Validation Report:

Name of Verification company:	Date of the issue:
Scientific Certification Systems	June 24, 2011
Report Title:	**Approved by:**
Report of the Validation of the Boden Creek Ecological Preserve Forest Carbon Project	Todd Frank
Client:	**Project Title:**
Forest Carbon Offsets, LLC (representing the Boden Creek Ecological Preserve)	Boden Creek Ecological Preserve Forest Carbon Project

Summary:

This validation assessed the conformance of the Boden Creek Ecological Preserve Forest Carbon Project ("the Project") to the Voluntary Carbon Standard 2007.1 and its supporting documents, including the selected methodology element. The validation activities included a field visit to the project area as well as interviews with relevant personnel, re-measurement of forest carbon plots, and validation of the Project's methodology for quantifying greenhouse gas (GHG) reductions.

The Project is a REDD Avoided Planned Deforestation project. The objective of the Project is to avoid GHG emissions from deforestation of 3,980 ha of forestland in the Toledo District of Belize. The Project's start date is January 1, 2005, and the Project's crediting period is from 2005-2029.

The review of Project documentation, the completion of the site visit and the information obtained from subsequent follow-up interviews with project personnel have provided the SCS Lead Verifier with sufficient evidence to determine the fulfilment of the stated criteria. The Project correctly applies the selected methodology element and is in conformance with all applicable requirements of the Verified Carbon Standard (VCS). The Project is designed to lead to reductions of GHG emissions that are real, measurable and give long-term benefits to the mitigation of climate change.

In summary, it is the opinion of the SCS Lead Verifier that the Project, as described in the project description (PD) document dated May 16, 2011, meets all relevant Voluntary Carbon Standard 2007.1 requirements and correctly applies the selected methodology.

Work carried out by:	Number of pages:
Ryan Anderson (Lead Validator) Zane Haxton (Validator) Percival Cho (Technical Expert) Robert J. Hrubes (Technical Reviewer)	50

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1 Introduction

1.1 Objective

The validation objective is an independent assessment by SCS of the proposed Project activity against the VCS 2007.1 and its supporting documents, including the selected VCS-approved methodology. Validation has resulted in a conclusion by SCS as to whether the Project is compliant with the requirements of these program documents and whether the Project should be submitted for registration. SCS understands that the ultimate authority to permit the registration of the Project rests with the VCS Board.

1.2 Scope and Criteria

SCS assessed the completeness of the Project Description (PD) to ensure that all requirements of the VCS standards have been addressed. SCS assessed whether or not the PD respects the principles of the VCS standards. Assessment included evaluation of additionality, project design, baseline, monitoring plan, and calculation of baseline GHG emissions.

The scope of the validation audit encompassed desk and site validation activities for the Project against the following requirements of the VCS:

- Voluntary Carbon Standard 2007.1
- Voluntary Carbon Standard Program Guidelines 2007.1
- Tool for AFOLU Methodological Issues
- Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination;
- The selected methodology, “Approved VCS Methodology VM0007”
- Relevant Program Updates.

The selected methodology included the following required and optional documents:

- REDD Methodology Framework (REDD-MF)
- REDD Methodological Module CB-AB
- REDD Methodological Module CB-W
- REDD Methodological Module BL-PL
- REDD Methodological Module BL-DFW
- REDD Methodological Module LK-ASP
- REDD Methodological Module LK-ASU
- REDD Methodological Module LK-ME
- REDD Methodological Module LK-DFW
- REDD Methodological Module E-BB
- REDD Methodological Module E-FFC
- REDD Methodological Module M-MON
- REDD Methodological Module X-STR
- REDD Methodological Module X-UNC

The validation and verification process involved:

- Assessment of the management systems, data handling as well as estimation methods used in calculating and reporting emissions data;
- Assessment of baseline methodology and determination;
- Assessment of and issuance of an opinion on issues of leakage and additionality;

- Assessment of data accuracy and any assumptions made in the manipulation of that data;
- Validation that the organization is operating according to the methodology approved by VCS; and
- A determination as to whether the Project could reasonably be expected to achieve the claimed GHG reduction/removals.

The validation assessment was performed using the client-supplied Project Description and other supporting documentation.

1.3 VCS Project Description

As described in Section 1.5 of the PD, the Project consists of 3,980 ha of tropical forest located in the Toledo District of Belize. The objective of the Project is to prevent conversion of the area to agricultural use. As described in Section 1.6 of the PD, the start date of the project is January 1, 2005, and the crediting period extends from January 1, 2005 to December 31, 2029. As described in Section 1.15 of the PD, the Boden Creek Ecological Preserve (BCEP) is the project proponent. BCEP has retained Forest Carbon Offsets to "develop the strategy, implementation, and monitoring of the carbon credits generated by this project." Forest Carbon Offsets has contracted SCS to provide validation services, and therefore Forest Carbon Offsets will be referred to as "the Client" hereafter.

1.4 Level of Assurance

The validation of the Project was conducted to a reasonable level of assurance, as is required by Section 7.3.1 of the Voluntary Carbon Standard 2007.1.

2 Methodology

SCS began reviewing the Project in January 2011, beginning with a thorough desk review of the PD and communication with Forest Carbon Offsets personnel. The PD was audited for compliance with the protocols listed in Section 1.2 of this report. In the course of this review, New Information Requests (NIRs) and Non-Conformity Reports (NCRs) were issued by the SCS Lead Verifier to Forest Carbon Offsets personnel. NIRs were issued when new information was needed to determine the conformity of the Project to the applicable standards, while NCRs were issued when non-conformities were identified. The details of these findings can be found in an appendix to this report.

2.1 Review of Documents

The following documents provided by the Client were reviewed for conformance against the program documents listed in Section 1.2 of this report (where multiple versions of a document were reviewed, only the most recent version is listed here):

Project Documents

- BCEP VCS PDD Final ver 4.docx (the PD)
- BCEP VCS Monitoring Plan Ver 2.docx (the Monitoring Plan)
- Proxy Area Methods.docx (summary of the methodology used for the proxy area analysis conducted by the Client in conformance with Module BL-PL of the selected methodology)

Legal Documents

- 3-379(1) Certificate & Representation Agreement (Scanned).pdf (an agreement attesting that BCEP has clear title to the GHG reductions of the Project, and that the Client has undertaken the Project with the consent of BCEP)
- BCEP%20Block%20131%20Title%20Document.pdf (the "Transfer Certificate of Title" document for "Block 131", comprising 7,118 acres [2880.65 ha] of land, some of which comprises part of the Project area)
- BLE-Block-131.jpg (another version of the "Transfer Certificate of Title" document for "Block 131", with revised information under the "Notings" header);
- BCEP%20Block%20131A%20Title%20Document.pdf (the Transfer Certificate of Title" document for "Block 131A", comprising 527.614 acres [213.525 ha] of land, some of which comprises part of the Project area)
- BLE Block 131A.jpg (another version of the "Transfer Certificate of Title" document for "Block 131A", with revised information under the "Notings" header)
- BCEP%20Recorded%20Deed%20of%20Conveyance%205,230.79.pdf (a "Deed of Conveyance" between Harold Whitney, the prior owner of the Project area, and BCEP, for a third block of land comprising 5,230.79 acres [2,116.90 ha], some of which comprises the project area)

Spatial Documents

- BLE-PropertyMap131.jpg (a map illustrating the location of Blocks 131 and 131A)
- BCEP Proxy Areas.zip (a ZIP archive containing images of the proxy areas used to estimate the baseline deforestation rate in accordance with Module BL-PL of the selected methodology)

Financial Documents

- BCEP Business Plan.xls (financial projections provided to demonstrate financial additionality of the project scenario)
- BLE Only Revenue Projections 4 26 10 JLW with double the occupance and staffing.xlsx (financial projections provided to demonstrate financial additionality of the project scenario)
- BLE Only Revenue Projections 4 26 10 JLW.xlsx (financial projections provided to demonstrate financial additionality of the project scenario)

Several versions of many of these documents were reviewed by the audit team. Only the most recent version of each is included here.

2.2 Site Visit

Following the satisfaction of the majority of the initial findings and an adequate demonstration of preparedness on the part of the Client, the validation team comprised of Ryan Anderson and Zane Haxton was authorized by SCS to conduct a formal site visit, from February 20-22, 2011. During the site visit, the validation team interviewed relevant personnel, toured the Project area, and re-measured six carbon inventory plots. The validation team was accompanied by local Technical Expert Percival Cho during the site visit. Following the site visit, additional NIRs and NCRs were issued; subsequently, responses from the Client were received and reviewed by the validation team.

2.3 Quantitative Analysis

The third step of the verification process focused on an assessment of the quantitative analyses undertaken by the Project Proponent to define the baseline scenario and to

estimate the net carbon benefits of the Project. This included a complete review of calculations made by the Project Proponent. Additionally, the validation team generated estimates of carbon stocks from the field data collected during the site visit and compared those estimates to data reported by the Client.

2.4 Follow-up Interviews

The following personnel were interviewed during the course of validation activities:

- Jeff Waldon, Forest Carbon Offsets: Interviewed during site visit and follow-up phone discussions
- Gabriel Thoumi, Forest Carbon Offsets: Interviewed during site visit
- Verl Emrick, Conservation Management Institute: Interviewed during site visit
- Kenneth Karas, Boden Creek Ecological Preserve: Interviewed during site visit
- Carolyn Ching, Verified Carbon Standard: Provided guidance regarding interpretation of the methodology and the VCS definition of materiality
- Naomi Swickard, Verified Carbon Standard: Provided guidance regarding interpretation of the methodology and the VCS definition of materiality

2.5 Final Review and Report Drafting

The last step in the verification process included a final review of the submitted data and drafting of the Validation Report. The validation report was based on the results of the validation assessment. The draft Validation Report was presented to an internal SCS Technical Reviewer who subsequently determined that the Validation Opinion is justified given the evidence presented. The report and opinions contained therein were then presented to the Client for review and comment.

2.6 Resolution of any material discrepancy

Throughout the validation/verification process, there were iterative exchanges between SCS and the Client to gather additional information for review and examination. This exchange included Findings—New Information Requests (NIR), Non-Conformity Reports (NCR) and Opportunities for Improvement (OFI)—that were issued by SCS to the Client. The Client was required to respond to all NIRs and NCRs in order for SCS to render a verification opinion. With issuance of this validation report, all findings have been appropriately addressed by the Client and subsequently closed by SCS. Following the closure of all NIRs and NCRs, SCS is prepared to issue a positive validation opinion for the Project.

3 Validation Findings

3.1 Project Design

The Project is a REDD Avoided Planned Deforestation project that seeks to avoid the conversion of forestland to agricultural use. Section 1.8 of the PD describes the Project and its major activities. The Project's design is consistent with the definition of Avoided Planned Deforestation as articulated in the VCS "Tool for AFOLU Methodological Issues" and "Guidance for Agriculture, Forestry and Other Land Use Projects". As described in Section 1.9 of the PD, "the primary technology employed to achieve the desired results is patrols of the property to prevent incursions and illegal removal of biomass." The validation team

observed that Project managers had access to a team of dedicated, competent employees who were capable of carrying out patrols of the property and other needed maintenance.

As described in Section 1.6 of the PD, the start date of the project is January 1, 2005, and the crediting period extends from January 1, 2005 to December 31, 2029. Baseline resets are to occur during 2015 and 2025. The project start date, crediting period, and dates of baseline reset are consistent with the protocols defined in the REDD Methodology Framework (REDD-MF) and the VCS "Guidance for Agriculture, Forestry and Other Land Use Projects".

