following the Woodall et al (2011) methodology as per live trees except for decomposition class 4. For decomposition class 4, the biomass estimate was limited to the main stem of the tree. For standing dead trees with missing tops, the top and branch biomass were assumed to be zero."

However, during the review of the quantification of carbon in aboveground live and standing dead carbon by tree, the audit team found that the top biomass was being set to null for all standing dead trees regardless of decay class. This is inconsistent with the ACR methodology which states (Section 3.1.2.1) "Step 3: Biomass must be estimated using the component ratio method used for live trees for decomposition classes 1, 2, and 3 with deductions as stated in Step 4 (below)." This is also inconsistent with the requirements listed above with regards to consistency and clarity. Please revise the quantification of standing dead stocks to be consistent with the GHG plan description and the ACR methodology.
Project Personnel Response: During our review of the standing dead calculations for this project, we discovered that Tops were inadvertently being omitted for all snags measured in the inventory due to a bug in our carbon processing routines. For snags generated in FVS growth projections, however, the processing routines work as intended consistent with Section 3.1.2.1 (e.g. tops were included for snags generated through FVS mortality functions). Because the combination of having less standing dead carbon in the standing inventory due to the tops error combined with the correct, higher standing dead carbon in the baseline carbon leads to a conservative estimate of ERT reductions, along with representing a de minimis reduction in standing dead carbon stocks, we believe our estimates of project and baseline carbon adhere to the principle of conservativism and therefore do not need to be revised.
Auditor Response: The audit team agrees that estimates comply with the principal of conservativeness and do not need to be revised. This finding is closed.
Bearing on Material Misstatement or Conformance (M/C/NA): C

NCR 3 Dated 10 Aug 2021
Standard Reference: Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increase Forest Carbon Sequestration on Non-Federal U.S. Forestlands Version 1.3, ACR Standard Version 6.0
Document Reference: ACR562 GHG Project Plan Draft.pdf, ACR562 GHGPP Calculations Draft.xls
Finding: Section 3.1.2 of the ACR IFM methodology states “Dead wood included in the methodology comprises two components only – standing dead wood and lying dead wood. Below-ground dead wood is conservatively neglected.”

The ACR Standard’s Core GHG Accounting Principles require that the Project Proponent “Use conservative assumptions, values, and procedures to ensure that GHG emission reductions or removal enhancements are not overestimated.”

During the review of the quantification workbooks the audit team found that below ground biomass for dead trees was being included. Given the above, the current quantification is out of compliance with the ACR IFM methodology and the ACR Standard. Belowground dead wood will need to be removed to be in compliance with these requirements.
Project Personnel Response: Received updated guidance from ACR which allows for inclusion of belowground dead wood. Please see "Errata and Clarifications" document, Section C3 Baseline Net Reductions and Removals / August 17, 2021 in link below.

https://americancarbonregistry.org/carbon-accounting/standards-methodologies/improved-forest-management-ifm-methodology-for-non-federal-u-s-forestlands
Auditor Response: The errata and clarifications allow for belowground dead in dead wood estimates. This finding is closed.
Bearing on Material Misstatement or Conformance (M/C/NA): C

NCR 4 Dated 10 Aug 2021
Standard Reference: Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increase Forest Carbon Sequestration on Non-Federal U.S. Forestlands Version 1.3; ACR Standard Version 6.0; Methods and Equations for Estimating Aboveground Volume, Biomass, and Carbon for Trees in the U.S.Forest Inventory, 2010; Standard Forest Inventory and Analysis Terminology; The Forest Inventory and Analysis Database: Database Description and Users Manual Version 4.0 for Phase 2
Document Reference: ACR562 GHG Project Plan Draft.pdf, ACR562 GHGPP Calculations Draft.xls

Finding: Section 3.1.1 of the ACR IFM Methodology states "To ensure accuracy and conservative estimation of the mean aboveground live biomass per unit area within the Project Area, Projects must account for missing cull in both the ex ante and ex post baseline and project scenarios. Determine missing cull deductions with cull attribute data collected during field measurement of sample plots."

