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Validation and Verification Report

ACR566 Bluesource - 100 Mile Wilderness Improved Forest Management Project

May 31, 2022

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1 INTRODUCTION

Bluesource LLC (Bluesource) contracted with Ruby Canyon Environmental, Inc. (RCE) to perform the validation and verification of the ACR566 Bluesource – 100 Mile Wilderness Improved Forest Management Project (Project) for the reporting period of June 2, 2020 – June 1, 2021 and a crediting period of June 2, 2020 – June 1, 2040 under the American Carbon Registry (ACR) program. Bluesource acts as the project developer for the landowner and project proponent, The Elliottsville Foundation (Elliottsville Foundation). This report is documentation of validation and verification activities that RCE performed for the Project. For the validation, RCE reviewed the project information as described in the Project Plan “Bluesource – 100 Mile Wilderness Improved Forest Management Project” dated March 18, 2022. For the verification, RCE ensured that the GHG assertion was materially correct, that the data provided to RCE was well documented, and that if Bluesource made any material errors, that these errors were corrected. RCE worked with Forest Resource Solutions and Technologies (FRST) to complete this validation and verification.

1.1 OBJECTIVES

The objectives of the validation are to evaluate:

- Conformance to the ACR standard and the approved ACR Methodology for Improved Forest Management (Methodology);
- 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 emissions reductions/removal enhancements, leakage assessment, and impermanence risk assessment and mitigation (if applicable).

The objectives of the verification are to evaluate:

- The emissions reductions and to ensure that the assertion is materially correct;
- The data provided to RCE can be documented and if errors or omissions are detected, they be corrected

RCE retains all data and documents for seven years after the end of the project reporting period or for the duration required by ACR, whichever is longer.

1.2 PROJECT BACKGROUND

The Project is located on approximately 12,983 acres of northern hardwood and spruce-fir forestland in Piscataquis County, Maine. The area encompasses habitat for White-tailed Deer and the federally threatened Canada Lynx. Maine’s northern woods are also known habitat for Moose and American Martin. This property is owned by Elliottsville Foundation, formerly known as Elliottsville Plantation Inc. The Project ensures long-term sustainable management of the forests.

1.3 RESPONSIBLE PARTY

Project Proponent

The Elliotsville Foundation
PO Box 148
Portland, ME 04112
Lucas St. Clair, Executive Director
207-518-9462

Project Developer

Bluesource LLC
2825 E Cottonwood Pkwy 400
Salt Lake City, UT 84121
Josh Strauss, Vice President
949-233-1501

1.4 VALIDATION AND VERIFICATION TEAM

Lead Validator and Verifier: Zach Eyler
Biometrician: Andrea Eggleton, FRST
Professional Forester: Christian Eggleton, FRST
Forestry Analyst: Tim Facemire, FRST
Internal Reviewer: Phillip Cunningham

1.5 VALIDATION AND VERIFICATION CRITERIA

1.5.1 Validation and Verification Standards, Guidelines, and Tools

- Bluesource – 100 Mile Wilderness Improved Forest Management Project Plan (March 18, 2022)
- Bluesource – 100 Mile Wilderness Improved Forest Management Project Monitoring Report (March 18, 2022)
- ACR Standard, Version 6.0 (July 1, 2019)
- ACR Validation and Verification Standard Version 1.1 (July 2019)
- Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non - Federal U.S. Forestlands v.1.3, April 2018
- Errata and Clarifications - Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non - Federal U.S. Forestlands v.1.3, September 30, 2021
- ISO 14064-3:2006 “Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions”

1.5.2 Level of Assurance

The verification was conducted to a reasonable level of assurance.

1.5.3 Materiality

The verification was conducted to ACR's required materiality threshold of +/-5% of the GHG project's emissions reductions or removal enhancements.

2 VALIDATION AND VERIFICATION PROCESS

As the first step in validation/verification activities, the Lead Validator/Verifier developed a Validation/Verification Plan to be followed throughout the validation and verification. The plan included the following activities:

- RCE completed a COI form on September 14, 2021 to identify any potential conflict of interest with the Project or Project Developer. The COI form was approved by ACR on September 21, 2021.
- RCE and Bluesource held a validation/verification kick-off meeting on September 21, 2021. During the kick-off meeting RCE reviewed the validation/verification objectives and process, reviewed the schedule, and submitted an initial document request.
- RCE performed a strategic review and risk assessment of the received data and support documents to understand the scope and areas of potential risk in the GHG emissions reductions.
- RCE developed a risk-based sampling plan based upon the strategic review and risk assessment. The validation/verification plan and sampling plan were used throughout the process and were revised as needed based upon additional risk assessments.
- The validation/verification team conducted the site visit to the Project to verify the inventory quality and forest management practices from October 18-19, 2021. During the site visit the Verification Team performed key personnel interviews, conducted sequential sampling of inventory plots, conducted reconnaissance of the Project area boundary, observed elements of natural forest management, and observed harvest locations (if applicable) during and preceding the reporting period.
 - The site visit was attended by the following verification team personnel:
 - FRST:
 - Tim Facemire
 - Andrew Russo
 - During the site visit, the Verification team met with the following individuals:
 - Bluesource
 - Megan McKinley
 - Aaron Wykhuis
 - Elliottsville Foundation
 - Mark Leathers
- RCE performed a risk-based desktop review of the submitted validation/verification documents. The desktop review included an assessment of the GHG calculation methods and inputs, source data completeness, data management system and monitoring systems and eligibility documentation.
- RCE conducted interviews and had conversations with Project personnel during the verification. Personnel interviewed include:
 - Tim Hipp – Bluesource
 - Ian Hash – Bluesource

