

# VALIDATION AND VERIFICATION REPORT

*American Carbon Registry*

*ACR 828: Anew – Manistique Forestry Project*

**Reporting Period:**

**03 August 2022 to 30 April 2023**

**Prepared for:**

**Anew Carbon Development, LLC**

**06 November 2024**



AMERICAN CARBON REGISTRY

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## Executive Summary

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This report describes the validation and initial verification services provided for the Anew – Manistique Forestry Project (“the project”), an Improved Forest Management project located in Michigan’s Eastern Upper Peninsula, 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 objectively the claimed GHG emission reductions/removal enhancements for the reporting period from 03 August 2022 to 30 April 2023 against relevant ACR standards and the approved methodology. The validation and verification engagements began with the opening meeting on 31 May 2023 and 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 26 findings were raised: 5 Non-Conformity Reports, 20 New Information Requests and 1 Observations. 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

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## 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 nearly 300 million tonnes of CO<sub>2</sub>e, 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).
- Any significant changes to the project procedures or criteria since the last verification.
- Any significant changes in the GHG project's baseline emissions and emission reductions/removal enhancements since the last verification.

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  $\pm 5\%$ ).
- 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:

The validation and verification criteria were comprised of the following:

- Validation: ACR Standard, Version 7.0
- Verification: ACR Standard, Version 7.0

- Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands, Version 2.0 (“the methodology”)
- v2.0 IFM Errata and Clarifications | 2024-08-12
- ACR Guidance for IFM Aggregation and PDA | 2021-01-25
- ACR Tool for Risk Analysis and Buffer Determination, Version 1.0
- ACR Validation and Verification Standard, Version 1.1
- Principles of ISO 14064-3:2019: Greenhouse Gas – 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 project proponent and estimated by SCS be immaterial, i.e. be less than ACR's materiality threshold of  $\pm 5\%$ , as calculated according to the equation in the ACR Standard.

## 1.7 Summary Description of the Project

The project is located in Luce, Schoolcraft, Alger, Mackinac, and Chippewa counties in Michigan's Eastern Upper Peninsula and is aimed at forest management practices intended to improve carbon storage and conservation value when compared to higher return, more aggressive industrial management regimes in the region.

## 2 Assessment Process

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### 2.1 Method and Criteria

The validation and verification services began with the opening meeting on 31 May 2023 and 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 1.4 of this report. As discussed in Section 2.5 of this report, findings were issued to ensure conformance to all requirements.

The audit team created an evidence gathering plan following a proprietary evidence gathering plan template developed by SCS which includes a strategic analysis and risk assessment. In accordance with the evidence gathering plan, the audit team identified the risk of a material misstatement or nonconformity with the criteria and considered the results of the materiality assessment (see Section 1.6 above). Sampling and data testing activities were planned to address areas of inherent, control, and detection risk. The audit team then created a verification plan that took the evidence gathering plan into account.

### 2.2 Document Review

The GHG project plan (dated 05 November 2024; "PP") and monitoring report (dated 09 October 2024; "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 Plan	Manistique_GHGPlan_11_5_24-signed.pdf	1
Monitoring Report	Manistique_RP1_Monitoring_Report_10_09_2024_Signed.pdf	2
CO2 Calculation Workbook	Manistique_Start_RP_CO2_06_24_2024.xlsx	3
ERT Calculation Workbook	Manistique_RP_ERT_HWP_07_11_2024.xlsx	4
100 Year Calculation Workbook	Manistique_100Yr_calcs_06_24_2024.xlsx	5
Regeneration Calculation Workbook	Manistique_Regeneration_Calcs_05_31_2024.xlsx	6
Site Index Calculation Workbook	Manistique_SiteIndex_Calcs_05_31_2024.xlsx	7
Site Visit CO2 Calculation Workbook	Manistique_SiteVisit_CO2_06_24_2024.xlsx	8
Project Boundary	Manistique_Boundary_05_31_2024.shp	9
Project Inventory Plots	Manistique_Plots_05_09_2023.shp	10
Project SMZ	Manistique_SMZ_5_29_2024.shp	11
Project Strata	Manistique_Strata_5_9_2023.shp	12
Project Cover Types	ManistiqueCovertypes.shp	13
Project Soil Profiles	Contents of folder [Soils]	14
Inventory Methodology	Manistique_CarbonPlot_Methodology_05_12_23.pdf	15
Stumpage Pricing	TimberMartNorth_Vol 28 No 2.pdf UP_StumpagePrices.xlsx	16
Michigan Forestry BMPs	IC4011_SustainableSoilAndWaterQualityPracticesOnForestLand_268417_7.pdf	17
Various FVS years for the following database files, out files, and key files	Manistique_IndTreeGrowls Manistique_CCA_2022 Manistique_CCJP_2022 Manistique_CCNH_2022 Manistique_CCRP_2022 Manistique_CCSC_2022 Manistique_CCWC_2022 Manistique_GROW Manistique_SHW50_2022 Manistique_START Manistique_STS50BA10_2022 Manistique_STS75BA15_2022 Manistique_FVS_Plots_10_09_2023.xlsx	18
FSC Certification	Blue Source Sustainable Forests Company FSC FM_COC Certificate 27.3.2023.pdf	19

Ownership Information	Deed - Alger.pdf Deed - Chippewa.pdf Deed - Luce (Timberlands).pdf Deed - Mackinac.pdf Deed - Schoolcraft (Timberlands).pdf	20
Multi-Site Design Document	Manistique_Multi-Site-Design-Document_09_17_24.pdf	21
ESIA Report	Manistique_ACR-Environmental-and-Social-Impact-Assessment-Report.pdf	22
SDG Contribution Report	ACR-SDG-Contributions-Reporting-Tool-v1.0.pdf	23
Stratification SOP Document	Manistique Stratification SOP	24
Structural Loss Factor Documentation	ZHAO_Summary Report to Anew.pdf RE_ACR 2.0 Dead SLAs.pdf	25
Limited Liability Company Agreement	AR LLC Agreement (Manistique Woodlands LLC) 2023-09-22-executed.pdf	26
Monitoring Report Section VI Attachment	Manistique_RP1_ERT_MR_SectionVI_Appendix.pdf	27
Reversal Risk Analysis	Risk Analysis and Buffer Determination Analysis_Manistique.pdf	28

## 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
Tim Hipp	Anew	Analyst, Natural Climate Solutions	Throughout audit
Cakey Worthington	Aurora Sustainable Lands	Project Proponent	June 8, 2023

### 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
Keith Magnusson	Michigan DNR – Newberry Unit	Regional Forester	February 9, 2023

## 2.4 Site Inspections

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

- Confirm the validity of the statements made in the PP and associated project documentation;
- Confirm the baseline conditions and project conditions;
- Interview project personnel to determine if the PP correctly identifies 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 19 June 2023 through 22 June 2023. The main activities undertaken by the audit team were as follows:

- Performed 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 areas, visually observing and taking coordinates at posted boundary signs, survey monuments, and other boundary references.
  - Selected samples of inventory data using simple 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 CO<sub>2</sub>e/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, 5 NCRs, 20 NIRs 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

- Review of project documentation including the PP (Ref. 1), MR (Ref. 2), calculation workbooks (Refs. 3-8), Spatial data (Refs. 9-12), inventory methodology (Ref. 15), modeling (Ref. 18), ownership documents (Ref. 20), certifications (Ref. 19), supporting reports (Refs. 21-23), and to check for project-specific conformance to ACR standard and methodology, appropriateness of methodologies and tools applied, and accuracy of GHG information and assertion.
- Assessment of any disturbances or forest management activities that took place in the project area during the reporting period.
- Review of project scenario.
- Review of the sources, sinks, and reservoirs of GHG emissions within the project boundary.
- 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 Anew to convert the raw inventory data into

emission reduction estimates during the reporting period. This included a re-calculation of project emissions, ERTs, and uncertainty using inventory data as described below in Section 4.1 and 4.2 (Refs. 3-5).

