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# Validation and Verification Report

## ACR866 Anew – Kanawha River Forestry Project

April 18, 2024

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# 1 INTRODUCTION

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Anew Climate, LLC (Anew), contracted with Ruby Canyon Environmental, Inc. (RCE) to perform the validation and verification of the ACR866 Anew – Kanawha River Forestry Project (Project) for the reporting period of April 13, 2022 – March 31, 2023 and a crediting period of April 13, 2022 – April 12, 2042 under the American Carbon Registry (ACR) program. RCE was acquired by TÜV SÜD America, Inc. (TÜV SÜD) in 2023. RCE will be used throughout this report. Anew acts as the project developer for the landowner and project proponent Aurora Sustainable Lands LLC (Aurora). 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 GHG Project Plan “Anew – Kanawha River Forestry Project” dated April 4, 2024. For the verification, RCE ensured that the GHG assertion was materially correct, that the data provided to RCE was well documented, and that if Anew 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, physical infrastructure, activities, technologies, and processes of the Project, baseline, eligibility criteria, monitoring and reporting procedures, process information, source identification/counts, operational details, 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 80,724 acres of oak, and other hardwood forests in south central West Virginia. This property is owned by Aurora. The Project ensures long-term sustainable management of the forests.

## 1.3 RESPONSIBLE PARTY

### Project Proponent

Aurora Sustainable Lands LLC  
2825 E. Cottonwood Parkway, Ste 400  
Cottonwood Heights, UT 84121  
Cahey Worthington, VP Carbon Operations

### Project Developer

Anew, LLC  
2825 E. Cottonwood Parkway, Ste 400  
Cottonwood Heights, UT 84121  
Josh Strauss, Vice President

## 1.4 VALIDATION AND VERIFICATION TEAM

Lead Validator and Verifier: Zach Eyler  
Biometrician: Andrea Eggleton, FRST  
Professional Forester: Christian Eggleton, FRST  
Forest Carbon Projects Manager: Tim Facemire, FRST  
Team Member: Thomas Christopher, FRST  
Internal Reviewer: Bonny Crews

## 1.5 VALIDATION AND VERIFICATION CRITERIA

### 1.5.1 Validation and Verification Standards, Guidelines, and Tools

- Anew – Kanawha River Forestry Project GHG Plan (4/4/2024)
  - Verification only
- ACR Standard, Version 7.0 (December, 2020)
- ACR Validation and Verification Standard Version 1.1 (May, 2018)
- Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non - Federal U.S. Forestlands v.2.0, July 2022
- ACR Tool for Risk Analysis and Buffer Determination, v1.0
- ISO 14064-3:2019 “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

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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 for the validation and verification on May 2, 2023 to identify any potential conflict of interest with the Project or Project Developer. The COI form was approved by ACR on May 5, 2023.
- RCE and Anew held a validation and verification kick-off meeting on May 10, 2023. During the kick-off meeting RCE reviewed the validation-verification objectives and process, reviewed the schedule, and submitted an initial document/date 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 May 15-18, 2023. During the site visit the Verification Team performed key personnel interviews, conducted t-test 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:
    - Aurora
      - Cakey Worthington
      - Israel Golden
      - Greg Bailey
    - Anew
      - Tim Hipp
    - Advantage
      - Paul Fox
      - AJ Murdock
- 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:
  - Mingfei Xiong – Anew

- Megan Finlay – Anew
- Ian Hash – Anew
- RCE submitted requests for corrective actions, non-material findings, additional documentation, and clarifications as necessary to Anew 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 Anew.

## 3 VALIDATION AND VERIFICATION FINDINGS

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### 3.1 PROJECT BOUNDARY AND ACTIVITIES

The Project entails improved forest management on approximately 80,724 acres of oak, and other hardwood forests in south central West Virginia. 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 April 13, 2022 – April 12, 2042.

### 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 GHG 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 <sub>2</sub>	Major carbon pool for project activity
Below-ground biomass	CO <sub>2</sub>	Major carbon pool for project activity
Harvest wood products	CO <sub>2</sub>	Major carbon pool for project activity
Market Effects	CO <sub>2</sub>	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 7.0 by reviewing the project proponent’s GHG 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 April 13, 2022.

