

Verification Report for the Cordillera Azul National Park REDD Project



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Prepared By	SCS Global Services
Contact	2000 Powell Street, Suite 600, Emeryville, CA 94608, USA http://www.SCScertified.com Email: cpollet-young@SCScertified.com Telephone: +1 (510) 452-8000
Approved By	<i>Christie Pollet-Young</i>
Work Carried Out By	Ryan Anderson, Lead auditor Francis Eaton, Auditor Christie Pollet-Young, Auditor

Jazmín Gonzales Tovar, Technical Expert

Manuel Salirrosas, Technical Expert

Victor Solano, Technical Expert

Larry Wilson, Technical Reviewer

Summary:

- This report describes the verification audit of the Cordillera Azul National Park REDD Project (“the project”), avoided unplanned deforestation project located in the Cordillera Azul National Park in Peru that was conducted by SCS. The purpose of verification audit was to assess the conformance of the project with the verification criteria. The verification audit was performed through a combination of document review, interviews with relevant personnel and on-site inspections. The project complies with all of the verification criteria, and the assessment team has no restrictions or uncertainties with respect to the compliance of the project with the verification criteria.

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1 INTRODUCTION

1.1 Objective

The purpose of the verification audit activity was to conduct an independent assessment of the Cordillera Azul National Park REDD Project (“the project”) to determine whether the project complies with the verification criteria, as set out in the guidance documents listed in Section 1.2 of this report.

1.2 Scope and Criteria

In accordance with Section 4.3.4 of ISO 14064-3:2006, the scope was defined as follows:

- The project and its baseline scenarios;
- The physical infrastructure, activities, technologies and processes of the project;
- The GHG sources, sinks and/or reservoirs that are applicable to the project;
- The types of GHGs that are applicable to the project; and
- The reporting period, as discussed in Section 5 of this report.

In accordance with Section 5.3.1 of the VCS Standard, the criteria for verification were the VCS Version 3.3, including the following documents:

- VCS Program Guide
- VCS Standard
- VCS AFOLU Requirements
- VCS Non-Permanence Risk Tool

Unless otherwise indicated, the assessment was performed against the most recent version of the relevant VCS guidance document.

In addition, the assessment was performed against the requirements of the validated project description.

1.3 Level of assurance

In accordance with Section 5.3.1 of the VCS Standard, the level of assurance of this report is reasonable.

1.4 Summary Description of the Project

The following summary description of the project is quoted from Section 1.1 of the PD prepared by the project proponent:

Cordillera Azul National Park (PNCAZ) REDD Project protects a large, intact expanse of lower-montane forest remaining in Peru. PNCAZ is the easternmost outlier of the Andes at this latitude and covers portions of seven provinces in four departments in Peru: San Martín, Ucayali, Huánuco, and Loreto. The project area is 1,351,963.85 hectares within the boundaries of PNCAZ owned by the government of Peru, by order of its designation as a national park. The park's buffer zone was officially recognized by the Peruvian government in a Supreme Decree establishing the park. In 2007 the buffer zone was expanded by legislation, resulting in an area of 2,301,117.24 hectares.

Each mountain range in the park is a separate, uplifted block of mostly Jurassic and Cretaceous strata, which predominate in the northeastern Peruvian Andes south of the Marañón River. Most of these tilted blocks are oriented north and south, but some curve to run east and west. A distinctive geological feature, the Vivian formation consists of rows of flat, sloping triangles of rock up to 7 km broad at the base and 4 km along the ridge resembling giant zigzags. They are well developed and almost perfectly symmetrical in two areas of the park.

The possibility of non-contacted indigenous people from the Cacataibo group living in the southeast region of the park led to the establishment of a "strict protection zone" (Zona de Protección Estricta in Spanish) in the region that permits zero outside entry. Until these people come out of their own volition and request contact, the region remains closed to all entry or use.

There are no organized human communities within the project area. The one known dweller inside the park – a cattle rancher – does not have legal land tenure but has an agreement with SERNANP and CIMA allowing him to remain on his land. He violated this agreement shortly before the project began. The ranch is discussed further in Section 1.10.4.