- 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 (Ref. 28) and regulatory compliance (Ref. 2).
- Attention was paid to the common practice assessment including local silvicultural trends, market wood demands, and regional mill capacities.

## 3 Validation Findings

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### 3.1 Project Boundary and Activities

#### 3.1.1 Project Boundary and Procedures for Establishment

The PP contains a description of the physical boundary of the project, which is located on 28,299.61 acres of mixed forested land comprised of aspen/birch, northern hardwood, red pine, upland softwood, and lowland softwood forest types. The project area consists of several large, contiguous tracts of land as well as smaller parcels across the middle Upper Peninsula in Michigan’s Luce, Schoolcraft, Alger, Mackinac, and Chippewa counties. The property is owned and managed by the project proponent, Aurora Sustainable Lands (formerly known as Bluesource Sustainable Forests Company or BSFC). The audit team confirmed that the boundaries were 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 ownership, as used in delineation of the project area, by reviewing ownership deeds (Ref. 20), shapefiles, and ground truthing project boundaries when possible. Likewise, during document review the audit team inspected project shapefiles (Ref. 9) 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. 1-2) which indicate potential infrastructure, activities, and technologies used within the project area. The project activity consists of a core focus on the timberlands being used primarily to store carbon, with a focus on lighter touch, sustainable harvesting, natural forest growth, and biomass maintenance to increase the age and carbon storage of the project area. The audit team concluded that project activities, infrastructure and technologies will be an improvement in the carbon storage and forest practices of the area.

### 3.1.3 GHGs, Sources, and Sinks within the Project Boundary

Description	Included/Excluded	Gas	Justification
Above-ground biomass carbon	Included	CO <sub>2</sub>	Major carbon pool subjected to the project activity.
Below-ground biomass carbon	Included	CO <sub>2</sub>	Major carbon pool subjected to the project activity.
Standing dead wood	Included	CO <sub>2</sub>	Major carbon pool in unmanaged stands subjected to the project activity.
Harvested wood products	Included	CO <sub>2</sub>	Major carbon pool subjected to the project activity.
Market Leakage	Included		As more wood is harvested in the baseline than in the project scenario, market leakage is accounted for to reflect that wood supply elsewhere increases in response to project activity-attributable reductions, assuming demand is constant.

### 3.1.4 Temporal Boundary

The ACR Standard in Chapter 3 states that "ACR defines the eligible Start Date(s) for AFOLU project types in Appendix A, 'ACR Requirements for AFOLU Projects.'" SCS reviewed the PP, MR, and relevant contractual documents (Ref. 1-2, 26) for authenticity and concluded that the documents provided indicate the project start date is eligible, as it is the date that the project proponent acquired the property.

For ACR the minimum project term is 40 years and the eligible crediting period for this type of project is 20 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.

## 3.2 Description of and Justification for the Baseline Scenario

The methodology defines an IFM baseline scenario as "the legally permissible harvest scenario that would maximize NPV of perpetual wood products harvests." The PP indicates that the baseline scenario

represents an aggressive industrial harvest regime, targeted to maximize net present value at a 6% discount rate, typical of practices in the region on private industrial timberlands.

During the site visit and through interviews with the project team and a third-party contact with intimate knowledge of forestry in Michigan, the audit team verified that aggressive timber harvesting is common practice by private industrial timberland owners. The audit team confirmed that the project proponent is a private industrial timberland owner and thus the 6% discount rate is applicable. The audit team also conducted a financial feasibility assessment of the baseline scenario using regional stumpage rates to independently verify NPV. SCS determined that the harvesting rate indicated in the baseline scenario would be feasible.

### 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 3 August 2022, 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. Land acquisition or easement enrollment date; 2. The date the Project Proponent or associated landowner(s) began to apply the land management regime to increase carbon stocks and/or reduce emissions relative to the baseline 3. The date that the Project Proponent first demonstrated good faith effort to implement a carbon project. Such demonstrations must include documented evidence of:	SCS reviewed the PP (Ref. 1) to find the following statement: "The project start date of August 3, 2022 coincides with the Aurora Sustainable Lands, LLC (Aurora) date of transfer of ownership from the previous owner to the proponent, which marks a change in management regime to increase carbon stocks relative to the baseline." This was confirmed through review of the provided acquisition agreement (Ref. 26) and satisfies Option 2 for project start date determination.



	<p>*The date the Project Proponent initiated a forest inventory for a carbon project;</p> <p>*The date that the Project Proponent entered into a contractual relationship or signed a corporate or board resolution to implement a carbon project; or</p> <p>*The date the project was submitted to ACR for listing review.</p> <p>Other dates may be approved by ACR on a case by case basis.</p>	
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	<p>The Crediting Period for non-AFOLU projects shall be 10 years.</p> <p>All AR projects shall have a Crediting Period of 40 years.</p> <p>All IFM projects shall have a Crediting Period of 20 years.</p> <p>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.</p> <p>Wetland Restoration/Revegetation projects shall have a Crediting Period of 40 years.</p> <p>The Crediting Periods for agriculture projects that avoid emissions by changing to lower GHG practices and those that include a soil</p>	Review of the PP to confirm that the crediting period is 20 years, as required given the project type.

	sequestration component will be specified in the applicable methodology.	
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.	Review of the PP (Ref 1.) and the ownership documentation provided (Ref. 20) to confirm that Project Proponent has control over the GHG sources/sinks from which the emissions reductions or removals originate on the properties.
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.	Review of the PP (Ref. 1), and the ownership documentation provided (Ref. 20) to confirm no offsets prior to registration of the Project and that the Project Proponent has ownership of the properties included in the Project.
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	Confirmation that the project meets all relevant additionality requirements (see Section 3.4 below for more details).

	<p>regulatory surplus test, or pass a three-pronged test of additionality in which the project must:</p> <ol style="list-style-type: none"> <li>1. Exceed regulatory/legal requirements;</li> <li>2. Go beyond common practice; and</li> <li>3. Overcome at least one of three implementation barriers: institutional, financial, or technical.</li> </ol>	
Regulatory Compliance	<p>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 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.</p>	<p>After performing extensive regulatory compliance checks during this reporting period, the audit team found no violations on file with EPA, ECHO, OSHA or with the Michigan Department of Natural Resources. In addition, a local forester was interviewed about any regulatory compliance issues on the project area, forestry practices, and a discussion of the regional forestry trends and activity. The audit team also reviewed the regulatory compliance section of the MR submitted (Ref. 2).</p>
Permanence (All AFOLU Projects)	<p>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.</p>	<p>Confirmed a total risk percentage of 18% using the ACR Tool for Risk Analysis and Buffer Determination as required by the ACR methodology.</p>
Permanence (Terrestrial Sequestration, Avoided Conversion Projects)	<p>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.</p>	<p>Confirmed a total risk percentage of 18% using the ACR Tool for Risk Analysis and Buffer Determination as required by the ACR methodology.</p>
Permanence (Geologic Sequestration Projects)	<p>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.</p>	<p>Not applicable; the project is not a geologic sequestration project.</p>

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 (Ref. 1) 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 30% leakage deduction was applied which is consistent with market-leakage per the methodology. Confirmed that all project proponent owned lands have a valid entity wide management certification that requires sustainable practices.
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	<p>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.</p> <p>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.</p> <p>Project Proponents shall disclose in their Annual Attestations any negative environmental or community impacts or claims thereof and the appropriate mitigation measure.</p>	Confirmed by reviewing the PP and MR (Refs. 1-2), as well as the ESIA and SDG reports (Refs. 22-23) which indicate 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 Regulatory Surplus Test

A regulatory review of the Project was conducted by the audit team. There are no laws, statutes, regulations, court orders, environmental mitigation agreements, permitting conditions, or other legally binding mandates requiring the project activities.

### 3.4.2 Performance Standard Test

Not applicable.

