



Verification Report

CAR429 McCloud River Forest Project

Reporting Periods:

January 1, 2018 – December 31, 2018

January 1, 2019 – December 31, 2019

January 1, 2020 – December 31, 2020

January 1, 2021 – December 31, 2021

January 1, 2022 – December 31, 2022

January 1, 2023 – December 31, 2023

Prepared for:

Bascom Pacific, LLC

Anew Climate

July 2, 2025

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1.0 Introduction

TÜV SÜD America Inc. (TÜV SÜD) was contracted by Anew Climate (Anew) to perform the verification of the McCloud River Forest Project (Project) for the reporting periods January 1, 2018 through December 31, 2023 to the Climate Action Reserve (Reserve) Forest Project Protocol, Version 2.1 (Protocol). The Project involves greenhouse gas (GHG) emission reductions from conservation-based forest management in the Project area.

1.1 Project Background & Site Description

The Project entails conservation-based forest management on around 12,704 hectares of primarily mixed conifer forests in northern California.

1.2 Responsible Parties

Project Owner

Bascom Pacific, LLC
1300 SW 5th Ave, 3200
Portland, OR 97201

Technical Consultant

Anew Climate
2825 E Cottonwood Parkway, Suite 400
Cottonwood Heights, UT 84121

1.3 Verification Team

The TÜV SÜD verification team consisted of the following individuals:

Lead Verifier: Tim Facemire
Team Member: Christian Eggleton
Independent Reviewer: Zach Eyler

1.4 Objectives

The goal of the verification activities was to ensure that the claimed GHG emission reductions are complete, consistent, accurate, transparent, and permanent and that the Project was in compliance with the Protocol's project additionality, monitoring, and reporting requirements. Furthermore, the verification activities ensure that the data provided to TÜV SÜD is well documented and free of any material errors or omissions.

1.5 Scope

The scope of the verification consisted of the following independent and objective activities:

- Review the Project Monitoring Plan,
- Review Project boundaries,
- Review Project eligibility,
- Review Project data acquisition and quality control procedures,
- Review the Project's baseline emissions data,
- Review the Project's emission reduction calculations,
- Conduct a site visit with the following activities:
 - Interview the project owner/developer and inventory and modeling specialists

- Site tour to assess the Project boundaries, inventory method and sampling
- Review evidence to demonstrate the Project's regulatory status and sustainable harvesting, if applicable
- Sampling of site inventory
- Review Project documents and data against the Verification Criteria listed in Table 1,
- Issue requests for corrective actions, non-material findings, additional documentation, and clarifications, as necessary, and
- Issue a Verification Report, List of Findings, and Verification Opinion to Bascom and the Reserve.

1.6 Verification Criteria

The Project was verified to the criteria shown in Table 1.

Table 1 - Verification Criteria

Criteria	Details
Standard of Verification	● Reserve Forest Project Protocol, Version 2.1 (September 6, 2007) (Protocol) ● Verification Program Manual (February 3, 2021) ● US Forest Verification Protocol Version 2.0 (May 2007) ● Reserve Offset Program Manual (April 2024) ● Policy Memo: Use of Global Warming Potential Values for All Offset Protocols (July 13, 2022)
Verification Process	The Reserve Verification Program Manual and ISO 14064-3:2019 “Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas statements”
Level of Assurance	Reasonable assurance
Materiality	97% materiality threshold (<3% error)

2.0 Verification Activities Summary

TÜV SÜD developed a verification plan to be followed throughout the verification. The verification plan consisted of the following activities:

- TÜV SÜD completed the Project NOVA/COI form to identify any potential conflicts of interest with the Project or Project developer. The NOVA/COI form was approved first on June 5, 2024 to the Reserve’s online registry, and the later COI assessment revealed no conflicts of interest and was approved by the Reserve on November 1, 2024.
- TÜV SÜD held a verification kickoff meeting with Anew on June 3, 2024. During the kickoff meeting TÜV SÜD reviewed the verification objectives and process, the verification schedule, and requested the verification background documents.
- TÜV SÜD 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.
- TÜV SÜD developed a risk-based verification and evidence gathering plan based upon the strategic review and risk assessment. The verification plan and evidence gathering plan were used throughout the verification and were revised as needed based upon additional risk assessments.
- During the week of November 4, 2024, members of the Verification Team conducted the site visit to the Project to verify the inventory quality and forest management practices. During the site visit the Verification Team performed key personnel interviews, conducted 15% 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.

- TÜV SÜD conducted a detailed desktop review of submitted material including evidence of regulatory compliance, documentation of ongoing QA/QC procedures, source data, and emission reduction calculations.
- TÜV SÜD submitted requests for corrective actions, non-material findings, additional documentation, and clarifications, as necessary to Campbell throughout the verification.
- TÜV SÜD's Independent Reviewer conducted a review of the verification plan and evidence gathering plan, Verification Report, and Verification Opinion.
- TÜV SÜD issued a final Verification Report, Verification Opinion, and List of Findings.
- TÜV SÜD held an exit meeting with Bascom Pacific 7/2/2025.