- Ben Parkhurst – Bluesource
- Liz Lott – Bluesource
- Megan McKinley - Bluesource
- RCE submitted requests for corrective actions, non-material findings, additional documentation, and clarifications as necessary to Bluesource throughout the validation/verification.
- RCE’s internal reviewer conducted a review of the validation/verification sampling, report, and statement.
- RCE issued a final validation/verification report, verification statement, and List of Findings.
- RCE held an exit meeting with Bluesource.

3 VALIDATION AND VERIFICATION FINDINGS

3.1 PROJECT BOUNDARY AND ACTIVITIES

The Project entails improved forest management on approximately 12,983 acres of northern hardwood and spruce-fir forestland in Piscataquis County, Maine. GHG emission reductions for the Project are quantified by comparing actual onsite carbon stocks against modeled baseline onsite carbon stocks and baseline carbon in harvested wood products. The difference in these Project and baseline carbon stocks year over year is the basis for calculating the Project’s primary goal of maintaining and enhancing forest GHG pools.

The Project’s temporal boundary is the crediting period from June 2, 2020 – June 1, 2040.

3.2 GHG SOURCES SINKS, AND RESERVOIRS

Table 1 shows the GHG emission sources included in the project boundary based on the Methodology. RCE confirmed that the Project Plan appropriately identifies the offset project boundary and includes all relevant SSRs.

Table 1. GHG Emissions Sources

Source	GHG	Description
Above-ground biomass	CO ₂	Major carbon pool for project activity
Below-ground biomass	CO ₂	Major carbon pool for project activity
Standing dead wood	CO ₂	Major carbon pool in unmanaged stands for the project activity
Harvest wood products	CO ₂	Major carbon pool for project activity
Market Effects	CO ₂	Reductions in project outputs due to project activity may be compensated by other entities in the marketplace. Those emissions must be included in the quantification of project benefits.

3.3 ELIGIBILITY

3.3.1 ACR Eligibility

RCE confirmed the following ACR eligibility criteria listed in the ACR Standard, Version 6.0 by reviewing the project proponent's Project Plan, Monitoring Report, and calculations as well as other supporting documentation described throughout this report (a full list of documents reviewed is in Appendix A).

- Start Date: The project start date is June 2, 2020.
- Minimum Project Term: The minimum project term is 40 years.
- Crediting Period: The crediting period is 20 years as specified by the Methodology, June 2, 2020 – June 1, 2040.
- Real: RCE confirmed that the GHG reductions follow the ACR methodology and are verifiable.
- Emission or Removal Origin: RCE confirmed that Elliottsville Foundation owns and has control over, or document effective control over the GHG sources/sinks from which the emissions reductions or removals originate.
- Offset Title: RCE confirmed that all Project lands are owned directly by the Project Proponent (Elliottsville Foundation), which hold full legal title.
- Additional: RCE confirmed that the project is additional as described in Section 3.4.
- Regulatory Compliance: RCE confirmed that the Project was in compliance with all applicable regulations.
- Permanent: RCE confirmed that the Project correctly applied the ACR Tool for Risk Analysis and Buffer Determination to account for permanence. A total risk score of 18% was confirmed.
- Net of Leakage: RCE confirmed that the Project correctly accounted for leakage per the Methodology.
- Independently Validated and Verified: RCE is a third-party validation and verification body that the project proponent has contracted to validate and verify the Project.
- Environmental and Community Assessments: RCE reviewed project impacts as described in section 3.6 of this report.

3.3.2 Methodology Eligibility

RCE reviewed the Project against the ACR Methodology eligibility and applicability conditions and confirmed the following:

- The Project is located on non-federally owned private forestland.
- Elliottsville Foundation controls the timber rights on the forestland and can legally harvest.
- The Project does not have commercial timber harvesting occurring on or after the project start date.
- The Project is not on tribal lands.
- The Project is not on public non-federal lands.
- The Project does not use non-native species where adequately stocked native stands were converted for forestry or other land uses after 1997.
- The Project has not drained or flooded wetlands on or after the project start date.
- Elliottsville Foundation owns all lands and timber rights on the Project area.

- The Project's stocking levels will increase well above the baseline conditions for the duration of the Project and by the end of the Crediting Period.

3.4 ADDITIONALITY

The Project meets the requirements for the demonstration of additionality specified by the ACR Standard and the Methodology.

3.4.1 Regulatory Surplus Test

RCE confirmed that there are no existing laws, regulations, statutes, legal rulings, or other regulatory frameworks in effect as of the start date that requires the Project activity and the associated GHG emissions reductions; thus the Project passes the regulatory surplus test.