### 3.4.3 Common Practice Test

The Project demonstrated that the predominant forest industry technologies and practices that exist within the project's geographic region are similar in comparison to forest type, ecological condition, and species or forest product type.

Through interviews with local managers, observations on site, and a detailed review of published data for the region, the audit team verified the timber harvesting practices involving the silvicultural prescriptions claimed in the baseline scenario are common practice in the region. Additionally, the audit team verified the feasibility of the local mill capacity to accept the different wood products created in the baseline scenario.

### 3.4.4 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 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. The audit team also verified the physical feasibility of the harvests proposed as well as verified that the silvicultural prescriptions in the baseline scenario resemble common practice in the area.

### **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 (Ref. 1) and inventory methodology (Ref. 15) describe the process including sample size, determination of plot numbers, plot layout, data collected, and measurement techniques. Through site visit and document review (Refs. 1, 15), the audit team verified the forest inventory methodologies and application.

The inventory data was then run within the Forest Vegetation Simulator with various prescriptions to simulate the baseline and project scenarios. The audit team confirmed that the baseline prescriptions were feasible and representative of common practice conditions in the region (see section 3.4.3).

#### **3.5.3 Data Management Systems**

Field data collection QA/CA procedures are described in the inventory methodology (Ref. 15). The field QA/QC procedures include an internal audit of the field data by a contractor. The audit consists of a minimum of 10% of the samples collected with a focus on individual cruisers who are found to be consistently out of compliance. Additional audits may be conducted if warranted. Finite Carbon may, at their discretion, join the contractors during the audit. Then an audit report is composed consisting of a tabular report and a narrative report that highlight errors in data and corrective actions taken (Ref. 8).

Additional QA/QC procedures within the quantification process are described in Section E6. in the PP (Ref. 1).

### 3.5.4 QA/QC Procedures

Section E of the PP identifies field and desk QA/QC procedures. The field QA/QC procedures include senior forester review of field collected data and remeasurement of any plots that cannot be reconciled. Further, the PP states that, “At least 10% of the plots are checked by a different forester than cruised the plot, specifically by someone senior to the field crew. This involves full plot measurement to identify any problems with determining in/out trees, species calls, defect measurements, DBH measurements, and height measurements...The purpose of the check cruise is to identify any consistent errors by either a specific cruiser, or the whole crew, and to verify that all plots are being measured with a high level of diligence.” These field QA/QC procedures were confirmed on-site and during interviews.

The PP identifies four stages of desk QA/QC procedures including an implementation forester review, a technical forester review, a technical review, and a senior management review. These include independent checks on the inventory data, model runs, carbon calculations, and document text and formatting.

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. Section D of the PP also provides in detail a monitoring and data management plan for each parameter throughout the reporting period.

### 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 12 of the methodology. The percentage uncertainty in the combined carbon stocks in the project during the reporting period is calculated using equation 20 of the methodology. The total project uncertainty (percentage) during the reporting period is quantified using equation 22 of the methodology. 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 section 4.1.

## 4 Verification Findings

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### 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 Proponent 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 audit team also calculated the total materiality of the GHG reduction and removal assertion.

### 4.1.1 Project Uncertainty

The reported total Project Uncertainty (UNC<sub>t</sub>) value of 10.95% was independently re-quantified by SCS using equation 22 in the methodology. The audit team found the difference reasonable and immaterial.

	SCS Values	Client Values	Difference
Reporting Period	UNC <sub>t</sub>	UNC <sub>t</sub>	
RP1	10.93%	10.95%	0.02%

### 4.1.2 Materiality

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

$$\% \text{ Error} = \frac{(99,690 - 99,458)}{99,458} * 100 = \frac{232}{99,458} * 100 = 0.233\%$$

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

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

- Recalculate the live aboveground, live belowground, and standing dead carbon pools using Jenkins et al. (2003) equations and decay class information using the inventory data provided by the client (Ref. 3)
- Recalculate tree and plot-level live aboveground and standing dead tree defect (Ref. 3)
- Recalculate site index for a random selection of plots using the Carmean (1989) method as well as soil survey data, where appropriate (Ref. 7)
- Use the Forest Vegetation Simulator (FVS) to degrow the raw inventory to the project start date (Ref. 18)
- Randomly select a sample of plots and prescriptions from the baseline scenarios. Run the selected samples in FVS and follow methodologies specified in the PP to calculate carbon stocks. Compare to the client's calculations for the selected plots to derive a correction factor to apply to the project and baseline population for the reporting period and ex-ante (Refs. 4, 18).
- Randomly select a sample of plot(s) and the grow prescription from the project scenario. Run the selected sample in FVS and follow methodologies specified in the PP to calculate carbon stocks. Compare to the client's calculations for the selected plot to derive a correction factor to apply the population project for the reporting period and ex-ante (Refs. 4, 18)



- 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, 5)
- 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 7 to calculate the annual change in the baseline carbon stock (Refs. 3, 5)
- Calculate the baseline uncertainty in the combined carbon stocks in the baseline using equation 12 (Refs. 3, 5)
- Calculate the change in project carbon stock stored in live and dead trees using equations 13 and 14 (Ref. 3)
- Calculate the change in the project carbon stock and GHG emissions during the reporting period using equation 15 (Ref. 3)
- Calculate the percentage uncertainty in the combined carbon stocks in the project during the reporting period using equation 20 (Ref. 3)
- Calculate the total project uncertainty (percentage) during the reporting period using equation 22 (Ref. 3)
- Calculate the net greenhouse gas emission reductions (in metric tons CO<sub>2</sub>e) during the reporting period and during each annual vintage using equation 24 in the methodology (Ref. 3)

### 4.3 Basis of Data and Information Supporting the GHG Assertion

The data and information supporting the GHG assertion were based on industry defaults, future projections, and actual historical records. The future projections are a result of a combination of tree inventory data, site index data, and other data modeled over time. Industry defaults are used in the harvested wood products as well as growth rates for the region. Actual historical records are used to assess stumpage prices, common practice, and boundary assessment.

### 4.4 Leakage Assessment

The audit team confirmed that project activities decrease total wood products produced by the project relative to the baseline by 25% or more over the Crediting Period, and so the applicable market leakage deduction is 30%. The audit team also reviewed the provided entity-wide management certification that requires sustainable practices. The leakage deduction was calculated as follows:

$$\text{Leakage Deduction} = (\Delta C_{P,t} - \Delta C_{BSL,t}) * LK$$

$$\text{Leakage Deduction} = (43,585 - (-)144,542) * 0.3 = 56,438$$

*Note: final numbers are rounded for simplicity.*

## 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%	There are no conservation easements on the land that prevent forest management.
E	2%	The project is located in a low fire risk area
F	2%	Confirmation, through site inspections, interviews, and review of published reports that there is no epidemic disease or pest infestation in the 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

## Conclusion

Aurora Sustainable Lands, LLC is responsible for the preparation and fair presentation of the GHG statement in accordance with the criteria. 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.

Based upon the information made available to SCS and the analyses completed during the verification, SCS was able to reach a positive opinion, with a reasonable level of assurance, that the emission reductions represented by the Project Proponent during the monitoring period of 03 August 2022 to 30 April 2023 are free from material misstatement and in conformance with the assessment criteria.