3.0 Verification Findings

3.1 Assessment of the GHG Reduction Project Operations

The Project entails conservation-based forest management on around 12,704 hectares of primarily mixed conifer forests in northern California.

3.2 GHG Project Boundary (sources, sinks and/or reservoirs)

GHG emission reductions for the Project are quantified by comparing actual onsite carbon stocks against modeled baseline onsite carbon stocks. 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. Secondary effects made up of unintentional GHG emissions from the Project (e.g. harvest leakage to non-Project lands) are also taken into account. Net GHG reductions and removals for each year are the sum of the Project's primary and secondary effects.

According to the Protocol, carbon dioxide (CO₂) is the only GHG considered within the boundary for the baseline and Project activities. Table 3 lists the sources of GHG emissions that TÜV SÜD confirmed during the verification of the Project as required by the Protocol.

Table 3 Project GHG Sources, Sinks, and Reservoirs for AC Projects

Activity	GHG Sources, Sinks & Reservoirs
Baseline	• Modeled standing live carbon (CO₂) in all portions of living trees. • Modeled standing dead carbon (CO₂) in all portions of dead, standing trees, and lying dead wood.
Project	• Measured standing live carbon (CO₂) in all portions of living trees. • Measured standing dead carbon (CO₂) in all portions of dead, standing trees, and lying dead wood.

3.3 Project Eligibility Criteria

The Protocol specifies eligibility rules that GHG Project developers must meet to register reductions with the Reserve. Below is a summary of the Protocol's eligibility rules and the Project's compliance to each requirement.

- **Eligibility Rule I: Location**
The Project is located in California. The Project therefore meets the location eligibility requirement.
- **Eligibility Rule II: Project Start Date**

TÜV SÜD confirmed the project start date in August 2006 based on the recorded conservation easement.

- **Eligibility Rule III: Project Crediting Period**

The crediting period for the Project was confirmed as 100 years from the start date.

- **Eligibility Rule IV: Additionality**

Legal Requirement Test

TÜV SÜD confirmed that the Project achieves GHG reductions or removals that are beyond those from compliance with any court order or other legally binding mandates, including conservation easements or deed restrictions, except where such conservation easements or deed restrictions have been enacted as noted in the Protocol. TÜV SÜD also verified that Bascom accurately completed the Attestation of Voluntary Implementation form and uploaded it to the Reserve.

Performance Standard Test

TÜV SÜD verified that the Project satisfies the Performance Standard as defined in the Protocol. This was previously verified during the initial reporting period.

- **Eligibility Rule V: Regulatory Compliance**

TÜV SÜD verified that the Project was in material compliance with all applicable laws throughout the reporting period. There was a low risk for regulatory compliance since the land is owned privately. TÜV SÜD verified that the Attestation of Regulatory Compliance was correctly completed and uploaded to the Reserve.

3.4 Ownership of GHG Reductions

TÜV SÜD reviewed and confirmed that Bascom is the project owner and has ownership of the Project area through a review of deeds.

3.5 Sustainable Harvesting Practices

The Protocol requires that, at the time commercial harvesting is either planned or initiated within a Project area, that the Project meets certain sustainable harvest requirements. The verification team confirmed that there were no outstanding violations on harvested areas.

3.6 Natural Forest Management

The Protocol requires that all Projects promote and maintain a diversity of native species and utilize management practices that promote native, natural forests diverse in structure, species composition and age class.

TÜV SÜD confirmed that the Project meets the native species requirement that forest projects must consist of at least 95% native species based on a review of the inventory tree list. Additionally, TÜV SÜD confirmed the Project has met the requirement that no single species exceeds the “Species Diversity Index” value.

TÜV SÜD confirmed that the Project meets the “Distribution of Age Classes/Sustainable Management” requirement of the Protocol through field observation on the site visit, and review of satellite imagery.

TÜV SÜD confirmed that the Project meets the requirement for age distribution during the site visit and through aerial imagery for this reporting period.

Finally, TÜV SÜD confirmed that the Project meets the requirements for diversity of natural structural

elements across the forested landscape, manifested by maintaining sufficient levels of standing and lying dead wood. The Project demonstrated that the current standing dead stock is 0.8 mt CO₂/acre and 2.5% of standing live carbon stocks, meeting the Protocol requirements.

3.7 Balancing Age and Habitat Classes

TÜV SÜD confirmed that the Project area meets the requirements of the Protocol because age classes were confirmed on the site visit, and the project meets the Protocol sustainable harvesting practices requirements.

4.0 Interviews

TÜV SÜD held a number of interviews with Bascom throughout the verification process. Discussions included an overview of their data management system, their inventory calculations, and modeling. These overviews enabled the Verification Team to undertake an independent review of their modeling procedure, inventory process and calculations. These interviews allowed TÜV SÜD to ground-truth elements of inventory data management and modeling, Project management, non-Project activities that may affect carbon stocking, and application of the inventory field methodology.