3.4.2 Common Practice Test

The Project has two portions of area that have different management and ownership history. The most recent area acquired by Elliotsville Foundation is similar to industrial forestland, while the larger portion of the Project area has been owned by Elliotsville Foundation for many years and managed with conservation goals in mind (wildlife habitat, mature forest generation, etc.).

The geographic region for the Project is Northern Maine. Throughout this region industrial forestlands are heavily cut and managed for maximizing NPV of the forestland investment. Wood products including hardwood sawtimber and softwood pulpwood are distributed to mills throughout this region.

Without the Project the property would have likely been managed for timber production and NPV maximizing harvesting on the recently acquired acres. With Project implementation the forestland carbon stocks will exceed the common practice found in the region.

3.4.3 Implementation Barriers Test

The Project chose to assess the financial barriers test per the ACR Standard and Methodology. RCE confirmed that carbon funding is reasonably expected to incentivize the Project's implementation. Due to the Project being implemented, Elliotsville Foundation loses the ability to monetize timber harvests during the life of the Project. Bluesource provided a financial assessment comparison of NPV between the baseline scenario with harvesting and the project scenario without harvesting but including revenue from carbon credits. The baseline scenario NPV was significantly greater demonstrating that carbon funding is integral to the project activity.

3.5 PERMANENCE

RCE confirmed that the Project correctly applied the ACR Tool for Risk Analysis and Buffer Determination to account for permanence. A total risk score of 18% was confirmed.

3.6 PROGRAMMATIC DEVELOPMENT APPROACH

RCE confirmed that the Project is utilizing a Programmatic Development Approach (PDA). The Project currently only has one "site" but expects to potentially add additional area to the Project in the future. RCE confirmed that the Project has completed the required PDA Project Design Document and included it as an addendum to the GHG Plan.

3.7 ENVIRONMENTAL AND COMMUNITY IMPACTS

The Project Plan includes a summary of the Project activity's net positive environmental and community impacts. The Project will provide habitat protection for wildlife, plant species, and trees, water quality protection and protection from soil erosion and degradation among other benefits. The Project is not expected to cause any negative environmental impacts.

3.8 LOCAL STAKEHOLDER CONSULTATION

No formal stakeholder consultation occurred since the Project is held on private lands.

3.9 MONITORING PLAN

The Project Plan includes a Monitoring Plan that identifies all monitored data and parameters. RCE confirmed that the monitoring parameters and approaches conform to the methods required by the Methodology. The plan includes all relevant data parameters and appropriately identifies units of measurements, data sources, methodologies, uncertainty, monitoring frequency and procedures, and QA/QC procedures. After discussions with Bluesource and reviews of project documents, RCE determined that the Monitoring Plan accurately reflects how Project data is monitored and recorded and there are no deviations relevant to the Project activity against the requirements of the Methodology. Bluesource and Elliottsville Foundation implemented the monitoring plan as stated in the Project Plan during Project activities.

3.10 BASELINE SCENARIO

The Project's baseline scenario represents a combination of aggressive industrial harvests and conservation management regimes, each with stricter parameters than recommended state practices, targeted to maximize net present value at a 4% discount rate for non-governmental organizations. The baseline scenario applies harvesting across the Project area as allowed by the Methodology to maximize NPV.

The Project's baseline model simulates a range of harvest types and rotation lengths based on legal requirements and simulated growth within each stratum. The objective of modeling was to determine possible timber harvests in the project area over 100-years within the framework of legal and reasonable harvest constraints.

Stands were modeled for several different prescriptions, including no-harvest, clearcut, single tree selection, and shelterwood removal.

Bluesource utilized the USDA's Forest Vegetation Simulator (FVS) Northeastern variant to model harvests and yields. Growth models were calibrated using site index values calculated from plot gathered tree cores and their averages. FRST reviewed the Site Index calculations and confirmed that a reasonable species and site index for the region was assigned on an individual plot basis to appropriately calibrate growth. The process was confirmed to be consistently and systematically applied to each plot.

RCE reviewed the resulting baseline outputs to ensure that they reflected the modeling objectives and the legal additionality requirements. The model grows trees and volumes at a reasonable rate compared to regional averages.

3.11 ON-SITE INVENTORY VERIFICATION CHECK

In preparation for and during the site visits, the Verification Team reviewed evidence necessary to verify Project inventory estimates.

The Project inventory consists of four forested strata. The Verification Team confirmed that stocking and vegetation comprising a particular stratum were consistent with descriptions in inventory data and the Project Plan. All four strata were sampled during the site visit – RS, S, H, and M. FRST chose plots from these strata per a random sampling method.

The current inventory contains 204 permanent, fixed-radius plots. At each plot location, trees were measured in two nested plots: a larger 1/15th acre plot with radius of 30.4 feet, and a smaller 1/100th acre plot with radius of 11.8 feet. The larger plot measured all trees greater than or equal to 5 inches DBH while the smaller, nested plot measured all living trees between 1-4.9 inches.

Given this sample design and Project size, the Verification Team was required to achieve a minimum of eleven successful plots within the project to successfully verify inventory stocking levels. The Verification Team successfully verified site data after measuring a total of 11 site plots. The Project originally passed the t-test during the first site visit.