The following provides a summary of the total emission reductions/removals for this Reporting Period including the buffer pool/reserve account contributions, and net emission reductions/removals:

Annual Emission Reductions and Removals in Metric Tons (tCO <sub>2</sub> e) during Reporting Period 1							
Vintage	Start Date	End Date	Total Emission Reductions/Removals (tCO <sub>2</sub> e)	Buffer Pool/Reserve Account Contribution (tCO <sub>2</sub> e)	Net Emissions Reductions/Removals (tCO <sub>2</sub> e)	Removals Subset (If Applicable) (tCO <sub>2</sub> e)	Emission Reductions Subset (If Applicable) (tCO <sub>2</sub> e)
2022	03 August 2022	31 December 2022	67,740	12,193	55,547	16,838	50,902
2023	1 January 2023	30 April 2023	53,834	9,691	44,143	13,381	40,453
Total for Reporting Period*			121,574	21,884	99,690	30,219	91,355

*\*Note: Final numbers are rounded for simplicity and totals may not sum due to rounding.*

Lead Auditor Approval	 Bryan Cummings, 06 November 2024
Internal Reviewer Approval	<i>Alexander Pancoast</i> Alexander Pancoast, 06 November 2024

## 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.

### NIR 1 Dated 16 Feb 2024

**Standard Reference:** ACR Validation and Verification Standard, V1.1

**Document Reference:** Deed – Alger.pdf; Deed – Chippewa.pdf; Deed - Luce (Timberlands).pdf; Deed – Mackinac.pdf; Deed - Schoolcraft (Timberlands).pdf; Draft\_Manistique\_GHGPlan\_10\_20\_23.pdf

**Finding:** Section 6D of the Standard states, “The VVB shall review the Project Proponent’s ownership attestation and supporting documentation that specifies ownership of offsets title and, if applicable, ownership of the emissions sources within the project assessment boundary. Examples of such documentation may include incorporation/joint venture agreements; financial/Securities and Exchange Commission reports; contracts; lease agreements; purchase orders, invoices, and receipts; and agreements with the landowner specifying ownership of offsets.”

In the client’s GHG Plan, it states in section “G1. PROOF OF TITLE, G1.1 Ownership of forestlands”, that, “Forestlands included in the project are owned directly by the Project Proponent, BSFC, who holds full legal title across the ownership and thus has long term control of the land. The relevant deeds and contracts are available for review by verifier.”

In the deeds provided by the client, the transfer of ownership was from ‘Lyme Great Lakes Timberland LLC’ to ‘Manistique Woodlands LLC’.

The audit team requests evidence to demonstrate ownership of the project area by the listed owner, BSFC.

**Project Personnel Response:** BSFC is the sole member of Manistique Woodlands, LLC and has full and sole authority to manage business and enter into legal agreements. The LLC agreement describing this has been shared in the 'Deeds' folder in 'PropertyDocs.'

**Auditor Response:** Thank you for the provided LLC agreement demonstrating BSFC as the sole member of Manistique Woodlands LLC. Finding closed.

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

**NIR 2 Dated 16 Feb 2024**

**Standard Reference:** ACR IFM methodology v2.0

**Document Reference:** Manistique\_100Yr\_calcs\_10\_09\_2023.xlsx; TimberMartNorth\_Vol 28 No 2.pdf

**Finding:** Section 4.1 Identification of Baseline, in the IFM methodology states, "Required inputs for the project NPV calculation include the results of a recent forest inventory of the project lands, prices for wood products of grades that the project would produce, costs of logging, reforestation, and related costs, silvicultural treatment costs, and relevant carrying costs."

In the client's GHG Plan, section E1 states, "Cost Assumptions - To estimate net revenue from timber harvest, stumpage by species was used by taking an average from the Timber Mart North Stumpage Report, Vol. 28, No. 2 report. It is assumed that all variable management costs are included in the stumpage estimate. Fixed cost estimates for the property were provided by the landowner."

The client provides stumpage prices for wood products in tab "Stumpage Prices" of the client's 100Yr calcs workbook. These are used in the NPV analysis. The client also provided a copy of the Timber Mart Stumpage Report to the audit team for reference.

The audit team was able to confirm all stumpage price values except for two – the sawtimber stumpage prices for Eastern Hemlock and Northern White-Cedar, as Timber Mart North does not provide sawtimber values for these species, yet the client's workbook does. The audit team requests that the client justify their choice in the sawtimber stumpage price for these species and provide documentation to support their claims.

**Project Personnel Response:** As the sawtimber prices for these two species were missing from the Timbermart North report, the prices were sourced separately from Aurora Sustainable Lands internal pricing which is based upon actual realized stumpage prices. This file is now provided in the RegionalForestryDocs folder as "UP\_StumpagePrices.xlsx". Prices for these two species were based on an average of the last three years.

**Auditor Response:** Provided documentation allows for verification of the stated stumpage values for the NPV analysis. The audit team was successfully able to verify stumpage values.

However the statements in GHGPP Section E1. Baseline Harvest Schedule Scenario Overview and Cost Assumptions, "we then projected the revenues from sawlogs and pulp using the average stumpage price for each species, as provided separately" as well as "...stumpage by species was used by taking an average from the Timber Mart North Stumpage Report.." we found to be inaccurate given the newly provided "UP\_StumpagePrices.xlsx"

Please ensure the GHGPP includes all relevant information to support criteria and procedures. Finding remains open.

**Project Personnel Response 2:** The following language has been added to the GHG plan to clarify where stumpage prices not found in the Timber Mart North report were sourced.

"...for species not found in this report prices were sourced from Aurora Sustainable Lands internal actual realized stumpage prices."

**Auditor Response 2:** Confirmed update to GHGPP language. Finding closed.

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

**NIR 3 Dated 16 Feb 2024****Standard Reference:** ACR IFM methodology v2.0**Document Reference:** Draft\_Manistique\_GHGPlan\_10\_20\_23.pdf**Finding:** Section E3 of the client GHG Plan states, “Quantification of leakage is limited to market leakage, as no activity-shifting leakage is allowed by the methodology beyond de minimis levels.”

Section 5.4 of the IFM Methodology states “If the project decreases wood product production by greater than 5% relative to the baseline then the Project Proponent and all associated landowners must demonstrate that there is no activity shifting leakage beyond de minimis within their operations – i.e., on other lands they manage/operate outside the boundaries of the carbon project. This demonstration is not required if the Project Proponent and associated landowner(s) enroll all their forested landholdings, owned and under management control, within the carbon project.”

It then lists 4 options for demonstration. The auditors request demonstration that the project proponent has enrolled all their forested landholdings within the carbon project OR if this is not true, then please provide demonstration of a lack of activity shifting leakage using one of the methodology options listed in section 5.4.

**Project Personnel Response:** The proponent meets this requirement by maintaining entity-wide certification through FSC for all their forestland holdings.

**Auditor Response:** Finding closed. PP maintains an FSC Group Certificate that certifies all landholdings.

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

**NIR 4 Dated 16 Feb 2024****Standard Reference:** ACR Standard v7.0**Document Reference:** Manistique\_SiteVisit\_CO2\_10\_09\_2023.xlsx;

Manistique\_Start\_RP\_CO2\_10\_09\_2023.xlsx

**Finding:** Table 1 in Section 2.A of the Standard states, “Transparency – Disclose sufficient and appropriate GHG-related information to allow intended users to make decisions with reasonable confidence. Disclose any relevant assumptions and make appropriate references to the accounting and calculation methodologies and data sources used.”

Based on our understanding of your inventory methodology, during the inventory, each tree is inspected for defect based upon relative thirds. For example, a tree that is 30 feet in height would be assessed for defect in ten-foot increments, where the defect is documented as “top”, “middle”, and “bottom”. Because tree biomass is not evenly distributed across all parts of a tree, these component defects are then multiplied by a factor that represents the relative biomass stored in each of the three sections. This then contributes to the final carbon calculation for each tree.

The factors used to calculate relative biomass in each component are 0.069, 0.286, and 0.645 for “top”, “middle”, and “bottom”; respectively. These factors can be seen in Start\_RP & Start\_SV workbooks, tab “TreeData”, column V.

The audit team requests a justification for the use of these factors. Please also provide documentation to support your justification.

**Project Personnel Response:** Please see the report completed by Dr. Zhao in the determination of the referenced factors, as well as email correspondence between Anew and ACR now found in the SupportingDocs folder.