- **Minimum Project Term:** The minimum project term is 40 years.
- **Crediting Period:** The crediting period is 20 years as specified by the Methodology, April 13, 2022 – April 12, 2042.
- **Real:** RCE confirmed that the GHG reductions follow the ACR methodology and are verifiable.
- **Emission or Removal Origin:** RCE confirmed that Aurora owns and has control over or documented 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 (Aurora), which holds 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.
- Aurora controls the timber rights on the forestland and can legally harvest.
- The Project property and all associated harvest activity falls under the FSC certification (Forest Stewardship Council).
- 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.
- Aurora 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 area is similar to surrounding private forestland that is regularly harvested as it reaches viable diameter thresholds and has a history of some timber harvesting.

The project's geographic region for timber production extends in all directions. Throughout this private forestland is heavily cut, often through shelterwood, single tree selection and clear-cutting, and is managed to maximize NPV of the asset. Wood products including hardwood, sawtimber and softwood pulpwood are distributed to mills throughout this region and demand is strong and steady.

### 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, Aurora loses the ability to monetize timber harvests at a rate similar to business-as-usual practices during the life of the Project. Anew provided a financial assessment comparison of NPV between the baseline scenario with harvesting and the project scenario with a lower amount of 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 ENVIRONMENTAL AND COMMUNITY IMPACTS

The GHG 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.

## 3.7 LOCAL STAKEHOLDER CONSULTATION

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

## 3.8 MONITORING PLAN

The GHG 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 Anew 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. Anew and Aurora implemented the monitoring plan as stated in the GHG Project Plan during Project activities.

### 3.9 BASELINE SCENARIO

The Project's baseline scenario represents an aggressive harvest regime, targeted to maximize net present value at a 6% discount rate for industrial private lands. 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, variable retention, and shelterwood removal, with restrictions on rotation ages, retention, and minimum harvest volumes.

Anew utilized the USDA's Forest Vegetation Simulator (FVS) Northeast variant to model harvests and yields. Growth models were calibrated using site index values calculated from the USDA Web Soil Survey intersection with the project area and plot specific tree cores. RCE 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.

### 3.10 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 one forested stratum which FRST sampled using a random sampling method.

The current inventory contains 335 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 11.78 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 19 successful plots within the project to successfully verify inventory stocking levels. The Verification Team successfully verified site data after measuring a total of 19 site plots. The Project passed the t-test during the 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 Anew 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.

### **3.11 PROJECT DATA AND GHG EMISSIONS REDUCTION ASSERTION**

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

#### **3.11.1 Baseline Emissions**

RCE and FRST confirmed that the baseline emissions were correctly calculated. Baseline emissions were calculated by reviewing input and output files for every FVS baseline modeling prescription, including forest codes, diameter breaks, merchantability thresholds, rotation lengths, regen/spouting, FVS harvest triggers on individual plots, site indices, treelists, and plotlists modeled over 100 years. The output workbook (ERT\_Calculator) was then independently recreated in the data checks confirming proper calculation of assigned plot level outputs allocated to prescription based independently confirmed SMZ constrained and unconstrained acres. These values were then compiled into yearly baseline values for live and dead as reflected in the ERT monitoring calculation sheet. A secondary output of this process was the 100 years of modeled harvesting based off Best Management Practices (BMP) constrained acreages which was then run through the prescribed harvested wood product calculations customized for the project region(s). These calculations were made on 40-year time intervals as well as 100-year intervals and they were appropriately incorporated into the ERT monitoring calc sheet. See additional information relevant information in section 3.9.

#### **3.11.2 Project Emissions**

RCE and FRST confirmed that the project emissions were correctly calculated. The methods to confirm project emissions follow what is described in section 3.11.1 above.

#### **3.11.3 Emissions Reductions**

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

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

RCE and FRST also recalculated and confirmed the uncertainty assessment for the Project. The uncertainty calculation is the compiled square roots of the summed errors of the strata using a 90% confidence interval. RCE and FRST confirmed that the live, dead, and total uncertainty for the reporting period onsite carbon stocks was accurate.

### 3.12 LEAKAGE ASSESSMENT

RCE and FRST recalculated and confirmed the leakage for the project in accordance with the ACR Validation and Verification Standard version 1.1 section 6.F and 9.H.

## 4 VALIDATION AND VERIFICATION RESULTS

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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). Anew appropriately responded to all items in the List of Findings. The List of Findings is provided as Appendix B.