The total population in the districts around and including the park in 2008 was 321,000. This population has access to the park for subsistence hunting and fishing. The population in the actual buffer zone is estimated at 180,000, with the remaining population residing beyond the buffer zone. Most of the park-neighboring communities are on the west, along the Huallaga valley. Most Huallaga residents are *mestizo*. The only officially recognized indigenous population on the Huallaga side (with land titles as a "native community") is a small Quechua-Lamista community in the district of Chazuta. The Ucayali region on the park's eastern side differs dramatically from the west. The population is sparse and predominantly indigenous—principally Shipibo, with some Piro/Yine and Kakataibo groups—each group conserving its cultural identity and mother language.

The project area includes intact forests from the lowlands (at 300 meters) to mountain peaks (at 2,400 meters) and protects an eastern outlier of the Andes that has been isolated sufficiently long for massive speciation to occur. Scientists who conducted the Rapid Biological Inventory led by The Field Museum in 2000 estimated a total of 4000 – 6000 plant species in the park, with at least 12 probably new to science. (Alverson *et al.* 2001) In their three weeks in the field, the scientists observed 71 large mammal species including bush dogs, spectacled bears, 10 species of primates, and enormous herds of white-lipped peccaries. Bird diversity is extremely high, with more than 590 species

already registered for the park and actual species richness probably exceeding 800 species. During the inventory, 58 species of amphibians and 26 of reptiles were registered, but these numbers are low because the inventory was conducted during the dry season when few species are calling and active. Inventories to date have confirmed 150 species of fish with total richness expected to be greater than 250 species.

The project area consists of 1,351,963.85 hectares within the park that belongs to the national government of Peru. Upon its formation in 2002, Centro de Conservación, Investigación, y Manejo de Áreas Naturales– Cordillera Azul (CIMA) voluntarily signed an agreement with the Peruvian government to support the management of the park. The agreement was renewed for one-to-two year terms until August 8, 2008 when CIMA and the Peruvian government signed a 20-year, full management contract. The 2008 management contract includes legal authorization for CIMA to use revenues from the sale of carbon credits from avoided deforestation for park activities for the 20-year term. CIMA is the only NGO with a contract with the Peruvian government for full management of the entire national park and buffer zone. CIMA and PNCAZ receive no or extremely limited funds from the government of Peru per the terms of the management contract, which further differentiates PNCAZ from other Peruvian national parks.

As a result of a funding crisis in 2007, CIMA and its technical advisor, The Field Museum, sought a more sustainable source of funding than the foundation and USAID funding that they had been receiving to date for park protection and land-use management activities. The two organizations decided to pursue a REDD project for PNCAZ because no alternative, sustainable financing was available and CIMA would have to cease all protection and management activities in the park and buffer zone. Two protocols were identified to develop and monitor the project: Verified Carbon Standard (VCS) and the Community, Climate and Biodiversity (CCB) protocol. Under VCS, the project is using VM0007 REDD Methodology Modules (REDD-MF) for unplanned frontier deforestation for carbon stock and avoided emissions assessment. The signing of the 20-year management contract in 2008 served as the start of the carbon project.

The project's primary objective is to prevent deforestation in PNCAZ by focusing on three main types of project activities:

- Protecting the park.
- Building local capacity for sustainable land use and improving the quality of life in the buffer zone communities.
- Strengthening relationships with local, regional and national government agencies.

All project activities support these goals.

2 VALIDATION PROCESS, FINDINGS AND CONCLUSION

2.1 Validation Process

See validation report issued under separate cover. No validation activities are reported here.

2.2 Validation Findings

See validation report issued under separate cover. No validation activities are reported here.

2.2.1 Gap Validation

See validation report issued under separate cover. No validation activities are reported here.

2.2.2 Methodology Deviations

See validation report issued under separate cover. No validation activities are reported here.

2.2.3 Project Description Deviations

See validation report issued under separate cover. No validation activities are reported here.

2.2.4 New Project Activity Instances

See validation report issued under separate cover. No validation activities are reported here.

2.3 Validation Conclusion

See validation report issued under separate cover. No validation activities are reported here.

3 VERIFICATION PROCESS

3.1 Method and Criteria

SCS used document reviews, interviews, a site visit, and quantitative data analysis in the verification of this project as further described below. The criteria for verification are described in Section 1.2 of this report.