**Auditor Response:** Thank you for this justification and hope to see this in an updated E&C very soon. Finding closed.

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



**NIR 5 Dated 16 Feb 2024****Standard Reference:** ACR IFM methodology v2.0**Document Reference:** Manistique\_RP\_ERT\_HWP\_10\_09\_2023.xlsx

**Finding:** Section 4.4 of the methodology states, “Equation 12: UNC BSL...CBSL,TREE,0 - Baseline carbon stock in above and belowground live trees (in metric tons CO<sub>2</sub>) for the initial inventory at year 0... CBSL,DEAD,0 - Baseline carbon stock in dead wood (in metric tons CO<sub>2</sub>) for the initial inventory at year 0... eBSL,TREE,0 - Percentage uncertainty expressed as 90% confidence interval percentage of the mean of the carbon stock in above and belowground live trees (in metric tons CO<sub>2</sub>) for the initial inventory at year 0... eBSL,DEAD,0 - Percentage uncertainty expressed as 90% confidence interval percentage of the mean of the carbon stock in dead wood (in metric tons CO<sub>2</sub>) for the initial inventory at year 0.”

In the client’s ERT workbook, UNC BSL (row 24) is calculated using C BSL TREE and C BSL DEAD, whose values are in cells D11 and D12, respectively. These values appear to be start date, not inventory date values. Please follow the requirements of Equation 12 to calculate UNC BSL.

**Project Personnel Response:** The equation used in row 24 to calculate the baseline uncertainty is taken directly from the 'ACR\_IFM\_ERTcalculator\_Methodology\_v2.0\_2022.07.06.xlsx' workbook provided on the ACR website. Furthermore, in the description for equation 12, both CBSL,TREE,0 and CBSL,DEAD,0 is described as being the "Baseline carbon stock... for the initial inventory at year 0." Where year 0 is repeatedly described in multiple equations throughout the methodology to mean the initial start date stocking.

**Auditor Response:** Recent guidance from ACR confirms start date, and not inventory date values to be used in CBSL,TREE,0 and CBSL,DEAD,0. Finding closed.

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

**NCR 6 Dated 16 Feb 2024****Standard Reference:** ACR IFM methodology v2.0**Document Reference:** Draft\_Manistique\_GHGPlan\_10\_20\_23.pdf

**Finding:** Section 4.2.3.1 of the IFM 2.0 methodology states that “For projects using Options 1 or 2 of 4.2.2.1: ...Density reduction factors shall be based on either the hardwood/softwood default values found in Table 6 of Harmon et al. (2011)<sup>31</sup> or the species-specific values found in Appendix B.”

During a review of the GHG plan, the audit team found that the GHG plan states “Decay classes were recorded according to the ACR standard using the methodology-defined Decay Class (Table E1-3).” This is inconsistent with the requirements of the methodology and the quantification approach applied. Please update the GHG plan to be consistent with the methodology and applied decay class reductions.

**Project Personnel Response:** This paragraph has been updated in the GHG plan to reflect how standing dead wood CO<sub>2</sub> is estimated.

**Auditor Response:** Confirmed GHGPP update. Finding closed.

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

**NIR 7 Dated 16 Feb 2024**

**Standard Reference:** ACR IFM methodology v2.0

**Document Reference:** Draft\_Manistique\_GHGPlan\_10\_20\_23.pdf

**Finding:** The IFM 2.0 methodology states, “Biomass for each tree is calculated using one of three estimation techniques (section 4.2.2.1). The Project Proponent must use the same set of equations, diameter at breast height thresholds, and selected biomass components for ex ante and ex post baseline and with-project estimates. To ensure accuracy and conservative estimation of the mean aboveground live biomass per unit area within the project area, projects must account for missing portions of the tree in both the ex-ante and ex-post baseline and with-project scenarios. Determine missing volume deductions with cull attribute data (noting defects affecting carbon, not just merchantability) collected during field measurement of sample plots.”

The audit team has been unable to identify how and where this occurs in the baseline model. Please provide a comprehensive description within the GHG plan, and to the Verification Team, on how defect deductions are applied in the baseline

**Project Personnel Response:** Clarifying language describing this process has been added to the GHG plan in the ERT Calculation Overview of Section E. All values in the FVSpivot tables found in the 100-year Calcs have been adjusted to account for missing volume deductions. These calculations can be seen in the now provided example 'Manistique\_FVSpivot\_TreeList\_CCRP\_2042\_02\_28\_2024.xlsx' and 'Manistique\_FVSpivot\_CutList\_CCRP\_2042\_02\_28\_2024.xlsx' workbooks found in the shared 'Calcs' folder. For the TreeList workbook this can be seen in column R on the 'TreeList' tab, and in the CutList workbook this can be seen in columns Q and R on the 'CutList' tab.

**Auditor Response:** Thank you for the updated GHGPP language. It was noted that tabs 'SpeciesDefect' in the workbook Manistique\_Start\_RP\_CO2\_05\_31\_2024.xlsx contains different values for inventoried species than those present in the 'SpeciesDefect' tab of

Manistique\_FVSpivot\_TreeList\_CCRP\_2022\_06\_14\_2024.xlsx. For example, FIA species 241 has a listed dead defect of 5.39% in the RP Manistique\_Start\_RP\_CO2\_05\_31\_2024.xlsx while it is listed as 10.69% in Manistique\_FVSpivot\_TreeList\_CCRP\_2022\_06\_14\_2024.xlsx. Assuming the values would be derived from column X, sheet 'TreeData' of the RP\_CO2 workbook would yield an average calculated defect of 6.09% for dead trees of this species. A quick spot check showed some listed defect as accurate while other species showed discrepancies.

The audit team requests further demonstration of the calculation of missing volume deductions from the inventory in the form of embedded formulas used to calculate defect by species in tab 'SpeciesDefect' of the Start\_RP\_CO2 workbook. Additionally, please demonstrate that these updated values have been applied to the FVSpivot tables present in the 100-year calc workbook.

Finding remains open.

**Project Personnel Response 2:** Defect is calculated for these two workbooks in different ways, while the defect values in the CO2 calcs are provided for informational purposes only and are not applied in any calculations. The CO2 calcs calculate defect based on a species level basal area weighted average where missing values are replaced with the overall species average defect. In the tree level calcs, the basal area weighted defect is calculated at the tree level and trees with no defect receive the basal area weighted average of that species. These tree level values are then summarized at the species level using the maximum defect for conservatism of each species. Both methods of these calculations have been added to the Mansitique\_Start\_RP\_CO2\_06\_24\_2024.xlsx workbook on the 'SpeciesDefect' tab.

**Auditor Response 2:** Finding was resolved outside of this workbook. Refer to email thread "Manastique Issues Log" for additional information.

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

#### **NIR 8 Dated 16 Feb 2024**

**Standard Reference:** ACR IFM methodology v2.0

**Document Reference:** Draft\_Manistique\_GHGPlan\_10\_20\_23.pdf

**Finding:** The methodology states that "Best management practices to protect water, soil stability, forest productivity, and wildlife, as published or prescribed by applicable federal, state, or local government agencies are also considered legally binding constraints to forest management."

Please describe how the baseline model achieves the above when wetland areas are considered throughout the project area. Include an evaluation or demonstration of how the baseline will not "convert wetlands" as this would be a non-conformity. Include any relevant constraints or limitations that are imposed within and/or around these sensitive areas (wetlands) that impact harvesting. Provide a discussion of timing and operability, with the intention of showing that the wetland areas are "demonstrably accessible and operable" and "financially feasible".

**Project Personnel Response:** Non-forested wetlands are not located within the project area - they have been removed with spatial edits. Regarding forested wetlands, baseline activity only occurs on plots that meet the demands of the model based on rotations and stocking. These triggers from the model are not only in-line with sound, silvicultural practice, but also from an economic perspective. Local foresters with expertise recommended 10 cords/acre to justify entry into stands characterized as swamp conifer or swamp/white cedar; this is reflected in our baseline where the model demands at least 750 cubic feet to the acre of volume to execute harvest in such areas. Winter harvesting is common in such stands, which allows for ease of access, cost savings, and reduces potential damage to the soil.