As described in Section 1.4 of the PD, the property is owned by the Boden Creek Ecological Preserve (BCEP). SCS was able to verify ownership by observing a recorded Deed of Conveyance between Harold Whitney, the prior owner, and BCEP, which describes: "all that piece or parcel of land comprising of 5230.79 acres situate along the East side of the Southern Highway in the vicinity of mile 78…". In addition, Transfer Certificate of Title documents were provided for two blocks of land, Block 131 and Block 131A, comprising 2,880.65 ha and 213.525 ha, respectively. When totalled with the previously discussed parcel, the sum total property area is approximately 5,211 ha. Section 1.5 states that: "the property boundary consists of 5,213 ha of which 3,980 ha are considered the project area." The Project boundary was confirmed by the validation team, as required by the January 21, 2010 VCS Program Update. This was done by visiting selected locations along the boundary and taking/recording GPS coordinates, which were checked against the coordinates provided by the Client.

Section 1.13 of the PD states that the Project has not created any other form of environmental credit. Section 1.14 of the PD also states that the Project has not been rejected by any other GHG program. The validation team did not identify any evidence to the contrary. Thus, we conclude that the Project is an eligible REDD Avoided Planned Deforestation project, and is in compliance with all stated requirements for such projects.

The project meets each of the applicability conditions of the selected methodology. The Client demonstrated that land in the project area has qualified as forest for at least ten years before the Project start date using a combination of satellite imagery and reasonable inferences based on the existing inventory data. The project area does not contain peat soils, as was verified during a site visit by the validation team. Control over the project area and ownership of carbon rights was demonstrated as described above. The baseline scenario described by the Client and validated as documented in this report does not consist of temporarily unstocked land, nor does it constitute reforestation. The project includes no specific leakage avoidance activities, and thus does not include any of the activities prohibited by the methodology's applicability conditions.

The selected methodology also contains several applicability conditions specific to the avoidance of planned deforestation. The Client demonstrated that conversion of forested lands to a deforested condition is legally permitted in Belize. However, during the site visit, it was discovered that the laws of Belize require an environmental impact assessment (EIA) prior to clearing of land greater than 300 acres. The methodology further requires that, where government approval is required for deforestation to occur, the intention to deforest within the project area must be demonstrated by evidence of recent approval from relevant government department (local to national) for conversion of forest to an alternative land use or documentation that a request for approval has been filed with the relevant government department for permission to deforest and convert to an alternative land use. Initially, the Client had identified a specific individual, the previous landowner, as the agent

of deforestation. Based on this identification, no evidence was available to demonstrate that the government of Belize had recently approved conversion of the project area, or that a request for approval (i.e., initiation of the EIA process) had been filed with the relevant government department. However, for reasons described in NIR 38A, and independent of the assessment of this requirement of the methodology, the validation team determined that the analysis of a class of agents of deforestation was more appropriate than the identification of a specific agent. The validation team consulted the VCSA with regards to whether the requirement of demonstration of government approval or filing for approval applied to classes of deforestation agents. As communicated in an email from Carolyn Ching to the validation team dated 11 April 2011, the VCSA ruled that "where the agent of deforestation is a class of agents it would not be possible to get governmental approval so it would not be necessary [to demonstrate approval]." Consequently, the validation team determined that the Client had adequately demonstrated that the project area could be legally converted to a non-forest land use.

The methodology additionally requires that documentation must be available to clearly demonstrate with credible evidence and documentation that indeed the land would have been converted to non-forest use if not for the REDD project. Although no written plan or similar documents were available to support the planned baseline land use, the methodology, in the case of identification of a class of deforestation agents, allows a documented history of similar planned deforestation activities by a class of agents, of planned deforestation within the five years previous to without-project deforestation. While visiting the project area, the validation team observed many citrus plantations in the surrounding area. Additionally, the validation team observed portions of the project area (which are excluded from carbon accounting) on which citrus and bananas had been grown by the previous landowner. The previous landowner had a history of land clearing that was documented in a biodiversity assessment contracted by the project proponent (Bowen-Jones 2001). Consequently, the validation team determined that there was adequate evidence that the land was likely to have been cleared in the absence of the project.

The validation team concluded that the project is in compliance with the eligibility requirements of the selected VCS methodology.

Conformance:	Yes ☒ No ☐ N/A ☐
Non-Conformity Reports:	NCR 2011.4 NCR 2011.5
New Information Requests:	NIR 2011.1 NIR 2011.2 NIR 2011.3 NIR 2011.18 NIR 2011.24 NIR 2011.25 NIR 2011.45 NIR 2011.46
Opportunities for Improvement:	None

3.2 Baseline

As required by the REDD Methodology Framework (REDD-MF), the client applied the VCS "Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities" to demonstrate the additionality of the Project. Application of the Tool is described in Section 2.4 of the PD. In accordance with the Tool, the Client presented three credible land-use scenarios: conversion to agriculture, purchase of the land to operate eco-tourism lodges, and purchase of the land as a conservation area. The Client adequately demonstrated that conversion to agriculture is the most likely scenario. The tool requires a common practice analysis, by which the extent of similar activities in the immediate vicinity of the project is assessed. Several privately owned lands managed for conservation purposes do exist in the vicinity of the project area. The Client identified *lack of access to funding* as an essential distinction between the project and existing similar activities in the surrounding area. Financial analyses prepared by the Client and reviewed during the audit confirmed that the project proponent would likely be unable to implement the project in the absence of carbon finance.

Quantification of GHG emissions and removals was conducted by the Client according the requirements of the BL-PL Module and is described in Section 4.2 of the PD. While a number of possible agricultural uses, such as pasture for livestock and row crop production, were discussed during the site visit, the Client felt that conversion to citrus production was a feasible baseline scenario that was conservative (in the sense of carrying the highest average carbon mass per ha of any agricultural crop). The validation team indeed observed citrus plantations in the vicinity of the project area during the site visit, and agreed with this assessment. The baseline carbon stock in post-deforestation land use was estimated by the Client based on available literature, with some modifications from published stocks made to ensure conservativeness. The validators performed an independent literature review to confirm the conservativeness of the assumed baseline carbon stock in citrus plantations.

Common practice for land clearing in Belize, as described by the technical expert contracted by the audit team, is to harvest merchantable species prior to burning of remaining biomass. The project includes emissions from biomass burning using the protocol described in module E-BB, but does not account for baseline carbon stored in wood products. The Client demonstrated that, because of the relatively young age of the forest in the project area, the amount of carbon stored in wood products, as calculated using the procedures in the CP-W module, would be less than 5% of the anticipated total carbon benefits over the life of the project. Consequently, the wood products pool was excluded from all calculations of baseline and project carbon stocks, in accordance with VCS guidance for assessing the significance of carbon pools.

The baseline scenario also accounts for avoided emissions from the use of fertilizer as described in the CDM tool "Estimation of direct nitrous oxide emission from nitrogen fertilization." The baseline fertilizer application rate was determined based on recommendations published by the Belize Citrus Growers Association. The conservativeness of the selected fertilizer application rate was assessed by the verifiers by comparison with peer-reviewed literature. Although no peer-reviewed literature specific to Belize was available, the listed rates were judged to be conservative in comparison to fertilizer application rates published from studies in the United States.

As described in Section 1.7 of the PD, it was determined during validation that it would be most appropriate to conduct the baseline analysis by identifying a "class of deforestation agents" in line with Part 1.1 of the BL-PL Module. Because a valid verifiable plan did not exist

for determining the rate of deforestation in the baseline scenario, a proxy analysis was conducted in accordance with the BL-PL module.

No deviations were sought or approved with regard to the setting of the baseline scenario.

Conformance:	Yes	☒	No	☐	N/A	☐

Non-Conformity Reports: NCR 2011.35

New Information Requests:
NIR 2011.9
NIR 2011.10
NIR 2011.11
NIR 2011.20
NIR 2011.21
NIR 2011.22
NIR 2011.23
NIR 2011.26
NIR 2011.27
NIR 2011.31
NIR 2011.38A
NIR 2011.40
NIR 2011.46

Opportunities for Improvement: None

3.3 Monitoring Plan

The project will be monitored in conformance with approved VCS methodology VM0007. Pools selected for monitoring include above and below ground biomass in live trees. The Client has elected to exclude the dead wood, litter and soil organic carbon pools. The wood products pool and emissions from fuelwood extraction were estimated to be *de minimus* based on ex-ante estimates of project carbon benefits. Activity shifting leakage is accounted for using the LK-ASP module.

The methodology requires ongoing monitoring of biomass stocks and land cover within the project area. The monitoring methodology is described in Appendix A of the PD. The methodology makes use of a network of permanent nested fixed area sample plots. Biomass of sampled trees is computed using allometric equations reported by Chave et al (2005). Specifically:

AGB=ρ*EXP(1.239+1.98*LN(DBH)+0.207*(LN(DBH))^2 - 0.0281*(LN(DBH))^3)

Where ρ is a species-specific density factor. Belowground biomass is computed using the allometric equation reported by Pearson et al (2005):
BGB = =EXP(-1.0587+0.8836*LN(DBH))

The validation team determined, on the basis of available scientific literature, that these equations were appropriate for the project area. Additionally, the Client conducted a validation exercise as required by the CP-AB module. Monitoring of biomass stocks is to be conducted annually, and is the responsibility of the landowner, with third party verification occurring, at a minimum, every five years. The monitoring plan is consistent with the

selected methodology and provides sufficient information to estimate changes in carbon sinks in the project and baseline scenarios.

The following parameters are required to be monitored by the approved VCS methodology and are applicable to the project:

A_{sp}	Area of sample plots
N	Number of sample plots
DBH	Diameter at breast height of each tree in a sample plot
$A_{defLK,}i,t$	The total area of deforestation by the baseline agent or class of agent of the planned deforestation in stratum *i* at time *t*
Project Forest Cover Monitoring Map	Map showing the location of forest land within the project area at the beginning of each monitoring period. If within the Project Area some forest land is cleared, the benchmark map must show the deforested areas at each monitoring event
Aburn,i,t	Area burnt in stratum *i* at time *t*
$A_{DefPA,i,t}$	Area of recorded deforestation in the project area in stratum *i* at time *t*
Ai	Total area of stratum i
$U_{BSL,SS}$	Percentage uncertainty (expressed as 95% confidence interval as a percentage of the mean where appropriate) for carbon stocks and greenhouse gas sources in the baseline case
$U_{P,SS}$	Percentage uncertainty (expressed as 95% confidence interval as a percentage of the mean where appropriate) for carbon stocks and greenhouse gas sources in the project case

All other parameters used in the methodology are either used as listed in the methodology, or are estimated at validation and held constant in project carbon accounting.

Conformance: Yes ☒ No ☐ N/A ☐

Non-Conformity Reports: None

New Information Requests: NIR 2011.13
NIR 2011.37

Opportunities for Improvement: None

3.4 Calculation of GHG Emissions

Greenhouse gas sources and sinks included in the project are described in Section 2.3 of the PD. The Project includes the following greenhouse gas sources, sinks, and reservoirs: above and belowground biomass, emissions of CH_4 from biomass burning, and emissions of N_2O from biomass burning and the use of fertilizer. Carbon stocks in the dead wood, litter, and soil organic carbon, as well as emissions from fossil fuel burning were conservatively excluded from the project boundary. Carbon in harvested wood products and fuel wood were analyzed by the Client and determined to collectively represent less than 5% of the cumulative estimated net GHG benefits of the project. The Client elected to exclude these

pools from the project, in conformance with the VCS standard. The validation team assessed the appropriateness of these pools in the project's GHG accounting and determined that included pools and emissions sources were in conformance with the requirements of the VCS standard and the selected methodology.