## 5 VALIDATION AND VERIFICATION CONCLUSION

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RCE conducted a risk-based analysis of the Anew – Kanawha River Forestry Project GHG assertion including a strategic review of the Project data and evidence. Based upon the processes and procedures and the evidence collected, RCE concludes that the Project emission reductions during the reporting period April 13, 2022 through March 31, 2023 can be considered:

- GHG-related activity: avoided conversion of forest land on the Project area
- GHG statement: 4/13/2022 – 3/31/2023
- Criteria
  - In conformance with ACR’s Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non - Federal U.S. Forestlands v.2.0, July 2022 and ISO 14064-3:2019 standards,
  - Without material discrepancy, and
  - Verified to a reasonable level of assurance.

The data and information supporting the GHG statement were historical in nature.

RCE has ensured Anew’s effective use of controls related to the GHG statement. RCE concludes that there is sufficient and appropriate evidence to support Anew’s GHG statement and is issuing an Unmodified Opinion.

RCE confirms that the GHG statement has been prepared:

- Without material discrepancy,

- In accordance with all applicable criteria, and
- Verified to a reasonable level of assurance.

The verified emission reductions are listed in Table 2. While RCE confirmed the emission reduction calculations and the total emission reductions to be correct and within the materiality threshold, the values in Table 2 are summary data only with significant figures rounded for summary purposes in this report.

**Table 2. Total ERTs**

Vintage	Removal ERTs (mtCO <sub>2</sub> e)	Other ERTs (mtCO <sub>2</sub> e)	Total GHG Reductions and Removals (mtCO <sub>2</sub> e)		Risk Buffer (mtCO <sub>2</sub> e)	Final ERTs (mtCO <sub>2</sub> e)
2022	71,535	435,479	507,014		91,263	415,751
2023	24,479	149,024	173,503		31,231	142,272
<b>Total</b>	<b>96,014</b>	<b>584,503</b>	<b>680,517</b>		<b>122,494</b>	<b>558,023</b>

Note: Totals might not sum due to rounding.

**Lead Validator and Verifier**



**Zach Eyler**

**Internal Reviewer**



**Bonny Crews**

## APPENDIX A—DOCUMENTS REVIEWED

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1. ACR\_GHGPlan\_KanawhaRiver\_series
2. ACR\_GHGPlan\_KanawhaRiver\_4\_2\_24
3. App AB document suite of 70 PDFs
4. Appalachian A\_10yr plan\_update\_2011
5. Appalachian B Loan Title Policy - First American - Kentucky
6. Appalachian B Loan Title Policy - First American - Virginia
7. Appalachian B Loan Title Policy - First American - West Virginia
8. AppalachianForestsB\_10yr plan\_update\_2011
9. Blue Source Sustainable Forests Company FSC FM\_COC Certificate 27.3.2023
10. Cumberland 3 Carbon Cruise Summary Report 3-6-23
11. Cumberland3\_Voluntary\_CarbonPlot\_Methodology\_01\_20\_23
12. DOFbmpManual2018
13. Draft\_KanawhaRiver\_MonitoringReport\_series
14. KanawhaRiver\_MonitoringReport\_4\_2\_24\_signed
15. Kanawha River Blue Clay
16. Kanawha River Horse Path
17. Kanawha River Point Lick
18. Kanawha River Road Fork
19. Kanawha\_MillCapacity\_MoreScenarios\_11\_21\_23
20. Kanawha\_MillCapacity\_series
21. KanawhaRiver(Cumberland3)\_InventoryData\_03\_15\_2023
22. KanawhaRiver\_100Yr\_calcs\_series
23. KanawhaRiver\_ACR\_PDA\_PDD\_series
24. KanawhaRiver\_ACR\_PDA\_PDD\_3\_15\_24
25. KanawhaRiver\_Boundary\_series shapefile
26. KanawhaRiver\_MonitoringReport\_4\_2\_24\_signed
27. KanawhaRiver\_Plots\_series shapefile
28. KanawhaRiver\_Regeneration\_Calcs
29. KanawhaRiver\_RMZ\_series shapefile
30. KanawhaRiver\_RP\_ERT\_HWP\_series
31. KanawhaRiver\_ScaleSlipRequest\_PageNotes\_10\_11\_23
32. KanawhaRiver\_SiteIndex\_Calcs\_series
33. KanawhaRiver\_Start\_RP\_CO2\_series
34. KanawhaRiver\_StumpagePrice
35. KanawhaRiver\_SV\_CO2\_series
36. MillCapacityConfirmation
37. RP1\_HarvestArea\_KanawhaRiver series shapefile
38. RP1\_Volumes\_KanawhaRiver\_Prescription
39. SilviculturePrescriptionConfirmation
40. Tab 27 - West Virginia-RFO Title Policy.CV01
41. Tab 28 - Virginia-RFO Title Policy.CV01
42. Tab 29 - Kentucky-RFO Title Policy.CV01