In Michigan, forested wetlands managed for timber or forest products are exempt from permitting requirements per the state's Natural Resources and Environmental Protection Act, Part 303. Michigan's BMPs for Soil and Water Quality dictate the use of Riparian Management Zone buffers for open-water wetlands, not forested wetlands.

**Auditor Response:** Thank you for this description and justification. The audit team confirms that project activities will not 'convert' wetlands. The audit team also confirms that the baseline prescription for this stratum is in-line with economic, pragmatic, and legal frameworks. This finding is now closed.

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

**NCR 9 Dated 16 Feb 2024**

**Standard Reference:** ACR Standard V7.0, ACR-Monitoring-Report-v5.0

**Document Reference:** DRAFT\_Manistique\_RP1\_MonitoringReport\_10\_23\_23.pdf

**Finding:** Section 6.E of the ACR Standard states, "Project monitoring reports shall be completed for each verified reporting period using the template for Project Monitoring Report...Available at <https://americancarbonregistry.org/carbon-accounting/guidance-tools-templates>". This shows that the most recent available template version is ACR template ACR-Monitoring-Report-v5.0

DRAFT\_Manistique\_RP1\_MonitoringReport\_10\_23\_23.pdf uses an outdated version of the Monitoring Report Template and thus does not conform to the ACR requirements.

**Project Personnel Response:** The updated Monitoring Report now uses ACR's v5 template.

**Auditor Response:** Confirmed MR template update. Finding closed.

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

**NIR 10 Dated 16 Feb 2024**

**Standard Reference:** ACR IFM methodology v2.0

**Document Reference:** Draft\_Manistique\_GHGPlan\_10\_20\_23.pdf

**Finding:** Section 1.3 of the IFM states, "All projects must adhere to the following sustainable management requirements over the crediting period:

- Project areas subject to commercial harvesting at the project start date in the with-project scenario must adhere to one or a combination of the following:

\* Be certified by FSC, SFI, or ATFS or become certified within one year of the project start date;

\*Be enrolled in a state sanctioned forestry program with monitoring and enforcement mechanisms in place;

\*For private landowners owning less than 2,500 forested acres, provide a documented long-term forest management plan, demonstrating sustainable forest management (per section 1.3.1), prepared, and signed by a professional forester."

Within Section F1 of the GHG Plan (GHGP), in describing how any negative impacts will be avoided, reduced, mitigated, or compensated, the GHGP states, "Forest management activities described in the Forest Management Plans and monitoring for the carbon project is described in Section D2. Monitoring Plan." The audit team did not receive a FMP for this project, and therefore requests more information about the references to the Forest Management Plans in the GHGP.

**Project Personnel Response:** The project area is included in the proponent's entity-wide certification, and therefore satisfies this requirement. I have amended this language in Section F1 to remove reference to an existing FMP.

**Auditor Response:** Confirmed update to GHGPP removed language. FSC certifications satisfy cited IFM Section 1.3. Finding closed.

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

**NIR 11 Dated 16 Feb 2024****Standard Reference:** ACR IFM methodology v2.0**Document Reference:** Draft\_Manistique\_GHGPlan\_10\_20\_23.pdf

**Finding:** Section 3 of the IFM 2.0 methodology states, “If stratification is used, a stratification standard operating procedures (SOP) document detailing relevant design, inputs, parameters, rules, and techniques must be provided as an attachment to the initial GHG Project Plan for validation. The stratification SOP document should contain information necessary such that the stratification can be examined and duplicated as necessary to provide reasonable assurance of the validity and non-bias of associated techniques.”

In the client’s GHG Plan, section E1. states, “...The entire project area (28,299.61 acres) was assigned to 4 strata, as shown in Table E1-1. See the Baseline Stratification section below for details... There are a total of 4 strata in the project and are defined as follows: A (Aspen), NH (Northern Hardwoods), P (Pine), and SC (Swamp Conifer). Stratification was determined using spatial data provided by the landowner. The P and SC strata were further refined for the application of prescriptions in FVS using ‘FVSGroups’. The FVSGroups were determined by basal area of the dominate species within the plot and are defined as follows: within the P strata: JP (Jack Pine) or RP (Red Pine) and within the SC strata: WC (Northern white cedar) or SC (Swamp Conifer).”

Please provide the audit team with your “stratification standard operating procedures (SOP) document as a separate attachment”, as required by the methodology. Please ensure that the SOP includes all the relevant details required by Section 3 of the methodology.

**Project Personnel Response:** Such documentation has been provided in the 'SupportingDocs' folder.

**Auditor Response:** Thank you for providing this document. This finding is now closed.

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

**NIR 12 Dated 16 Feb 2024****Standard Reference:** ACR IFM methodology v2.0**Document Reference:** Manistique\_SiteVisit\_CO2\_10\_09\_2023.xlsx

**Finding:** Section 3 of the IFM 2.0 methodology states, “If stratification is used, a stratification standard operating procedures (SOP) document detailing relevant design, inputs, parameters, rules, and techniques must be provided as an attachment to the initial GHG Project Plan for validation. The stratification SOP document should contain information necessary such that the stratification can be examined and duplicated as necessary to provide reasonable assurance of the validity and non-bias of associated techniques.”

In the client’s GHG Plan, section E1. states, “...The entire project area (28,299.61 acres) was assigned to 4 strata, as shown in Table E1-1. See the Baseline Stratification section below for details... There are a total of 4 strata in the project and are defined as follows: A (Aspen), NH (Northern Hardwoods), P (Pine), and SC (Swamp Conifer).”

According to the client’s Site Visit CO2 workbook, Plot 31 is assigned to the stratum “A” or “Aspen”. However, no trees in this plot are aspen. Furthermore, while on site, the audit team did not see any aspen trees in the local vicinity of Plot 31. The audit team requests more information about how sampling plots align with their assigned strata and what QA/QC procedures are enacted to ensure that the strata assignments reflect the on-the-ground species composition.

**Project Personnel Response:** While sample plots may not contain the exact species representative of the strata, management and planning completed in actuality across this property is based upon the coertyping provided by the landowner. That is to say that these areas are treated and receive management prescriptions indicative of the representative forest type, regardless of the exact species composition found within these sample plots. Additionally, sample plots may not always conform to the species representative of the strata due to a myriad of reasons, including plots landing on edges between strata, plots landing in small pockets of other species, forests failing to regenerate as intended following the previous harvest, among others.

Please note though that the proponent has provided an updated coertyping which was used to restratify the project area following NIR 11 above.

**Auditor Response:** Thank you for this description. The audit team has reviewed the updated coertyping and have confirmed that Plot 31 has changed strata. This finding is now closed.

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

**NIR 13 Dated 16 Feb 2024**

**Standard Reference:** ACR IFM methodology v2.0

**Document Reference:** Manistique\_Start\_RP\_CO2\_10\_09\_2023.xlsx;  
Draft\_Manistique\_GHGPlan\_10\_20\_23.pdf

**Finding:** Section 3 of the IFM 2.0 methodology states, “If stratification is used, a stratification standard operating procedures (SOP) document detailing relevant design, inputs, parameters, rules, and techniques must be provided as an attachment to the initial GHG Project Plan for validation.”

Section E1. of the GHG Plan states, “The P and SC strata were further refined for the application of prescriptions in FVS using ‘FVSgroups’. The FVSgroups were determined by basal area of the dominant species within the plot and are defined as follows: within the P strata: JP (Jack Pine) or RP (Red Pine) and within the SC strata: WC (Northern white cedar) or SC (Swamp Conifer).”