Project personnel calculated baseline and Project scenario greenhouse gas emissions using the equations given in the approved VCS methodology selected by the Client. The following project-specific parameters are used in this quantification:

Parameter	Value Selected	Validation Notes
Aplanned,i	3980 ha	This represents the total area of planned deforestation over the baseline period, and is representative of the total area of land eligible within the project area. This assumes that the entire project area would be converted to a non-forest land use. Though there was no verifiable conversion plan available to substantiate this assumption, the validation team found it to be reasonable compared to other land uses observed in the project area. This area was adjusted down from the total area of forest land controlled by the project proponent to account for areas that were previously cleared, streamside buffers, and to account for differences in area between title documents and areas calculated by GIS analysis of the project area.
D%planned,i,t	10.8%	The projected annual proportion of land that will be deforested was calculated by the Client using an analysis of six proxy areas as described in section 1.3 of the BL-PL module. The proxy areas ranged in size from 554 hectares to 4046 hectares and meet the applicability criteria provided in section 1.3 of the BL-PL module. The validation team notes that, because the methodology limits analysis of proxy areas to sites that have been deforested in the last 10 years, it is impossible to arrive at a deforestation rate of less than 10% per year, regardless of the size of the project area. The technical expert hired by the audit team commented that such a rate, sustained over a decade, would be unusual in Belize. The Client showed that clearing at this rate is feasible by providing an email from a contractor in Belize and also showed one proxy area of comparable size to the project area(4046 hectares) and demonstrated, using satellite imagery, that the clearing of that area had taken place over ten years. Consequently, the validation team determined that the estimation of this parameter was in conformance with the guidance provided by the methodology.
LKCP-ME	0.4	The selection of this parameter followed the guidance in Step four of the LK-ASP module, and assumes that the project area is similar with regard to soil type, elevation, and precipitation to other areas in Belize suitable for citrus production.
PFc	0.645	The proportion of available area for production of

		commodity c that is currently forested was assessed by the client using an independently prepared land cover analysis of Belize.
MSFi,t	0.193593 tonnes/year	The mass of synthetic nitrogen fertilizer applied in the baseline scenario is based on recommendations published on the Belize Citrus Grower's Association website and conservative assumptions regarding the number of citrus trees per acre that would be planted in the baseline scenario. The validation team compared both figures to those found in relevant peer reviewed literature and found them to be conservative.
NCSFi	0.19	The fertilizer recommendations on the Belize Citrus Growers website assume the use of fertilizer with a 19-9-19 N-P-K rating. Thus, the percent nitrogen, by mass, is 19%.

Other parameters used in the quantification are either provided by the approved methodology, monitored in the project area as discussed in section 3.3, or are derived from these parameters. All calculations were implemented in an excel spreadsheet titled "BCEP Final Carbon Table 2011.xlsx." The validation team checked all calculations performed by the Client to ensure that they were conducted correctly and in accordance with the methodology. The PD reports the results of baseline and *ex-ante* project emissions in Table 2. SCS confirmed that the estimates in this table were made using the equations provided by the methodology.

Ex-ante estimates of changes in carbon stocks in above and below ground biomass are based on a study in Mexico by Hughes et al. (1999). The validation team determined that, given the limited availability of growth data in recently hurricane affected tropical forests in Belize, the Hughes study offered a reasonable proxy for the forest in the project area, but notes that these *ex-ante* estimates of project carbon benefits are subject to high uncertainty. This uncertainty does not affect *ex-post* estimates of carbon stocks in the baseline or project scenario, as, under the selected methodology, changes in biomass stocks are determined by direct monitoring. The Client has calculated the uncertainty of the baseline and project scenario in conformance with the X-UNC module, as described in sections 4.2 and 4.4 of the PD and as documented in the "BCEP Final carbon Table 2011.xlsx" spreadsheet. As of the conclusion of the spring 2011 monitoring event, the uncertainty in the baseline includes a 25.33% contribution from biomass inventory and a 7.43% contribution from proxy area analysis of the baseline deforestation rate for a total baseline uncertainty of 26.39%. The project scenario uncertainty includes a 25.33% contribution from forest inventory uncertainty. All other pools and emission sources were calculated using assumptions deemed indisputably conservative by the Client and validated as such by the validation team. The total uncertainty for the project, as of the time of issuance of this report, is 36.58%. The *ex-ante* estimates of net avoided emissions reported in Table 2 of the PD contain an uncertainty deduction calculated as described by equation 8 of the X-UNC module. All uncertainty calculations were checked by the validation team and determined to have been applied in conformance with the methodology.

Conformance: Yes ☒ No ☐ N/A ☐

Non-Conformity Reports: NCR 2011.15
NCR 2011.29
NCR 2011.30

NCR 2011.32
NCR 2011.33
NCR 2011.34

New Information Requests: NIR 2011.6
NIR 2011.7
NIR 2011.8
NIR 2011.12
NIR 2011.14
NIR 2011.16
NIR 2011.28
NIR 2011.36
NIR 2011.38B
NIR 2011.39
NIR 2011.41
NIR 2011.42
NIR 2011.43
NIR 2011.44

Opportunities for Improvement: None

3.5 Environmental Impact Assessment

Requirements for an Environmental Impact Assessment are not applicable to the project activity, as the laws of Belize do not require an environmental impact assessment prior to projects designed to conserve forest land. The proposed baseline scenario would have required an environmental impact assessment, which was not conducted, as described in section 3.1 of this report.. A discussion of potential environmental impacts of the Project is provided in Section 5.0 of the PD. The validation team agrees with the Client that no negative biodiversity impacts are anticipated within the area surrounding the Project.

Conformance: Yes ☒ No ☐ N/A ☐

Non-Conformity Reports: None

New Information Requests: NIR 2011.17

Opportunities for Improvement: None

3.6 Comments by stakeholders

No comments by stakeholders were received by the validation team. However, comments by stakeholders were assessed during the Project's validation against the CCBA standards in 2010. A list of comments and an assessment of those comments can be reviewed in the validation report from that audit, available at:

https://s3.amazonaws.com/CCBA/Projects/Boden_Creek_Ecological_Preserve_Project/CCB_FCO_BodenCreek_RPT_ValidationReport_071410.pdf

Conformance: Yes ☐ No ☐ N/A ☒

Non-Conformity Reports: None

New Information Requests: None

Opportunities for Improvement: None

3.7 Risk assessment

The following material is reprinted from SCS's report from the First Assessment in the Non-permanence Risk Assessment Double Approval process dated 13 April 2011:

Risk Factor and project proponent justification	Self Assessment Risk Rating	Findings
Risk of unclear land tenure and potential for disputes: Independent third-party title search has confirmed title is held by BCEP with no liens. See section 8.0 Ownership.	Low	Title documents confirm clear title to land. **Low** risk assigned.
Risk of financial failure: BLE has proven track record of repaying loans to FFI, et al. Project proponent manages eco-tourism business that is dependent on protected forest for tourism income.	Low	Review of financial documents for the project and the associated ecotourism venture show that the project is highly dependent on income from carbon finance. The associated ecotourism venture is not capable of financially sustaining the project. However, projections of VCUs to be generated from the project show that anticipated carbon revenue should be adequate to fund project activities. **Low** risk assigned.
Risk of technical failure: FCO and CMI have proven long-term track record of designing, implementing, and monitoring high quality ecosystem management projects and forest carbon projects.	Low	Past history of implementation of ecosystem management projects was discussed with project proponents. The technical complexity of project implementation is low. The combination of the project developer's past experience and the low project complexity support a **low** risk rating.
Risk of management failure FCO and CMI have proven long-term track record of designing, implementing, and	Low	Interviews with project proponents supported a **low** risk of management failure.

monitoring high quality ecosystem management projects and forest carbon projects.		
Risk of rising land opp. costs causing reversal of sequestration/protection Project proponent manages eco-tourism business that is dependent on protected forest for tourism income.	Low	Land pressures in the surrounding region were obvious upon visitation and include clearing for citrus growing and rangelands. Elsewhere in project documentation, the project proponent suggests that a deed restriction has been agreed to for the project area. Such a restriction would indeed significantly reduce this risk factor, but is not currently in place. However, given that the land is owned by a dedicated conservation organization (Boden Creek Ecological Preserve), a **low** risk level has been assigned.
Risk of political instability: Belize has low regional political instability. The project area does not include local communities. Local communities are not reliant upon the project area for essential food, fuel, fodder, medicines or building materials where such resources are not readily available elsewhere, or where the project area includes areas of cultural, ecological, economic or religious significance.	Low	**Low** risk of political instability in Belize was confirmed by reviewing the CIA World Factbook.
Risk of social instability : Belize has low regional social instability. The project area does not include local communities. Local communities are not reliant upon the project area for essential food, fuel, fodder, medicines or building materials where such resources are not readily available elsewhere, or where the project area includes areas of cultural, ecological, economic or religious significance. See Table 9: Belize Worldwide Governance Indicators.	Low	After visiting the site and consulting with a technical expert who has knowledge of the area, the validation team agrees that the risk of reversal due to social instability is **low**.
Risk of devastating fire: BCEP has no recorded history of devastating fire.	Low	The project is located in a wet tropical climate. Review of existing literature scientific literature and consultation with local technical experts confirms that the risk of a devastating forest fire is **low**.

Risk of pest and disease attacks: BCEP has no recorded history of pest and disease attacks.	Low	Consultation with a local technical expert confirmed that the forest type in the project area is not susceptible to devastating pest and disease attacks. **Low** risk assigned.
Risk of extreme weather events (e.g. floods, drought, winds) : BCEP has hurricane occurrence recorded roughly every 50 to 100 years. Also: The southern region of Belize has one of the lowest frequencies of hurricane landfall in the Caribbean with an average of one landfall every 23 years (Lugo et al. 2000). Since the forest is recovering from Hurricane Iris in 2001, and the trees are smaller and less prone to breakage, the risk of reversal as a result of hurricanes is low for the life of the project.	Low	The verification team was unable to find the hurricane frequency of one landfall every 23 years in the cited Lugo et al 2000 paper. However, data independently obtained by the audit team from the website of the NOAA hurricane research division suggests that the mean occurrence of named storms within 100 miles of the project are from 1944-1997 was approximately 0.2 storms per year (1 storm every five years on average). This same data source suggested that the hurricane return interval in the area is approximately 25-50 years, with category 4 and category 5 storms on a 100+ year return interval. This places the project in an area prone to hurricane impacts, but the risk is lower than many other parts of the Caribbean. Notably, a category 4 hurricane struck the project area in 2001, causing extensive damage to the forest. The audit team felt the project's location in a hurricane prone region did not constitute grounds for assignment of the lowest risk rating. **Medium** risk level assigned; see additional discussion below.
Geological risk (e.g. volcanoes, earthquakes, landslides): BCEP has no recorded history of geological risk.	Low	Consultation with local technical expert confirmed no known geological risk in the project area. **Low** risk level assigned.
Overall Risk Rating	**Self Assessment: Low**	**Verifier Assessment: Medium**

Risk Factor	Self Assessment Risk Rating	Findings
Land ownership / land management type Land owned by private conservation organization, BCEP, with a good track record in forest conservation activities and able to obtain and enforce nationally recognized legal protection of the land.	Very Low	Land ownership was confirmed by review of title documents. **Very Low** risk assigned.
Technical capability of project developer BCEP, CMI, and FCO have proven capacity to design and successfully implement activities that are likely to ensure the longevity of carbon benefits (e.g., effectively managing protected areas).	Very low	Past history of implementation of ecosystem management projects was discussed with project proponents. The technical complexity of project implementation is low. The combination of the project developer's past experience and the low project complexity support a **low** risk rating.
Net revenues/financial returns from the project to all relevant stakeholders Higher to pre-project or similar to alternative land-uses. Land owned by private conservation organization, BCEP, with a good track record in forest conservation activities and able to obtain and enforce nationally recognized legal protection of the land.	Low	The landowner is a conservation group (BCEP). For conservation groups, this risk rating is **low**, regardless of pre-project and alternative land uses.
Infrastructure and natural resources	Low	Opinion of local technical expert