Project Area

During the site visit, the Verification Team conducted boundary-line reconnaissance by visiting Project boundary edge lines and points, plotting edge points with GPS receivers, and determining whether there were discrepancies with the digital Project boundary files provided by Bluesource and the physical boundary witnessed on-site. This was done to determine the risk that Project area inaccuracies could contribute to a material misstatement in Project emission reductions. To the extent feasible, the Verification Team confirmed that the Project area boundary was appropriate and accurate.

3.12 PROJECT DATA AND GHG EMISSIONS REDUCTION ASSERTION

RCE reviewed the Project Plan and Project data and calculations to ensure that appropriate equations were used in calculating baseline emissions, project emissions, and net emissions reductions.

3.12.1 Baseline Emissions

RCE and FRST confirmed that the baseline emissions were correctly calculated. See more detail in section 3.9.

3.12.2 Project Emissions

RCE and FRST confirmed that the project emissions were correctly calculated.

3.12.3 Emissions Reductions

RCE verified that Bluesource calculated emission reductions according to relevant Methodology equations and that the methods are included in the Project Plan.

RCE recalculated emission reductions for the first reporting period according to the equations defined in the Methodology and the Project Plan and found the Project assertion to be free of material misstatement.

4 VALIDATION AND VERIFICATION RESULTS

RCE developed a combined List of Findings for both the validation and verification. The List of Findings noted all corrective action requests (CARs), non-material findings (NMs), additional documentation requests (ADRs), and clarification requests (CRs). Bluesource appropriately responded to all items in the List of Findings. The List of Findings is provided as Appendix B.

5 VALIDATION AND VERIFICATION CONCLUSION

RCE conducted a risk-based validation and verification of the Bluesource – 100 Mile Wilderness Improved Forest Management Project that included a strategic review of the project data, documentation, and emission reduction calculations. The objective of the validation activities was to assess the project design, baseline scenario, and monitoring plan and to ensure compliance of the Project Plan to the assessment criteria defined in Section 1.5.1. The objective of the verification activities was to conduct an independent assessment of the Project's initial reporting period and resulting ex-post GHG emission reductions.

Based on the review and the historical evidence collected, RCE concludes to a reasonable level of assurance that the Project's GHG assertion is free of material misstatement. The emission reductions resulting from the reporting period June 2, 2020 - June 1, 2021 can be considered in conformance with the:

- ACR Standard, Version 6.0 (December 2020)
- ACR Validation and Verification Standard Version 1.1 (May 31018)
- Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non - Federal U.S. Forestlands v.1.3, April 2018
- Errata and Clarifications - Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non - Federal U.S. Forestlands v.1.3, September 30, 2021
- ISO 14064-3:2006 "Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions"

Table 2 provides a summary of the emissions reductions.

Table 2. Total ERTs

Vintage	Removal ERTs (mtCO ₂ e)	Other ERTs (mtCO ₂ e)	Total GHG Reductions and Removals (mtCO ₂ e)		Risk Buffer (mtCO ₂ e)	Final ERTs (mtCO ₂ e)
2020	13,774	16,734	30,508		5,492	25,016
2021	9,829	11,942	21,771		3,919	17,852
Total	23,603	28,676	52,279		9,411	42,868

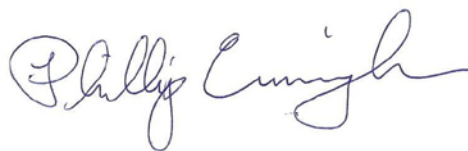
Note: Totals might not sum due to rounding.

Lead Validator and Verifier

A handwritten signature in black ink, appearing to read 'Zach Eyler'.

Zach Eyler

Internal Reviewer

A handwritten signature in blue ink, appearing to read 'Phillip Cunningham'.

Phillip Cunningham

6 APPENDIX A—DOCUMENTS REVIEWED

1. 100MileWilderness_100Yr_calcs_series
2. 100MileWilderness_ACR_PDA_PDD_5_16_22
3. 100MileWilderness_Boundary_series
4. 100MileWilderness_Carbon_Plot_Methodology_091520
5. 100MileWilderness_CC_2020
6. 100MileWilderness_CC_2025
7. 100MileWilderness_CC_2030
8. 100MileWilderness_CC_2035
9. 100MileWilderness_CC_2040
10. 100MileWilderness_CC1_2020
11. 100MileWilderness_CC1_2025
12. 100MileWilderness_CC1_2030
13. 100MileWilderness_FVS_Plots_series
14. 100MileWilderness_GROW
15. 100MileWilderness_IndTreeGrow
16. 100MileWilderness_invStrata_series
17. 100MileWilderness_Parameters_Inputs
18. 100MileWilderness_Plots_8_6_21
19. 100MileWilderness_Regeneration_Calcs
20. 100MileWilderness_RMZ_series
21. 100MileWilderness_RP_ERT_HWP_series
22. 100MileWilderness_SHW60_2020
23. 100MileWilderness_SHW60_2025
24. 100MileWilderness_SHW60_2030
25. 100MileWilderness_SHW80_2020
26. 100MileWilderness_SHW80_2025
27. 100MileWilderness_SHW80_2030
28. 100MileWilderness_SI_Wcores_series
29. 100MileWilderness_SiteVisit_CO2_series
30. 100MileWilderness_Start_RP_CO2_series
31. 100MileWilderness_STS50BA10
32. 100MileWilderness_STS75BA10
33. 100MileWilderness_GHG_Plan_series
34. 2019 Stumpage Price Report
35. Best Management Practices for Forestry_ Protecting Maine_s Water
36. Book 1432 Page 127 Willimantic
37. Book 1436 Page 100 Willimantic
38. chap_20_rules
39. chap_20_rules_05012014
40. DRAFT_100MileWilderness_RP1_MonitoringReport_series
41. Elliotsville_C_Map
42. Elliotsville_E_Map