- 43. Tab 50 - West Virginia-Non-RFO Title Policy.CV02
- 44. Tab 51 - Virginia-Non-RFO Title Policy.CV01
- 45. Tab 52 - Kentucky-Non-RFO Title Policy.CV01

## APPENDIX B—LIST OF FINDINGS

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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	Section of Regulation	Developer response	RCE response	Developer response	Additional RCE response	Developer response	Additional RCE response	Developer response	Additional RCE response	Open or Closed
CAR 1	The project area contains several overlaps with the adjacent Blue Source – Powellton Improved Forest Management Project (ACR267). See the 'CAR 1' tab for screenshots of the overlaps.	1.2	Thank you, the overlapping area has been removed from the project.	Thank you for making this change, it has been confirmed. This item may be closed.							Closed
CAR 2	The values in row 40 of the 'Baseline_Project_40YR_CO2e' tab of 'KanawhaRiver_RP_ERT_HWP_11_15_2023' are hard coded and do not match the corresponding value from the 'Stats_RPDate' tab of 'KanawhaRiver_Start_RP_CO2_11_15_2023'. Please correct these values.	5.1	The values in row 40 correspond to row 28 of the same tab. The value originates from the Stats_StartDate tab after applying the harvested wood products adjustment.  As plot level adjustments due to harvests are incorporated into this treelist (zeroing out plot 243), no such HWP adjustment is needed for this cell.	Apologies for the confusion, the issue still persists and will be restated here for clarity. For RP1 Live Project carbon, cell E19 in the 'ACR_IFM_ERT_Calcs' tab of 'KanawhaRiver_RP_ERT_HWP_12_1_2023' is not the Live Project Carbon as calculated in cell R8 of the 'Stats_RPDate' tab of 'KanawhaRiver_Start_RP_CO2_11_15_2023'.  As plot level adjustments due to harvests are incorporated into this treelist (zeroing out plot 243), no such HWP adjustment is needed for this cell.	Thank you for bringing this to our attention, this error has been fixed and we have updated the 'KanawhaRiver_100Yr_calcs_12_21_2023.xlsx' and 'KanawhaRiver_RP_ERT_HWP_12_21_2023.xlsx' workbooks.	Thank you for making this change, it has been confirmed. This item may be closed.				Closed	
NM 1	Column P of the "RP_Tree_CO2" tab of the "KanawhaRiver_Start_RP_CO2_06_26_2023" workbook and column P of the "RP_Tree_CO2" tab of the "KanawhaRiver_SV_CO2_05_03_2023" workbook use different methods for calculating decay class reductions. Consistency is needed.	4.2.3	The method to calculate decay class reductions has been updated in the 'KanawhaRiver_SV_CO2' workbook to match it with 'KanawhaRiver_Start_RP_CO2'	Thank you for making this change, it has been confirmed. This item may be closed.							Closed
NM 2	Upon review of 'KanawhaRiver_SiteVisit_CO2_10_09_2023' and 'KanawhaRiver_Start_RP_CO2_10_09_2023' on the 'TreeData' tab there are trees that have phantom heights that are not currently calculating as such (missing a 1 for broken top), they are:  315_11, 331_5.  Please correct this error.	5.3	Thank you for catching this. The correction has been made in the updated 'KanawhaRiver_SiteVisit_CO2_11_15_2023' and 'KanawhaRiver_StartRP_CO2_11_15_2023'.	Thank you for making this change, it has been confirmed. This item may be closed.							Closed
ADR 1	Please provide a shapefile of project RMZs.	4.1.1	Project RMZ shapefile is uploaded to the verification folder.	Thank you for providing this shapefile. This item may be closed.							Closed
ADR 2	Please provide documentation of how the stumpage prices on the "Stumpage_Prices" tab of the "KanawhaRiver_100Yr_calcs_06_26_2023" workbook were obtained.	2.4	Stumpage price were obtained from TFG/BSFC stumpage data aggregated from all timber sales on the App A&B properties since 2022. The spreadsheet has been placed to the verification folder.	Thank you for providing this document, the values have been confirmed. This item may be closed.							Closed