3.2 Document Review

The verification team performed a careful review of the PD and supporting literature to assess conformance to the criteria of the verification standards.

Throughout the audit process, the verification team focused mainly of the PD, the non-permanence risk report, and the associated methodological workbooks. This approach allowed for a detailed assessment of the project design as it conforms to the criteria of the VCS v3.3 (4 October 2012) and the associated methodology (VM007 REDD Methodology Modules (REDD-MF), v1.3) for AFOLU projects. In addition, the validation team was able to assess proper utilization of the AFOLU Non-Permanence Risk Tool (4 October 2012, v3.2). The key documents provided for the desk review portion of the validation are as follows:

- PNCAZPDDrevDec192012
- Appendix 9 PNCAZ analysis 28August2012
- PNCAZ Non-Permanence Risk Report
- 2012 Climate Monitoring Report

In addition to the PD, the following documentation (e.g., reports, memos, land deeds and titles) were reviewed to ensure conformance of the project to the VCS rules and the methodology:

Documents Reviewed
PNCAZ Project Financial Data (22 June 2011)
Monitoring2012FINAL_updatedNov2012 (4 December 2012)

PNCAZ inventory analysis revNov2012 (4 December 2012)
INEI 2001 - Estimaciones y proyecciones de Poblacion 1950-2050 (3 December 2001)
metodologia_(R) (27 August 2012)
Supreme Decree for the Creation (22 May 2001)
Saatchi (12 April 2007)
Impacts of Road Improvement in Peru (7 November 2003)
Transition Potential Modeling for Land Cover Change (5 May 2005)
PNCAZ forest biomass inventory (29 November 2009)

Where documents underwent multiple iterations to account for revisions, only the most up to date version is listed above.

3.3 Interviews

The following personnel were interviewed during the site visit and a series of conference calls:

Christina Magerkurth, The Field Museum
 Debby Moskovits, The Field Museum
 Patricia Fernández-Dávila, CIMA
 Jorge Aliaga, CIMA
 Cinthia Mongylardi, CIMA
 Tatiana Pequeño, CIMA
 Jorge Luis Martinez, CIMA
 Rebecca Dickson, TerraCarbon
 David Shoch, TerraCarbon
 Pedro Gamboa, Head of National Service of Protected Areas by the State (SERNANP)
 Lucia Ruiz Ostoic, Cabinet Chief Advisor at Ministry of Environment (MINAM)
 Frank Oyola, Head of Park Guards – Cordillera Azul National Park

Park Guards, Cordillera Azul National Park

Buffer Zone Communities:

- Vista Alegre
- Chambira
- Simon Bolivar
- Santa Rosa de Chipaota/Mushukllacta de Chipaota
- Canayo
- San Juan
- Yamino
- Challual
- La Juanita

3.4 Site Inspections

Members of the audit team visited the project area from 22 October 2012 to 8 November, 2012. The objectives of the on-site inspections performed were to:

- Select samples of data from on-the-ground measurements for validation in order to meet a reasonable level of assurance and to meet the materiality requirements of the project, as required by Section 5.1.3 of the VCS Standard;
- Perform a risk-based review of the project area to ensure that the project is in conformance the requirements of the VCS rules; and
- Perform a risk-based review of the project area to ensure that the project conforms to all other requirements of the VCS rules and the methodology.

The site visit included interviews of the personnel listed in section 2.3, reviews of data and records kept by the project proponent, and visits to the project area and surrounding buffer zone, including field sampling as described in section 3.2.6 of the validation report, issued under separate cover. During the site visit, the audit team interviewed stakeholders, observed conditions in the region to understand the baseline, and conducted field verification of biomass plots.

3.5 Resolution of Any Material Discrepancy

Any potential or actual material discrepancies identified during the assessment process were resolved through the issuance of findings. The types of findings issued by SCS were characterized as follows:

Non-Conformity Report (NCR): An NCR signified a material discrepancy with respect to a specific requirement. This type of finding could only be closed upon receipt by SCS of evidence indicating that the identified discrepancy had been corrected. Resolution of all open NCRs was a prerequisite for issuance of a validation statement.