5.0 Assessment of GHG Emissions Reductions Calculations

TÜV SÜD ensured Project compliance with the Protocol's guidance for determining emission reduction and removal enhancements. The primary components of this review are confirmation of on-site inventory sampling, inventory and project carbon calculation review, review of the risk of reversal rating, assessment of GHG emission reduction calculations, and the statements made in the monitoring reports. Each of these elements is described below.

5.1 Baseline Modeling

The baseline modeling was not reviewed in this verification. The baseline values remained unchanged from RP1 and the initial verification.

5.2 Inventory and Modeling Updates

The Project's carbon stocks were updated using the inventory completed over the last decade. Individual tree modeled measurements were then used to calculate carbon based on the Protocol's required species-specific equation. The live tree values per plot were grown forward 5-year using FORSEE, incrementalized to a yearly tree level growth rate, and then properly allocated on a yearly basis to the current reporting period. TÜV SÜD independently calculated the quantity of carbon for all trees with the grown forward current reporting period measurements.

5.3 On-site Inventory Verification Check

In preparation for and during the site visit, the Verification Team reviewed evidence necessary to verify inventory estimates using the 15% difference methodology of Protocol. The Verification Team confirmed that stocking and vegetation were consistent with descriptions in inventory data. Ten plots were sampled during the site visit and the current inventory contains 780 permanent, plots. At each plot

location, a variable radius plot of 20 BAF was measured for trees greater than 5", as well as a 100th acre fixed-radius plot to measure all trees less than or equal to 5.0" in diameter at breast height (DBH).

Given this sample design, strata quantity and project size, the Verification Team was required to sample 10 plots to successfully verify inventory stocking levels. The Verification Team successfully verified site data after measuring a total of 10 site plots. Through this process, TÜV SÜD confirmed the Project's current on-site tree carbon stocks of 3,786,494 metric tons CO₂e.

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 Bascom 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. The Verification Team confirmed that the Project area boundary was appropriate and accurate.

5.4 Inventory and Calculation Review

TÜV SÜD conducted a risk-based review of the Project inventory and emission reduction calculations to ensure conformance with Protocol requirements and agreement with emission reductions/removals listed in the Monitoring Report. Tree volumes are converted to biomass and carbon CO₂ equivalents based on the suite of equations approved by the Reserve. Lying dead wood was calculated based on the suite of equations approved by the Reserve. TÜV SÜD confirmed that the baseline values were correct/consistent.

5.5 Forest Offset Reversal

TÜV SÜD confirmed that the Project did not have a reversal for the reporting periods from 1/1/2019 through 12/31/2023. There is a reversal in the 1/1/2018 – 12/31/2018 reporting period, which TÜV SÜD confirmed was due to harvesting of plots, and the correction of allometric equations in carbon stock calculations.

5.6 Project Reversal Risk Rating

Assessed in the project initiation and unchanged.

5.7 Assessment of GHG Emissions Reductions Calculation

TÜV SÜD used data checks to ensure that the appropriate methodologies and GHG emission factors were applied in calculating the Project's baseline GHG emissions, annual GHG emissions, Project emissions, and GHG reductions. TÜV SÜD confirmed that Bascom appropriately filled out the worksheet based on its baseline and Project calculations for all required pools. TÜV SÜD separately recalculated the total GHG emission reductions and compared the results to the Project's calculations. TÜV SÜD confirmed that calculations were materially correct.

6.0 Verification Results

Bascom and Anew provided sufficient evidence and documentation of their emission reductions, data collection procedures, monitoring, and quality control procedures. The verification process focused on verifying the historical emissions, baseline emissions, and full campaign project emission reductions and the source data used by Bascom to quantify the emission reductions in accordance with the Protocol.

During the verification process, TÜV SÜD made corrective action requests, additional documentation requests, and clarification requests to complete the verification. The details of TÜV SÜD’s findings are documented in the List of Findings provided to the Reserve and Bascom. The List of Findings was combined for the 2018-2023 reporting periods.

During the final review, TÜV SÜD identified no material misstatements in the data or emission reduction calculations. Table 6 defines the emission reductions verified for these reporting periods.

7.0 Conclusion

TÜV SÜD conducted a risk-based analysis of the McCloud Forest Project GHG statement including a strategic review of the Project data and evidence. Based upon the processes and procedures and the evidence collected, TÜV SÜD concludes that the Project emission reductions during the reporting periods January 1, 2018 through December 31, 2023 can be considered:

- GHG-related activity: conservation-based forest management of forest land on the Project area
- GHG statement: 1/1/2018 – 12/31/2023
- Criteria
 - Reserve Forest Project Protocol, Version 2.1 (September 6, 2007)
 - US Forest Verification Protocol Version 2.0 (May 2007)
 - Verification Program Manual (February 3, 2021)
 - Reserve Offset Program Manual (April 2024)

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

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

TÜV SÜD 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.

