



VERIFICATION REPORT

ARB VERIFICATION OF THE FINITE CARBON – WEST GRAND LAKE IFM
(CAR1217/CAFR5317)

REPORTING PERIOD 7

Date: 1/24/2023

Version: 3.0

Lead Verifier: Alexa Kandarís

Independent Reviewer: Kyle Silon

Table of Contents

Abbreviations	1
1 Introduction	1
2 Project Overview	1
2.1 Project Participants	1
2.2 Description of project	1
2.3 Offset Verification Services Scope and Criteria	2
2.4 Verification Objective	2
2.5 Materiality	2
2.6 Level of Assurance	3
2.7 Findings	3
3 Summary of Reporting Period ROC's	3
4 Verification Methodology	3
4.1 Verification Team	4
4.2 Description of the Verification Process	4
5 Verification Findings	6
5.1 Project Eligibility and GHG Assessment Boundary	6
5.2 Inventory Methodology	10
5.3 Baseline Carbon Stocks	12
5.4 Project Carbon Stocks	12
5.5 Calculation of GHG Reductions and Removals	13
5.6 Reversal Risk Rating	13
6 Summary Table of Data Checks -- § 95977.1(b)(3)(L)	14
7 Offset Material Misstatement -- § 99577.1(b)(3)(O)	16
Interviews	17
ARB and OPR Conferences and Communication	17
Appendix A: Reference List	18
Project Documents	18
Verifier Documents	18
Appendix B: Project Team	19

Abbreviations

ACR	American Carbon Registry
ARB	Air Resources Board
APD	Authorized Project Designee
ANSI	American National Standards Institute
BMP	Best Management Practices
CCR	California Code of Regulations
CH ₄	Methane
CO ₂ e	Carbon Dioxide Equivalent
CP	Common Practice
EPA	Environmental Protection Agency
ERTs	Emission Reduction Tons
FOP	Forest Offset Protocol
GHG	Greenhouse Gas
HWP	Harvested Wood Products
HWPCW	Harvested Wood Products Calculation Worksheet
ICS	Initial Carbon Stocks
MBL	Minimum Baseline
NPV	Net Present Value
NRCS	USDA Natural Resource Conservation Service
OMM	Offset Material Misstatement
OP	Offset Provider
OPO	Offset Project Operator
OPDR	Offset Project Data Report
QCE	Qualified Conservation Easement
RPF	Registered Professional Forester
PD	Project Developer
PP	Project Participant
S&A	S&A Carbon
t	Metric Tonnes
U.S.A	United States of America
USDA	United States Department of Agriculture

1 Introduction

S&A Carbon (S&A) has been contracted by Finite Carbon to verify the emission reductions generated by the Finite Carbon – West Grand Lake IFM (the project). The verification process is required by the California Air Resources Board (ARB) Compliance Offset Protocol (COP) for U.S. Forest Protocol (November 14, 2014) and Title 17, California Code of Regulations, Article 5. S&A verification activities began 10/12/2021. This report presents the findings from the verification of the project’s greenhouse gas (GHG) emissions reductions/enhancements.

The Offset Project Registry (OPR) for this project is the Climate Action Reserve (CAR), listed as CAR1217/CAFR5317.

2 Project Overview

2.1 Project Participants

Role	Contact	Contact Information
Offset Project Operator (OPO)	Downeast Lakes Land Trust	David Montague 4 Water Street Grand Lakes Stream, ME 04668 207-796-2100; dmontague@downeastlakes.org
Technical Consultant (TC)	Finite Carbon Corporation	Sean Carney 435 Devon Park Drive 700 Building, Wayne, PA 19087 484-586-3080; scarney@finitecarbon.com

**Entities listed in the table above are collectively referred to as project participants (PP) throughout this document.*

2.2 Description of project

The Finite Carbon – West Grand Lake IFM (CAR1217/CAFR5317)) (the Project) is an Improved Forest Management (IFM) project, consisting of 19,552 acres of forestland in the Downeast Lakes region of Maine. The historical land uses in the past have been timber production for bark, pulp and sawlogs (linked in large part to the nearby tanning facility and later to the paper mill), as well as outdoor recreation such as hunting, fishing, and snowmobiling. The property is almost entirely unzoned, with the exception of a small amount of shoreline that is zoned as residential. Based on the terms of the conservation easement and the multi-resource management plan the projected land use within the Project Area and surrounding areas continues to be timber production and outdoor recreation.

The difference between the baseline carbon stocks and the actual carbon stocks is a result of the Project’s management plan and activities. The management activities that lead to increased carbon stocks are not necessarily characterized as different types of silviculture systems than what were used in the baseline. Rather, the Project uses the emissions trading market incentives to implement a reduced management intensity that supports longer rotations and increased habitat protection measures.

Description	Date
Offset Project Commencement Date	9/30/2013
Crediting Period Start Date	9/30/2013
Crediting Period End Date	9/29/2038
Verification Start Date:	10/12/2021

2.3 Offset Verification Services Scope and Criteria

The scope is to conduct a full verification including a site visit, to assess the Project's conformance with the criteria outlined below, for the seventh reporting period, covering 9/30/2020 – 9/29/2021. In addition, a desk review of the fifth and sixth reporting periods will be conducted. Reports for the additional reporting periods can be found under separate cover.

The verification will follow the Compliance Offset Protocol (COP) reporting and verification requirements in sections 9 and 10, and will assess the project with respect to the baseline scenarios presented in the Offset Project Data Report.

Specific verification tasks include:

- Verifying that actual monitoring systems and procedures are in compliance with the COP;
- Verifying that the implementation of the monitoring plan is in accordance with the OPDR.
- Evaluating the GHG emission reduction/enhancement data and express a conclusion with a reasonable level of assurance about whether the reported GHG emissions reduction/enhancement data is free from offset material misstatement of asserted emission reductions/enhancements; and
- Verifying that reported GHG emissions data is sufficiently supported by evidence.
- To verify the project in accordance with the verification guidelines outlined in the Regulation and the COP.