43. Elliotsville_W_Map
44. Forest_Management_Plan_May_2020_V1 edited HINNI
45. GROW
46. IndTreeGrow
47. PIBK2030P164
48. PIBK2030P169
49. PIBK2086P27
50. PIBK2086P32
51. processFVSoutput
52. Scorecards_Plot_QAQC
53. Sewall map with notations of deed sources
54. SHW70
55. SHW80
56. STS75BA10
57. The Forestry Rules of Maine 2017_ A Practical Guide for Foresters
58. Town map of Williamsburg and Barnard
59. VT_20BA
60. VT_40BA

APPENDIX B—LIST OF FINDINGS

Includes Corrective Action Requests (CAR), Non-Material Findings (NMs), Additional Documentation Requests (ADR), and Clarification Requests (CR), as necessary.

Corrective Action Request, Non-Material Finding, Additional Documentation Request, or Clarification Request ID#	Finding	Client response	RCE response	Additional Client response	Additional RCE response	Open or Closed
CAR 1	Approximately 0.15 acres of project area overlap CARB IFM project CAFR5304. See screenshots tab.	The overlap has been removed, and spatial files for the Boundary, RMZ, and Strata have been updated and added to the shared folder	Confirmed, it has been removed in the boundary and strata shapefiles, but the '100MileWilderness_RMZ_Strata_2_24_22' shapefile still includes these overlapped portions.	Understood, this overlap has been removed from the RMZ file and an updated version has been used in the updated calculations. This updated RMZ file has also been shared.	Confirmed. This item may be closed.	Closed
CAR 2	Please make the following updates to the GHG Plan: -The SDG section (F1) needs updating or editing.	The SDG Section (F1.4.5) of the GHG Plan is Optional.	Confirmed, it has been removed. This item may be closed.			Closed
CAR 3	There are discrepancies in '100MileWilderness_GHG_Plan_3_9_22': D1 Acre value is the old value. D1 Decay Class and E1-3, in the field DC 1-5 was used. Table E1-1, the constrained acres for Strata RS are the old value. And in 'DRAFT_100MileWilderness_RP1_MonitoringReport_030922': Section V Parameter Decay Class has 4 DCs. Section V Parameters Defect, what about dead defect %s?	Thank you. These edits and updates have been made in the corresponding reporting forms and shared with the verifier.	Confirmed. This item may be closed.			Closed
NM 1						
ADR 1	For the buffer contribution, if the "100 Mile Wilderness hasn't experienced any epidemic diseases or infestations", have their been any within 30 miles of the project area? What evidence is there to substantiate that?	Based on the 2021 Forest Health Damage and Survey Results, there is no indication of any epidemic disease or infestations as causing damage on the project area or within 30 miles. This is based on the map provided on page 2. The cruise also did not report on any pests or diseases present. Sprucebudworm has been caught in traps within the 30 miles, however, they have not yet identified the area as having significant damage or defoliation (2021 Forest Health Damage and Survey Results, Spruce Budworm in Maine 2020)	Confirmed, thank you. This item may be closed.			Closed
ADR 2	Please provide documents showing full legal ownership by Elliottsville Foundation.	Jason- The FMP indicates approximately 40,703 ac is owned by the Elliottsville Foundation Inc. in 2020. The GHG Plan shows the extent of this in the Ownership map (Figure A-6).	Confirmed, thank you. This item may be closed.			Closed
ADR 3	Please provide evidence of the 5% field QA/QC procedures, including documents like checked cruise cards.	Plot cards have been added to the verification folder as Scorecards_Plot_QAQC.pdf. There were 12 plots assessed using the QA/QC procedure outlined in the inventory methodology.	Confirmed, thank you. This item may be closed.			Closed
ADR 4	Upon final submission of the growth model, please provide an updated grown-to site visit date quantification workbook, to confirm that the site visit verification still passes.	Calculations for CO2 at site visit has been uploaded to the verification folder.	This issue will be finalized once growth is in agreement.	A new version of the site visit CO2 calcs has been shared.	Confirmed. This item may be closed.	Closed
CR 1	In '100MileWilderness_Start_RP_CO2_01_31_2022' on the TreeData tab, Tree 2044 has a 36ft phantom height on a 29ft tree, but is not recorded as having a broken top (column U). Is this accurate?	Tree 2044 was updated in the TreeData tab, column U to indicate it has a broken top.	Confirmed, thank you. This item may be closed.			Closed
CR 2	In Cells B17-H17, of Baseline HWP_Step_1_2_3 tab of 100MileWilderness_RP_ERT_HWP_01_31_2022 sheet values appear to be rounded versions of official wood product supersection allocation numbers. Why is this?	The HWP values should not be rounded. The HWP values have been updated to official wood product supersection allocation numbers.	Confirmed, thank you. This item may be closed.			Closed
CR 3	"Fixed cost estimates for the property were provided by the landowner." Please provide clarification on the origin of the owner's fixed cost estimates.	Fixed costs were estimated by the Mark Leathers, the Forest Manager on the property for the last 13 years. Fixed costs were broken down into property taxes at \$2/acre, and other fixed costs at \$3/acre (forester's travel to/from job site, boundary lines (property/sale/unit), timber marking/paint, etc.) totaling to \$5/acre. The GHG plan has been updated to reflect this.	Confirmed, thank you. This item may be closed.			Closed
CR4	In the '100MileWilderness_CarbonPlot_Methodology_091520' document it states that, "If a plot falls in an area that is unsafe to measure where it falls, note the reason for the safety issue. If the safety issue is temporary and can be addressed by the addition of specific safety equipment or returning at a later time, then revisit the plot once these issues can be addressed. If a plot is deemed permanently unsafe and in such a way that safety equipment or revisiting at a later time cannot address, do not measure the plot. Please contact Bluesource for guidance on how to address any plots deemed permanently 'unsafe'." Did this occur during measurement?	No plots were moved.	Thank you for the confirmation, this item may be closed.			Closed
CR5	Per ACR IFM 1.3, "The baseline management scenario shall be based on silvicultural prescriptions recommended by published state or federal agencies". Was the baseline informed by state or federal guidance, and if so, please provide the supporting documentation.	The baseline scenario was informed by state and federal guidance through consulting with a Maine Licensed Forester, Mark Leathers. All silviculture prescribed in the baseline scenario was considered common practice for NPV-maximizing management in the region, and fall within the legal harvesting limits for the area as defined in the "Maine Forest Service Chapter 20 Forest Regeneration & Clearcutting Standards" (https://www.maine.gov/dacf/mfs/publications/rules_and_regs/chap_20_rules_05012014.pdf) and the "Maine Forest Practices Act" (file:///C:/Users/ihash/Downloads/fpa_2013.pdf).	All baseline management scenarios are mentioned and detailed in the provided documents. This item may be closed.			Closed
CR6	Pad 2.0 database records fee ownership on the western portion of the project area listed as "Elliotsville Plantation Inc. - Quimby Lands" Is this the same landowner? Please clarify.	This is the same landowner. As stated in the GHG Plan, Elliottsville Plantation Inc. is the former name of Elliottsville Foundation.	Thank you for the confirmation, this item may be closed.			Closed