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The verified emission reductions are listed in Table 6. While TÜV SÜD confirmed the emission reduction calculations and the total emission reductions to be correct and within the materiality threshold, the values in Table 6 are summary data only with significant figures rounded for summary purposes in this report.

Table 6 - Emission Reductions Verified for January 1, 2018 to December 31, 2023

Reporting Period	Annual GHG Reductions/Removals CO ₂ e (metric tons)
1/1/2018 – 12/31/2018	-88,394
1/1/2019 – 12/31/2019	76,134

1/1/2020 – 12/31/2020	35,196
1/1/2021 – 12/31/2021	58,301
1/1/2022 – 12/31/2022	52,123
1/1/2023 – 12/31/2023	25,601

Lead Verifier Signature



Timothy Facemire

Independent Reviewer Signature



Zach Eyler

Attachment A – Issues Log



Project ID & Name: CAR429 McCloud River									
Project Developer: Anew									
Reporting Period: 7 to 12									
List of Findings version: 9.0									
This document is a private working document generated by Ruby Canyon Environmental (RCE) that lists all the material and non-material findings, requests for additional documentation, requests for clarification, and recommendations for improvement in order to complete the project verification. This document will also be provided by RCE to the Climate Action Reserve (CAR) and will be titled "List of Findings". No information in this document will be made public by RCE or CAR.									
Corrective Action Request (CAR), Non-Material Finding (NMF), Additional Documentation Request (ADR), or Clarification Request (CR) #	Finding and Date	Section of Protocol/ Methodology or Program Document	Project Developer Response and Date	RCE response and Date	Additional Project Developer Response and Date	Additional RCE Response and Date	Additional Project Developer Response and Date	Additional RCE Response and Date	Open or Closed
CAR 1	In the '7_Annual-Monitoring-Report-v.3-8-25-09_Report_Year_2023' document in Section 3.A. the prior year estimate is off by 10,000 in the table. Please correct this value.	Reporting	Responded via email 4/29/2025	Confirmed, this item may be closed.					Closed
CAR 2									
CAR 3									
NMF 1									
NMF 2									
NMF 3									
ADR 1	What are the constants (and number of significant figures) used in carbon calculation, i.e. acres to hectares, kg to tonnes, weight of water, species specific specific gravity and wood density constants. Please provide this information for proper treelist quantification.	III.D.step 2	BA_Const = dCPI / (4# * 144#) ' english, to many sig digits = 0.00545415391248 ... AcresPerHa = 2.47104393 ' acres per hectare CFPerMC = 35.31466672 ' cubic feet per cubic meter CMPerinch = 2.54 ' centimeters per inch FeetPerMeter = 3.280839895 ' feet per meter SQFTPerAcre = 43560# ' square feet per acre LBSPerKG As Double = 2.204622622 ' pounds per kilogram DensWater = 62.42796058 ' pounds per cuft (assuming 1/g per CC) kg to metric tonnes: tonnes = kgs/1000 CarbonFraction As Double = 0.5 ' Carbon as a fraction of dry weight specific gravity and wood density constants by species: see tab 'ADR1'	Thank you for the additional information, the verifier has overhauled the calculations to better align with these constants. There are questions in relation to the utilized specific gravity which are tracked in other items. This item may be closed.					Closed
ADR 2	In the calculation of CVTS the verifier is calculating discrepancies for <6" DBH trees than assign a TMP_DBH, i.e. DF, PF, LP, RF, SF, IC, WF, or volume equations 3, 5, 16, 18, 19, 20, 23. Please provide the information needed to address this mathematical discrepancy.	III.D.step 2	See tab 'ADR 2to5 (VB CODE)' Also see tab 'ADR 2and3 (Softwoods Method 2)'	Thank you for the additional information, the verifier was using the updated (2015) version of the 'Small TARIF' equation, the developer is using the 2011 version. The verifier has modified their calcs to match the approved version at the time of project initiation, this item may be closed.					Closed
ADR 3	In the calculation of CVTS of incense cedar (IC) the verifier is calculating discrepancies for >6" DBH trees. Please provide the information needed to address this mathematical discrepancy.	III.D.step 2	See tab 'ADR 2to5 (VB CODE)' Also see tab 'ADR 2and3 (Softwoods Method 2)'	Upon review, the issue lies in the specific gravity/wood density of this species. Per the table provided in 'ADR 1' incense cedar (CADE2) uses .35 and 21.84 (which matches the 2011 COP), but upon review of Harmon 2008 Appendix 2, there is the species 'Calocedrus decurrens' CADE3, or California incense cedar, which has a density of .37 and 23.09. When the verifier uses the 0.37 / 23.09 value, concurrence is achieved. This shows that the provided table in 'ADR 1' is not necessarily the table that is being used in the carbon calculation. Please provide the information that is being used to calculate carbon, as this is also the source of the issue with ADA.	The specific gravity for incense cedar has been updated from 0.37 to 0.35 in alignment with the 2011 equations. 08/06/2024	Thank you for making this change as calculated in the 'FIA_lookup' tab of 'TreeCalcs_ForSubmission_08202024' it has been confirmed. This item may be closed.			Closed
ADR 4	In the calculation of CVTS (eq. 41) of unknown hardwoods (OH) the verifier is calculating discrepancies on all trees. Please provide the information needed to address this mathematical discrepancy.	III.D.step 2	See tab 'ADR 2to5 VB CODE' Also see tab 'ADR 4and 5 (Hwdws Method 3)'	Thank you for providing this information. It appears that there is an issue in wood density constants applied to the OH bole volume calculation, the verifier is calculating concurrence on both bark and branch components so the issues lies in bole volume. Please see tab, 'ADR part 2' for more details.	OH wood density has been updated to 0.51 in alignment with the 2011 equations. Density for dead trees is modeled after Harmon density reduction factors for black oak, see attached calculations workbook. 08/15/2024	Thank you for making this change as calculated in the 'FIA_lookup' tab of 'TreeCalcs_ForSubmission_08202024' it has been confirmed. And for clarifying the variables associated with the dead DRFs. This item may be closed.			Closed