The criteria for the offset verification services include:

- Title 17, California Code of Regulations, Article 5, Subchapter 10, Sections 95800 to 96022 (Regulation), April 1, 2019
- Technical Guidance for Offset Verifiers: Verification of Offset Project Data Reports, October, 2013
- Guidance for Verifying Forest Carbon Inventories, September 9, 2013
- ARB Compliance Offset Program, U.S. Forest Offset Protocol, Frequently Asked Questions, October 2013
- Compliance Offset Protocol, U.S. Forest Projects, November 14, 2014

2.4 Verification Objective

The purpose of this report is to document the verification process and to assess the Project's conformance with the criteria listed above.

2.5 Materiality

The verification team must state with reasonable assurance that the percent overstatement of the OPO's total reported GHG emission reductions and removal enhancements are no more than a 5.00% overstatement of the "true" GHG emission reductions and removal enhancements, as calculated by the verifier using the equation below (§95977.1(b)(3)(Q)). The analysis must consider all discrepancies, omissions, or misreporting, for the subset of data included in the data checks.

$$\text{Percent error} = \frac{[\sum \text{Discrepancies} + \sum \text{Omissions} + \sum \text{Misreporting}] \times 100\%}{\text{Total Reported Emission Reductions and Removal Enhancements}}$$

2.6 Level of Assurance

S&A Carbon provides reasonable assurance that the Project meets ARB criteria.

2.7 Findings

Throughout the verification, findings were recorded by the verification team as per verification guidance outlined in the COP and supporting documents cited above. Any discrepancies, omissions, or misreporting identified by the verification team were documented in the Issues Log (per §95977.1(b)(3)(O)). The offset verification team has also documented in the Issues Log the source of any difference identified, including whether the difference results in a correctable error (per §95977.1(b)(3)(M)). The Issues Log was submitted to the PP. Prior to completion of the verification, all identified non-conformances were required to be addressed, and correctable errors were required to be fixed. The PP submitted additional evidence for S&A's evaluation for conformance. The PPs corrected all correctable issues. The Issues Log and the Verification Report are shared with the PP, the S&A verification team, and the OPR.

Specific details regarding document delivery dates, general descriptions and associated file names are found in Appendix A of this report. Some of these documents have been revised during the course of the verification; only the final versions are listed in Appendix A.

3 Summary of Reporting Period ROC's

During the verification process, the S&A verification team gathered evidence to evaluate the project design, the project implementation, and assess the accuracy of the GHG assertion associated with the reporting period.

After review of all project information, procedures, calculations, and supporting documentation and site visit, S&A confirms that Project reporting is accurate and consistent with all aforementioned criteria and requirements in the COP and the Regulation. S&A confirms all verification activities, including objectives, scope and criteria, level of assurance, and project documentation adhere to the COP. S&A concludes without any qualifications or limiting conditions that the Project meets the requirements of the ARB COP and Regulation.

S&A has verified the OPO's GHG assertion of -6,998 tCO₂e for the Reporting Period of 9/30/2020 – 9/29/2021. The quantified GHG reductions and removal enhancements for this reporting period resulted in a negative number causing a reversal, classified as intentional because adjusted onsite carbon stocks fell below the previous reporting period's stocks.

	Total ROCs (tCO ₂ e)	Total ROCs to Buffer Pool (tCO ₂ e)	ROCs net (tCO ₂ e)	Total Net GHG Reductions/Removals (tCO ₂ e)
<i>Total for RP7</i>	0	0	0	(6,998)

4 Verification Methodology

4.1 Verification Team

Role	Name
Lead Verifier	Alexa Kandarlis
Independent Reviewer	Kyle Silon
Biometrician	Elizabeth McGarrigle
Site Visit Team	Alexa Kandarlis, Lawson Henderson, Marty Duffany (ME RPF #960), Dwight Chapman, Beth Daut, Dave McMath, Pete Clark

4.2 Description of the Verification Process

S&A submitted a proposal to the TC for the verification of the Project on 3/1/2021. Upon contract execution, S&A was selected as the Verification Body. The Notice of Verification Services (NOVS) and Conflict of Interest (COI) forms were initially filed with the OPR and ARB on 9/20/2021 and approved on 9/22/2021. S&A began verification activities on 10/12/2021. The verifiers reviewed the Listing document and confirm that it is complete and accurate meeting the requirements of §95975.

A kick off conference call was held on 10/12/2021. Attendees of the meeting included members of the OPO, TC and the verification team. The project team and verifiers discussed initial findings from a desk review of submitted documents, targeting aspects of the OPDR that might affect the site visit.

Signed OPDRs were provided prior to the site visit. The verifiers reviewed these documents to prepare for the site visit. The verifiers also assessed the eligibility criteria required to design, measure, and monitor the Project to the requirements of the COP and the Regulation (See §95977.1(b)(3)(D)(1), §95977.1(b)(3)(D)(2)(a)-(e), and §95977.1(b)(3)(D)(2)(f)-(i)). Verifiers confirmed that these eligibility requirements were met. The Verification Plan, site visit plot selection and associated maps were completed.

A draft Sampling Plan was prepared based on information available from the OPO. The Sampling Plan considers the requirements of §95977.1(b)(3)(G)(1)) and evaluates the credibility and rigor of these methodology items. A risk evaluation was conducted assessing the size (both in area and carbon storage) of and accessibility of the GHG reservoirs (forest strata). Finally, the plan outlined a sampling scheme for the site visit, based on the risk assessment and document reviews, to evaluate the OPO monitoring system's compliance with the COP. The final Sampling Plan summarizes the results of the sampling and the data checks performed on the sampled data.

As required by §95077.1(b)(3)(K), the Sampling Plan will be retained by S&A for a period of not less than 15 years following the submission of the Offset Verification Statement. All material received, reviewed, and generated by the provision of Offset Verification Services will be retained by S&A for the same period.

The site visit was conducted from 10/18/2021 – 10/20/2021. The verification team conducted an opening meeting in the morning of 10/18/2021 and discussed a variety of verification issues and site visit logistics. During the opening meeting the qualifications of the PP team were confirmed; strata assignments were reviewed; and inventory procedures & audits, and document deliveries, and various items with the potential to affect the sequential sampling test were discussed. Site logistics and site visit personnel were confirmed. Attendees of the opening meeting included the verification team, TC

staff (Brian Sharer, Steve Dettman, Stephen Purvis), OPO staff (Ernest Carle) and Sewall Forestry staff (Ernest Bowling). Verification team activities included the measurement of forest inventory plots in 3 strata (IH, SF, TH). All three strata passed with the minimum 6 required plots. After running the analysis of the plot data gathered for the stratum in question, the results ultimately showed that the Project's inventory was verifiable at the 10 percent allowance level for all strata checked.