The ACR Standard's Core GHG Accounting Principles require that the Project Proponent "Use conservative assumptions, values, and procedures to ensure that GHG emission reductions or removal enhancements are not overestimated."

Section E1.3.6.1 of the GHG Plan states "The quantification methodology of Woodall et al (2011) was used to quantify above ground and below ground biomass for live trees. Missing bole biomass due to defect was applied to trees with recorded defect as a percentage of total bole volume."

Section "Gross Volume Estimation" of Woodall et. al (2011) states "Gross volume includes rotten and missing parts and form cull. Rotten and missing cubic-foot cull volume is estimated to the nearest 1 percent in the field. This estimate does not include any cull deduction above actual length so volume lost from a broken top is not included. Form cull is the percent of the cubic-foot volume that is cull due to form defect, and is only collected at some locations."

The definition of "Cull Deductions" within the FIA "Standard Forest Inventory and Analysis Terminology" states "Tree sections with form defect and rotten or sound dead volume are not 'double counted'." In addition, the definition of "TREECLCD_NCRS" within "The Forest Inventory and Analysis Database: Database Description and Users Manual Version 4.0 for Phase 2" states "Tree class code, North Central Research Station. In annual inventory, a code indicating tree suitability for timber products, or the extent of decay in the butt section of down-dead trees. It is recorded on live standing, standing-dead, and down dead trees that are 1.0 inches DBH and larger. Tree class is basically a check for the straightness and soundness of the sawlog portion on a sawtimber tree or the potential sawlog portion on a poletimber tree or sapling. "Sawlog portion" is defined as the length between the one-foot stump and the 9.0" top diameter of outside bark, DOB, for hardwoods, or the 7.0" top DOB for softwoods". Given the above, it is clear that the parameter "TreeCLCD" is related to straightness, which is a characteristic of shape, which implies form and should not be considered "missing bole biomass" which is observed and estimated during the inventory.

During the review of the quantification of carbon by tree, the audit team found that defect due to missing parts or cull was not being applied to live or dead carbon stocks as required. Rather, only a tree form defect was being applied which is associated with the parameter "TreeCLCD" (Tree Class Code) to quantify sound cubic foot volume ("VOLCFSND") as part of the Woodall equations associated with the Lake States (region of interest). It is important to note that tree form defect is not the same as defect from cull or missing parts and that both must be included in the quantification of carbon by tree when following the component ratio method from Woodall et. al. (2011). The quantification of carbon will need to be revised to be 1) in compliance with the ACR methodology, 2) conservative, and 3) consistent with the GHG plan and methods described in Woodall et. al. (2011).
Project Personnel Response: Please see response to Finding #1.
Auditor Response: The audit team confirms receipt of the guidance from ACR. The audit team confirmed that defect is being quantified correctly. This finding is closed.
Bearing on Material Misstatement or Conformance (M/C/NA):

NCR 5 Dated 10 Aug 2021
Standard Reference: ACR Validation and Verification Standard
Document Reference: ACR562 GHG Project Plan Draft.pdf
Finding: The ACR Validation and Verification Standard requires that VVB's Validate quantification methods. In addition, it states "Validating quantification methods requires review of four elements:
1) The quantification method for each data parameter is clearly defined, and supporting documentation provided is adequate to support the level of assurance required.
2) The methods are appropriate for accurately quantifying each data parameter based on the required level of assurance.
3) The methods are applied consistently to develop estimates of emission reductions and removal enhancements.
4) The ISO principle of conservativeness is applied (i.e., the choice of assumptions, calculation methods, parameters, data sources, and emission factors is more likely to lead to an underestimation than overestimation of net GHG emission reductions and removal enhancements).