The audit team reviewed the dominant species per plot based on basal area found in tab ‘BA\_Start’ of Manistique\_Start\_RP\_CO2\_10\_09\_2023.xlsx and determined that the dominant species in many plots do not align with the FVS group intended for that dominant species. These instances are characterized by either the complete absence of a dominant FVS group species on the plot, or the intended dominant FVS group species being a minor component of species composition. In addition, outside of the SC and P strata, there were instances where a plot had been assigned an FVS group of “A” despite Aspen being either absent on plot or a minor component of species composition. Based on what is presented here, the audit team requests further information about the use of per plot species basal area to determine FVS stratification.

**Project Personnel Response:** FVS Stratification was only determined for the P and SC strata. In the case of the P strata, red pine (RP) and jack pine (JP) were split out into separate FVS groups, since the management between RP and JP drastically differs. And in the case of the SC strata, northern white cedar (WC) was split out, since WC was a dominate cover type and has different management from other swamp conifer cover types. Meanwhile, the NH and A strata were not further differentiated by species into FVS groups.

**Auditor Response:** Explanation follows with previously-discussed stratification SOP. Finding closed.

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

**NIR 14 Dated 16 Feb 2024****Standard Reference:** ACR IFM methodology v2.0**Document Reference:** Draft\_Manistique\_GHGPlan\_10\_20\_23.pdf**Finding:** “There are five steps required to account for the harvesting of trees and to determine carbon stored in wood products in the baseline and with-project scenarios: 1. Determining the amount of carbon in trees harvested that is delivered to mills (bole without bark);”

Please provide the audit team with a complete and thorough description of all calculation steps used to quantify “Whole Tree Harvested CO<sub>2</sub>e” and “Merchantable Harvested CO<sub>2</sub>e” for plot 163, RX CCRP-2042, within the Baseline model. The observed differences are quite large, and the audit team requires this information to ascertain the cause.

**Project Personnel Response:** The workbook

'Manistique\_FVSpivot\_CutList\_CCRP\_2042\_02\_28\_2024.xlsx' is now provided in the Calcs folder showing how the 2042 Whole Tree Harvested CO<sub>2</sub>e is calculated (on the FVSpivot\_baseharv tab, cell AD26) for the CCRP\_2042 prescription. This value would be added to the 2037 value (cell X26) and multiplied by the acreage represented by the plot (170.62). This value in cell AD26 is summed from the CutList tab in column W for plot 163 in the year 2042. Additionally the Merchantable Harvested CO<sub>2</sub>e is similarly shown in cell AE26 and gets added to the 2037 value in cell Y26 and multiplied by the acreage. Likewise, cell AE26 is summed from the cutlist tab in column U for plot 163 in year 2042.

**Auditor Response:** Thank you for the explanation. Finding closed**Bearing on Material Misstatement or Conformance (M/C/NA):** M/C**NIR 15 Dated 16 Feb 2024****Standard Reference:** ACR IFM methodology v2.0**Document Reference:** Draft\_Manistique\_GHGPlan\_10\_20\_23.pdf**Finding:** “There are five steps required to account for the harvesting of trees and to determine carbon stored in wood products in the baseline and with-project scenarios: 1. Determining the amount of carbon in trees harvested that is delivered to mills (bole without bark);”

Please provide the audit team with an explanation as to why plot 163, RX CCRP-2042, within the Baseline model, has total tree volumes for years 2072 and 2082 and 0 merch volume for years 2072 and 2082.

**Project Personnel Response:** The CCRP prescription consists of three thinnings that occur prior to a final regeneration harvest. For plot 163 in the CCRP\_2042 prescription a final harvest occurs initially in 2042, then for the subsequent rotation a first entry thinning occurs in 2067 and a second entry thinning occurs in 2077. These two thinnings produce only pulp which is reported in the 'Whole Tree Harvested CO<sub>2</sub>e' for 2072 and 2082 respectively in the 100 year calcs. No sawtimber is produced from these thinnings, therefore no 'Merchantable Harvested CO<sub>2</sub>e' is reported.

**Auditor Response:** Thank you for the explanation. Finding closed**Bearing on Material Misstatement or Conformance (M/C/NA):** M/C



**NIR 16 Dated 16 Feb 2024****Standard Reference:** ACR IFM Methodology v2.0**Document Reference:** Manistique\_SiteIndex\_Calcs\_05\_09\_2023.xlsx;  
DRAFT\_Manistique\_GHGPlan\_10\_20\_23.pdf

**Finding:** Section 4.2.1 of the methodology states "modeling must be completed with a peer reviewed forestry model that has been calibrated for use in the project region and approved by ACR. The GHG Project Plan must detail what model is being used and what variants and calibration processes have been selected. All model inputs and outputs (e.g., plot data, model selection, geographic variant, calibration for site-specific conditions, tree list outputs) must be available for inspection by the verifier, and the verifier shall document the methods used in validating the growth and yield model in the validation report.

It was noted during site index (SI) recalculation of a subsample of plots that there is misalignment between the language in Section E1. "Growth and Yield Simulation" and SSURGO-derived values used to model growth in FVS found in Manistique\_SiteIndex\_Calcs\_05\_09\_2023.xlsx. The GHG plan states "If a plot had no species in the soil class species list, we assigned the plot the site index of the tree species in the species list with the highest basal area in the entire project area." This appears to be in contrast to Plots 106, and 123, and 125 for example, which appear to have been assigned SI according to the top species present in the soil class species list, despite the species being absent in the inventory for those plots.

Another discrepancy was noted on Plot 136. This plot was assigned a SI value of 40 for white cedar, which was the most dominant species on plot, and present in PlotSoilMU sheet of the site index calc workbooks. However white cedar was not an associated site species from SSURGO analysis performed by the audit team. Upon further inspection, the MUKEY assigned to Plot 136 was different between the SCS value (3385778) and the client (631375). A separate Web Soil Survey download of the area surrounding Plot 136 was performed. The plot, falling within Map Unit Symbol 'CbdaaA' was found to have the MUKEY 3385778 in the 'mapunit' file of the tabular folder.

The audit team would like to request more information as to the SI values used to model growth for those plots which were derived from soils analysis.

**Project Personnel Response:** This appears to be a misunderstanding of the language in the GHG plan, which fully states:

"We assigned each plot the site index of the tree species with the highest basal area in the plot found in both lists. If a plot had no species in the soil class species list, we assigned the plot the site index of the tree species in the species list with the highest basal area in the entire project area."

To clarify this statement, when a plot did not have a site index determined from a tree core, soil site index is used instead. Often there are multiple species to choose from in the soil site index data, from the species available in this data initially we assess to determine if any species are found in the plot and in the soils data and if so the species with the highest basal area for that plot is used if there are multiple matches. If there are no species on the plot found in the soils site index data, the species in the soils site index data with the highest basal area for the entire project is selected. This is what happened with the plots given for example, where for plot 106 the only species available in the soil site index data were Red Pine and Sugar Maple, neither of which are found on plot 106, therefore Red Pine was selected, since it had the second highest basal area for the project. Likewise, for plots 123 and 125 there was only one species available in the soil site index data, quaking aspen, so this species was selected since it is also found in the project.

Regarding the MUKEY discrepancy for plot 136 that was determined by the auditor, the SSURGO data for the MI095 database was updated on 9/1/2023 after we had already downloaded the soils data and performed our analysis. This is the reason for the discrepancy. The version of SSURGO data used in our site index calculations is now provided in the shared verification folder in the 'Spatial/Soils/' subdirectory.

**Auditor Response:** This clarification is very helpful. The SSURGO database provided to the audit team provides validation for the derived site index values, which are a more conservative estimate than those obtained from updated SSURGO database analysis. The finding is closed.

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

**NIR 17 Dated 18 Jun 2024****Standard Reference:** ACR Standard V7.0**Document Reference:** Contents of folder [FVS\_Output]**Finding:** Please refer to the attached document "NIR17.doc" provided with the findings workbook. Replies to the 4 numbered items may be included in this workbook.**Project Personnel Response:** 1) The CCRP Rx is failing to implement entries because of the narrow age range initially provided for the prescription. For the example with plot 83, following the initial entry that occurs in 2032 the prescription is waiting to implement the second entry in order, however the the age range and basal area triggers are never met in the same time period.