In addition, as part of the site visit:

- Conditions for offset project eligibility and additionality were reviewed and assessed at the opening meeting, according to Reg §95973 and the COP section 3. See section 5.1 below.
- Information required for project listing was reviewed prior to and during the site visit from listing documents on the OPR website uploaded by the PP.
- The OPDR was reviewed to determine that the project incorporated the correct physical project boundaries. The project boundaries were confirmed using site visit observations and historical survey information along with discussion with the OPO and associated contractors. See COP 4 in section 5.1 below.
- Baseline calculations and modeling were reviewed and discussed with the PP, both during the site visit and after. See section 5.3 below for more details.
- Interviews were held with the PP to review and evaluate the accuracy of project boundaries; and to assess data maintenance, storage, and control systems. Monitoring practices were reviewed with PP staff and contractors both in the office and in the forest.
- Inventory data (direct observations) were collected by the verification team and evaluated for conformance with the COP standard.

A closing site visit meeting was held in the field on 10/20/2022. Attendees included the same team members as the opening site visit meeting listed above. The verifier reported that the verification sample had passed the sampling test for the three strata examined. Other topics also discussed included Issues Log preparation and proposed schedule; review of documents requested by S&A; pending ARB guidance; and reflections and learnings from the site visit.

The verification process included exchanges between S&A and the OPO, in order to gather additional information for review and examination. These exchanges included three rounds of an Issues Log by S&A to which the PP was required to respond. The final TC responses to these issues were provided to the verifier on 8/22/2022. The Issues Log is a confidential document, available under separate cover. With responses to the issues as well as supplementary information, S&A was able to close all issues and render a positive verification opinion. Verifiers confirmed in an email dated 8/23/2022 to the TC that all remaining issues were satisfied in the responses to the final Issues Log.

S&A auditors drafted the Verification Statement and Verification Report and presented it for Independent Review, which determined the Verification Statement to be justified based on the project documentation and verification assessment. The Verification Report and Verification Statement were then presented to the OPO for review and comment on 8/25/2022. A final call to close the verification was held 8/26/2022. Members of the verification body, the TC, & OPO were present on the call. Upon approval from the OPO, S&A uploaded the Verification Report and Verification Statement to the OPR website for registry review.

5 Verification Findings

Please note, non-conformances or observations identified during the verification are included in the “Issues Log”. All findings related to verification team’s review of evidence submitted by the OPO are included within this verification report and the final Issues Log. Data checks for many items are available in the verifier’s data check log.

5.1 Project Eligibility and GHG Assessment Boundary

COP § 2.1.2, 2.2

The verifiers are reasonably assured the land is still privately owned based on reviewing the Project deeds, parcel tax list, and GIS Project area and historical shape files. These also would have been assessed in depth during the initial verification. Verifiers confirmed that all parcels reviewed are within the Project area and they correlate reasonably well with the delineated GIS project boundary. The verification team did note that there has been a change of ownership since the initial reporting period and that the OPR was notified regarding the transfer of property from GLS Woodlands LLC to the Downeast Lakes Land Trust (DLLT). The TC provided the quitclaim deed as evidence for the verification team to confirm the transfer of ownership from GLS Woodlands LLC to DLLT. Verifiers’ review of the Project boundary confirmed that while the ownership changed hands during the Project’s lifetime, the boundaries have remained the same since the initial verification. No evidence was uncovered to suggest that any other landownership changes (sales/acquisitions) have occurred during the reporting periods in question.

Sources used by the verifiers to assess the percentage of tree canopy included reviewing the latest, publicly available aerial imagery (NAIP 2021) and project documents (maps, site visit observations & harvest records). Imagery used by verifiers appears comparable to a map submitted by the OPO with the initial OPDR. Based on this imagery and site visit observations, the verifiers confirm that the project property still exhibits greater than 10% tree canopy.

Management activities that will lead to increased carbon stocks in the Project Area compared to the baseline include longer rotations and increased habitat protection measures. This is an eligible activity under COP §2.1.2. The forest types are native to the area and are comprised of multiple ages and mixed species. Sustainable management criteria are met by maintaining a third party (FSC) certification (see COP §3.8.2 below). The OPO continues to attest that no broadcast fertilization has been or is being employed.

The OPO attests that all Project documentation and reports that reference carbon stocks have been reviewed by a Professional Forester, in this case, Ernest Carle, who is a Maine Licensed Forester (LF #438). Verifiers confirmed the good standing of this individual’s certification through a check of the licensed foresters on the Maine Regulatory Licensing & Permitting website.

The verifiers uncovered no evidence that the Project was previously listed as an Early Action project or as a Forest Project under any other voluntary or compliance protocol by checking the following registries:

- Verra (<http://www.vcsprojectdatabase.org/>)
- American Carbon Registry (<https://acr2.apx.com/myModule/rpt/myrpt.asp>)
- Climate Action Reserve (<https://thereserve2.apx.com/myModule/rpt/myrpt.asp>)
- Clean Development Mechanism (<https://cdm.unfccc.int/>)

Verifiers also checked these registries for evidence of any ARB compliance offset projects that occurred within this same Project area. The Climate Action Reserve (CAR) is the only registry that lists the current project (CAR1217/CAFR5317). No evidence of double counting was found.

COP § 3.1, 3.1.1, 3.1.2

The Project continues to **not be** mandated by any law, statute, or regulation, and verifiers found no evidence to the contrary. The verifiers conclude with reasonable assurance that the Project offset credits generated are additional to any laws and regulations and exceed a conservative baseline scenario.

An Improved Forest Management Project automatically satisfies the performance test.

COP § 3.2

The offset project commencement date was 9/30/2013, which corresponds to the starting date of the forest carbon inventory.

COP § 3.3, 3.4

The Project Crediting Period for offset projects using the COP is 25 years. The crediting period is coincident with the start of the initial reporting period (9/30/2013) and ends no later than 9/29/2038. This seventh reporting period covers 9/30/2020 – 9/29/2021. The OPO will monitor the forest carbon stocks for a period of 100 years following the last year of the issuance of any offset credits. These assertions are made in the listing and OPDR documents.