During the review of the GHG Plan, the audit team found that the description in table "E1.3.1 FVS Input Data" to be inconsistent. More specifically, the description for 'Damage1' and 'Severity1' indicate that these are the "Percent defect of tree's merchantable cubic foot volume" and recorded as "1-99 (99 = 100%) – percent defect". However, upon review of the quantification of carbon by tree it is clear that these fields represent Tree Class Codes (TreeCLCD recorded as 2, 3, or 4 for growing stock, rough cull or rotten). Tree Class Codes are not percent defect and therefore, the GHG Plan will need to be updated for consistency to be in compliance.
Project Personnel Response: Table "E1.3.1 FVS Input Data" has been corrected to reflect the application of Tree Class Codes for determing VOLCFSND
Auditor Response: Confrimed Table E1.3.1 has been updated. Finding is closed.
Bearing on Material Misstatement or Conformance (M/C/NA): C

OBS 6 Dated 10 Aug 2021
Standard Reference: ACR Validation and Verification Standard
Document Reference: ACR562 GHG Project Plan Draft.pdf
Finding: The ACR Validation and Verification Standard, Chapter 5 states that element 3 under "Validating quantification methods requires review of four elements" is "The methods are applied consistently to develop estimates of emission reductions and removal enhancements."

During the review of Section E1.3.4 of the GHG Project Plan ("Site Index and Growth Determination"), it was determined that not all soil mapping units available for a given stratification were being utilized during the calculation of the species-level Site Index value. This discrepancy impacts the accuracy of growth rates used in FVS to project biomass accumulation over time. The Project Developer demonstrated that this will not cause a material difference in projections for the next 20-year crediting period, and furthermore, that stand attributes between the original and adjusted Site Index values will be very similar for the next 30-40 years. This demonstration is shown in an email dated 7/1/2021.
Project Personnel Response: N/A
Auditor Response:
Bearing on Material Misstatement or Conformance (M/C/NA): NA

NCR 7 Dated 10 Aug 2021
Standard Reference: ACR Standard v6.0
Document Reference: ACR562 GHG Project Plan Draft.pdf
Finding: The ACR Standard states in Section 6.B that "The GHG Project Plan shall use the ACR template and include the following information:" with element 2 as:

2) Project location, including geographic and physical information allowing for the unique identification and delineation of the specific extent of the project. Projects implementing a Programmatic Design Approach shall include location information for all sites known at the time of the GHG Project Plan validation;

Section A.4 of the GHG Project Plan references Appendix C for detailed maps related to geographic and physical information of the project, but Appendix C is not yet integrated into the Project Plan document.

Please add these sections to the GHG plan to be within compliance of the requirements of the standard.

Project Personnel Response: Appendix C uploaded to "Appendices" folder
Auditor Response: The maps have been provided in Appendix C. This finding is now closed.
Bearing on Material Misstatement or Conformance (M/C/NA): C

NCR 8 Dated 10 Aug 2021
Standard Reference: ACR Template for GHG Project Plans v1.0
Document Reference: ACR562 GHG Project Plan Draft.pdf
Finding: The ACR Template for GHG Project Plans states for Section A6. Project Action:

"Describe the project action(s), including:
- Description of prior physical conditions"

Section A6. of the GHG Project Plan does not include a description of prior physical conditions. Please add to be within compliance of the template and standard.
Project Personnel Response: Section A6 has been updated ro reflect prior physical condition of property.
Auditor Response: Physical descriptions are now included in Section A6. This finding is now closed.
Bearing on Material Misstatement or Conformance (M/C/NA):

NCR 9 Dated 8 Sep 2021
Standard Reference: ACR Standard v6.0
Document Reference: ACR562 GHG Project Plan Draft.pdf
Finding: The ACR Standard states in Section A3.3 Eligibility Criteria: "For IFM, the Start Date may be denoted by one of the following:
1. The date that the Project Proponent began to apply the land management regime to increase carbon stocks and/or reduce emissions relative to the baseline.

