



Forest Project Verification Report: Verification under the Climate Action Reserve (CAR)

Reporter/Member: Coastal Ridges, LLC

Project: Willits Woods, CAR661

Emissions Year Verified: 2012

Scientific Certification Systems

Lead Verifier: Larry Wilson

Technical Reviewer: Francis Eaton

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Table of Contents

Table of Contents	2
1 Summary	3
2 Project Description	3
3 Verification.....	4
3.1 Verification Objectives	4
3.2 Verification Criteria	5
3.3 Level of Assurance	5
3.4 Treatment of Materiality	5
3.5 Verification Scope	6
3.6 Verification Team.....	6
4 Verification Process	7
4.1 Attestation of Title	7
4.2 Regulatory Compliance	7
4.3 Maintenance of Standing Live Carbon Pool.....	7
4.4 Estimates of Actual Onsite Carbon Stocks	8
4.5 Estimates of Actual Carbon in Harvested Wood Products	9
4.6 Quantification of Primary Effect	9
4.7 Quantification of Secondary Effect.....	9
4.8 Reversal Determination	9
4.9 Reversal Risk Rating	10
5 Verification Statement.....	10

1 Summary

This report presents the findings of the verification assessment of the Willits Woods Project developed by North Coast Resource Management, as project consultant on behalf of Coastal Ridges, LLC, the forest land owner, and describes the steps involved in the verification process. This assessment covers the Willits Woods' greenhouse gas emission reductions reported to the Climate Action Reserve (the Reserve) for Emission Year 2012 (January 1 through December 31 of 2012). The annual verification was undertaken to evaluate the submitted Forest Project Monitoring Report and assess whether the documentation conforms to the requirements of the Climate Action Reserve Forest Project Protocol, Version 3.2 (August 2010) and the Project Design Document (September 2010, Revised December, 2011). The evaluation was conducted following the guidance in Chapter 10 of the Climate Action Reserve Forest Project Protocol, Version 3.2 (August 2010), the Reserve Program Manual (October 2011), and the Reserve Verification Program Manual (December 2010).

In the course of the verification assessment, that is reported herein, the SCS verifiers developed findings which included New Information Requests (NIRs), Non-Conformity Reports (NCRs) and Opportunities for Improvement (OFIs). The findings All New Information Requests and Non-Conformity Reports have been adequately responded to, resulting in their closure.

On the basis of the information provided and the analyses completed, SCS was able to reach a decision on the emissions reduction reported by the Forest Owner on the Reserve website. SCS verified the adequacy of the information provided in the Forest Project Monitoring Report, confirming that this document meets the requirements of the Climate Action Reserve standards. Further, SCS was able to reach a positive opinion on the claimed emission reductions and removals presented in the Forest Project Monitoring Report and on the Reserve website by North Coast Resource Management. Thus, SCS has verified 163,731 metric tonnes of CO₂e reductions and removals for Emission Year 2012. With a mandatory buffer pool contribution of 34,280 CRTs, a balance of 129,451 CRTs should be issued to Coastal Ridges, LLC, a California Limited Liability Company.

2 Project Description

The Willits Woods improved forest management project is intended to create additional carbon stocks in the project area through increased carbon stocking relative to baseline practices.

The Willits Woods improved forest management project is comprised primarily of highly productive timberland. Terrain is of moderate to steep slope. Elevation is from 600 feet to 2,500 feet above sea level. Primary conifer species are coastal redwood and Douglas-fir. The principal hardwood species is tanoak with a mixture of madrone, true oak, California laurel, and other California hardwoods.

The Willits Woods Forest improved forest management project is comprised of 18,008 acres of timberland on the larger 19,008 acre ownership block.



Since 2003, there has been no commercial timber harvesting within the Project Area, leading to a significant increase in carbon stocks. According to Section 10 of the Project Design Document, “the forest owner intends to allow conifer stocking levels to develop on the property in excess of the minimum requirements of the California Forest Practice Rules. The projected target stand condition for the Willits Woods improved forest management project 20-years from now, will be characterized by a multi-aged conifer stand containing between 180 to 210 square feet of conifer basal area per acre, and approximately 32,000 board feet per acre of conifer volume. At that time hardwoods will comprise approximately 35% of the stand basal area.” The forest condition targeted in the project scenario would carry significantly more carbon than would occur in a financially and legally feasible baseline scenario.

3 Verification

Scientific Certification Systems (SCS) is a global leader in third-party certification, auditing, testing services, and standards. Established as an independent third-party certification firm in 1984, our goal is to recognize the highest levels of performance in environmental protection and social responsibility in the private and public sectors, and to stimulate continuous improvement in sustainable development.