COP § 3.5

No Qualified Conservation Easement is in place on this property. This was confirmed by the OPO in the OPDR. The Conservation Easement applicable to a portion of the Project area was reviewed by verifiers and is not considered a Qualified Conservation Easement.

COP § 3.6

Verifiers are reasonably assured the Project land continues to be privately owned and located within the jurisdiction of the State of Maine (Washington County). According to the OPDR, no tribal interests or land ownership are documented within the project area; Centroid latitude and longitude coordinates are approximately 45.234 and -67.754, respectively. The project lies in climate zones 4b and 5a on the USDA Plant Hardiness Zone map. This information is available in the initial OPDR, Project listing and Appendix A and was confirmed by the verifiers.

COP § 3.7

In the listing document, the OPO attests that the project is in compliance with all applicable laws.

The following laws and regulations were reviewed with the OPO and relevant stakeholders during the verification. Verifiers found no evidence to suggest the project was not in compliance with these laws and regulations during the reporting period:

- National Wild and Scenic Rivers Act;
- Endangered Species Act (ESA);
- Clean Water Act;
- Maine Forestry Best Management Practices (BMPs)

The verifiers can confirm that the project is compliance with all applicable local, state and federal laws, requirements and regulations.

COP § 3.8.1, 3.8.2

Native Species

The initial OPDR states the project area is comprised of at least 95% native species. Based on the TC's supporting calculations for the percentage of standing live basal area by species, for the 2021 inventory, approximately 100% of the species in the project area were found to be native to the region. The verifiers calculated the same percent native species composition using the individual tree data provided confirming the percentage of native species is meets the 95% or greater COP criteria.

The OPDR's calculations show that composition of the native species within the project area is mixed; no single species exceeds the species diversity index for the Assessment Areas. The verifiers reviewed the calculations for relative species distribution and confirmed that no species exceeds the Species Diversity Index (SDI) for each applicable Assessment Area designations for the project. The maximum concentration at the Project level is in Eastern hemlock at 28.4%. The OPO also calculated the percent species composition for each applicable Assessment Area. The Project lies in the Maine – New Brunswick Foothills and Lowlands Supersection. At the Assessment Area level, Northern White-Cedar has the highest percent composition in the Conifer Bog Assessment Area (25.5%), American Beech has the highest percent composition in the Northern Hardwoods Assessment Areas (18.3%), Eastern White Pine has the highest percent composition in the Pine Forests Assessment Areas (52.7%), Red Maple has the highest percent composition in the Poplar/Birch Assessment Areas (23.9%), and Eastern hemlock has the highest percent composition in the Spruce-Fir Assessment Areas (33.3%). These are all below the Species Diversity Index threshold (80%, 70%, 65%, 75%, 70%, respectively) for all five Assessment Areas.

Sustainable Harvesting & Natural Forest Management Practices

The sustainable harvesting practices requirements are met via third party certification, which in this case would signify a good and current standing within the FSC program. The status of the Forest Owner's FSC Certification was confirmed (NC-FM/COC-002682/FSC-C016026) via checks on the online FSC Certificate Database, through review of the annual audit reports of the property certification, and through communication with the FSC auditor. The Forest Management Plan and West Grand Lake Conservation Easement state the forest will be managed in accordance with the FSC principles & criteria.

Age-class distribution

According to the OPDR and the associated supporting calculations, the age class distribution of trees younger than 20 years represents approximately 6.65% of forested acres for both the entire Project area and a watershed scale up to 10,000 acres. Both of these are below the COP threshold of 40%. The verifiers confirmed this by reviewing the source data (Project and watershed age class proxy analysis) and calculating the percentage for this age class, by reviewing recent aerial photographs, and through forest age class observations made during the verification site visit.

Structural Elements

The natural forest management criteria require structural elements, in the form of standing and lying deadwood, are retained in ecologically sufficient quantities in the Project Area. The COP requires projects to demonstrate the higher of either: 1) at least 1% of standing live carbon stocks in standing

deadwood or 2) at least one metric tonne (t), on average, of deadwood per acre, or progress towards that goal.

Based on the initial forest inventory data, the OPO's calculated value for the actual onsite carbon for standing dead wood within the entire forested project area was 0.75 t carbon (C) per acre (equivalent to 2.85% of standing live carbon). The verifiers calculated similar values. The weighting and overall mean calculation for total standing live calculated by the verifiers were within reasonable agreement with OPO values.

The amount of carbon within total standing dead meets the minimum 1% of total standing live carbon requirement. However, the Project does not meet the 1tC per acre threshold. As indicated in the Annual OPDR, Project activities do not include the active harvest or removal of standing or lying dead wood. Consideration of maintaining/increasing structural elements are incorporated into management planning under FSC certification, as well as the Forest Management Plan whose principles are also outlined in the West Grand Lake Conservation Easement. Therefore, it is reasonable to expect that quantities of carbon in standing dead wood will be maintained and have the potential to increase over time. No evidence of the removal of standing dead wood was observed during the initial site visit.

Requirements of COP §3.8.1/3.8.2 are satisfied.

COP § 3.8.3

Since the project start date (9/30/2013), the OPO's project monitoring worksheet shows no decrease in standing live carbon stocks. Verifiers confirmed that these calculations are correct.

COP § 3.8.4

The intent of this section of the COP is to limit the regeneration harvests in even-aged management systems to stands no greater than 40 acres. Harvested stands must also meet certain criteria for age or regeneration height in adjacent stands. No harvested stands with even-aged silvicultural prescriptions greater than 40 acres in size were noted during the reporting period. The verification team reviewed the harvest spatial data and aerial imagery and found no evidence to demonstrate this requirement has not been met.

COP § 4

The OPO submitted OPDR map appendices for the Project Area as part of the initial verification and these have not changed between Project commencement and RP7. Geographical coordinates are included in Part V of the Initial OPDR. A description of the Assessment Areas encompassing the project is included in the Initial OPDR Part V (A) as well as the determination of the project area in section C. Present and historical land cover/land use, forest vegetation type, land pressures, climate zone classification, site class, zoning and project land use are also described in this section of the OPDR. A geospatial database of the project area was provided. The verifiers confirm that the information provided still complies with the requirements of the COP (§4 & §9.1.1.1 (15) (a-l)).