2. The date that the Project Proponent initiated a forest carbon inventory.

3. The date that the Project Proponent entered into a contractual relationship to implement a carbon project.

4. The date the project was submitted to ACR for listing review. Other dates may be approved by ACR on a case by case basis."

The current GHG Plan states "The project has a start date of July 2, 2020, the date on which a Carbon Offset Transaction Terms Agreement between the Project Proponent and a purchaser of the ERT was fully executed."

Please provide this agreement for review.
Project Personnel Response: A redacted copy of the agreement will be provided shortly, pending approval by the purchaser.
Auditor Response: A redacted copy of the agreement has been provided to the audit team in an email dated 10/27/2021. This finding is closed.
Bearing on Material Misstatement or Conformance (M/C/NA):

NCR 10 Dated 8 Sep 2021
Standard Reference: ACR Standard v6.0
Document Reference: ACR562 GHG Project Plan Draft.pdf
ACR562 GHGPP Calculations Draft_083021.xlsx
Finding: The leakage claims in the GHG Plan state "No activity-shifting leakage is allowed by the ACR IFM methodology beyond de minimis levels. There has been no harvest activity during the first reporting period and no harvests are currently planned. Forest management plans and historical records provided for verification demonstrate no deviation from management plans or from historical trends.
The quantification of leakage for the project is limited to market leakage. Where project activities decrease total wood products produced by the project relative to the baseline by 25% or more over the Crediting Period, the market leakage deduction is 40%."

The claim that no harvest activity has occurred during the first reporting period or that no harvests are currently planned is not accurate. The Project Action states, "Actions include, but are not limited to, deferred harvesting, lengthened rotations, retention of standing dead wood during timber harvests, and protection of riparian areas, wetlands, and significant natural communities." Additionally, when reviewing the ERTs tab in the GHGPP Calc workbook, each year of the project assumes harvests.

Please update this section to be consistent with what the project action states, what the calculation workbooks state, and what monitoring report states.
Project Personnel Response: Updated to "The project includes a moderate level of harvest activity within the first reporting period, and moderate levels are projected for future reporting periods, as well."
Auditor Response: The language is now consistent with the rest of the GHG plan and calculations. This finding is closed.
Bearing on Material Misstatement or Conformance (M/C/NA):

NCR 11 Dated 8 Sep 2021
Standard Reference: ACR Standard v6.0 Section 2.B.6
Document Reference: ACR562 RP1 Monitoring Report Draft_0821.pdf
ACR562 GHGPP Calculations Draft_083021.xlsx
Finding: Section 2.B.6 of the ACR Standard states "The Project Proponent shall establish and apply quality assurance and quality control (QA/QC) procedures to manage data and information, including the assessment of uncertainty in the project and baseline scenarios."

Quality control measures missed a few differences in the monitoring report compared to the ERT calculations workbook. In Section IV: AFOLU Projects, 2. Carbon Pools, the Harvested Wood Products are listed as 9,310 while a value of 1,324 is listed in the ERTs_UNC tab of the GHG PP Calculations Draft workbook.

Section VI: GHG Emission Reductions and Removals list Baseline Emissions as 506,208 while the workbook lists it as -506,208, the project emissions as "0" while the workbook lists 48,324. The instructions also state "Provide a summary calculation of project emissions; attach as an appendix, a spreadsheet documenting project emissions quantification." The baseline or project emissions do not provide a summary calculation documenting the emissions quantification.

The leakage emissions also states "If applicable, provide a summary calculation of leakage emissions; attach as an appendix, a spreadsheet documenting leakage emissions quantification." This is not provided, and the value given of 173,489 also does not match the ERTs_UNC tab of the calculations workbook.

Similarly, the Buffer Pool Contribution and Net GHG Emission Reductions/Removals do not provide summary calculations.