ADR 5	In the calculation of CVTS (eq. 34) of tanoak (TO) the verifier is calculating discrepancies on the lone tree. Please provide the information needed to address this mathematical discrepancy.	III.D.step 2	See tab 'ADR 2to5 VB CODE' Also see tab 'ADR 4and 5 (Hwdws Method 3)'	Thank you for providing this information. There is an error in the third variable for this equation, as seen in cell B4 of 'ADR 4and5 (Hwdws Method 3)', the allometric equation in all versions uses 0.86562.	Eq. 34 has been updated to use the constant 0.86562 instead of 0.88562 in alignment with the 2011 equations. 08/06/24	Thank you for making this change as calculated in the 'volume EQs' tab of 'TreeCalcs_ForSubmission_08202024' it has been confirmed. This item may be closed.			Closed
ADR 6	Please provide the access database that includes 'Query: Projection_C_stats_FIA' to calculate belowground plot level biomass as referenced in the 'Project As of 12.31.2023' tab of '1a_Bascom_Ponderosa_Carbon_Combined_Update_VY2023'.	III.D.step 2	In a meeting, VVB clarified that this was to ascertain the application of Cairns' equation. See tab 'ADR 6' It shows the VB code that applies Cairns' equation for belowground biomass. It is applied at the plot level.	Upon initial review, this appears to be incorporated correctly. This item may be closed.					Closed
ADR 7	Please provide the documentation and calculations associated with the quantification of lying dead wood as seen in 'Projected_PlotHeader_current'.	III.D.step 2	Please see the methods shared in the tab "ADR 7" of this worksheet 08/07/2024	Thank you for this additional information. Upon analysis, the verifier is having difficulty calculating the 'McPha' field from the field sampled diameter. Please provide the math used in this calculation. An example with observations has been provided in tab 'ADR 7a'.	"McPHA" refers to cubic meters per hectare. This is calculated by multiplying the calculated value of cubic feet per acre by 0.0699724518. See included LDW_calcs workbook. 08/28/2024	Thank you for this additional detail and a document that shows the calculation steps. This item may be closed.			Closed
ADR 8	Please provide the source data for the strata level acreage used in the quantification (cols. D-F) in the 'Project As of 12.31.2023' and in the 'Off-easement as of 12.31.2023' tabs of '1a_Bascom_Ponderosa_Carbon_Combined_Update_VY2023_inte rpolation', as it does not appear to be reflected in the 'PonderosaCarbon_Stand', 'PFT_easementBoundary', or 'Carbon_Project_Boundary' shapefiles already provided.	III.D.step 3	There is a crosswalk of stand ID to Strata in the StandPlotTrees.acdb, C_Stand, current. An additional shapefile has also been included in the 'Spatial' subfolder ("McCloud_2023_Albers.shp") which has Strata as an attribute for convenience. 02/25/2025	Thank you for providing this shapefile, the verifier was able to recalculate non-road forested acres. This item may be closed.					Closed
CR 1	Upon review of the 'Projected_StandingTrees_current' table in 'PonderosaCarbon_StandPlotTrees' there is individual tree defect captured within the inventory, but it is not clear if it is being incorporated into the carbon quantification. Please clarify.	III.D.step 2	Defect is applied in calculating AboveGround Carbon. See tables 'C_Plots_StandingTrees' and 'Projected_StandingTrees'. Field 'GTSKgHaFIA' is Gross Total Stem kg/ha. C_NKgHaFIA = (GTSKgHaFIA * (1-PctDefect/100) + Branch kg/ha + Bark kg/ha)) * Carbon Fraction. See example in tab 'CR1'.	Thank you for the clarification and the example. The verifier was comparing to the 'GKgHaFIA' column which does not include defect. Now that this information is known, defect is being calculated concurrently. This item may be closed.					Closed
CR 2	Upon review of the calculated TPAs in the 'Projected_StandingTrees_current' the appropriate calculation does not appear to be being used. Tab 'CR 2' has been included with mathematical examples. Please clarify.	III.D.step 2	Calculation is correct for TPA. Projected TPA are produced by FORSEE growth model. Model is projecting DBH and mortality and does not take BAF at time of cruise into consideration. It is not appropriate to back-calculate a DBH based on BAF at time of cruise for projected TPA.	Thank you for the clarification. FORSEE is an approved growth model. As discussed in the meeting, this does pose a small risk to the statistics associated with the site visit as site visit TPAs will be calculated off of their as-measured DBHs. This item may be closed.					Closed
CR 3	In the as-measured data of 'C_Plots_StandingTrees_current' there are 4 trees measured at 0.5" DBH. Per the inventory methodology these trees should not have been included, please clarify.	III.D.step 2	There are 4 trees (out of 16,066 tree records) recorded as 0.5" DBH in original cruise data, one each on Plots 10178, 1173, 32370, 34161. It is feasible these are typos and meant to be entered as 0.6" DBH - the minimum DBH per the methodology spec. In any case, their inclusion is immaterial, we will opt to keep them in and retain the original 0.5" as input.	Thank you for the clarification. The verifier will be zeroing out any trees less than 0.6" which will likely result in a non-material discrepancy. This item may be closed.					Closed
CR 4	When trees grow across the 4.6" threshold do they maintain their TPA or are they updated to the DBH based TPA?	III.D.step 2	Whether recorded on a 1/100th acre fixed radius plot or a 20 BAF variable radius plot does not affect how the growth model projects TPA. The tree list passed to the FORSEE growth model already has the TPA calculated by tree, and does not pass the plot type to the model. See tab 'CR 4 FORSEE_TreeList'	Thank you for the clarification. As discussed in the meeting, this does pose a small risk to the statistics associated with the site visit as site visit TPAs will be calculated off of their as-measured DBHs and which plots they fall into. This item may be closed.					Closed