Verifiers conducted a cursory review of the depictions of physical boundaries and in-depth review of stand typing (stratification) of the Project area by overlaying the associated shapefiles with recent orthophotographs, private and federal property boundaries, survey monuments, and topographic features. Stand typing and property boundary lines were assessed during the verification site visit and were deemed appropriate.

Non-forest areas consist of water bodies, fields and roads. Verifiers checked the calculations and examined mapped areas associated with these exclusions and found them to be accurate. Verifiers also concur with the calculated Project Area (19,551.99 acres).

COP § 5.2

The following SSRs (OPDR Table 8) were reviewed for inclusion in the Offset Project Boundary:

Project: IFM-1, IFM-3, IFM-7, IFM-8, IFM-14, IFM-17

Baseline: IFM-1, IFM-3, IFM-7, IFM-8, IFM-17

All appropriate SSRs are included. IFM6 is excluded from the project and baseline because the conditions in Table 5.2 (COP) that would require inclusion of this pool (deep ripping, furrowing, or plowing where soil disturbance exceeds 25% of the Project Area, or mechanical site preparation that is not conducted on contours) are not planned. Likewise, IFM-9 is excluded as site preparation is not expected to occur on more than 25% of the project area over the project life, nor is mechanical site preparation expected to be conducted on contours.

5.2 Inventory Methodology

COP Appendix A.1

The historical land uses in the past have been timber production for bark, pulp and sawlogs (linked in large part to the nearby tanning facility and later to the paper mill), as well as outdoor recreation such as hunting, fishing, and snowmobiling. The property is almost entirely unzoned, with the exception of a small amount of shoreline that is zoned as residential. Based on the terms of the conservation easement and the multi-resource management plan the projected land use within the Project Area and surrounding areas continues to be timber production and outdoor recreation.

A check against the ARB assessment area map confirms that the project area is still located in the *Maine – New Brunswick Foothills & Lowlands* Supersection. The species evident on the property and in the inventory confirm appropriateness of the choice of the Assessment Areas. Checks on the percent species composition for each Assessment Area as outlined in the Initial OPDR and supporting calculation workbook were carried out against the species list in the ARB Assessment Area Data File. Prevalent species in each assessment area selected by the project generally aligned with the list of species found in the Assessment Area Data File.

Finding for COP Appendix A.3, items 2-8

A Project Inventory Methodology was provided during the verification that satisfies the requirements of this section. The OPO conducted a forest carbon inventory within the Project Area in 2013. The Project Area was re-inventoried in full in June 2021. An updated inventory methodology resulted in maintaining the original inventory design, but removing every other plot, reducing the number of plots from 498 to 298. The decrease in plots was reviewed by a third party verifier and approved by ARB, and justified in the inventory change log based on the overall statistical soundness of the current sampling design and oversampling in the initial inventory. The inventory stratification consists of 5 strata based on broad forest cover types, as defined below:

- CB: Conifer Bog, key species include northern white cedar, black spruce, tamarack
- IH: Intolerant Hardwoods; key species include paper birch, bigtooth aspen, quaking aspen, gray birch

- PN: Pine Forest; key species include eastern white pine, eastern hemlock, red pine
- SF: Spruce-Fir; key species include red spruce, balsam fir, eastern hemlock, white spruce
- TH: Tolerant Hardwoods; key species include sugar maple, American beech, yellow birch, white ash, black cherry

This stratification was produced and is maintained by the OPO by using standard forest typing methods such as a combination of serial photointerpretation and ground truthing. The existing inventory strata utilized by the Project have not changed since the initial verification, with the exception of new strata created in order to quantify depleted stocks in areas following harvest events. The stratification of the rest of the Project area is thus still applicable and found to reasonably correspond to the Assessment Area descriptions noted for the specified Supersections.

Detailed inventory procedures and specifications are described in the Project's Inventory Methodology document. Verifiers confirmed that these processes were a) in conformance with USFS and other generally accepted professional standards; and b) effectively followed by the inventory crews.

Section VIII (A) of the initial OPDR contains details about the modeling process and also the methods used to calculate live and standing dead carbon stocks. The processing methods are thorough, systematic, and follow the COP guidance for projects outside of California, Washington and Oregon.

Finding for COP Appendix A (b)

A Project Inventory Methodology was provided during the verification that satisfies the requirements (1-10) of this section. The species evident on the property and in the inventory confirm appropriateness of the choice of the Assessment Areas. The common practice value for the Assessment Area was confirmed by verifiers by reviewing the Assessment Area Data File and has not changed since the initial verification.

The stratification rules are provided in the Inventory Methodology document. Property stand mapping maintained by the OPO formed the basis for strata. Stratification based on species dominance/cover type is considered reasonable for this region and is in line with COP requirements and ARB guidance regarding how to treat non forested areas.

Finding for COP Appendix A (c-j)

The full carbon inventory completed in June 2021 was used to calculate the carbon for the end of the reporting period. FVS was not used to grow the inventory data to the end of the reporting period as the inventory data collected in June was deemed appropriate and representative of the end of reporting period date (September 2021).

Detailed inventory procedures and specifications are described in the Inventory Methodology document. Verifiers confirmed that these processes were a) in conformance with USFS and other generally accepted professional standards; and b) effectively followed by the inventory crews.

Identification and descriptions of known or potential disease(s) that may affect the health of the project's inventory have been described within the Initial OPDR. Verifiers have reviewed these documents and confirm that these documents still adequately and accurately provide the necessary information to meet the intent of the COP.

Finding for COP Appendix A (k-o)

The sampling error was recalculated based on the verifier calculations and was shown to be identical with the OPO's calculation (OPO 5.48%; VB 5.48%). The appropriate confidence deduction is calculated as 0.5% and applied correctly in the Monitoring Calculation worksheet.

5.3 Baseline Carbon Stocks

COP § 6.2.1 steps 1-4

As a thorough Baseline modelling review was required for the initial verification, the degree of baseline review is thus reduced for this RP7 verification. Nevertheless, verifiers have traced data from the OPDR back to the results of the baseline modeling and conducted a general review of the baseline modeling process. The level of review was not further augmented as no issues of concern surfaced during the process. The baseline modelling assumptions have been previously confirmed as being in conformance with the protocol requirements during the initial verification. The analytical methods used to apply growth to current stocks are described in Attachment M (Initial OPDR). The verifiers reviewed these calculations and procedures once more and found:

- The FVS model was calibrated and used appropriately;
- The application of the model results is accurate and appropriate;
- The amount of growth predicted by the model is consistent with FIA estimates for the region and is consistent with published studies; and
- The methods used to calculate biomass and carbon from tree data are consistent with the protocol and have been accurately applied.