Low likelihood of new road(s)/rails being built near the BCEP project boundary. BCEP is bordered on two sides with protected areas. Land owned by private conservation organization, BCEP, with a good track record in forest conservation activities and able to obtain and enforce nationally recognized legal protection of the land.		confirmed **low** risk rating.
No high-value non-forest related natural resources (oil, minerals, etc.) known to exist within BCEP project area. Land owned by private conservation organization, BCEP, with a good track record in forest conservation activities and able to obtain and enforce nationally recognized legal protection of the land.	Low	Opinion of local technical expert confirmed **low** risk rating.
No hydroelectric potential within BCEP project area. Land owned by private conservation organization, BCEP, with a good track record in forest conservation activities and able to obtain and enforce nationally recognized legal protection of the land.	Low	Opinion of local technical expert confirmed **low** risk rating.
Population surrounding the project area Decreasing or increasing, but with low population	Low	Visitation of the project area confirmed **low** population density.

density (e.g., <50 people/km^2). BCEP project area population is estimated to be less than <50 people/km^2.		
Incidence of crop failure on surrounding lands from severe droughts, flooding and/or pests/diseases Frequent (>1 in 10 years)	Low	This risk rating is classified as **low** or very low for all APD REDD projects.
Project financial plan Credible long-term financial strategy in place (e.g., endowment, annuity-paying investments, and the like). Funding BCEP will fund investment trust with annuity payment with guaranteed income for employees of BCEP for lifetime of project. BCEP has legal easement for ongoing protection tied to land title in place.	Low	Review of financial documents for the project and the associated ecotourism venture show that the project is highly dependent on income from carbon finance. The project developer has stated plans to fund an investment trust, but at present such a trust has not yet been established, as it relies on anticipated income from carbon finance. Projections of VCUs to be generated from the project show that anticipated carbon revenue should be adequate to fund project activities. However, financial risks remain if actual revenues are less than projected revenues, perhaps because of a natural disturbance or a decrease in future demand for or price of forest carbon offsets. The legal easement discussed for protection of land title is not currently in place. At present, the validator assigns a **medium** risk level to this category, but future establishment of a legal easement or evidence that an adequate trust to fund project activities is in place may reduce the risk rating at a future assessment.
Overall Risk Rating	**Low**	**Medium**

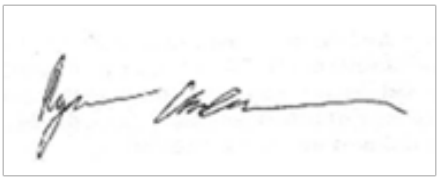
VCS requires that projects be given the overall risk rating associated with the highest risk factor from the analysis above. The highest risk rating from the categories above is "medium", so a medium risk rating is assigned to the Project.

The specified buffer contribution range for medium risk avoided planned deforestation projects is 10-20%. The VCS program update from 13 April 2010 specifies that the required buffer withholding percentage shall be the maximum percentage in the buffer range for the determined risk class, unless justification for a lower withholding percentage can be demonstrated. Given that the largest risk element for the project is hurricane impacts, that the relatively young age of the existing forest somewhat mitigates the extent of damage to be expected in the event of a hurricane strike, and that the project area, while hurricane prone, is of relatively low risk when compared to other portions of the Caribbean prone to hurricanes, SCS believes that less than the maximum withholding percentage for the medium risk class is appropriate. Accordingly, SCS assigns a buffer rating at the midpoint of the range specified for the medium risk category: 15%.

Conformance:	Yes	☒	No	☐	N/A	☐
Non-Conformity Reports:	None					
New Information Requests:	NIR 2011.19					
Opportunities for Improvement:	None					

4 Validation Conclusion

Through a review of project documentation, supporting information also provided by the Client, a site visit, and an iterative exchange of audit findings, SCS has determined that the Project meets all relevant criteria for REDD Avoided Planned Deforestation projects under VCS. In addition, the Project is in conformance with the selected methodology and its associated modules, as listed in Section 1.2 of this document. We conclude that the Project is likely to achieve the estimated emission reductions and, as such, no qualifications or limitations should be added to the validation outcome. Thus, it is the opinion of Scientific Certification Systems that the Project is eligible for registration under the applicable VCS standard.



Name: Ryan Anderson
Title: Lead Auditor
Company: Beartooth Forest Carbon Consulting
Date: June 24, 2011

Name: Todd Frank
Title: Program Manager, GHG Verification
Company: Scientific Certification Systems
Date: June 24, 2011

SCIENTIFIC CERTIFICATION SYSTEMS

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Appendix A:

FOREST PROJECT VALIDATION LIST OF FINDINGS

VALIDATION UNDER THE VOLUNTARY CARBON STANDARD

Reporter/Member:
Forest Carbon Offsets

Project:
Boden Creek REDD Project

NIR Number 2011.1 of 50 dated 1/11/2011
Standard Reference: REDD-MF II I - Scope **Document Reference:** NA **Finding**: The methodology requires that reference to the REDD framework and the modules used to construct the project-specific methodology be given in the VCS PD. Please provide a single, comprehensive list of modules used for the project. **Proponent Response**: A complete list of the modules used is included in section 2.1 REDD Methodology Modules (http://www.v-c-s.org/methodology_rmm.html). In particular the following methodology modules were used for this project: REDD-MF M-MON T-ADD T-BAR X-UNC X-STR **Auditor Response**: The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.2 of 50 dated 1/11/2011
Standard Reference: Voluntary Carbon Standard Tool for AFOLU Methodological Issues, Sec. 2, Step 1 **Document Reference:** BCEP Carbon PDD ver 2.doc, Sec.2.2. p13 **Finding**: Please provide evidence that the project boundary only includes land qualifying as forest, using an internationally accepted definition, for a minimum of ten years prior to the project start date. **Proponent Response**: We used a definition based on the FAO Forest Resource Assessment of 2000: *Land with tree crown cover (or equivalent stocking level) of more than 10 percent and area of more than 0.5 hectares (ha). The trees should be able to reach a minimum height of 5 meters (m) at maturity in situ.* We excluded the part of the property previously converted to bananas and currently recovering. Based on satellite imagery (see below) and plot data indicating, based on tree sizes, that the forest must have been forest in 2000, we considered the project boundary to only include forest land according to this definition. The land cover study is attached. **Auditor Response**: The definition applied is in conformance with the requirements of the standard. The imagery provided by the Client, as well as observations made by the audit team in the field support the claim that the project area has qualified as forest for at least ten years. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.3 of 50 dated 1/11/2011
Standard Reference: Voluntary Carbon Standard Guidance for AFOLU; REDD-MF II, step 1(a); VCS 2007.1 section 5.7, page 15

Document Reference: BCEP Carbon PDD ver 2.doc, Sec.1.5 p5
Finding: Please provide geographic coordinates of each polygon vertex defining the project area along with documentation of their accuracy.
Proponent Response: Vertices of project boundary provided at site visit.

Auditor Response: The Client provided a shapefile that contained all vertices of the project boundary during the site visit. Though no documentation of the accuracy of these points was provided, the audit team verified a sample of points along the project boundary by comparison with GPS coordinates independently collected during the site visit. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NCR Number 2011.4 of 50 dated 1/11/2011

Standard Reference: REDD-MF II step 1(b)
Document Reference: BCEP Carbon PDD ver 2.doc, Sec.1.6 p7
Finding: The starting date of the historical reference period must be between 9 and 12 years in the past and the end date must be within two years of the project start. The specified historical reference period end date is 2008. This is not within two years of the project start, as the project start date is defined as February 19, 2004.
Proponent Response: This is a revised and updated response to this NIR.

- Historical reference period January 1995 through December 2004
- Funding secured for carbon project and developer signed September 2009.
- Start of project 1/1/2005
- Crediting period 2005 to 2029.
- Baseline reset 2015 and 2025.
- Project end date is December 31, 2029.

Auditor Response: The project proponent has adjusted the project's reference period to be consistent with the requirements of the methodology. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NCR Number 2011.5 of 50 dated 1/11/2011

Standard Reference: REDD-MF II step 1(b)
Document Reference: BCEP Carbon PDD ver 2.doc, Sec 1.6 p7
Finding: The methodology requires that projections of baseline emissions be presented for ten year periods after the start of the project and that the baseline be revised every ten years after the project start. The project start date is in 2004, so the baseline must be re-evaluated in 2014. The baseline reset year of 2019 described in the PDD is not consistent with the methodology.
Proponent Response: This is a revised and updated response to this NIR.

- Historical reference period January 1995 through December 2004
- Funding secured for carbon project and developer signed September 2009.
- Start of project 1/1/2005
- Crediting period 2005 to 2029.
- Baseline reset 2015 and 2025.
- Project end date is December 31, 2029.

Auditor Response: The dates have been adjusted to be in accordance with the requirements of the methodology. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.6 of 50 dated 1/11/2011

Standard Reference: REDD-MF II step 1 (c)
Document Reference: BCEP Carbon PDD ver 2.doc, Sec 2.3 p14
Finding: The methodology requires that table 2 from REDD-MF with selection of carbon pools and appropriate justification for each be presented in the VCS PD. Please provide this information.
Proponent Response: The table on the following page is inserted in the PDD.

Auditor Response: The requested table has been provided. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.7 of 50 dated 1/11/2011

Standard Reference: REDD-MF II step 1 (d)
Document Reference: BCEP Carbon PDD ver 2.doc, Sec 2.3 p14
Finding: The methodology requires that table 3 from REDD-MF with selection of sources and appropriate justification for each be presented in the VCS PD. Please provide this information.
Proponent Response: The following table will be added to the PDD.
[Table not copied into list of findings to avoid redundant data. Table is found in the PD]

Auditor Response: The requested table has been provided. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.8 of 50 dated 1/11/2011

Standard Reference: BL-PL I. Applicability
Document Reference: BCEP Carbon PDD ver 2.doc Sec 4.2
Finding: Provide written documentation of the application of the application of the SIG

tool to verify that fuel wood collection does not significantly impact carbon pools for baseline or leakage accounting.

Proponent Response: According to Estimation of baseline carbon stock changes and greenhouse gas emissions from planned deforestation (BL-PL), if pre-Project, unsustainable fuelwood collection was occurring within the Project boundaries modules BL-DFW and LK-DFW shall be used to determine potential leakage. While BCEP pre-Project, limited fuelwood extraction may have been occurring on the 50 ha parcel of the property that is next to Indian Creek Village and Golden Stream Village alongside the Southern Highway that is excluded from the above-ground biomass carbon pool, the removals on this thin buffer strip along the Southern Highway across from Indian Creek Village and Golden Stream Village would have been de minimis. Population estimates pre-Project were roughly, at the very most, 750 individuals (Table 1: 1997 estimated populations).

Using annual fuelwood consumption per capita (Schulte-Bisping 1999) for Belize at 0.15 ton oil equivalent (TOE) and FAO conversion factor of 0.26 for one m3 fuelwood (solid 20–30% moisture content) / TOE yields 0.58 m3 fuelwood per capita per year.

After applying Tool for testing significance of GHG emissions in A/R CDM project activities (Version 01) (T-SIG), the impact on this carbon pool was de minimis and substantially less than 5%. Therefore, according to the Tool for testing significance of GHG emissions in A/R CDM project activities (Version 01) (T-SIG), the GHG emissions by sources, possible decreases in carbon pools and leakage emissions measured by this occasional fuelwood extraction on this boundary parcel is considered insignificant. Furthermore, according to village records, there has been no traditional fuelwood collection that occurred on the Project site (Toledo Maya Cultural Council 1997). Some collection of debris wood left over from agricultural operations may have occurred alongside the Project area on a parcel that is not part of the Project, yet the total carbon anthropogenic emissions from this source is de minimis and insignificant (Table 2: FGBSL, i, t Variables and Equation 1: FGBSL, i, t Equation).