Please update the monitoring report to accurately report the items above and follow the monitoring report template instructions with regards to summary calculations.
Project Personnel Response: Updated HWP in Monitoring Report to 1,324

Updated Baseline and Project Emissions values and included workbook reference

Updated Leakage value and included workbook reference

Included workbook reference for Buffer Pool Contribution and Net GHG Emission Reductions/Removals
Auditor Response: The updated language and workbook references are now accurate, however the audit team notices the buffer pool contribution is still not matching the most up to date ERT workbook. A value of 58,816 is reported in the updated Monitoring Report while the ERT workbook states 58,890. The finding remains open until the accurate buffer pool is reported in Section VI: GHG Emission Reductions and Removals of the monitoring report.
Project Personnel Response 2:
Auditor Response 2: The monitoring report has been updated to show the accurate buffer pool contribution after it was updated to address other findings. This finding is closed.
Bearing on Material Misstatement or Conformance (M/C/NA):

NCR 12 Dated 8 Sep 2021
Standard Reference: Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increase Forest Carbon Sequestration on Non-Federal U.S. Forestlands Version 1.3
Document Reference: ACR562 GHG Project Plan Draft.pdf

Finding: The methodology states "The common practice test requires Project Proponents to evaluate the predominant forest industry technologies and practices in the project's geographic region. The Project Proponent shall demonstrate that the proposed project activity exceeds the common practice of similar landowners managing similar forests in the region."

The GHG plan states "The project is located in the eastern half of Michigan's Upper Peninsula. Demand for wood, including sawtimber and pulpwood, from mills throughout the Lake States drives investment in timberland, with industrial forestland owners seeking to maximize the NPV of their investments through intensive management practices. Investment return requirements can lead to significantly higher harvest levels and were the project not implemented the intensive management and resulting lower onsite carbon stocks associated with that level of harvest activity could very well occur within the project area. Industrial As described in A6. PROJECT ACTION the project will exceed common practice in the region."

During the site visit, the lead auditor inquired as to if the owner had the capability to harvest as claimed in the baseline scenario. The response from the managing forester, Grossman, was a yes. They wouldn't have an issue with securing loggers or equipment to harvest the baseline scenario claims. However, when the audit team spoke to a regional managing forester in the area, Karen Rodock, she was skeptical the mills in the area could handle such an influx of lumber. Both foresters mentioned that a few mills closed in the recent past as well.

The provided Michigan Primary Mill survey 2018 states that the Eastern Upper Peninsula, where the project is located, only accounts for 16% of volume receipts by source of total standard cords in the state of Michigan. Comparing the baseline scenario claims of harvested wood with this report and the information given to the audit team by local foresters, there is a concern that the project's assumed common practice is not being demonstrated, and the resulting harvest activity claims in the baseline could not occur.

Additionally, the methodology states "The ISO 14064-2 principle of conservativeness must be applied for the determination of the baseline scenario. In particular, the conservativeness of the baseline is established with reference to the choice of assumptions, parameters, data sources and key factors so that project emission reductions and removals are more likely to be under-estimated rather than over-estimated, and that reliable results are maintained over a range of probable assumptions."

Based on the information the audit team has acquired, the principle of conservativeness is not being applied to the baseline scenario, where assumptions are over estimating the local mill capacity to buy the wood that would be cut in such a short time period.

Please provide a reference such as mill quotas or some other timber harvest data for verification purposes to confirm the claimed baseline harvest scenario would be realistic with the mills in the region.

Secondly, please demonstrate that the proposed project activity exceeds the common practice of similar landowners managing similar forests in the region. Please provide examples and data of similar landowners managing similar forests in the region.

Project Personnel Response: Please see 'Hiawatha_MillCapacity' workbook uploaded to 'AdditionalDocuments' folder in VaultRooms. This includes mill capacity values for the three specific mills that Hiawatha will typically deliver their harvested wood to. It should be noted that there are other mills in the area that provide further wood utilization capacity.