SCS is currently accredited to ISO 14065 for GHG Validation and Verification by the American National Standards Institute (ANSI) and offers verification under the Voluntary Carbon Standard (VCS), the American Carbon Registry (ACR), and the Climate Action Reserve (CAR). SCS also offers verification services for the Climate, Community and Biodiversity (CCB) standards. To date, SCS has verified over 42,000 acres of forest under the Climate Action Reserve and California Climate Action Registry’s Forest Protocols. SCS has been verifying forest carbon offsets for over six years and conducted the first verifications of Forest Carbon Projects under the California Climate Action Registry (CCAR) Forest Sector Protocols. The Greenhouse Gas Verification Program draws upon SCS’s established expertise in field forestry, biometrics, and verification activities to serve the global forest carbon market.

SCS launched its forest management certification program in 1991. In 1995, SCS’s Forest Conservation Program was accredited as one of the first Forest Stewardship Council (FSC) endorsed certification bodies. Since that time, SCS has become a global leader in forest management and wood products certification. Our diverse set of certification services provides forestry operators and manufacturers with a full range of quality services.

3.1 Verification Objectives

The objectives of this verification assessment were to:

- Review the data in the annual monitoring report to check calculations and information for reasonability, accuracy, and completeness;
- Verify that all Verification Items pertaining to Desk Review Verification have been adequately addressed;

- Assess the likelihood that the GHG project has resulted in the GHG emissions reductions and removals stated in the project documents.

3.2 Verification Criteria

- The project will be assessed against the following criteria of the Climate Action Reserve:
 - Forest Project Protocol Version 3.2 (August 2010)
 - Program Manual (October 2011)
 - Verification Program Manual (December 2010)

3.3 Level of Assurance

SCS performed the core verification activities described by CAR in the Forest Project Verification Protocol to determine whether it had a reasonable level of assurance that the project's GHG removals and reductions are materially correct.

3.4 Treatment of Materiality

Materiality is a measure of the significance of errors and omissions with regard to statements and numerical claims made in the documents associated with a GHG project. Information is considered material if its omission or misstatement could be seen to influence any decisions or actions resulting from it. While some amount of error is tolerable, a materiality threshold exists which if exceeded, will require that the verification body issue a negative verification opinion. The Climate Action Reserve recognizes two aspects of materiality; quantitative and qualitative.

Quantitative materiality refers to errors in measurement and calculation procedures. The cumulative errors in the total quantity of CRTs claimed in the monitoring report cannot exceed the materiality threshold, which is dependent on the project size. For projects registering 25,000 CRTs or less annually, the materiality threshold is 5%. For projects registering more than 25,000 CRTs but less than or equal to 100,000 CRTs, the materiality threshold is 3%. For projects registering more than 100,000 CRTs annually, the materiality threshold is 1%. A positive verification opinion cannot be issued if the aggregated numerical error in CRT calculation exceeds the materiality threshold. In accordance with these guidelines, the materiality threshold for the project for the current reporting period is 1%.

Qualitative materiality refers to non-conformance with the project protocols. Any non-conformance related to a prescriptive requirement of the protocol is considered material. This includes content of required documents and factors or parameters that are prescribed by the protocols. A positive verification opinion cannot be issued if the project documents include qualitative material errors.

Additional details regarding materiality are provided in Sections 1.6.3 through 1.6.5 of the Climate Action Reserve Verification Program Manual.



3.5 Verification Scope

The scope of this proposal encompasses a Desk Review Verification as defined in Section 10.3.3 of the Forest Project Protocol.

Verification items include:

- Review of Attestation of Title and ownership and claims to GHG reductions/removals;
- Review of Attestation of Regulatory Compliance and confirmation of statements made;
- Confirm that no decrease has occurred in the Project Area's Standing Live Carbon Stocks over any ten-year consecutive periods not accounted for by allowable exceptions;
- Review reported estimates of actual onsite carbon stocks and estimates of actual carbon in Harvested Wood Products;
- Review calculations for quantification of Primary and Secondary effects;
- Assessment of the reporting of Reversals
- Verify that the Risk Rating applied is the same used since the previous site-visit verification.

3.6 Verification Team

Lead Verifier: Larry Wilson, SCS Verification Forester

Mr. Wilson holds a Bachelor's degree in Ecology and a Master's degree in Forestry, and is a Registered Professional Forester in California, RPF # 2563. He has 18 years experience as a forest biometrician and growth and yield modeling specialist. Mr. Wilson has worked for the USDA Forest Service as vegetation modeling specialist on several regional scale ecosystem management analysis projects dating back to 1993 and has 5 years experience with a major forestry consulting firm working primarily with private industry. He is also an accomplished database analyst and computer programmer. Mr. Wilson's areas of expertise include forest inventory data processing, stand based forest inventory management, growth and yield simulation modeling, development of computerized calculation and classification algorithms, and systems analysis. Mr. Wilson is accredited by the California Air Resources Board as Lead Offset Verifier of Offset Project Data Reports and is also certified by the Board in the US Forest Project and Urban Forest Protocols. He is also certified as Lead Verifier under the Climate Action Reserve and has successfully completed Lead Auditor Training under ISO 9001:2008.