Auditor Response: The validation team reviewed the assumptions of this analysis and found them reasonable. Additionally, the validation team spoke with Bonifacio Tut, a local tree identification expert who was hired by the validation team to assist with field work, regarding the volumes of fuel wood used by people who live in the area. Mr. Tut's estimates were consistent with the assumptions made in the analysis by the project proponent. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.9 of 47 1/11/dated 2011

Standard Reference: BL-PL 1.2

Document Reference: BCEP Carbon PDD ver 2.doc Sec 4.2 p19

Finding: The methodology requires documentary proof of legality of deforestation. The PD states that legal permissibility is assumed because similar deforestation occurs today and because previous deforestation was well known, but this does not constitute documentary proof. Please provide such proof.

Proponent Response: The Belize Private Forests Act (http://www.belizelaw.org/lawadmin/index2.html) requires that for conversion to take place for agriculture, no permits are required if trees under 2 feet in circumference are to be felled and burned in place. To fell trees over 2 feet in circumference requires a permit from the Forest Department. The term tree is defined as mahogany and cedar.

Provided that no such application or permission shall be necessary to fell trees under two feet girth measured at one foot above the buttresses during the clearance of land for agriculture but no tree so felled may be sold as timber without a permit from the Chief

Forest Officer

We have found no evidence to indicate that 2 foot circumference or larger mahoganies or cedars were removed by the deforesting agent therefore we presume that the deforestation for agricultural conversion was performed legally prior to acquisition by the current landowner. Regardless after the hurricane of 2003, no trees of any size were left, so clearing could have proceeded legally at that point.
No cedars or mahoganies were detected in the field data, however mahogany and cedar does occur rarely on the property. If at any time, the deforesting agent encountered mahoganies or cedars, he could have left them standing in the field or gotten a permit from the Forest Department to remove them.
Auditor Response: The validation team found that, though conversion of privately owned forest land to agriculture is legal in Belize, local laws require an environmental impact assessment prior to clearing of greater than 300 acres. See response to NIR 2011.46. After NIR 2011.46 was resolved, the Proponent's response adequately addressed the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.10 of 50 dated 1/11/2011

Standard Reference: BL-PL 1.2
Document Reference: BCEP Carbon PDD ver 2.doc Sec 4.2 p19
Finding: The methodology requires that suitability for conversion to alternative non-forest land use include documentary proof of access to relevant markets, suitability of soils, topography, and climate. Observing that the property was in the process of being converted to alternative use does not constitute documentary proof of these elements. Please provide such proof.
Proponent Response: Documentary proof:
Access to markets: see attached report "Report of damage by Hurricane Richard to the Citrus Industry of Belize By Luis G.Tzul"
Suitability of soils: See Bowen-Jones 2001 attached that is documentary proof of suitability (see section on land use history).

Auditor Response: Adequate evidence of suitability for alternative use was provided in conformance with the requirements of the methodology. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.11 of 50 dated 1/11/2011

Standard Reference: BL-PL 1.3-1.5
Document Reference: BCEP Carbon PDD ver 2.doc Sec 4.2 p20
Finding: Provide evidence that the eight proxy areas for which data is presented in table 1 meet criteria 1-6 in section 1.3 of module BL-PL (page 5). Additionally, please provide verifiable documentation of the calculation of the deforestation rate in each proxy area. Demonstrate that none of the proxy areas have been abandoned as described in section 1.5.
Proponent Response: A metadata record is attached for the new proxy area analysis.

Auditor Response: After issuance of this finding and discussions during the site visit, the proxy analysis was repeated. Evidence of the required criteria were presented with the revised proxy area analysis. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.12 of 50 dated 1/11/2011
Standard Reference: BL-PL 2.2 **Document Reference:** BCEP Carbon PDD ver 2.doc Sec 4.2 p20 **Finding**: Provide a copy of the reference used to determine the maximum carbon stock of citrus plantations. Demonstrate that this stock includes all selected and required pools, including aboveground and belowground biomass. **Proponent Response**: The reference used to determine the maximum carbon stock of citrus plantations is: Food and Agriculture Organization of the United Nations. 2003. Belize; Facing the Climate Change. *Central American series on forest and climate change*. http://www.fao.org/DOCREP/006/AD438E/AD438E00.HTM In this study the static approach is used to measure the baseline. This approach assigns static or fix rate for carbon uptake at the start of the project and uses the same rate for the lifetime of the project. **Auditor Response**: The reference was provided. A review of the reference showed that the carbon stock indicated in the FAO publication was not based on measured data, but was rather an assumption made for the purpose of making country-level estimates. The verification team determined that the reference did not meet the requirements of the methodology for estimating post deforestation carbon stocks. NIR2011.36 was issued in response. After NIR2011.36 was resolved, the Proponent's response adequately addressed the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.13 of 50 dated 1/11/2011
Standard Reference: Voluntary Carbon Standard 2007.1, Sec. 5.11; REDD-MF II step 3 **Document Reference:** BCEP Carbon PDD ver 2.doc, Appendix A **Finding**: The monitoring plan must be consistent with the methodology as described in REDD-MF step 3, including descriptions of items a-f for each monitoring task. Additionally, the VCS standard requires that the project proponent establish and maintain criteria and procedures for obtaining, recording, compiling, and analyzing data. These monitoring procedures must include: • purpose of monitoring; • types of data and information to be reported - including units of measurement; • origin of the data; • monitoring methodologies, including estimation, modeling, measurement or calculation approaches; • monitoring times and periods, considering the needs of intended users; • monitoring roles and responsibilities; • GHG information management systems, including the location and retention of stored data Please provide a monitoring plan that is consistent with the methodology and that more completely the data monitored, including units, origin, measurement methodology, monitoring times, and information systems. The monitoring plan states that measurements must be conducted according to relevant standards. To make this requirement verifiable, please list the standards that will be used for each measurement type. In order to permit replication of the sampling methodology, the monitoring plan should also include the following: - Methodology by which inventory plots are monumented - Size and type of inventory plot used - A list of variables measured

- Minimum diameter at breast height used, if any
- A list of tools used to measure trees in inventory plots
- Any applicable conditions under which diameter at breast height was measured at a point other than 1.3 vertical meters above the ground surface
- The point on the tree stem that was used to determine whether a tree was on or off the plot
- A list of any species or other categories of live trees that may have been excluded from sampling, if applicable
- Any edge correction procedures used, if applicable
- Any other useful information for this purpose

Proponent Response: See attached revised monitoring plan. The inventory was conducted according to the techniques described in the monitoring plan.

Auditor Response: A revised monitoring plan was submitted. Review of the monitoring plan showed that it provided all requested details of project monitoring protocols. After observation of plots installed in the project area, some additional details were requested in NIR 2011.44. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.14 of 50 dated 1/11/2011

Standard Reference: CP-AB Section III p12
Document Reference: Appendix A, p34
Finding: The methodology requires that allometric equations be validated. Please provide evidence of validation of allometric equations according to the procedure given on pages 12-14 of CP-AB.
Proponent Response: The allometric equations were validated for Belize by Brown et. al. 2005. A copy of the paper has been attached

Auditor Response: The document provided by the Proponent described validation of the equations in a different forest type in Belize. The methodology requires direct site specific validation of allometric equations. NIR2011.38 was issued in response. After NIR2011.38 was closed, The Proponent's response adequately addressed the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NCR Number 2011.15 of 50 dated 1/11/2011

Standard Reference: X-UNC p2
Document Reference: BCEP Carbon PDD ver 2.doc Sec 4.2 p20
Finding: The methodology allows indisputably conservative estimates to be used instead of uncertainties, provided they are based on verifiable literature sources or expert judgement. The analysis of deforestation rate based on proxy areas is based on a sample of data collected and analyszed by the project proponent, rather than a verifiable literature source or expert judgement, so uncertainty analysis is required. Please provide such analysis. The reference to r2 in X-UNC page 3 is for unplanned deforestation and is not relevant to assessing planned deforestation. No regression is prescribed by the methodology for predicting the deforestation rate for planned deforestation.
Proponent Response: This is a revised response:
The rate of conversion is set at 10.8% based on proxy area analysis. The uncertainty associated with the rate is 7.43%.
The inventory uncertainty was determined to be 24.88%. To calculate total project uncertainty we used the formula in module X-UNC on page 8. This results in a total project

uncertainty of 35.96%.
Proxy area analysis and inventory were provided as attachments for other NIRs.
The other sources of uncertainty are presumed to be 0 based on literature and expert opinion that the proposed amounts are indisputably conservative. See below for the project uncertainty calculations.

Auditor Response: The calculation of uncertainty was reviewed by the validation team. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.17 of 50 dated 1/11/2011

Standard Reference: Voluntary Carbon Standard 2007.1 Section 3.4
Document Reference: NA
Finding: The Standard requires that AFOLU projects identify potential negative environmental and socio-economic impacts and take steps to mitigate them prior to generating VCUs. Please provide documentation of any potential negative impacts and the steps taken to mitigate those impacts.
Proponent Response: The Project does not anticipate any negative biodiversity impacts within the area surrounding the Project. Offsite impacts will be positive since larger habitat and forest areas will improve the long-term viability of fauna and flora populations offsite. Avoiding conversion to agriculture also avoids release of sediment and agricultural chemicals into waterways and the Port Honduras Marine Sanctuary. If any negative impact is identified, the BCEP team and the community representative will address such problems with fast and effective solutions. The issue will be discussed and mitigation actions will be designed.
The Project is not expected to have negative social impacts on the communities surrounding the Project area. It is not expected that the Project will negatively impact any of offsite communities. In the case of any potential negative impacts, representatives of the impacted community will bring it to the attention of the conflict resolution coordinator. No unmitigated social or economic impacts are expected from the Project.
According to personal interviews and official correspondence, Indian Creek Village has never traditionally used the BCEP property for hunting, medicinal plant collecting, or other activities. All hunting has traditional occurred west and north of the village (Toledo Maya Cultural Council 1997).
According to personal interviews and official correspondence, Golden Stream Village has never used the BCEP property for hunting, medicinal plant collecting, or other activities (Toledo Maya Cultural Council 1997).
The Pine Hill Mennonite Community, a Kleine Gemeinde Mennonite community, is reclusive and interacts minimally with others from outside their community. They have no record of using the BCEP property for hunting or other activities. Currently, they receive from BCEP road access to their property through BCEP property.
Project has been awarded Gold Level certification by the Climate, Community, and Biodiversity Alliance.