CR7	In the "100MileWilderness_SI_Wcores sheet_1_31_22" workbook it appears that the equations for site indexes are generally from lake states site index curves. An example of this is in balsam fir, which appears to use the growth curves from GTR NC 128 by Carmean et al. for balsam fir in the lake states despite the paper also having a growth curve for balsam fir in Northern Maine. Why are the lake state equations used?	We agree that the most appropriate regional equation should be used for all site index curves. For species with a growth curve from the NE region at base age 50, coefficients were updated to include those curves. Coefficients were updated for Sugar maple, White Ash, Balsam Fir, Black Spruce and Red Spruce.	Confirmed, thank you. This item may be closed.			Closed
CR8	In the "CoreAnalysis" sheet of the "100MileWilderness_SI_Wcores_1_31_22" workbook the formula in Column U rows 134:205, appears to be different from that in rows 2:132 (Top portion has text "SI_Coeffs_EI" halfway through formula while bottom portion of column has text "SI_CoeffsI" in the same location). This appears to be causing the top and bottom of the column to calculate differently, is this intended?	The difference in top and bottom equation was not intentional and it has been updated to reference the "SI_Coeffs_EI" tab instead of the "SI_CoeffsI" tab.	Confirmed, thank you. This item may be closed.			Closed
CR9	In the "RawCoreData" sheet of the "100MileWilderness_SI_Wcores_1_31_22" workbook plots 92 and 120 are listed as having No Tree, but have a tree age, inside date and PithData, and in the CoreAnalysis sheet a height is listed for both. Where did these values come from?	Plot 92 and 120 are listed as having "No Tree" and no DBH and height was listed for those trees. Therefore, we were unable to identify the trees in the inventory data and we have now used the species average values. Species average site index can be found in the "Species_Averages" tab of the "SI_Wcores" workbook.	Confirmed, thank you. This item may be closed.			Closed
CR10	Was the walkthrough method used on any plots? Plots 11, 35, 47, 62, 92, 103, 120, 162 and 174 were within 30 feet of a project boundary but no trees were listed as walkthrough trees in the provided tree data.	All plots listed except plot 62 were assessed using the walkthrough method, no trees on any of these plots were found to qualify as walkthrough trees. Plot 62 was not assessed as a walkthrough plot as it's plot center was located on the ground more than 2 plot radii from the PAB edge.	Thank you for the confirmation, this item may be closed.			Closed
CR11	<p>The RMZ areas were verified by aligning data from https://www.maine.gov/dacf/mfs/rules_regs/maps/SWS_shapefiles/SWS_Buffers.zip for the towns of Willimantic and Bowerbank where SWS rules apply and zones from https://www.maine.gov/dacf/lupc/plans_maps_data/digital_maps_data.html where Chapter 27 rules apply. The project's RMZ layer encompasses all buffers (and more) in the SWS areas and all P-GP, P-RR, and PS-L1 areas and a portion of P-SL2 areas. Silvicultural prescriptions for the RMZ acres assigned in the baseline (let grow and STS75BA10) comply with the harvesting restrictions for SWS rules and Chapter 27 rules for P-GP and PS-L1. P-SL2 areas have the restriction that "Timber harvesting in a P-SL2 (with drainage areas greater than 300 acres): Sufficient vegetation must be retained to provide shade on the watercourse." It would appear that all silvicultural prescriptions in the baseline would be permissible in the P-SL2 zone except clearcutting.</p> <p>Plots 2, 4, 10, 11, 12, 25, 26, and 38 are in SWS buffers. 56.2 ac of CC_2020 is assigned to plot 26 (the rest other prescriptions).</p> <p>Plot 185 is in P-SL1 and is assigned 52.62 acres of CC_2020.</p> <p>Plots 42, 67, 85, 113, 115, 128, 139, 143, 161, 162, 164, 172, 176, 189, 200, and 202 are in P-SL2. Plot 67 is assigned 52.6 ac of CC_2025, Plot 85 is assigned 56.2 ac of CC_2035, and Plot 113 is assigned 56.2 ac of CC_2020.</p> <p>Please justify the appropriateness of the baseline prescriptions assigned to plots 26, 67, 85, 113, and 185 with a quantitative analysis.</p>	<p>Plot 113 does not fall within a Ch27 zone according to the shapefile we used (accessed 04/21/21 from https://www.maine.gov/geoilib/catalog.html).</p> <p>Plot 85 falls within PSL-2, but is adjacent to a PWL-2 zone (wetland). All PSL-2 harvest restrictions reference channelized water, thus restrictions only apply when PSL-2 is adjacent to water zones (PSL-1, P-GP, or P-FW), not wetland zones.</p> <p>Plots 26, 67, and 185 all fall within restricted areas and have Clearcut prescriptions assigned to them, however, the proportion of acres assigned to clearcut within each plot/strata is commensurate with the proportion of restricted acres to non-restricted acres in each plot's respective strata. For example, plot 67 is in the RS strata, the RS strata contains 68 plots and a total of 3,519.93 unconstrained acres and 447.32 constrained acres. There are 51.76 unconstrained acres and 6.57 constrained acres per plot (3519.93/68=51.76; 447.32/68=6.57). The baseline prescriptions assigns 51.76 acres to clearcut (unconstrained) and 6.57 acres to STS75BA10 (constrained). All other plots in the RS strata have 6.57 acres constrained, totaling to 447.32 acres total constrained acres for the RS strata.