Internal Reviewer: Francis Eaton, SCS Verification Forester

Francis Eaton holds a Masters of Forest Science from the Yale School of Forestry and Environmental Studies and received his B.S. in Forestry from Northern Arizona University. The focus throughout his studies was forest management with emphases on sampling design and statistical analysis. He spent three years working collecting field data and completing data analysis on forest restoration projects with the Ecological Restoration Institute. His work experience also includes complete biophysical inventories and estimation of timber volume for two 3000 acre properties, as a forest consultant in northern New Mexico. Mr. Eaton is well versed in editing sampling designs and auditing field campaigns as a teaching fellow for masters-level management plan courses. Mr. Eaton currently works as a Verification Forester



for SCS and has completed forest carbon projects under the Verified Carbon Standard (VCS), the Climate Action Reserve (CAR), and the Climate, Community, and Biodiversity Alliance (CCBA).

4 Verification Process

The verification team addressed each of the following 9 Verification Items prescribed by the Reserve for Desk Review Verification.

4.1 Attestation of Title

The Attestation of Title is on file on the Reserve's website as of 21 February 2013, properly filled out, signed by Mr. Richard L. Padula, President of Coastal Forestlands, Inc., who is General Partner to Coastal Ridges, LLC, and dated following the close of the reporting period. The proponent provided a copy of a signed statement by a Chief Title Officer of Redwood Empire Title of Mendocino County that the property commonly referred to as Willits Woods is owned by Coastal Ridges, LLC. The auditor considers this to be adequate proof of title. Mr. James D. Clark, vice president of North Coast Resource Management and Registered Professional Forester in the State of California has confirmed that no changes to the title have occurred since ownership was transferred to Coastal Ridges, LLC. The auditor finds that the project conforms to the requirements of the Reserve in regards to Attestation of Title.

An amended Project Implementation Agreement (PIA) identified as '2012-1-12-PIA-Amendment-CAR661.pdf' is on file on the Reserve's website as of 8 April 2013. The PIA is signed by the President of the Reserve and by the President of Coastal Ridges, LLC. Both signatures were witnessed by Notaries Public, whose stamps and signatures are included on the PIA. The PIA extends the term of the agreement between Coastal Ridges, LLC and the Reserve to the date 100 years from recording date 3 April 2013, as attested by the stamp of the County Recorder. Appendix A of the PIA contains a list of the legal description of the property, which is identical to the legal description accompanying the above referenced statement of title from Redwood Empire Title of Mendocino County.

4.2 Regulatory Compliance

A signed Attestation of Regulatory Compliance for the period 1 January 2012 to 31 December 2012 dated 3 January 2013 signed by Mr. Richard L. Padula was observed on file on the Reserve website on 19 February 2013 declaring compliance with all laws. The auditor sent an email inquiry to Ken Margiott, Cal Fire Forester I, who is familiar with the project area, asking whether there had been any known violations of regulations during the period. Mr. Margiott confirmed that there had been no violations of regulations.

SCS determines that during the current reporting period the project was in regulatory compliance.

4.3 Maintenance of Standing Live Carbon Pool

There have been no decreases in stand live carbon stock estimates over any 10 year period since project start date as evidenced by the verified carbon stocking estimates in the CAR Forest Calculation Worksheet on file on the Reserve's website and the current Monitoring Report undergoing verification. In addition, no harvest or other management actions affecting carbon stocks were reported during the



current reporting period. An email enquiry to Mr. Ken Margiott, Cal Fire Forester I, confirmed no harvest or other activity occurred on the project area during the period

4.4 Estimates of Actual Onsite Carbon Stocks

No inventory data were collected during the previous year. There was no harvest activity, nor any other forest management activity, nor any significance disturbance during the previous year, which was corroborated by a Cal Fire Resource Management Inspector familiar with the Project Area.

Actual onsite carbon stocks for emissions year 2012 were estimated using the Visual Cryptos model, the same modeling methodology as was used for the initial verification of the project.

Visual Cryptos is a Cryptos emulator using the same growth engine as the Cryptos model which is on the list of approved models in Appendix B of the Forest Project Protocol. The use of Visual Cryptos is explained in the modeling plan included as Attachment C of the Project Design Document. The modeling work for the 2012 emissions year was performed by James D. Clark, vice president of North Coast Resource Management, who did the inventory and baseline modeling for the initial verification.