New Information Request (NIR): An NIR signified a need for supplementary information in order to determine whether a material discrepancy existed with respect to a specific requirement. Receipt of an NIR did not necessarily indicate that the project was not in compliance with a specific requirement. However, resolution of all open NIRs was a prerequisite for issuance of a validation statement.

Opportunity for Improvement (OFI): An OFI indicated an area that should be monitored or ideally, improved upon. OFI's were considered to be an indication of something that could become a non-conformity if not given proper attention, and were sometimes issued in the case that a non-material discrepancy was identified. OFIs were considered to be closed upon issuance.

All findings issued by the audit team during the validation process have been closed. In accordance with Section 5.3.6 of the VCS Standard, all findings issued during the validation process, and the impetus for their closure, are described in Appendix A of the validation report, as validation and verification activities took place concurrently.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project proponent describes the status of project activity implementation in section 2.1 of the monitoring report. The audit team used review of documentation including management plans, the project's monitoring report, monthly reports of field activities, data collected during the project's MUF (Mapeo de Usos y Fortalezas) process; review of data collected in the course of implementing project activities; interviews with project proponents, government representatives, park guards, and project participants; and a site visit to verify that the project has been implemented as described. Included in the field visits, SCS was able to interview a large sample of the park guards who conduct park patrols and

who performed the inventory of carbon stocks. During these interviews and subsequent inventory verification, SCS was able to view park signage demarking the boundaries of the park, as well as documentation of the patrol reports. Prior and subsequent to visiting the park, SCS performed a review of the park guard patrol posts, including the associated processes for convening information collected in the project zone to CIMA headquarters. All of the evidence supported the claims regarding project implementation stated in the monitoring report. The documentation provided, in combination with observations made during the site visit provide adequate evidence for SCS to come to reasonable assurance that the project activities are being implemented as described in the monitoring report. All discrepancies between the project and the project description are clearly and accurately described in the monitoring report.

4.1.1 Methodology Deviations

The project has deviated from the methodology in that it has applied an allometric equation instead of a root to shoot ratio, as described in the PDD and in the validation report. This deviation has no further implications beyond those described in the validation report and PD and does not negatively impact the conservativeness of the project's quantification of greenhouse gas emissions reductions and removals.

4.1.2 Monitoring Plan Deviations

The project has deviated from the monitoring plan in the way it has handled satellite imagery during this monitoring period. The suspension of image collection from Landsat 5 limited the data available for project monitoring and necessitated the use of Landsat 7, despite the scan line corrector problem with such images. The project proponent used a combination of classification and post processing algorithms as described in section 5 of the monitoring report to minimize the amount of missing data in available images. The audit team reviewed the algorithms and procedures used and interviewed those responsible for conducting the technical work and confirmed that the deviation is consistent with best practices in the field of remote sensing. The deviation does not affect the applicability of the methodology, additionality or the appropriateness of the baseline scenario. The project remains in compliance with the monitoring report, and has been adequately described in the monitoring report. The deviation is in conformance with section 3.6.1 of the VCS standard.

4.2 Accuracy of GHG Emission Reduction or Removal Calculations

All calculations of greenhouse gas emission reductions and removals were checked by the verifier. No errors were discovered that materially affect the stated greenhouse gas emission reductions and removals of the project. The methods used to estimate greenhouse gas benefits of the project were consistent with the methodology and the validated project document, except as described in section 4.1.2, above.

4.3 Quality of Evidence to Determine GHG Emission Reductions or Removals

The data and parameters used to determine greenhouse gas emission reductions and removals are listed in section 3.2 of the monitoring report. Data used in that process is derived from the following sources:

- **Data and parameters reported in the project description and associated documents. This includes the parameters H_{SDW} , TD_{SDW} , $BDia$, $Dia_{n,i,t}$, DBH , N , $TOTFOR$, $PROTFOR$, $MANFOR$, $A_{DegW,i,t}$, $C_{P,Dist,q,i}$, $C_{P,post,u,i}$, $C_{BSL,i}$.** This data was assessed in the validation of the

project, described under separate cover, and is therefore considered to be of high quality. This includes all parameters available at validation as listed in section 3.1 of the monitoring report.