CR 5	In 'C_Plots_StandingTrees_current' there are 122 entries of dead trees less than 3", which appears to be the minimum diameter for inventory in the CAR protocol 2.1. Please clarify.	III.D.step 3	While oddly phrased, the v2.1 protocol states ' <i>minimum breast height diameter in methodology not to be greater than 3"</i> – meaning, dead trees down to 3" shall be included. Below 3", it would appear to be optional where to set the threshold for the <i>cruise parameters</i> .	Yes, this phrasing is incredibly confusing, thank you for the clarification. As dead trees are captured to a DBH smaller than 3", this item <i>may be closed</i> .				Closed	
CR 6	There are TPAs on the order of greater than 3000 for trees less than 4.6" DBH. Are there really plots that have 30+ of the same species/DBH/Height/live or dead/decay class. please clarify.	III.D.step 2	Yes, it is possible on a 1/100th acre plot to have this many small hardwoods.	Thank you for the clarification, this will be tested through the site visit. This item may be closed.				Closed	
CR 7	What is species code 'CW' and 'PD', please clarify.	III.D.step 2	CW = Cottonwood, PD = Pacific Dogwood	Thank you for the clarification, further clarifications will be tracked in other items. This item <i>may be closed</i> .				Closed	
CR 8	Upon review of 'C_Plots_StandingTrees_current', it appears that dead trees with a decay class of 2-5 are being zeroed out for bark and branch. please clarify/confirm.	III.D.step 3	Yes, only decay class 1 for dead trees has bark and branch weights calculated. This is a conservative approach.	Thank you for the confirmation the verifier has modified their tool to match. This item may be closed.				Closed	
CR 9	Upon review, Harmon DRFs are being used in the calculation of dead trees, what other variables are being used to modify bole biomass. please clarify.	III.D.step 3	Adjustment factors based on decay class are applied. See tab 'CR 9' for table and example calculations	Thank you for the clarification and the 'CR 9' tab, it has proven to be very helpful. This item <i>may be closed</i> .				Closed	
CR 10	Pacific Dogwood (492) is using equation 26 from the 2011 equations, but the specific gravity and wood density from the 2014/2015 versions (0.58 and 36.19), as opposed to the 2011 version (0.7 and 43.68). The verifier recognizes that this contradicts the provided tables in the 'ADR 1' tab, but screenshots and math have been included in tab 'CR 10' to illustrate this issue, please clarify.	III.D.step 3	Pacific Dogwood calculations have been adjusted to reflect the 2011 equations. 08/14/2024	There is a typo in the current equation (cell D4) of 'Volume Eq.' in 'TreeCalcs_ForSubmission_08202024' which is carrying into the 'trees to correct' tab. The constant -2.672755 does not match the 2011 COP.	The relevant constant in HW volume EQ 26 has been updated to -2.672775. 08/27/2024	Thank you for making this change, it has been confirmed. This item may be closed.		Closed	
CR 11	Upon review of 'C_Plots_StandingTrees_current' there are 101 large diameter trees (>=5") that have a 'Tree Count' of 2. When calculating TPA, it appears that the value being used is double what it should be (already doubled). Please see tab 'CR 11' for additional details.	III.D.step 3	The 101 trees that were incorrectly doubled and their associated calculations have been corrected. 08/16/2024	Thank you for making this change, it has been confirmed on all of the trees. There is something strange occurring with the majority of these trees, after the doubling was accounted for. Trees whose species are calculating cleanly on other plots are calculating incorrectly in the 'all trees' output. Please provide/check the calculations behind the bole, bark, branch values, a best guess would be the TPA applied either before/after accounting for growth as dead trees have perfect concurrence when corrected in their doubling.	Volume and all biomass components have been recalculated for trees related to CR11. Components of the recalculation can be found in the "CR11 trees" tab of the attached TreeCalcs workbook. 08/28/2024	After review, there are a variety of issues with the calculations in the 'CR11 trees' and 'trees to correct' tabs of 'TreeCalcs_ForSubmission_08292024'. 1) In 'CR11 trees' for bole biomass in column X, the values from the 'harmon drf' tab are being used, but the 'wsg' values for live trees do not match the COP 2011 table for DF (0.46 vs. 0.45). 