</p>	<p>Apologies for the identification of 113 -- I had a search radius of 40' for a separate analysis and forgot to uncheck it when running the selection query.</p> <p>The verifier agrees with the justification for plot 85. Thank you for the clarification.</p> <p>Thank you for the clarification regarding the acre-allocations. The verifier can confirm all plots get 58.344 ac of prescription in the RS stratum and an equal amount of constrained vs unconstrained acreage. Since each plot is run as its own stratum in FVS, it is recommended that the plots that fall in restricted areas be assigned baseline silvicultural prescriptions in accordance with their location. However, because a proportional amount of non-restricted areas are assigned restricted prescriptions and plots that are located in restricted areas do not appear to have significantly different stocking than non-restricted areas, this approach is reasonable and this item can be closed.</p>			Closed
CR12	"The Forestry Rules of Maine 2017," available: https://www.maine.gov/dacf/mfs/publications/handbooks_guides/rule_book.pdf , identify that "In many cases, a permit is required to harvest timber in P-RR subdistricts" and "Operating in a P-FW requires consultation with IF&W and may require a permit from MFS. Refer to the complete Chapter 27 rules for more information" (Page 31). How are these incorporated into the baseline considerations? Is there potential that the silvicultural prescriptions identified for these areas would not be permitted?	The P-FW and P-RR zones have been isolated within the project boundary and merged into the constrained acres (RMZ) where only GROW and STS75BA10 prescription is permitted (Please refer the example in CR11 to understand how acres by proportion are applied in the constrained acres). Two plots fell in this zone (170, 171). The landowner has consulted with IF&W in the past in order to harvest in these areas utilizing uneven-aged silvicultural prescriptions similar to STS75BA10. We think it is reasonable for the baseline scenario to assume we can harvest at the same levels in the future.	Confirmed these zones and plot intersects are now classified in the RMZ, and the RMZ acreage reflects this.			Closed
CR13	Please clarify steps to address protections required for species listed under Maine's Endangered Species Act [MESA], the U.S. Endangered Species Act [ESA].	<p>As identified by MNAF and described in the management plan, the property provides critical habitat for the Canada Lynx and Atlantic Salmon. The baseline scenario takes a conservative approach in the RMZ areas, allowing only lighter touch harvesting, which will benefit the Atlantic Salmon by maintaining current habitat and limiting soil erosion, sedimentation, and disturbance. Forest habitat within the PAB that is critical to the Canada Lynx can be described as early successional. The baseline scenario maintains and expands early successional habitat across the project area.</p> <p>There is no harvesting in the project scenario, therefore no additional steps need to be taken by the landowner to address protections required for endangered species in the project scenario. If harvesting occurs in the future, the landowner will follow recommendations as outlined in the management plan to address the critical habitat areas.</p>	Thank you for the confirmation, this item may be closed.			Closed
CR14	CC1 outline suggests at most an overstory removal occurs every 40 years. The closing sentence of the prescription seems to contradict this. Please clarify.	We have updated the description to be more clear. The overstory removal occurs 5 years after the first cut, and the prescription has a rotation age of 40 years. We have updated the description in the GHG table.	Thank you for the clarification. This item may be closed.			Closed
CR 15	In out files for the FVS prescriptions STS50BA10 and STS75BA10 many plots appear to have delays of up to 40 years between when the conditions described in the GHG_Plan for their prescriptions are met and when a harvesting event triggers. Plots 17 and 40 in the STS75BA10 prescription are examples. Please clarify.	For the prescriptions STS50BA10 and STS75BA10, the basal area for trees between 6 and 40 inches DBH are calculated, and the harvest is triggered if the basal area for trees within this DBH range is greater than or equal to the trigger. For plots 17 and 40, there is no harvest initially because the basal area trigger is not initially triggered, but is triggered in a subsequent time period.	Thank you for the clarification. This item may be closed.			Closed