With regards to the 2018 Michigan DNR Primary Mill Survey, the Verifier writes that the Eastern UP "only accounts for 16% of volume receipts by source of total standard cords in the state of Michigan." It should be recognized that this local figure equates to nearly 800k cords (1.8 million green tons) of the State's 4.8 million cord total (10.6 million green tons). The annual harvest volumes portrayed in the Hiawatha baseline model are drastically lower than either of these surveyed values. Furthermore, the total capacity indicated by the mills that Hiawatha typically delivers to demonstrates an even greater capacity at 1.5 million cords (3.4 million green tons).

Given the high level of wood utilization capacity indicated by area mills, we believe the amount of harvest volume depicted in the baseline by the subject property is reasonable and could be handled by current mills. We believe that these specific mill metrics provide adequate evidence to meet the intended requirements of Section C1 of the ACR IFM methodology.

Please see workbook 'Hiawatha_SuperSection_CP' workbook for comparison of project stocks to regional, 'Common Practice' stocking levels derived from FIA data. Through the landowner's commitment to retain and sequester carbon per their enrollment in the IFM project, they will aim to increase the carbon stocking levels to above those of the regional Common Practice values. This is demonstrated by the 20-year Crediting Period total of Above Ground Carbon Mean (mtCO2e/acre) for the project stocks vs. Common Practice.

Auditor Response: After reviewing the provided material, the audit team confirmed that the project will increase the carbon stocking levels above the regional Common Practice. Additionally, the mill capacities have been reviewed and provide adequate capacity for the harvests in the baseline scenario. This finding is now closed.

Bearing on Material Misstatement or Conformance (M/C/NA):

NCR 13 Dated 8 Sep 2021
Standard Reference: Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on NonFederal U.S. Forestlands v1.3
Erratum & Clarifications
Document Reference: ACR562 GHG Project Plan Draft.pdf
Finding: The methodology defines commercial harvesting "Commercial Harvesting: Any type of harvest producing merchantable material at least equal to the value of the direct costs of harvesting."

The GHG plan states "The project area was not subject to commercial harvest activities at the project start date. Before any commercial harvest activities occur in the project area, the project will adhere to one or a combination of the criteria established in the IFM Methodology and the 2020 Errata and Clarifications."

After reviewing the active timber sales occurring before and after the start date, it appears that commercial harvesting did occur at the project start date. This includes multiple harvests, 100s of acres over the past 3 years (see Hiawatha_SalesActiveDuringRP1 folder).

Please update this applicability section to accurately reflect the conditions currently in the project and demonstrate how the project adheres to the sustainable management requirements for Private ownerships subject to commercial timber harvesting at the project Start Date.

Project Personnel Response: Updated language to reflect property management activities. A copy of the landowner's ATFS certificate can be found in the 'AdditionalDocuments' folder within VaultRooms.
Auditor Response: The updated language properly reflects the management of the property. This finding is now closed.
Bearing on Material Misstatement or Conformance (M/C/NA):

NCR 14 Dated 13 Oct 2021
Standard Reference: Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on NonFederal U.S. Forestlands v1.3
Document Reference: ACR565 GHGPP Calculations Draft_083021.xlsx
Finding: In Section 3.2, Step 4, the methodology states that total carbon transferred into wood products in each product class must be multiplied by the storage factor for landfill carbon. Total carbon transferred into wood products is calculated in Step 2. Currently, the remainder of harvested carbon is being multiplied by storage fators for landfill carbon in Step 4, rather than the total carbon transferred into wood products, and the methodology states that "The remainder (sawdust and other byproducts) of the harvested carbon is considered to be immediately emitted to the atmosphere for accounting purposes in this methodology." Please correct Step 4 to utilize total carbon transferred into wood products from Step 2, rather than the remainder. This applies to both baseline and project hardwood product calculations.
Project Personnel Response: Calculations corrected. Updated versions of workbook, GHG plan, and monitoring report uploaded to VaultRooms.
Auditor Response: Thank you for correcting the calculations. This finding is closed
Bearing on Material Misstatement or Conformance (M/C/NA):