COP § 6.2.3

Baseline carbon in harvested wood products was determined from the FVS-based yield curves for the carbon in harvested trees delivered to the mill. Data for 100 years is averaged to determine the ratio of wood harvested to wood delivered. The ratio of wood harvested to wood delivered was correctly calculated and is in line with the ratio of the bole biomass to the total tree biomass, based on the entire inventory of merchantable trees.

Verifiers conducted cursory reviews of the overall modeling process, calculations and supporting documents, and based on these reviews, the verification team can confirm that the methods were accurately implemented and the associated calculations done correctly to comply with the COP specifications for estimating the average amount of carbon in standing live carbon stocks for each year over 100-year baseline period.

5.4 Project Carbon Stocks

COP §6.2.4

Since the project start date, previous project monitoring and verification reports suggest no decrease in standing live carbon stocks. The verifier team also reviewed recent aerial imagery that confirms the reported extent of recent harvesting, reduction in sample plots, or natural disturbances are evident that might suggest a decrease in standing live stocks. A reversal occurred during this reporting period due adjusted onsite carbon stocks falling below the RP6 adjusted onsite stocks, see additional detail in §7 below.

Reporting period 7 stocks were calculated using the inventory completed during the reporting period (June 2021). The reporting period 6 inventory treelist was used along with verified volume and biomass equations to calculate carbon stocks. Average carbon stock by strata was used to produce weighted total onsite carbon stocks. The two primary carbon pools for the reporting period stocks,

IFM 1 and IFM 3, are reported in the Annual OPDR. The verification can also confirm, as reported in Section 2 above, that the OPO conducted all calculations according to the protocol and found close agreement with the OPO estimates of inventory stocks. OPDR reporting is consistent with the estimates shown in the supporting workbooks.

COP § 6.2.5

Actual carbon in harvested wood products was verified during this full verification as harvesting took place during this seventh reporting period. The OPO filled out their HWP calculation worksheet to determine the storage rates for baseline and project harvested wood products appropriately and used the actual product proportions to arrive at final calculations. Harvesting volumes were verified by reviewing actual mill slips and other documentation.

COP § 6.2.6

Equation 6.10 of the COP was used correctly to quantify the secondary effects of the project. Secondary effects are included as the cumulative value of Baseline carbon harvested (prior to delivery to a mill) is greater than the Project level (actual amount onsite) of carbon harvested. The verifier checked the calculation of the built-in equations in the ARBOC Monitoring Calculation worksheet and confirm that the OPO correctly calculated secondary effects.

5.5 Calculation of GHG Reductions and Removals

COP § 6

The OPO has provided the ARBOC Monitoring Calculation worksheet as the implementation of COP equation 6.1. This document accounts for project and baseline stocks, project and baseline harvested wood products, HWP storage, secondary effects, buffer pools and any reversals. All data entered by the user into this workbook is consistent with supporting documents. Calculations embedded in the worksheet were recalculated and checked by the verifier.

COP § 7

The Project experienced a reversal during RP7 due to the adjusted onsite carbon stocks falling below the RP6 stocks after the confidence deduction is applied. The OPO/TC have classified this as an intentional reversal based on ARB's determination. The OPO/TC state that this reversal falls under the Social Risk category due to changing policies, namely ARB's recent determination prohibiting dead saplings to be included in the quantification of carbon stocks. The verification team requested the OPO/TC provide additional evidence to support the assertion that that the reversal was solely based on the fact that dead saplings had been removed from the carbon stocks, and that this reversal was not due to the reduced number of sample plots nor the degree of harvesting. The TC provided a comparison workbook to corroborate that the increased confidence deduction in the "without dead saplings" scenario was indeed solely attributed to the removal of dead saplings. In the "with dead saplings" scenario, which accounts for all harvesting and the reduced number of sample plots, the confidence deduction is 0.10% lower and the adjusted onsite carbon stocks do not fall below the RP6 stocks. Verifiers accept the classification of the reversal as intentional.

5.6 Reversal Risk Rating

Finding for COP Appendix D

The table below presents the verifiers' findings pertaining to the Project's Reversal Risk Rating, following the guidance in the COP Appendix D. The verifiers concur with the assessment offered in the initial OPDR section VII(E) and found that it complies with the protocol guidance for each risk type. The table summarizes the evidence used to support each risk level.

Risk Type	Conform	Finding	OPDR	Verif. Check
Financial	Y	Default	5%	5%
Management: Illegal removal of forest biomass	Y	Default	0%	0%
Management: Conversion of project area to alternate land use	Y	Default	2%	2%
Management: Over-harvesting	Y	Default	2%	2%
Social	Y	Default	2%	2%
Natural disturbance: Wildfire	Y	Default	4%	4%
Natural disturbance: Disease or insect outbreak	Y	Default	3%	3%
Natural disturbance: Other episodic catastrophic event	Y	Default	3%	3%
Cumulative Risk	Y		19.236%	19.236%

The Project proponents have calculated their reversal risk rating to be 19.24%, which shows that the risk rating has remained fixed since the last full verification when the site visit occurred. The verifier team also reviewed the ARBOC Calculation Worksheet and previous years' verification reports to make sure the correct values have been utilized throughout. Further, the verifier team also recalculated the reversal risk rating and confirms that it was calculated correctly during the initial verification, as all risk factors were either defaults for the US or for the region.

6 Summary Table of Data Checks -- § 95977.1(b)(3)(L)

A summary of selected data checks for project are provided below. The assigned ranking reflects both the size and uncertainty associated with these SSRs. These and other data checks performed (along with narrative details of the check and results) are included in the verifiers data check log.