CR 16	<p>In the 100MileWilderness_SHW80 outfiles for the FVS prescriptions SHW80, it appears that shelterwood harvests are not always being triggered by their described conditions. Sometimes the shelterwood cut is not triggering, but the overstory is still being removed ten years after the shelterwood conditions are met. Plots 39 and 41 in SHW80_2030 are examples. Please clarify.</p> <p>Additionally, in the 100MileWilderness_SHW60 outfiles for the FVS prescriptions SHW60, it appears that shelterwood harvests are not always being triggered by their described conditions. Sometimes the shelterwood cut is not triggering, but the overstory is still being removed five years after the shelterwood conditions are met. Plots 19 and 41 in SHW60_2030 are examples. Please clarify.</p>	<p>Thank you for bringing to our attention that SHW harvest was not occurring as described in the GHG plan. The SHW prescription was implementing the 2nd entry of the SHW harvest if all stand triggers were met, regardless of whether the first entry occurred. We have updated our SHW prescription keyfile to implement the overstory removal only if the initial shelterwood harvest is triggered, and if all other stand triggers are met. Note now that there is no harvest in 2020/2025 for plots 19 and 41. The prescription operates on a 40 year rotation, so it checks again in 2060 and initiates a SHW harvest if the criteria are met. We have added additional values in FVS_Compute table to track the triggers.</p> <p>BAMINSHW: calculates the BA of the plot greater than minimum DBH for shelterwood BAMINSTS: calculates the BA of the plot greater than minimum DBH for single tree selection CUFTSHW: calculates the cubic feet of timber of the plot greater than minimum DBH for shelterwood CUFTSTS: calculates the cubic feet of timber of the plot greater than minimum DBH for single tree selection</p> <p>For example; In the SHW60 prescription for plot 19: First cut occurs in 2060 where the triggers are met: Merchantable timber(CUFTSHW): 600 cuft, BA(BAMINSHW):80 square feet for the trees which is reduced to residual BA 60 square feet. Then overstory removal occurs in 2065 where triggers are met: Merchantable timber(CUFTSHW)-600 cuft and BA(BAMINSHW): 60 square feet. In both entries (2060 and 2065), minimum DBH is 6 inches. So all trees greater than 6 inches were used in BAMINSHW, and CUFTSHW calculation. And trees <6 inches DBH were retained.</p>	Confirmed, thank you. This item may be closed.			Closed
CR 17	<p>In the "Species_Averages" tab of the "100MileWilderness_SI_Wcores_2_28_22" workbook the values for White Pine captured in column "I" do not match the calculated Total Site Index values as seen on the 'CoreAnalysis' tab. This affects the average site index pivot table, and thus the site index for plot 201 (38.18095 vs. 71.16), where did these other values come from in column I / is this intentional?</p>	<p>SI value for plots in "Species_Averages" tab come from "Core_Analysis" tab. Species averages in "Species_Averages" tab is calculated by removing the plots that doesn't have Total Site index value from the core data. Hence, we have now updated the "Species_Averages" tab which has updated plot 201 Site Index to 71.16.</p>	Thank you for making this correction. This item may be closed.			Closed