Auditor Response: The supplied analysis is appropriate, and is consistent with the analysis validated against the CCB standards in 2010. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.18 of 50 dated 1/11/2011
Standard Reference: VCS 2007.1 Section 5.7 p 15 **Document Reference:** BCEP Carbon PDD ver 2.doc Sec 8.1 **Finding**: Please provide copies of the proof of title documentation described in section 8.1 of the PD. **Proponent Response**: See attached copies of title documents. **Auditor Response**: Adequate evidence of title was provided by the project proponent. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.19 of 50 dated 1/11/2011
Standard Reference: ACS AFOLU Program Update 8 Sep 2010 **Document Reference:** BCEP Carbon PDD ver 2.doc Sec 8.1 **Finding**: The VCS program update from 8 September 2010 requires that site fire prevention measures to justify a low risk rating for REDD projects. Please provide a description of fire prevention measures for the project area. **Proponent Response**: This ecosystem is a wet tropical system with a range of 90 mm/month in the dry season to 750 mm/month in the wet season. Fires in this system are rare events. A superb discussion of fire (Meerman and Sabido 2001) in Belize may be viewed at http://biological-diversity.info/fire.htm Note that the project area is in the lowest fire risk category. The best practices for fire prevention in Belize are primarily excluding humans from the property through patrols as is proposed in the project plan. **Auditor Response**: Consultation with the local technical expert hired by the audit team confirmed that, in these forest types, fires are primarily anthropogenic in origin and that few fire prevention measures are required. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.20 of 50 dated 1/11/2011
Standard Reference: REDD Methodological Module BL-PL, Sec. 1.1 **Document Reference:** NA **Finding**: The Module requires that the agent of planned deforestation be identified. However, the identity of the agent of deforestation is not clear upon reading the proponent's PDD. Please clearly identify the agent of planned deforestation. **Proponent Response**: The agent of deforestation is the previous landowner Mr. Harold O. Whitney. He was in the process of converting the property when the current landowner, Mr. Ken Karas purchased the property. See Bowen-Jones 2001 for a land use history. **Auditor Response**: The project proponent has identified a specific agent of deforestation. However, no specific evidence of Mr. Whitney's intent to personally convert the area to agriculture was available. Though there was evidence that Mr. Whitney had previously converted portions of the property, interviews with the current landowner showed that Mr. Whitney was actively attempting to sell the property, and that he had received at least one other serious offer to purchase the property apart from that of the current landowner. Consequently, the audit team determined that it was not appropriate to identify Mr. Whitney as the specific agent of deforestation, as implementation of the project prevented

deforestation by alternate purchasers as well as by Mr. Whitney. NIR 2011.38 was issued in response. Subsequently, an analysis of a class of deforestation agents was undertaken, as described by the methodology. After resolution of NIR 2011.38, the Proponent's response adequately addressed the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.21 of 50 dated 1/11/2011

Standard Reference: Voluntary Carbon Standard Tool VT0001, Sec. 2.2.1
Document Reference: BCEP Carbon PDD ver 2.doc, Sec. 2.4
Finding: The Tool requires that any identified alternative land uses be realistic and credible, and that for all land uses that are not currently occuring or have not occurred within the past 10 years, credibility shall be justified.
Sufficient information has not been provided for the assessor to determine whether the "Conversion of Forest Land to Settlements" land use is credible. While information has been provided about population increase in the Toledo District, this increase will not necessarily result in development pressure for the project area.
Likewise, credibility has not been demonstrated for the "Logging of Timber for Local and Domestic Use" land use, given that illegal logging was also identified as a potential land use and that the project proponent has stated that no timber of merchantable size remains after the recent hurricane. If this land use would be illegal in the baseline scenario, this should be explicitly stated and the appropriate guidance in the Tool shall be implemented. If this land use would be legal, please explain the mechanisms by which this land use would be economically feasible.
Proponent Response: PDD has been revised to remove the two offending alternatives.

Auditor Response: The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.22 of 50 dated 1/11/2011

Standard Reference: Voluntary Carbon Standard Tool VT0001, Sec. 2.2.2
Document Reference: BCEP Carbon PDD ver 2.doc, Sec. 2.4
Finding: The Tool requires that, where a land use alternative does not comply with all mandatory applicable legislation, the proponent demonstrate that "applicable mandatory legal or regulatory requirements are systematically not enforced and that non-compliance with those requirements is widespread, i.e., prevalent on at least 30% of the area of the smallest administrative unit that encompasses the project area." Demonstrate that this is the case, specifically that illegal logging occurs on at least 30% of the area of the smallest administrative unit that encompasses the project area.
Proponent Response: The illegal logging scenario has been removed from the PDD.

Auditor Response: The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.23 of 50 dated 1/11/2011

Standard Reference: Voluntary Carbon Standard Tool VT0001, Sec. 2.3.1
Document Reference: BCEP Carbon PDD ver 2.doc, Sec. 2.4
Finding: The Tool requires that, if the VCS AFOLU project generates no financial or economic benefits other than VCS related income, either investment comparison analysis or the benchmark analysis must be used. Regardless of whether or not ecotourism activities have

turned a profit, they have generated revenue. Therefore, one of the two previously mentioned analysis methods must be used to determine the most financially attractive land use.
Proponent Response: The ecotourism operation is a separate entity. No financial resources are planned for transfer from the ecotourism operation to the carbon project. At present the ecotourism operation is negative. No income is expected from the carbon project. Simple financial analysis would indicate that without the carbon income the financial situation will be negative. The baseline scenario of agriculture and particular citrus is considered positive since a. it was underway at the time of the purchase of the project (see Bowen-Jones 2001) and the citrus industry is a healthy part of the Belizean economy (Tzul 2010). Therefore at least one of the baseline scenarios is more profitable than the project scenario excluding the carbon project income.
Financial plans for both the ecotourism operation and the carbon project will be made available to the auditors.

Auditor Response: The validation team determined that, even though the ecotourism operation is not financially linked to the carbon project, protection of the forest through carbon finance generates financial benefits for the ecotourism operation, and therefore the financial analysis required by the standard was still required. NCR 2011.35 was issued in response. After resolution of NCR 2011.35, the Proponent's response adequately addressed the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.24 of 50 dated 1/11/2011

Standard Reference:NA
Document Reference: BCEP Carbon PDD ver 2.doc
Finding: Please provide more information regarding the deed restriction to be implemented as part of the project activity. Address what sort of activities will be prohibited by this restriction and how the restriction will contribute to the project's goals.
Proponent Response: The deed restriction is envisioned as a commitment by the landowner on the title to comply with the project plan over the life of the project. The purpose of this title restriction is (in the unlikely event that the land changes hands) to bind any new owners to compliance with the CCB and VCS project plans e.g. no removal of forest, regular monitoring, patrols, outreach to the local communities, etc…

Auditor Response: After discussions during the site visit, it was determined that no deed restriction currently exists on the property. No restriction is required by the standard, and the envisioned, but not yet implemented restriction was not considered in assessing the project's risk of reversal. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.25 of 50 dated 1/11/2011

Standard Reference:NA
Document Reference: BCEP Carbon PDD ver 2.doc, Sec. 9.1
Finding: Provide more information regarding the "legal easement" mentioned at the bottom of p 29.
Proponent Response: The deed restriction is envisioned as a commitment by the landowner on the title to comply with the project plan over the life of the project. The purpose of this title restriction is (in the unlikely event that the land changes hands) to bind any new owners to compliance with the CCB and VCS project plans e.g. no removal of forest, regular monitoring, patrols, outreach to the local communities, etc…

Auditor Response: After discussions during the site visit, it was determined that no legal easement currently exists on the property. No easement is required by the standard, and the envisioned, but not yet implemented easement was not considered in assessing the project's risk of reversal. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.26 of 50 dated 1/11/2011

Standard Reference: Voluntary Carbon Standard Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination
Document Reference: BCEP Carbon PDD ver 2.doc, Sec. 9.1
Finding: One risk factor required to be addressed by the Tool, for REDD projects, is: "population surrounding the project area." The proponent has provided information regarding the population inside the boundaries of the project area, which is not germane to this risk factor. Please provide information regarding the population surrounding the project area, and re-evaluate the risk factor if necessary.
Proponent Response:
The following is added to the PDD:

> ***Population Surrounding the Project Area***
> *The population density in the surrounding area is very low. It is < 50 people / km2. The Project's boundaries are defined by the 931 ha Pine Hill Mennonite Community, the 7,516 ha Seven Hills Estate, the 2,192 ha Manatee Creek Parcel, the 3,866 ha Golden Stream Parcel, and Indian Creek Village for a total of 14,505 ha. There are three communities located in the Project Zone. The communities are Indian Creek Village, Golden Stream Village, and Pine Hill Mennonite Community. The population of three communities is roughly 1,250 individual (Table 1: Population surrounding the Project area 2008 midyear population estimates). Population density is roughly 8.6 individuals per km2. Population density in the surrounding area is very low risk.*

Table 1: Population surrounding the Project area 2008 midyear population estimates
[This table was not able to be added, please see the Proponent Response.]

Auditor Response: The population densities described here are consistent with those observed by the validation team during the site visit. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.27 of 50 dated 1/11/2011

Standard Reference: VCS 2007.1 Section 5.5
Document Reference: BCEP Carbon PDD ver 2.doc, Sec. 4.2
Finding: Please provide justification for the assumed growth rate of 6.3% per year.
Proponent Response: A copy of the document is attached.

Auditor Response: The project uses an assumed growth rate from a similar forest in Mexico. No literature was available for tropical forests in Belize recovering from hurricane disturbances. The validation team found the literature reference to be appropriate, but notes that application of this study in Belize is likely to result in high uncertainty in *ex-ante* estimates of forest growth rates. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.28 of 50 dated 1/11/2011

Standard Reference: NA
Document Reference: NA
Finding: Please clarify the role of the existing inventory used to determine the 2009 starting point of 54.06 tons C/ha, as compared to the planned inventory for VCS validation.
Proponent Response: The starting point of 54.06 tons C/ha is calculated from the plot data. The monitoring plan calls for re-measurement of each tagged tree on each plot at each monitoring event which will provide an opportunity to confirm the growth rate assumption as well as detecting unplanned reversals. The 2009 data is the only data proposed for validation and will be made available upon request.
Re-measurement of the plots in January of 2011 will be conducted to support the verification of vintage years 2009 and 2010.

Auditor Response: Initial communications with the Project Proponent indicated that additional inventory work was to be conducted after the beginning on the audit. This finding was issued to clarify which data should be assessed during the validation audit. The initially provided data was assessed with a check cruise during the site visit. The results of that check led to issuance of NCR 2011.48, which was resolved by re-measurement of inventory data. The data validated in this report were measured in 2011. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NCR Number 2011.29 of 50 dated 1/19/2011

Standard Reference: CP-AB, Sec. 2, Part 1
Document Reference: PDD Appendix A, p6
Finding: The Module requires that "representative random or systematic" sampling be employed in locating sample plots. Five sample plots (plots 6, 11, 15, 21, and 22) were located based on their proximity to a passable trail, rather than randomly. The resulting sample does not constitute a valid basis with which to estimate carbon stocks in the BCEP in accordance with the Module, as certain portions of the project area were systematically omitted from sampling by moving the plots that fell in those areas.
Proponent Response: The sample size required to achieve the desired precision and confidence is 20 forest inventory plots. However, to ensure that the full range of variability was captured in the 'Forest Land' – the *Lowland Broad Leafed Wet Forest* - class on the project site, a total of 26 forest inventory plots were allocated. Plots were randomly allocated within the 'Forest Land' land-use and land cover (LULC) class using geographic information systems (GIS) and identified by specific XY coordinates (Table 10: UTM locations of forestry plots used to determine aboveground biomass (coordinates are in WGS 84 zone 16) and Figure 2: Location of forest sample plots at BCEP). However, due to high rainfall events during the field season 5 plots were inaccessible due to flooding. These plots were: 6, 11, 15 (originally allocated approximately south of current locations), 21, and 22 (originally allocated north east of the current locations). FCO allocated these inaccessible plots using a passable trail as a transect and randomly choosing 5 points along the trail, then randomly choosing an azimuth and distance (between 50 and 750 m from the trail) to locate the plot. Plot ID was randomly assigned to each location.
Since 20 plots are required and 21 plots were randomly allocated, the sample is valid. The additional plots may or may not be biased. By randomly assigning distances and azimuths from the trail, the possibility of bias is lessened. The standard also allows for systematic sampling so the door is open for other procedures of assigning plot location rather than strict random assignment.