SSR (rank)	Data reviewed	Reported (OPO) tCO ₂ e	Calculated (VB) tCO ₂ e	Discrepancy tCO ₂ e	Impact on misstatement/ conformance
	Checks performed				
Rank 1 Project stocks IFM1, IFM3 end of RP7 (AC _{onsite, end RP})	Inventory, volume and biomass estimates, tree list. Carbon calculations on inventory. Model appropriateness and use. Data systems.	1,939,288	1,939,288	0	No impact on OMM
	Model performance against independent benchmarks. Checks of accumulations and correct transfer to OPDR				

Comment: NA					
Rank 2 Project stocks IFM1, IFM3 grown ahead; beginning of RP7 (AC _{onsite} , beginning RP)	Inventory, volume and biomass estimates, grown modeling results, grown tree list. Carbon calculations on inventory. Model appropriateness and use. Data systems.	1,930,899	1,930,899	0	No impact on OMM
	Model performance against independent benchmarks. Checks of accumulations and correct transfer to OPDR				
Comment: NA					
Rank 3 Baseline stocks IFM1, IFM3 (BC _{onsite} , end RP)	OPDR and supporting modeling documents, web-based review of methods. Model appropriateness and use. Data systems.	1,179,126	1,179,126	0	No impact on OMM
	Model calibration. Model performance against independent benchmarks. Checks of accumulations and correct transfer to OPDR				
Comment: NA					
Rank 4 Quantified GHG removal enhancements (QR _{end RP})	OPDR	(6,998)	(6,998)	0	No impact on OMM
	Checks that all OPO entries are correct. Check sources. Checks that calculations within the worksheet are correct. Calculation check uses OPO values.				
Comment: NA					
Rank 5 Actual HWP stocks IFM7, IFM8, end RP (AC _{WP} , end RP)	OPDR Supporting worksheets	2,229	2,229	0	No impact on OMM
	Model results, HWP worksheet Confirm model projections and sums. Correct use of HWP worksheet.				
Comment: IFM8, landfill is included. Cumulative actual harvesting < baseline for RP					
Rank 6 IFM7, IFM8 Baseline, end RP (BC _{wp,end RP})	OPDR, supporting worksheets	4,448	4,448	0	No impact on OMM
	Model results, HWP worksheet Confirm model				

	projections and sums. Correct use of HWP worksheet.				
Comment: IFM8, landfill is included. Cumulative actual harvesting < baseline for RP					
Rank 7 Buffer Pool and Risk Rating	OPDR, calculation workbooks, supporting documents.	0	0	0	No impact on OMM
	Use OPO data to recalculate buffer pool; calculate risk % with default values; check OPR software				
Comment: A reversal occurred during the RP resulting in no buffer pool contributions					
Rank 8 Confidence Deduction (CDend RP))	OPDR, supporting worksheets	0.50%	0.50%	0	No impact on OMM
	Use OPO data for initial stocks; checks the calculation of CD was done correctly. Recalculated from initial inventory.				
Comment: NA					
Rank 9 Secondary Effects (SE _v)	OPDR, supporting worksheets	(3,916)	(3,916)	0	No impact on OMM
	Confirm model projections and sums. Correct use of HWP worksheet				

7 Offset Material Misstatement -- § 99577.1(b)(3)(O)

The verification team must state with reasonable assurance that the percent overstatement of the OPO's total reported GHG emission reductions and removal enhancements is no more than a 5.00% overstatement of the "true" GHG emission reductions and removal enhancements, as calculated by the verifier using the equation below (§95977.1(b)(3)(Q)). The analysis must consider all discrepancies, omissions, or misreporting, for the subset of data included in the data checks. Any omissions, discrepancies, and misreporting errors are identified separately in the table above.

$$\text{Percent error} = \frac{[\sum \text{Discrepancies} + \sum \text{Omissions} + \sum \text{Misreporting}] \times 100\%}{\text{Total Reported Emission Reductions and Removal Enhancements}}$$

$$\text{Percent error (OMM)} = \frac{[0+0+0] \times 100\%}{(6,998)} = 0\%$$

Total discrepancies, omissions and misreporting*	Total RP emission reductions (before buffer pool) QR_{end RP}	Calculated OMM %
0	(6,998)	0.00%

*Note: In this column, a negative value represents *under-reporting* by the OPO.

The percent OMM is 0.00%, over-reporting. Therefore, the project is less than the threshold of 5.00% over-reporting for the offset material misstatement.

Interviews

The following is a list of the people interviewed as part of the verification. The interviewees included those people directly, and in some cases indirectly, involved and/or affected by the project activities. The training and qualifications of the TC was confirmed by referencing bios for the team on the TC website.

Date	Name	Title/Description
Throughout verification	Brandon Vickery	Vice President of Compliance Projects, Finite Carbon
Throughout Verification	Steve Dettman	Director of Project DeVelopment, Finite Carbon (formerly)
Site Visit	Stephen Purvis	Associate Director of Project Development, Finite Carbon
Site Visit	David Montague	President & CEO, Downeast Lakes Land Trust
Site Visit	Ernest Carle	Managing Forester, Downeast Lakes Land Trust
Site Visit	Ernest Bowling	Biometrician & Forester, Sewall Forestry
12/23/2021	Carolyn Loeb	Forestry Specialist, Preferred by Nature (FSC auditor)
7/26/2022	Joseph Anderson	Stewardship Specialist, Maine Department of Agriculture, Conservation & Forestry (Easement holder)

ARB and OPR Conferences and Communication

Date	Name	Description
12/14/2021	NA	ARB provided guidance prohibiting the inclusion of dead saplings during this verification.
1/4/2023	Nora Kennedy	ARB provided additional guidance Sept 2022 prohibiting the modeled mortality of live saplings.

APPENDIX A: REFERENCE LIST

Project Documents

Document Description		Filename
OPDR	Initial	CAR1217 OPDR Initial v1.5 Signed 20160726.pdf
	Annual RP7	CAR1217 RP7 OPDR Annual v2.3_20230123_SIGNED.pdf
Calculations	OPDR Calcs	CAR1217 RP7 OPDR Calculations 20220802 v1.4.xlsx
	Monitoring Calcs	CAR1217 RP7 ARBOC HWP Calculations 20220803 v2.7.xlsx
	Comparison Calcs	CAR1217 RP7 ARBOC HWP Calculations 20220803 v2.7_wSDsapsTest.xlsx
Harvesting	Mill Slips/Trip Tickets	WGL_RP7_Ticket Request.pdf
Spatial		CAR1217_RP7_GIS_Data.gdb
Inventory	Methodology	CAR1217 OPDR RP7 Inventory Methodology 20230117 v1.3.pdf Appendix A. CAR1217 Project Inventory Methodology v1.4 Proprietary 20160512.pdf
	Check Cruise	WestGrandLakeAuditReport06242021.xlsx
	Witness Tree Data	CAR1217 WGL Witness Tree Data.xlsx
Ownership		WGL_quitclaim deed and property description.pdf
Forest Management Plan		Management Plan.pdf
Conservation Easement		WestGrandLakeStreamConservationEasement.pdf