ADR 3	Please provide evidence of the 10% check cruise as described on page 30 of the "ACR_GHGPlan_KanawhaRiver_7_10_23" document.	5.1	The check cruise report has been uploaded to the InventoryData folder of the verification folder.	Thank you for providing this attestation and analysis, this has been confirmed. This item may be closed.							Closed
ADR 4	Please provide copies of the original cruise cards for review.	5.1	Original cruise data has been uploaded to the InventoryData folder of the verification folder.	Thank you for providing this document, the values have been confirmed. This item may be closed.							Closed
ADR 5	Please provide copies of the sampled harvest scale tickets listed in the ADR 5 tab.	4.2.4	Scale tickets are provided in the verification folder.	Thank you for providing these tickets. Based off your own analysis and confirmed by the verifier, why don't the values line up accurately between the scale slips and the 'RP1_Volumes...' document?	We noticed the sampled harvest scale tickets is based on "TicketNumber". The "TicketNumber" field is an auto generated sequential number in the landowner's harvest management system, and is not related any actual tickets. There are multiple tickets within each contract, but scale slips are collected and grouped by "ContractName" instead of "TicketNumber". Therefore, to ensure our harvest summary is verifiable and matches what is been reported in our document, we provided a larger scales slips sample of each requested contract("ContractName") instead of by "TicketNumber". As the total volume from scale slips equals or closely matches the total volume of the corresponding wood product in each "ContractName" reported in the harvest summary, it's reasonable to interpret the ticket within each contract also matches.	Thank you for the clarification. The verifier has confirmed that within the subsample, total contract volumes align or are within a reasonable range of the quantified value. This item may be closed.				Closed	
ADR 6	Please provide documentation of mill capacity around the project area to support the 96,622 MBF/year modeled harvest baseline.	4.1	Analysis of the mill capacity is added to RegionalForestryDocs in the verification folder.	Thank you for providing this document, this item may be closed.							Closed
CR 1	The specific gravity value for Northern Red Oak in the "Actual_RP1_HWP_Step_1" tab of the "KanawhaRiver_RP_ERT_HWP_06_26_2023" workbook does not match the "Specific_Gravity" tab. Please clarify.  On the 'Actual_RP1_HWP_Step_1' tab there are other discrepancies: Northern Red Oak is not FIA code 809. Chestnut Oak is not FIA code 825. Please clarify.	5.1	The FIA codes for Northern Red Oak and Chestnut Oak have been updated to 833 and 832 in the 'Actual_RP1_HWP_Step_1' tab. The specific gravity value for Northern Red Oak has also been updated to match this in the 'Specific_Gravity' tab.	Thank you for making this change, it has been confirmed. This item may be closed.							Closed
CR 2	PAD 2.0 shapefiles show minor overlaps with Fayette County Parks and a conservation easement by the Atlantic Coast Conservancy/Pelican Coast Conservancy as well as a significant overlap with the Morris Creek Wildlife Management Area. Please clarify the accuracy of the project Boundary in these area. See CR 2 tab for screenshots.	1.2	Minor overlaps with Fayette County Parks and a conservation easement by the Atlantic Coast Conservancy/Pelican Coast Conservancy has been removed from the project. Project proponent has confirmed that Morris Creek Wildlife Management Area was a recreation agreement between the surface owners and the state, and does not encumber their timber rights on the property.	Thank you for making these changes, they have been confirmed. This item may be closed.							Closed