- Data and parameters derived from remote sensing.** This includes the parameters $A_{burn,i,t}$, *Leakage Belt Forest Cover Monitoring Map*, *Project Forest Cover Monitoring Map*, $A_{DistPA,q,i,t}$, $A_{DefLB,u,i,t}$, $A_{DefPA,u,i,t}$. Remote sensing data represents the primary new source of information collected to quantify the project's emissions reductions. The project proponent used data from various Landsat images as listed in table 5.1 of the monitoring report to derive the parameters listed here. To assess the quality of this data, the project proponent conducted an accuracy assessment as described in table 5.4 of the monitoring report that included a comparison to high resolution imagery and ground truth points. The audit team reviewed the methodologies applied and determined that they are consistent with the validated monitoring plan (except as described in section 4.1.2) and best practices in remote sensing. GIS files resulting from the analysis as well as unprocessed imagery were inspected by the audit team to ensure that the reported results are consistent with the original data and the results of deforestation modeling conducted at validation. Interviews with staff responsible for the technical work were used to assess competencies and to understand the workflow process. The review suggested that the data used to determine emissions reductions are of high quality and data processing was conducted as described in the monitoring plan, including implementation of quality control measures.
- Data and parameters derived from surveys.** $PROP_{IMM}$ is a parameter used to estimate the proportion of leakage attributable to immigrant agents. For this first monitoring period, the proportion is taken from data described in the project document, which was assessed in the validation report, available under separate cover.
- Data and parameters calculated from other available data.** This includes the parameters $PROP_{RES}$, $\Delta C_{P,DegW,i,t}$, AP_i , $C_{DegW,i,t}$, $\Delta C_{P,DistPA,i,t}$, $\Delta C_{P,Def,i,t}$. As described in section 4.2, all calculations of greenhouse gas emission reductions and removals were checked by the verifier. No errors were discovered that materially affect the stated greenhouse gas emission reductions and removals of the project. The methods used to estimate greenhouse gas benefits of the project were consistent with the methodology and the validated project document.

Additionally, the project proponent conducted an uncertainty analysis in conformance with the X-UNC module. This analysis is described in section 4.4 of the monitoring report. The audit team reviewed all calculations involved in this analysis to ensure that they had been conducted in a manner than is consistent with the methodology.

The assessment suggested that the data used to determine emissions reductions are of high quality and had been collected in a manner that is consistent with the VCS standard, methodology, and monitoring plan.

4.4 Management and Operational System

Interviews with project proponents and inspection of resultant data demonstrated that the project proponent possess all of the competencies required for accurate reporting of greenhouse gas emissions reductions and removals. Data presented to the audit team was clear and coherent and processing steps could be traced to the corresponding sections of the methodology and monitoring plan with transparency. The monitoring plan provides means for internal data review and quality control, and the data presented

by the project proponent included the results of these internal assessments. The audit team concluded that the management and operational system employed is adequate for accurate reporting of greenhouse gas emissions reductions.

5 VERIFICATION CONCLUSION

SCS concludes that the project conforms to the verification criteria without qualification or limitation and that the project has been implemented as described in the validated project description. The verified emission reductions or removals are as stated below.

Reporting period: From 8 August 2008 to 7 August 2012. Please note, the overall risk rating that was determined for the project, in accordance with the VCS Non-Permanence Risk Tool, is 10%. The audit team has concluded that the buffer pool contribution is in conformance with the VCS rules.

Verified GHG emission reductions or removals in the above reporting period:

GHG Emission Reductions or Removals	Period Ending 7 August 2009 (tCO ₂ e)	Period Ending 7 August 2010 (tCO ₂ e)	Period Ending 7 August 2011 (tCO ₂ e)	Period Ending 7 August 2012 (tCO ₂ e)	Total this reporting period
Baseline Emissions	1,834,510	1,960,581	1,337,026	1,612,694	6,744,812
Project Emissions	82,850	82,850	82,850	82,850	331,400
Leakage	0	0	0	0	0
Buffer Pool Contribution	175,166	187,773	125,418	152,984	641,341
Net GHG emission reductions or removals	1,576,494	1,689,958	1,128,758	1,376,860	5,772,071