2) For IC and WF <6", the calculation of CVTS (col. S) the exponential function is using the wrong constant (4.045292 vs. 4.015292). This is also occurring in the 'trees to correct' tab col. R (CVTS). Both of these tabs are pulled into the 'all trees' tab and should be corrected. 3) For OC species, decay class 1 calculation of 'Grs Bole kg' (col. W) in 'trees to correct' tab the referenced cell from 'harmon drf' J9 is not the decay class 1 value. 4) For tree 12284_2, this 6" WF is receiving a different CVTS equation from the other 6" WFs in the inventory because these calculations are being done in the 'CR11 trees' or 'trees to correct' tabs which does not appear to be considering the >=6" DBH component of the equation statement. Please clarify.	1) The 'harmon drf' tab of the TreeCalcs workbook has been updated with a wsg of 0.45 for doug fir in alignment with the 2011 COP. 2) The constant has been corrected to the appropriate value of - 4.015292 in all applicable locations in alignment with the 2011 COP. 3) OC 'trees to correct' in decay class 1 have been updated to use the appropriate density reduction factor on the 'harmon drf' tab in alignment with the 2011 COP. 4) Tree 2 in Plot 12284 has been corrected to utilize the CVTS equation for trees >= 6" DBH in alignment with the 2011 COP. 10/09/2024	1) Thank you for making this change, it has been confirmed. 2) Thank you for making this change, it has been confirmed. 3) Thank you for making this change, it has been confirmed. 4) Thank you for making this change, it has been confirmed. This item may be closed.	Closed
CR 12	Cottonwood (747) is calculating a different CVTS than what its equation and constants would dictate. See tab 'CR 12' for more details. please clarify.	III.D.step 3	Cottonwood calculations have been adjusted to reflect the 2011 equations. 08/14/2024	Thank you for making this change, it has been confirmed, this item may be closed.				Closed	
CR 13	Other Conifer (OC, 239) appears to be using the specific gravity/ wood density / and Harmon density factors for the species white fir (0.37 / 23.09 / 0.34, 0.277, 0.121, 0.138, 0.122), which does not appear to correlate to the values provided on tab 'ADR 1'. Please clarify/confirm.	III.D.step 3	OC wood density has been updated to 0.41 in alignment with the 2011 equations. Density for dead trees is modeled after Harmon density reduction factors for white fir, see attached calculations workbook. 08/15/2024	Thank you for the clarification, this has been confirmed. This item may be closed.				Closed	
CR 14	Which conversion constant to CO2e (3.666, 3.667, 3.67) is being used in plot level carbon calculation? Please provide a dataset that outputs plot carbon in mtCO2e/ac.	III.D.step 3	The CAR Forest Project Protocol Version 2.1 (September 2007) states a value of 3.666 must be used. Plot carbon in tCO2e/ac has been provided. 8/19/2024	Thank you for the clarification, this item may be closed.				Closed	
CR 15	Upon review of 'trees to correct' in 'TreeCalcs_ForSubmission_082024' the equation used for incense cedar branches col. Y is using =EXP(-5.2581+2.6045*LN(H/2*2.54)) which is the equation for unknown softwood. Please clarify.	III.D.step 3	Incense cedar branch biomass calculations have been updated to utilize branch biomass EQ 10. 08/27/2024	Thank you for making this change, it has been confirmed. This item may be closed.				Closed	
CR 16	Upon review of the 'plots' tab in 'TreesPlotsStrata_ForSubmission08202024' the cairns equation is only being applied to the aboveground live portion of plot carbon instead of the live and dead aboveground. This appears to underestimate plot carbon, please clarify.	III.D.step 3	The implementation of the Cairns equation in the Plots tab of the TreesPlotsStrata workbook has been updated to use the sum of live and dead standing tree carbon to calculate BGB. 08/29/2024	Thank you for making this change. It is now apparent that the Cairns equation is being run with the input of 'MT C per ha' or metric tons of carbon per hectare. This contradicts Cairns as well, as it should be calculating on tons of biomass per hectare. Please clarify.	The implementation of the Cairns equation in the Plots tab of the TreesPlotsStrata workbook has been updated to calculate on tons of biomass per hectare instead of tons of carbon per hectare. 