CR 3	The Point Lick harvest in the "RP1_HarvestArea_KanawhaRiver" shapefile extends slightly beyond the project boundary. Is this accurate? If so have the harvested volumes been prorated to account for this?	4.2.4	All reported harvest units are confirmed to be within the project boundary. There are minor discrepancies between the harvest boundary and project boundary due to the harvest units were aligned to the older version of the ownership boundary. The harvest boundary has been updated to align with the most recent project boundary.	Thank you for making this change, it has been confirmed. This item may be closed.								Closed
CR 4	Utility lines cross the project in several areas with easements that allow the line owner to control vegetation within the easement at their discretion. Why were powerline easements not entirely removed from the project area? An example of such an area and the portion of the easement that covers vegetation control is included on CR 4 tab.	2.4	The forested area with easements are included in the project areas. While the easement allows the line owner to control vegetation, the project proponent still owns the timber rights in the easement areas. Non-forested areas under the easement were excluded as they are periodically maintained by the easement holder which is recognized as a permanent non-forest feature not to be included in the carbon boundary.	Thank you for the clarification, this has been confirmed. This item may be closed.								Closed
CR 5	Near the southernmost point of the project area there appears to be an unrecorded mine expansion or harvest that occurred during RP1. Satellite imagery for the questionable area can be seen on CR 5 tab. Please clarify.	4.2.4	The mine encroachment was confirm to be in place during RP1, and we have completed another mine analysis to identify these RP1 mining areas and remove these areas and associated plots from the project boundary. Shapefiles has been updated.	Thank you for making this change, it has been confirmed. This item may be closed.								Closed
CR 6	In cell E29 and 78 of the "ACR_IFM_ERT_Calcs" tab of the "KanawhaRiver_RP_ERT_HWP_06_26_2023" workbook, the formula refers to the 20yr average Baseline HWP in cell E14 rather than the HWP Baseline in cell E13 which is prorated for the length of RP1. Please clarify.	5.3	We are averaging 20 years of HWP, not 20 RPs of HWP. So even though the RP1 is shorter, we are still using 20 years of HWP and getting the average of that for the 20 year avg baseline HWP. As you can see cells E24, E26 and E29 are referenced in the 20-year average Baseline HWP in cell E14.	Thank you for the clarification, this has been confirmed. This item may be closed.								Closed
CR 7	In the "GHG_Plan_Tables" tab of the "KanawhaRiver_RP_ERT_HWP_06_26_2023" workbook cell E26 contains a sum of all the annual total tradable balances, rather than the Buffer Credits. Please clarify.	5.3	The correction has been made to Excel formulas to show the sum of the buffer credits in cell E26	Thank you for making this change, it has been confirmed. This item may be closed.								Closed
CR 8	In the "TreeData" tab of the "KanawhaRiver_Start_RP_CO2_06_26_2023" workbook plot 6 contains 17 trees, all of which have been incorrectly duplicated as walkthrough trees (34 total) when compared to the "TreeData" tab of the "KanawhaRiver_SV_CO2_05_04_2023" workbook, see the tab labeled 'CR 8'. This is despite there being tree notes that state which trees should be counted twice (in some cases this error is causing a quadrupling of a given tree, i.e. 6_4).  This is happening on additional plots: 124, 158, 161, 245, 256, 299, 309, and 321.  Please correct these errors.	5.1	All the data corrections have been made.	Thank you for making these changes, they have been confirmed. This item may be closed.								Closed
CR 9	The formulas in row 23 of the "Financial_Barriers_Test" tab of the "KanawhaRiver_RP_ERT_HWP_06_26_2023" workbook refer to a blank row. Please clarify.	2.4	The formulas in row 23 of the "Financial_Barriers_Test" have been updated to (ACR_IFM_ERT_Calcs!E45) to show correct the Tradable balance at time t	Thank you for making this change, it has been confirmed. This item may be closed.								Closed
CR 10	Are there known to be any threatened or endangered species within the project area?	2.4	List of endangered species that may occur on the property and management practices are detailed in Section F.2 in the management plan provided for verification.	Thank you for providing this information, upon review this item may be closed.								Closed
CR 11	Is the project enrolled in any other environmental asset programs for non carbon benefits?	2.4	The project is not enrolled in any other environmental asset programs for non-carbon benefits.	Thank you for the confirmation, this item may be closed.								Closed