Auditor Response: The location 20 out of 26 plots in a random way does not eliminate the risk of bias introduced from locating the other 5 plots in a way that is not representative of the entire project area. The validation team notes that the use of sample size estimation equations to determine the sample size required to attain a given precision level is approximate, and depends on the accuracy of available data regarding variability within the forest prior to the sample. As reflected in the results of the uncertainty calculations required by the methodology, 20 plots were not sufficient to attain the initially desired precision. The validation team also noted that the number of initial plot locations that were excluded from sampling was high in comparison to the total number of plots sampled (5/26 = 19%). Because of the continued possibility for bias by excluding these areas from sample, NCR2011.30 was issued. After NCR2011.30 was resolved, the Proponent's response adequately addressed the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NCR Number 2011.30 of 50 dated 1/21/2011

Standard Reference: CP-AB, Sec. 2, Part 2
Document Reference: PDD Appendix A, p7; Response to NCR 2011.29
Finding: This NCR is in response to NCR 2011.29. The Module requires that "representative random or systematic" sampling be employed in locating sample plots. Regardless of the number of plots for which the original location was maintained, the method for locating sample plots was not representative of the entire project area. Even if the plots which were moved are not considered, the sample is not representative of the project area, as the areas that were flooded at the time of the previous field season had a zero percent chance of being included in the sample. The remaining plots would only be representative of the non-flooded portion of the project area. Five out of 26 plots (19%) fell in areas that were excluded from sampling, suggesting that the unsampled area represents a substantial portion of the total project area. A representative sample must be used to estimate carbon stocks in the entire project area.
Proponent Response: See revised response in NCR 29. The five plots that were moved for safety issues will be measured and added to the inventory and new statistics including the additional 5 plots will be included.

Auditor Response: The initial locations of the 5 initially excluded plots were measured by the project proponent. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NCR Number 2011.31 of 50 dated 1/21/2011

Standard Reference: BL-PL 1.2
Document Reference: Response to NIR10
Finding: The Tzul report adequately establishes access to markets. However, the Bowen-Jones report does not discuss soil suitability. Rather, it states that the land was owned from the 1980s until 1998 by a logger from north America who "extended the clearance of land near the road (for citrus and banana) whilst using it as a base for his logging operations throughout the Golden Stream watershed." This does not constitute "documentary proof" of suitability of soils for agriculture. Please provide additional information supporting the suitability of soils for agriculture.
Proponent Response: Soils in the project area are as described (in our BCEP CCB PDD):

"Soils throughout the Project Area are derived rfom mudstones, sandstones limestone

deposits. Soils are moderately shallow clays that are fairly well drained (Baillie 1993). The soils are underlain by flat-bedded mudstones with some minor sandstones and limestones. Most soils are clay and well-drained while calcium and magnesium are present. The soils are moderately acidic (Ballie 1992)."

According to:

1. http://www.greenstone.org/greenstone3/nzdl;jsessionnid=08426020AFACE171F7881ES4797F22BF?a=d&c=hdl&d=HASHaa250f8d90a80dea58551b&dt=hierarchy&p.a=b&p.s=ClassifierBrowse
2. http://www.agnet.org/library/bc/52004/

Citrus soils need:

1. To be moderately acidic (yes)
2. Well-drained (yes)
3. Without a deficiency of calcium and magnesium.

In other words, the soils on the Project site are sufficient according to Baillie and others for citrus growing.

Auditor Response: Adequate evidence of soil suitability was provided. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NCR Number 2011.32 of 50 dated 1/25/2011

Standard Reference: X-UNC
Document Reference: Response to NIR 16
Finding: Equation 5 of the Module X-UNC requires that the uncertainty in each carbon pool be calculated. The different pools are listed in REDD-MF, Table 1. Uncertainty for a given pool can be assigned as 0 if it can be shown that carbon estimates in that pool are indisputably conservative. The proponent has stated that "The with-project carbon stocks estimate does not include soils or litter. Again based on expert opinion, we are claiming that these estimates are indisputably conservative."
The fact that proponents have decided not to monitor carbon in the "soil organic carbon" or "litter" pools does not affect the uncertainty in the "above- and below-ground biomass in live trees" pool. The proponent's estimate of biomass in live trees is based upon sampling and therefore has its own sampling error. It is not indisputably conservative. Therefore, the uncertainty in this estimate must be computed and incorporated into all applicable equations.
Proponent Response: Uncertainty for the above ground and belowground live biomass has been calculated and found to be 23.48% Since exclusion of the other pools is considered undeniably conservative, their uncertainty is calculated at 0% leaving the uncertainty for the above and below ground biomass at 23.48%. Without project biomass uncertainty is still considered to be undeniably conservative and is considered 0%.
Appropriate changes have been made in the PDD.

Auditor Response: Appropriate calculations were made to estimate uncertainty due to sampling error. These calculations were checked by the validation team. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NCR Number 2011.33 of 50 dated 1/25/2011
Standard Reference: X-UNC Sec. 2, p3 **Document Reference:** Response to NCR 15 **Finding**: The proponents have calculated the uncertainty associated with the proxy area analysis using the width of the 95% confidence interval derived from the estimated deforestation rate in the individual proxy areas. The methodology requires this uncertainty to be expressed as a percentage of the mean deforestation rate observed across all proxy areas. **Proponent Response**: A new proxy area analysis was performed to satisfy concerns that the first attempt did not capture deforested properties that were of a similar size to the project area. Jpegs and metadata summaries are attached. The results are as follows: [This table was not able to be added, please see the Proponent Response.] **Auditor Response**: The new deforestation proxy rate analysis appropriately estimated uncertainty in conformance with the methodology. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NCR Number 2011.31 of 50 dated 1/31/2011
Standard Reference: BL‐PL 1.2 **Document Reference:** Response to NIR10 **Finding:** The Tzul report adequately establishes access to markets. However, the Bowen‐Jones report does no until 1998 by a logger from north America who "extended the clearance of land near the road (for citrus and Stream watershed." This does not constitute "documentary proof" of suitability of soils for agriculture. Please pro **Proponent Response:** Soils in the Project area are described as (in our BCEP CCB PDD): "Soils throughout the Project Area are derived from mudstones, sandstones limestone deposits. Soils are moder by flat‐bedded mudstones with some minor sandstones and limestones. Most soils are clay and well‐drained 1993)." According to: 1.http://www.greenstone.org/greenstone3/nzdl;jsessionid=08426020AFACE171F7881E54797F22BF?a=d&c=hdl& 2. http://www.agnet.org/library/bc/52004/ Citrus soils need: 1. To be moderately acidic (yes) 2. Well‐drained (yes) 3. Without a deficiency of calcium and magnesium. In other words, the soils on the Project site are sufficient according to Baillie and others for citrus growing. **Auditor Response:** equate evidence of soil suitability was provided. The Proponent's response adequately methodology.

NCR Number 2011.34 of 50 dated 1/31/2011
Standard Reference: REDD-MF, E-BB **Document Reference:** Response to NIR1, Response to NIR 7 **Finding**: Module EBB is mandatory according to REDD-MF Table 1, page 4. Even if fire is unlikely in the area and no biomass burning is planned as part of project activities, emissions

from CH4 and N2O must be included in the project in the event that a fire occurs, and accounted for using the E-BB module as described on page 1 of E-BB.
Proponent Response: NIR language is:
The table in the PDD that displays the proposed credits by vintage will be updated to account for CH4 and NO2 emissions from biomass burning, and a separate column will be added to explicitly state the contribution of CH4 and NO2. Once the new data arrives next week we will add the new column to the new version of the spreadsheet and forward it to you to review.
A line in the PDD will be added:
In the event of ex-post fires occurring, the REDD Methodological Module: Estimation of greenhouse gas emissions from biomass burning (E-BB) Sectoral Scope 14 will be applied.

Auditor Response: The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NCR Number 2011.35 of 50 dated 1/31/2011

Standard Reference: Voluntary Carbon Standard Tool VT0001, Sec. 2.3.1
Document Reference: BCEP Carbon PDD ver 2.doc, Sec. 2.4; Response to NIR 23
Finding: The project activity (protection of the BCEP property from conversion to agriculture) generates financial benefits other than VCS related income. Regardless of whether the carbon project and the ecotourism business are interlinked financially, protection of the property as native forest allows ecotourism enterprises to operate in a manner that could not continue if the BCEP property were converted to agriculture. It is apparent that this activity will generate financial benefits, regardless of the identity of the beneficiary. Therefore, either investment comparison analysis or benchmark analysis, as defined in the Tool, must be used to conduct the investment analysis.
Proponent Response: The standard says in T-ADD 2.3 *Determine whether the proposed project activity, without the revenue from the sale of GHG credits is economically or financially less attractive than at least one of the other land use scenarios.* Our definition of project activities is anything we plan to do that has a direct or indirect impact on the carbon pools of the project. Our project activities for the VCS project are pretty clearly defined in the PDD, and they don't include the ecotourism activities. We've already said the ecotourism activities won't generate income for BCEP. The ecotourism operation is operating at a loss right now. See attached very confidential revenue and expense spreadsheet and budget for project.
The landowner has four lodges. Three are not in the project area, Indian Creek, Jungle Lodge, and Mojo Key. The other one is on the edge of the project area (Balum Na). The big attraction at Balum Na is the jaguar enclosure. Since three of the lodges are not in the project area, clearly BLE does not need the BCEP forest to run lodges. In fact, there are multiple nearby areas where BLE takes it guests to walk in much bigger jungle, as advertised on the BLE website. Furthermore, BLE does just that by taking them for hiking and cave exploration elsewhere in the Toledo District. Eco-tourism lodges in Belize do not usually have their own adjacent forested property and instead the business model in Belize is to take eco-tourism lodge guests to visit Belize's significant protected public lands.

Auditor Response: The project proponent provided confidential financial records that showed the the requirements for demonstration of financial additionality had been met. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.36 of 50 dated 1/31/2011
Standard Reference: BL-PL 2.2 **Document Reference:** Response to NIR12 **Finding**: The citrus carbon stock referenced in the FAO "Belize: facing the climate change" document is not based on measured data. Rather, the authors made generic assumptions in order to estimate the carbon sequestration potential for the country as a whole. Relevant text from the document is below: "There is no data on carbon sequestered in the various types of agricultural operations in the country, and therefore in the analysis of the baseline values a generic rate of 10 tons of carbon per hectare of pastureland is used, while a higher figure of 20 tons of carbon per hectare is assigned to cultivated fields such as those producing annual crops like rice and corn. In higher yielding citrus plantations is assigned a value of 25 tons of carbon per hectare." Based on this report, it is not clear whether the assumed carbon stock includes both above and belowground biomass, or only aboveground biomass. Further, the conservativeness or quantitative basis of the assumption is not discussed. The assumption that growth occurs immediately is part of the methodology(BL-PL, page 8-9, "where stocks accumulate through time the ultimate (highest) stock shall be used"), and not part of the justification for the conservativeness of the stock; this assumption is made by the methodology regardless of the source of data used to estimate the final carbon stock. A review of scientific literature by the audit team suggests that 25 tons/ha is a plausible carbon stock for a citrus plantation, but also that higher stocks are consistent with the literature as well. Insufficient evidence has been provided to demonstrate that the estimate of 25 tons/ha is indisputably conservative and thus has no associated uncertainty. **Proponent Response**: Total GHG emissions from citrus include agronomic practices, transportation, storage, etc… per Spreen et.al. (2010) and Dasberg (1987). At present, we are conservatively excluding those additional emissions which can be substantial (123 tons C/ha-year according to Spreen, et al 2010). Feigenbaum (1987) reports the greatest weight for an individual tree at 319.7 kg/tree dry matter. This study only measured two trees that had been a part of a long term fertilization study and based on a more recent summary by Morgan et al (2006), this number appears to be an outlier. A far better reference in our estimation is Morgan et al 2006 that summarizes studies with much larger sample sizes. They found an average of 94 kg/tree for mature trees. Based on the best available literature, we feel an undeniably conservative estimate is 50% above the average found in Morgan et al 2006 or 141 kg/tree dry weight. Converting that weight to tons C/ha requires a presumption of tree density which is provided in Spreen et. al. (2010) as 107 trees/acre at year 20. That estimate then works out to 37 tons C/ha. As you note, the methodology says "where stocks accumulate through time the ultimate (highest) stock shall be used". Just because this is a requirement of the methodology it does not follow that it is not conservative. Indeed it is conservative, and being a requirement doesn't make it less so. So we contend that the 37 tons C/ha figure is undeniably conservative because it is 50% higher than the best available information from the literature and it ignores the obvious growth pattern that any cultivated orchard would undergo. We also have no intention of including diesel use, pesticide use, and other baseline emissions that according to Spreen et. al. (2010) can also be substantial. Based on our further review of the situation triggered by your question, we note a major omission in our model, the avoided emissions from nitrogen fertilizer use. The lowest rate recommended by the Belize Citrus Growers Association is 2.2 lbs of fertilizer (19-9-19)/tree-year. Running that number through the CDM tool for fertilizer impacts results in a mtCO2e figure of 46.75 mtCO2e/hectare-year avoided emissions. We will adjust our

model and provide a new version asap once the new data from the additional plots is incorporated.