Carbon stock estimates for 2012 were developed by initializing Visual Cryptos with individual tree data collected during the 2008 inventory which was used to estimate initial carbon stocking. The data were then grown forward for 4 years using Visual Cryptos. The Cryptos model predicts the growth in tree diameter and height based on site and stand conditions and generates a list of tree records that includes the predicted tree diameter and height. Biomass estimates for these tree records were generated using the Reserve approved allometric equations encoded into an MS-Excel spreadsheet.

To verify that the inventory data were incorporated into the simulation model, the auditor imported the 2008 inventory data and the 2012 updated data from Visual Cryptos into an MS Access database. Joining the 2 datasets on Stand ID and Tree number revealed that the data sets do indeed match up. Of the nearly 4,000 records common to both datasets, there were no mismatches among species codes, and the differences in dbh and height between the records of the 2 data sets were what would be expected following 4 years of growth projected by Cryptos.

The auditor calculated carbon stocks for the 2 datasets in order to verify the quantification methodology and to assess the reasonableness of the predicted growth. Biomass was calculated for each individual tree record using a software tool developed by SCS that implements the FIA biomass equations specified by the Reserve. Below ground biomass was calculated using the equations specified by the Reserve, and average live tree C stocking per acre was calculated for the project area. To the live tree stocking, the auditor added the estimated stocking in standing dead (snags), which was checked during the initial verification and held constant since. The difference in total CO₂e for the project area between the auditor's calculation and the values reported to the Reserve was 1 tonne out of over 4 million reported.

To assess the reasonableness of the estimated growth, the auditor compared the average standing live carbon stocks calculated from the 2008 inventory data to average standing live carbon stocks calculated from the Cryptos tree list data representing 2012. The predicted average annual growth rate over the 4 years is 4.86%. This value is well within the range of values expected for young growth redwood on good



sites based on the empirical yield tables in Bulletin 796, California Agricultural Experiment Station (Lindquist and Palley).

The confidence deduction of 1.9%, which was calculated for the initial inventory and used for all subsequent reporting periods, was applied correctly.

Based on the above evidence, the auditor concludes that the estimates of actual onsite carbon stocks were calculated correctly and in accordance with the requirements of the Reserve

4.5 Estimates of Actual Carbon in Harvested Wood Products

According to the Project Proponent and corroborated by a local Cal Fire representative, no harvest of wood products occurred during the reporting period.

Actual carbon in harvested wood products and carbon in harvested wood products delivered to mills are both correctly entered as zero in the CAR-designed spreadsheet used to calculate CRTs.

SCS determines that the requirements of this section are met.

4.6 Quantification of Primary Effect

The auditor performed an independent calculation of the primary effect, and found the total to match that reported in the CAR Forest Project worksheet provided by the Forest Owner.

SCS determines that the Quantification of Primary Effect conforms to the Requirements of the Reserve and is without material error.

4.7 Quantification of Secondary Effect

The auditor performed an independent calculation of the secondary effect, and found the total to match that reported in the CAR Forest Project worksheet provided by the Forest Owner.

SCS determines that Quantification of Secondary Effect conforms to the Requirements of the Reserve and is without material error.

4.8 Reversal Determination

The Monitoring Report indicates that no reversals occurred during the reporting period, which the Project Proponent confirmed during interviews. In addition, a CalFire area forester familiar with the project area indicated he was unaware of any fire or other incident resulting in a loss of biomass occurring during the reporting period.

SCS determines that a reversal did not occur.



4.9 Reversal Risk Rating

The reversal risk rating used in the client supplied version of the Forest Carbon Calculation spreadsheet for the reporting period is 20.937%, which is identical to the reversal risk rating used for the previous site visit.

5 Verification Statement

North Coast Resource Management has supplied all the evidence requested during the verification process to enable SCS to arrive at an opinion on the accuracy of the calculated and claimed emission reductions and removals. SCS has determined that the Willits Woods Project, by Coastal Ridges LLC, is in conformance with the CAR Forest Project Protocols. Furthermore, all issues identified during the verification were resolved in conformance with CAR standards. The Forest Project Monitoring Report and associated calculation workbook are considered accurate, complete, transparent, and free of material misstatements.

The Lead Verifier recommends that SCS issue a verification opinion for 163,731 CRTs for the Emission Year 2012, with a buffer pool contribution of 34,280 CRTs and a balance of 129,451 CRTs recommended for issuance to the Forest Owner. These tonnes of CO₂e emissions reductions and removals are consistent with those reported by Coastal Ridges, LLC, a California Limited Liability Company on the Reserve website.