CR 12	Plot 127 is within the Horse Path harvest but is not recorded as having had any trees removed from the plot during the harvest. Is this accurate?	4.2.4	Plot 127 was measured after harvesting, thus it reflected the post-harvesting status and does not need to be checked.	This has been confirmed by comparing inventory date and the dates listed in the 'RP1_Volumes_KanawhaRiver_Prescription' document. This item may be closed.								Closed
CR 13	The description of the SHW60 and SHW60 FVS prescriptions in the "ACR_GHGPlan_KanawhaRiver_7_10_23" document indicate that the first and second entries should occur as a pair, however a review of their outfiles has the second entry occurring whether or not the first entry has occurred (see CR 13 tab for example screenshot). Please clarify.	4.1	Thanks for the comment, we have fixed this issue in the updated key and outfiles	Thank you for making these changes, they have been confirmed. This item may be closed.								Closed
CR 14	The modeling in the "Financials" tab of the "KanawhaRiver_100Yr_Calcs_06_26_2023" workbook indicates a baseline harvest of 96,622 MBF per year is modeled for the first 5 years. An average log truck carries between 4-5MBF per load. With 96,622 MBF/year modeled, that equates to roughly 24,155 loads in a year, or 66.2 loads per day, every day, including holidays and weekends. Please justify the feasibility of these modeled prescriptions.	4.1	The baseline represents a harvesting scenario that could be implemented to maximize NPV of wood products while considering all legal and operational constraints. The majority of NPV maximization occurs in the first 10 years while subsequent years consist of less frequent harvesting and forest growth. The baseline was derived through interviews with local foresters and operators, investigation of local mill capacity, and the historical management seen in the project area prior to acquisition and in the region. The project proponent would explore this scenario as it can legally and feasibly occur on the property in the absence of the carbon project and the project proponent has a fiduciary responsibility to provide financial returns to their investors through forest management.	Thank you for the information on why the scenario was created, but additional clarification was requested on how the baseline scenario is feasible and reasonable.  As stated in the initial finding, please provide an expanded analysis of current or historic harvests to clarify how 95,000,000 board feet can be completed in the first year of the project with constraints of logging, transport, infrastructure and demand in this region. Please see CR 21 for additional mill capacity inquiries.	Based on our regional forester interview, if the volume is available to cut, it's ultimately dependent on the mill capacity of whether 95,000 MBF can be harvested and processed. Though logistics would be complex, the baseline harvest scenario can legally and feasibly occur. Additional information justifying adequate mill capacity is provided in CR21.	Please provide written correspondence that a professional forester with regional expertise has confirmed the feasibility of the baseline harvesting including the volume, size classes, and species mix.	An written confirmation from the local forester is uploaded to the RegionalForestryDocs in the verification folder. The confirmation substantiates and confirms our silviculture prescription modeled into the baseline is feasible and sound for the project.	Apologies for the confusion. The item at issue is the scale of the proposed baseline harvest, not the acceptability of the prescriptions as that was never in question. Please provide an attestation from a professional forester with regional expertise. The purpose of this attestation is to confirm the feasibility and plausibility of the Forisk Mill Capacity analysis already provided including volume, size class, and species mix to handle the proposed yearly baseline cut of 95MMBF.	Thanks for the clarification. The forester attestation on the mill capacity is uploaded to the RegionalForestryDocs in the verification folder.	Thank you for this attestation, it has been confirmed. This item may be closed.	Closed	
CR 15	Sentinel-2 imagery does not show obvious changes during RP1 in the area recorded for the Horse Path harvest. See CR 15 tab for screenshots. Please confirm harvest dates and extent.	4.2.4	We have confirmed that there were light harvest occurring in the Horse Shoe Path area in RP1, and mill slips related to the sale is provided in the verification folder.	Thank you for the confirmation, this item may be closed.								Closed