Verifier Documents

Document Description	Filename
COI Form	CAFR5317-RP5-7_COI.docx
Data Check Log	CAFR5317-RP5-7_datachecklog.xlsx
Issues Log	CAFR5317-RP5-7_Issues Log_v4.0-20230124-Closed.docx
NOVS	CAFR5317-RP5-7_NOVS.docx
Sampling Plan	CAFR5317-RP7_SamplingPlan.docx
Verification Plan	CAFR5317-RP5-7_VerificationPlan.docx

APPENDIX B: PROJECT TEAM

Verification Team	Qualifications
Alexa Kandarlis	Alexa Kandarlis has 6 years' experience in carbon auditing and climate change mitigation policy and is accredited by ARB as a lead verifier under their US Forests protocol and the Ozone Depleting Substances protocol, and by the Climate Action Reserve (CAR) as a lead verifier. In this time, she has participated in verifications of carbon offset projects and corporate inventories under a variety of GHG programs, including the Air Resources Board, Climate Action Reserve, American Carbon Registry, Verified Carbon Standard/Climate Community & Biodiversity Standard, and Carbon Disclosure Project. Alexa developed tracking systems for a program registered under the Clean Development Mechanism and registered with the Gold Standard. Alexa is currently responsible for implementation of S&A's corporate management system to ensure ongoing improvement and compliance with ISO requirements. In addition to this, she has field experience with Forestry, Ozone Depleting Substances, and Livestock verification projects. She holds a Bachelor of Arts in Economics with a focus on natural resource and environmental Economics.
Kyle Silon	Kyle Silon holds an M.S. in Energy and Environmental Economics. He has ten years' experience in climate change mitigation strategies and carbon reduction projects. Prior to founding S&A, he worked for a leading international certification company, specializing in validation and verification of small-scale household energy demand projects (such as cook stove and water filter projects), primarily located in South America, Asia, and Africa. He has participated in numerous verifications of forestry, landfill, and livestock projects, and has worked across all major GHG programs, including the Air Resources Board, Verified Carbon Standard, Climate Action Reserve, American Carbon Registry, Gold Standard, and Clean Development Mechanism (CDM).
Elizabeth McGarrigle	Elizabeth McGarrigle holds three forestry degrees (BScF, MScF, PhD). Her work has focused on forest inventory, growth and yield, and forest management planning. During her Masters she focused her work on examining the impact of uncertainties in the inputs to long term forest management plans when optimization models are employed. While completing her PhD, she was part of a larger project developing a regional growth and yield model for the Acadian forest in the Northeastern United States and Canada. She developed a stand-level model that is used to predict survivor growth, ingrowth, and mortality in the region. As part of her dissertation, she dealt with several variants of the Forest Vegetation Simulator and several regional growth and yield models from across Canada and the United States. Dr. McGarrigle is

	currently working with the provincial government in Nova Scotia Canada as a Forest Inventory Data Analyst where she is responsible for the design and analyses of permanent sample plots. In addition to her work as a biometrician on several ARB forest projects, she has also been involved in research at Natural Resources Canada using a fine scale forestry model to assess the impact of climate change on species composition in forest types across Canada.
Dwight Chapman	Mr. Chapman is a Forester and Project Manager with experience running a private consulting company conducting forest inventory and natural resource surveys for government agencies and the private sector. As a sole proprietor, he has extensive experience taking ownership of and building project strategies from the ground up for projects outside of his formal educational training. With over 25 years of consulting experience, he brings strong leadership and management skills to the carbon verification industry. While running the forestry consulting business, he was responsible for client management, facilitating meetings between the public and private sector, and hiring and managing forestry field staff. He has completed thousands of field-based forest inventory plots in all western states from the Rocky Mountains to the coast of California. He has also managed and performed private industrial forest volume cruises throughout the pacific northwest. Additionally, he brings 10 years of professional and technical writing experience including proposal preparation, progress and final reports, and GIS analysis including spatial analysis.
Marty Duffany	Martin Duffany holds a BS in Forestry from SUNY College of Environmental Science and Forestry. He brings over 35 years of experience in forest management working for forest industry and Timberland Investment Organizations (TIMOs) primarily in the northeastern and Appalachian regions of the US and eastern Canada. This experience focuses mainly on managing all aspects of forest inventory and mapping projects but includes extensive work in forest management planning, modeling and analysis. He has years of experience working in compliance with FSC and SFI certification standards and protocols. Martin joined S&A Carbon in February 2019 as a contractor providing support on desk and field verification projects. He is an SAF Certified Forester and holds forester licenses in Maine, New Hampshire and Vermont.
Beth Daut	Beth Daut has over 30 years of experience working with private, investment and industrial landowners in Maine, New Hampshire, Vermont, and the Adirondack region of New York. Beth has an A.A.S. degree in Forest Technology from the SUNY College of Environmental Science and Forestry Ranger School and a Bachelor's degree in Environmental Science from SUNY Plattsburgh. She is licensed in the states of Vermont and New Hampshire, and a member of Society of American Foresters. Civically, she is a member of the Berlin Conservation Commission and Tree Warden for the town of Berlin.

David McMath	David McMath holds a BS in Biology with a concentration in Computer Science and a MS in Forestry. He has over 23 years providing natural resource management services for a diversity of Clients throughout New England. Clients include; investors, corporate entities, non-profit groups, individuals, family trusts, town and state. Responsibilities; GIS mapping(ArcGIS), forest management, timber harvesting, marketing, budgeting, green certification(FSC), inventory, wildlife management, recreation management, carbon offset verification, invasive control, timber valuation and due diligence. He is a member of SAF & Forest Stewards Guild and a Licensed Forester in the State of Vermont.
Pete Clark	Pete Clark holds a PhD in forestry and natural resources from the University of Vermont. His research focuses on forest management strategies for climate change adaptation and carbon mitigation. Although his research has primarily focused on the northeastern US, he has worked in many forest types throughout North America. Pete has been with S&A Carbon since 2019.