2) Similarly, plot 60 is initially set to start with the first entry, however due to the narrow age range, again the age and basal area triggers are never met in the same time period. This issue is now rectified for points 1) and 2) in new FVS outputs that use only a minimum age for each entry with no maximum age.

3) For Plot 89, this is due to a typo in the maximum age trigger for the first entry which should have been set to 80 instead of 50, which put plots between 50 and 80 years of age into a limbo where they could not be harvested. This has been updated and new FVS outputs provided.

4) While plot 42 does meet first entry triggers in 2027, this is not harvested by design of our modeling process, where if a plot does not meet triggers in the first eligible time period FVS will not check to see if that plot is eligible for harvest again until after the rotation period has passed. In this example for plot 42, it will be harvested in 2027 in the Manistique\_SHW50\_2027 prescription. By doing this we limit the redundancy between harvest prescriptions whereas by checking every time period the Manistique\_SHW50\_2022 and Manistique\_SHW50\_2027 prescriptions would otherwise be identical.

**Auditor Response:** Reviewed updated FVS .OUT files and all identified issues appear to be addressed. Finding closed.**Bearing on Material Misstatement or Conformance (M/C/NA):** C**NCR 18 Dated 10 Jul 2024****Standard Reference:** IFM V2.0 Errata & Clarifications**Document Reference:** Manistique\_ERT\_HWP\_06\_24\_2024.xlsx**Finding:** A finding has been communicated and closed outside of this workbook. Please refer to email thread "Manistique Removals Calculation" for more information.**Project Personnel Response:****Auditor Response:****Bearing on Material Misstatement or Conformance (M/C/NA):** C

**NCR 19 Dated 16 Jul 2024****Standard Reference:** ACR IFM Methodology v2.0**Document Reference:** Draft\_Manistique\_GHGPlan\_07\_11\_2024.pdf**Finding:** Section 1.4 of the IFM V2.0 lists the applicable carbon pools for an IFM project. Section B4 of the GHGPP lists CH4 as an included pool and thus is not in conformance with the requirements of the methodology.**Project Personnel Response:** This has been corrected.**Auditor Response:** Confirmed update to GHGPP excludes CH4 as required by the Methodology. Finding is closed.**Bearing on Material Misstatement or Conformance (M/C/NA):** C**NIR 20 Dated 16 Jul 2024****Standard Reference:** ACR ValVer Standard V1.1**Document Reference:** Manistique\_RP\_ERT\_HWP\_07\_11\_2024.xlsx  
Draft\_Manistique\_GHGPlan\_07\_11\_2024.pdf**Finding:** Table E3-1 presents a different quantity for 'Total HWP stored for 20 yr crediting period Baseline Scenario (tCO2e)' (252,392) than the sum of row 13 in 'ACR\_IFM\_ERT\_Calcs' in the ERP HWP workbook (252,932.8 rounded to 252,933). The audit team requests more information on this discrepancy.**Project Personnel Response:** This has been corrected.**Auditor Response:** Confirmed update to GHGPP quantity. Finding closed.**Bearing on Material Misstatement or Conformance (M/C/NA):** C**NIR 21 Dated 16 Jul 2024****Standard Reference:** ACR IFM methodology v2.0**Document Reference:** Draft\_Manistique\_GHGPlan\_07\_11\_2024.pdf**Finding:** Section E4. of the GHGPP references equations 10 and 18 as the equations for the computation of project and baseline uncertainty. These equation numbers are reflective of IFM v1.3, rather than the updated IFM v2.0 equation numbers 12 and 20. The audit team requests more information on this discrepancy.**Project Personnel Response:** This has been corrected.**Auditor Response:** Confirmed updates to stated equation numbers in GHGPP. Finding closed.**Bearing on Material Misstatement or Conformance (M/C/NA):** C

**NCR 22 Dated 16 Jul 2024****Standard Reference:** ACR Standard V7.0

ACR-GHG-Project-Plan-Template-v3.0.docx

**Document Reference:** Draft\_Manistique\_GHGPlan\_07\_11\_2024.pdf**Finding:** Section 6.B of the Standard states, "Project Proponents shall use the GHG Project Plan template available at <https://americancarbonregistry.org/carbon-accounting/guidance-tools-templates>." This shows that the most recent available GHG Project Plan template is version 3.0.

Draft\_Manistique\_GHGPlan\_07\_11\_2024.pdf utilizes an outdated version of the GHG Project Plan and thus does not conform to the ACR requirements.

**Project Personnel Response:** This has been corrected.**Auditor Response:** Confirmed GHGPP template update. Finding closed.**Bearing on Material Misstatement or Conformance (M/C/NA):** C**NIR 23 Dated 16 Jul 2024****Standard Reference:** ACR-GHG-Project-Plan-Template-v3.0.docx**Document Reference:** Draft\_Manistique\_GHGPlan\_07\_11\_2024.pdf**Finding:** The GHGPP template instructs "Describe the methods and assumptions that applied to generate the ex-ante projection of Total GHG Emission Reductions and Removals. " GHGPP Section E6. currently only lists the ex ante project stocks per acre. This finding may be addressed through the closure of NCR22.**Project Personnel Response:** This has been corrected.**Auditor Response:** Finding closed.**Bearing on Material Misstatement or Conformance (M/C/NA):** C**NIR 24 Dated 16 Jul 2024****Standard Reference:** ACR IFM Methodology v2.0**Document Reference:** DRAFT\_Manistique\_RP1\_Monitoring\_Report\_07\_11\_2024.pdf**Finding:** Section 7.4 of the Methodology states "Verification shall assess...Temporal boundary of the reporting period".

Some project documentation indicates RP1 dates from 08/03/2022 - 08/02/2023. This includes the MR, as well as the 'Project Setup' page on the Registry website. It was noted in the kickoff call that the project has a modified EndRP date of 04/30/2023.

The audit team requests clarification on this issue.

**Project Personnel Response:** Confirming the end of RP 1 is 4/30/23. This has been corrected.**Auditor Response:** Confirmed update to MR. Finding closed.**Bearing on Material Misstatement or Conformance (M/C/NA):** M/C

**OBS 25 Dated 16 Jul 2024****Standard Reference:** ACR IFM Methodology v2.0**Document Reference:** Manistique\_ERT\_HWP\_07\_11\_2024.xlsx**Finding:** Section 7.4 of the Methodology states "Validation shall assess...Project temporal boundary".

The auditor noted in row 8 of sheet 'ACR\_IFM\_ERT\_Calcs' of the ERT HWP workbook that the stated RP end date at the end of the crediting period (cell X8) is listed as 3/31/2042, which is shorter than the required 20 year crediting period. This issue has the potential to affect project calculations towards the end of the crediting period but does not affect the stated GHG ERRs.

**Project Personnel Response:** Thank you for the observation.**Auditor Response:****Bearing on Material Misstatement or Conformance (M/C/NA):** NA**NIR 26 Dated 31 Jul 2024****Standard Reference:** ACR IFM methodology v2.0**Document Reference:** Draft\_Manistique\_GHGPlan\_07\_19\_2024.pdf**Finding:** During technical review, the following issues were noted pertaining to the accuracy of the GHGPP:

Section A7 seems to contain italicized default template language.

Page 37, footnote #9 references the "SN" variant, not "LS" variant.

Table E5-1: Does not reflect the uncertainty values in the most recent ERT workbook.

Section E6 General Monitoring Method: contains text referencing no uncertainty deduction, does not reflect the uncertainty values in the most recent ERT workbook.

The audit team requests clarification on these discrepancies.

**Project Personnel Response:** These items have been corrected.**Auditor Response:** Confirmed updates to the GHGPP. Finding is closed.**Bearing on Material Misstatement or Conformance (M/C/NA):** NA