CR 16	The modeling in rows 24 and 26 of the "Financials" tab of the "KanawhaRiver100Yr_Calcs_06_26_2023" workbook indicates that a verification is planned to occur every 5 years, but a new inventory will only be performed every 10 years. Is this accurate?	4.1	Yes, this reflects the monitoring effort to meet the protocol requirements for 5-year full verifications, and all plots will be remeasured at least once every 10 years.	Thank you for the clarification. This item may be closed.							Closed
CR 17	In 'KanawhaRiver_RP_ERT_HWP_10_09_1023' on the 'Actual_RP1_HWP_Step_1' tab, the calculation in column L for the conversion of green tons to dry tons biomass does not follow provided ACR guidance. ACR IFM 2.0 4.2.4 Step 1 I.B.I states: If actual or baseline harvested wood volumes are reported in units besides cubic feet or green weight, convert to cubic feet using the following conversion factors". As pulpwood harvests are reported in green tons this means that 4.2.4 Step 1 III applies, which states "If a weight measurement is used, subtract the water weight based on the moisture content of the wood. This results in biomass with zero moisture content" with no need to incorporate the ACR conversion factor or specific gravity. Please clarify and correct.	5.3.1	KanawhaRiver_RP_ERT_HWP_11_09_2023 has been updated so that green tons of pulpwood are no longer being multiplied by the green tons cubic foot conversion factor and are now being converted straight to pounds.	Thank you for making this change, it has been confirmed. This item may be closed.							Closed
CR 18	In 'KanawhaRiver_Start_RP_CO2_10_09_2023' and 'KanawhaRiver_SiteVisit_CO2_10_09_2023' on the 'TreeData' tab, there have been changes to the method for calculating defect from previous versions. The carbon percentages applied by thirds is now, 0.069, 0.286, and 0.645 for top, medium, and bottom, respectively. This contradicts Section V Defect (10/25/65) of the 'Draft_KanawhaRiver_MonitoringReport_10_11_23' and 'Section 4.2.7 Defect' from the 'Cumberland3_Voluntary_CarbonPlot_Methodology_01_20_23'. Please clarify/correct.	5.1	The method for calculating defects has been updated as we got clarification from ACR based on Dr. Zhao's report. Both guidance from ACR in ACR 2.0 Dead SLAs.pdf and Dr. Zhao's report have been uploaded to the RegionalForestryDocs folder in the shared verification folder.	Thank you for the confirmation, please correct the Defect details in Section V. of the 'Draft_KanawhaRiver_MonitoringReport_11_09_23', and provide an updated 'Section 4.2.7 Defect' of the 'Cumberland3_Voluntary_CarbonPlot_Methodology_01_20_23'. It is expected that project documentation match quantification methods.	Defect quantification method has been updated in Section V. of the Monitoring Report. The defect field assessment described in Section 4.2.7 of the Inventory Methodology is unaffected as inventory crew are still required to estimate missing biomass from each section at 5% increments. Only post-inventory weighting was updated based on Dr. Zhao's report.	Thank you for making this change, it has been confirmed. This item may be closed.					Closed
CR 19	Please clarify the ownership and carbon rights in relation to the parcels identified on tab 'CR 19'. Particularly the stated owners per map.pw.gov/parcel GIs for 'Pocahontas Surface Interests', 'Blackhawk Mining', 'ACIN LLC', and 'Blue Eagle Land LLC'.	4.1	Project proponent confirms they hold the timber rights and carbon rights in the identified parcels within the carbon project. Table A3.1 and Section G1.1 of the GHG plan has been updated accordingly to clarify the carbon rights.	Thank you for making these changes, they have been confirmed. This item may be closed.							Closed
CR 20	In 'KanawhaRiver_StumpagePrice' please clarify what costs the 'Price' accounts for, including logging, hauling, forest management, and any other site preparation costs.	4.2	The price in KanawhaRiver_StumpagePrice' is the price of the standing timber.	Under review.	We would like to further clarify that the prices here represents actual stumpage price, which it accounts for all the other costs and is different from mill delivered price. Stumpage price here = "mill delivered price" - cutting - skidding - loading - hauling - other fixed costs - variable costs.	Thank you for the clarification and confirmation. This item may be closed.					Closed
CR 21	Upon review of 'Kanawha_Mill_Intersect' of 'Kanawha_MillCapacity_10_11_23' there are outstanding concerns for baseline harvest feasibility. Supporting analysis is included on the 'CR 21' tab.  The 75 mile and 100 miles radii chosen in FORSK have drive times exceeding 2 hours one way from towns at points nearest to the property. This does not include transport from within the project area starting at landings, traversing logging roads, and county roads prior to the towns selected. Please clarify how one-way drive times and logging costs are feasible when they will consistently exceed 2 hours.  Upon further review, a 50 mile radius keeps 1-way drive times under 2 hours, but the number of mills within the area decreases from 35 to 22, but total wood capacity drops by 59%. Please see CR 14.	4.2	Based on our regional forester interview, veneer mills typically have a larger woodshed that could be further up to 200 miles depending on product quality, availability, and their own stocking. Mills for other products can extend up to 100 miles and we used 75 miles to be more conservative. For high value hardwoods that can be provided by this project, it's not uncommon in the region that loggers will haul wood for longer than 2 hours. Given these criteria, we believe a larger woodshed for mills is suitable in this region, and our selection of 75 mile and 100 miles radii is adequate, hence the baseline harvest is feasible with ample mill capacity in the region.	Under review.	An updated analysis of the mill capacity with multiple radii scenario is included in the RegionalForestryDocs in the verification folder.	Thank you for the additional information, it has been confirmed. This item may be closed.					Closed
CR 22	Upon review of the 'Financial_Barriers_Test' tab of 'KanawhaRiver_RP_ERT_HWP_11_15_2023' the units for row 27 'Registry Fees' are not currently in dollars (appear to be credits), but are being used as if they were (row 29 calc). Please clarify.	4.1	Row 27 calculates the registry fee by multiplying the registry fee per credit and multiplies it by the total tradeable balance at year T. The registry fee has been updated to \$0.17 from \$0.15 per credit in KanawhaRiver_RP_ERT_HWP_12_1_2023.	Thank you for the clarification, this has been confirmed. This item may be closed.							Closed