10/10/2024	Thank you for making this change, it has allowed for identification of another issue. In the 'plots' tab column AB is total carbon per acre, where AC is total carbon per hectare, but there are two different inputs. Column AB includes T, V, X, and Z all of which are acres values. Column AC includes U, W, Y, and AA all of which are hectare values. This issue is in instances where there are no live trees on plot, the acre version input column V is zeroing out all BG carbon. Whereas in the hectare version, BG dead is being quantified and incorporated. Please clarify.	This discrepancy has been corrected, and BGB is now calculated on a per-acre basis for plots without live trees. 10/22/2024	Thank you for making this change, it has been confirmed. This item may be closed.	Closed
CR 17	It does not appear that the changes made in the 'trees to correct' tab have been fully incorporated into the carbon calculation within the 'all trees' tab or 'TreesPlotsStrata_ForSubmission08202024'. Please clarify.	III.D.step 3	Recalculations associated with CR11 and previous calculation issues are housed in tabs and 'CR11 trees' and 'trees to correct' of the attached TreeCalcs workbook. Calculations for these trees are merged back into the 'all trees' tree list via a VLOOKUP on UID, which is a concatenation of PlotNum_TreeNum_Stratum_Species_StatusCode. The 'all trees' tree list is used in the TreesPlotsStrata workbook. 08/29/2024	Thank you for the clarification, other outstanding quantification issues are tracked in other items. This item may be closed.				Closed	
CR 18	Upon review of 'C_Plots_LineTransectData_curren' there are seventeen pieces of lying dead wood (LDW) recorded and quantified that have decay class 4 or 5, which, per the inventory methodology (Bascom_Pondosa_Carbon_Cruise_Plan_Updated_2018.07.23) should not be sampled or included. Please clarify.	III.D.step 3	These 17 pieces of wood have been omitted from biomass calculations to align with Bascom_Pondosa_Carbon_Cruise_Plan_Updated_2018.07.23 08/27/2024	Thank you for making this change, it has been confirmed. This item may be closed.				Closed	
CR 19	Upon review of 'C_Plots_LineTransectData_curren' there are four pieces of lying dead wood (LDW) recorded and quantified that are less than the required 3" in diameter at the point of intersection. Please clarify.	III.D.step 3	These 4 pieces of wood have been omitted from biomass calculations. 08/27/2024	Thank you for making this change, it has been confirmed. This item may be closed.				Closed	
CR 20	After reviewing the LDW calculation from the initial submission to the current submission it appears there has been an overhaul in calculation methodologies of LDW. Has this change been tracked in a Change Log? The same question exists for corrections in tree quantification. Please clarify.	III.D.step 3	A change log describing the aforementioned methodological overhaul has been created; please see Pondosa_Carbon_ChangeLog_VY2023.xlsx 10/10/2024	Thank you for providing this, please update this as it is a living document.	Campbell Global will maintain and update this Change Log. 10/22/2024	This item may be closed.		Closed	
CR 21	There appears to be a variation in TPA across the tabs, 'trees to correct', 'CR11 trees', and 'all_trees' in 01_TreeCalcs' on three trees, tab 'CR 21' has been included with more information. Please clarify.	III.D.step 3	This is a remnant of incorrect doublings associated with CR11. The doubled values associated with the 3 trees in question were not merged into 'all_trees' and did not alter the carbon calculations. For congruence, the TPA and TPha values have been corrected in all tabs. 10/21/2024	Thank you for making this change, it has been confirmed. This item may be closed.				Closed	
CR 22	Upon extensive review there is an issue with the species IC in the 'CF4 sparker' (column Y) of the 'trees to correct' tab of '01_TreeCalcs'; tab 'CR 22' has been included with the list of trees. Per the 2011 calcs, the minimum CF4 value for species 19 is .27, but these values are all less than that albeit close when only 2 significant figures are viewed, or in one instance has been hardcoded to .27 but should calculate to a larger value. Please clarify.	III.D.step 3	CF4 Calculations associated with trees listed in tab 'CR22' have been corrected to align with the 2011 COP. 10/21/2024	Thank you for making this change, it has been confirmed. This item may be closed.				Closed	