Auditor Response: New estimates of citrus carbon stocks were made based on a review of additional literature. The estimates were shown to be indisputably conservative in nature. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.37 of 50 dated 1/31/2011

Standard Reference: VM0007
Document Reference: NA
Finding: Please clearly indicate the selected value and source for each of the parameters used by the methodology, but not monitored by the project (for example, in the CP-AB module, the carbon fraction, allometric equation, and root to shoot ratio selected for each species or species group).
Proponent Response: See attached list of variables.

Auditor Response: The variables selected were clearly reported and assessed by the validation team. The selected values for project-specific variables are reported in the validation report. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.38A of 50 dated 1/31/2011

Standard Reference: CP-AB p12
Document Reference: Response to NIR 14
Finding: The methodology requires "direct site-specific" validation of allometric equations. Please provide evidence of this validation from the project site.
Proponent Response: Site specific validation is complete. See attached data spreadsheet and graph below:
[please see the Proponent Response for graph]

Auditor Response: The validation exercise was conducted in conformance with the requirements of the methodology. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.38B of 50 dated 3/4/2011

Standard Reference: BLPL p 2-3
Document Reference: PDD section 1.7
Finding: It was determined through interviews during the on-site audit that the previous property owner was actively trying to sell the property prior to its purchase for conservation and carbon project development, and that other interested buyers actively tried to aquire the land. Consequently, the appropriate agent of deforestation is not limited to the previous landowner, but also includes other potential purchasers of the property. The analysis of the agent and area of baseline deforestation, consequently, must assess this "class of deforestation agents" using the criteria of BLPL section II 1.1 and 1.2. Additionally, leakage must be assessed based on this class of deforesting agents.
Proponent Response: This is a revision to this NIR response

While we can speculate as to what the previous landowner might or might not have done in the absence of an offer of purchase by the current landowner, the fact remains

that the previous landowner was deforesting the property. There is no way to know if another buyer might have appeared to buy the property at a price that would have induced the previous owner to sell to another deforesting agent or if the previous owner would have continued deforesting the property to this day. Recall the one buyer that was negotiating with the previous landowner didn't follow through which left the property available for the current landowner. We should also take into account that hearsay evidence from the current owner doesn't constitute documentary evidence. The previous owner could have told the current owner quite a few things to instigate a higher sale. Getting into a guessing game as to how things might have turned out differently is beyond the scope of the standard or the audit. Regardless of what might have happened, what did happen was that the current landowner purchased the property and ended the deforestation activities by the previous owner.

The methodology requires that a class of deforestation agent be identified "if the agent is not yet defined". In this case, the agent is clearly defined as he was the guy driving the bulldozer so identifying a different "class of agent" is not appropriate or arguably even allowed within the methodology.

Despite all this, in the interests of moving the audit along, we will acquiesce to the supposition that another landowner could have appeared on the scene and could have bought the property and deforested it. Since that landowner is unknown, a class of deforestation agents will be cited in the PDD as a the agent of deforestation.

That also triggers a change in the leakage calculation component of the project and the use of module LK-ASP. The leakage calculation for the with project scenario is incorporated in the model (and reviewable in the spreadsheet model already submitted). The variables for the analysis are:

D%planned: This was generated by evaluating proxy areas (10.8%/year)
PFc: This number (64.5%) was determined utilizing available landcover data for Belize and a description of the procedure is below.
LK: The leakage factor was determined conservatively to be .4 as most of the best lands suitable and available for agriculture are already converted leaving less suitable lands for conversion.
C bsl: This variable was determined in module CP-AB

Determining PFc

CMI determined the potential using the 'Belize Ecosystems Shapefile (v.2004c)' and the 'Belize Protected Areas (Polygon) Dataset (2008)' shapefiles, downloaded from the Biodiversity & Environmental Resource Data System (BERDS) website (http://www.biodiversity.bz/mapping/warehouse/). Analysts performed all process steps in ArcGIS 9.3.
The 'Belize Ecosystems' shapefile contains landcover for the entirety of Belize (Table 1.). We removed areas of forest already under protection using the 'Erase' tool in ArcGIS to intersect the 'Ecosystems' shapefile and the 'Protected Areas' shapefile. Acreage was then recalculated for the new polygons. The next step reclassified the remaining area into 'Forest', 'Agriculture', or 'Other'. The sum of the forest and agriculture polygons gave the total potential area for agriculture. The percent of this area that is forested was calculated from this total potential area and determined to be 64.5%.

Auditor Response: The audit team and project proponent disagreed with regard to the analysis of the appropriate agent of deforestation in this case. Ultimately, there is no definitive documentation of what would have happened in the project area in the absence of the project. Evidence that the previous landowner had cleared portions of the property for conversion to agriculture was evident at the project site. However, his intentions for the property had it not been acquired by the project proponents were not documented. Interviews with the current landowner indicated that the previous landowner was actively

trying to sell the property at the time of purchase by the project proponent, and that there were credible offers made by other parties. The current landowner identified a specific individual, apart from the previous landowner, who had attempted to acquire the property at the same time as the acquisition by the project proponent. If the project had not been implemented (i.e. BCEP had not purchased the land in order to conserve it), it was not clear whether the land would have been sold to this individual, someone else, or would have remained under the control of the previous landowner. The technical expert hired by the audit team indicated that the other individual known to have made a credible attempt to acquire the property is widely known in Belize to have cleared other areas of forest land for conversion to agriculture in recent years. Consequently, the audit team determined that specifically attributing baseline deforestation to the prior landowner, and thus accounting for leakage as zero, was not conservative. The project proponent disagreed with the auditors, but made changes to the project that are in conformance with the standard, including assessing potential leakage as described in the methodology . The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.39 of 50 dated 3/4/2011

Standard Reference: Tool for AFOLU Methodological Issues p5
Document Reference: PDD p20
Finding: The wood products pool and the fuelwood leakage emissions source have been excluded from the project as insignificant. It was determined that fuelwood leakage collection and would be likely to occur in the project area under the baseline scenario described. Additionally, commercially valuable timber was found within the project area, so the clearing described by the baseline scenario would be expected to generate wood products. According to the VCS Tool for AFOLU Methodolgical Issues, the sum of decreases in carbon pools and increases in GHG emissions that may be neglected must be less than 5% of the total CO_2-eq benefits generated by the project. Please demonstrate that the sum of these pools and emissions sources is less than 5% of project carbon benefits or appropriately account for them in project baseline and monitoring.
Proponent Response: After analyzing the inventory and looking for commercial trees defined as trees over 25 cm dbh and either identified as a commercial species or not identified to species, we determined that the total tons biomass/ha attributable to these potentially commercial trees (see attached list) are 4.6 tons aboveground biomass/ha. Conservatively assuming that the entire amount constitutes the mean stock of extracted biomass (presuming sawn wood as no market exists for pulp and no trees are big enough to be peeled for veneer) that allows jumping to Step 3 of Option 1.
Carbon stock in wood products pool = 4.6 tons C x (1-Wood Waste Fraction at Mill) x (1-Fraction of wood products emitted in 5 years) * (1-Fraction of wood products emitted in 5-100 years). The wood waste fraction at the mill is provided in the methodology as .24. The fraction of wood products emitted in 5 years is provided in the methodology at .2. The fraction of wood products emitted in 5-100 years is provided in the methodology at .84.
Result is 4.6 x (1-0.24) x (1 - 0.2) * (1 - 0.84) = .447 tons / ha. Multiply that times 4792 hectares and times 44/12 gives a result of 7,862 mtCO_2e emission avoided as a result of the wood products pool for the life of the project. Our current model for total avoided emissions over the life of the project exceeds 3 million tons so the total contribution from the wood products pool is less than 0.26%.
The other de minimis pool is fuel wood collection which was estimated (see NIR 8) at 28,736 mtCO_2e which is 0.9% of the estimated total avoided carbon dioxide emissions for the life of

the project.
Both pools in sum are less than 5% and are insignificant. Note that increasing the amount of biomass attributable to commercial wood extraction by a factor of 10x still does not result in a significant pool.

Auditor Response: The latest version of project calculations includes detailed calculations of these two sources of emissions. The calculations and their underlying assumptions were assessed by the validation team. Collectively, both pools amount to less than 5% of the total anticipated carbon benefits of the project, and can thus be excluded from project accounting under VCS rules. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.40 of 50 dated 3/4/2011

Standard Reference: Tool for Demonstration and Assessment of Additionality
Document Reference: PDD section 2.4
Finding: Several other privately owned conservation reserves exist in the immediate vicinity of the project area, yet the potential for purchase of the project area for conservation purposes was not included in the potential baseline scenarios identified in section 2.4 of the PDD. This potential baseline scenario must be assessed in determining the most likely baseline scenario using the criteria provided by the methodology and applicable VCS tools.
Proponent Response: The following paragraph is added in section 2.4 as an alternative land use.
Purchase of the Land as a Conservation Area
There are privately owned protected areas in the area and throughout Belize. Most landowners, and the landowner at BCEP, that own these properties are members of the Belize Association of Private Protected Areas (BAPPA). Landowners purchase properties for conservation for a variety of reasons. Some establish non-profit companies to hold the property and some simply hold onto the property out of a desire to protect the biodiversity or other values of the site. There is no inherent financial income stream from owning a private protected area while there are several required expenses. The initial purchase price, annual taxes, maintenance, and protection from trespass are all expenses that can run into the millions of dollars. Landowners that pursue this strategy are required to be relatively wealthy or have outside sponsors or pursue a strategy of income generation that is consistent with conservation such as ecotourism.

Auditor Response: Reasonable justification that purchase of land for use as a conservation area (without carbon finance) is unlikely in the region was provided. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.41 of 50 dated 3/4/2011

Standard Reference: CP-AB p.11-12
Document Reference: NA
Finding: The CPAB module provides a prioritized list of sources for selecting allometric equations (CP-AB p12). An equation from the lowest priority equation source (Pan-tropical forest type-specific) was chosen. However, equations from sources of higher priority are available, including equations that incorporate a species specific wood density parameter and equations from neighboring countries with similar conditions. The project must apply allometric equations selected in a way that is consistent with the priorities given by the methodology.

Proponent Response: This is an updated response. After speaking with the auditors and reviewing the proposed allometric equations from Chave et. al. 2005, we assigned a new variable in the inventory for specific gravity for all known trees for which a specific gravity figure is published. For unidentified species or species that don't have published specific gravity figure available, we used a weighted average specific gravity for all known species on the project (.64).

A spreadsheet of all the specific gravity figures and their references is attached. We then used the wet forest (without Height) equation found on page 93 of Chave et. al. (2005) to predict biomass for each tree and each plot, and develop a mean and confidence interval for the project. The spreadsheet with these calculations is attached.

Auditor Response: The revised choice of allometric equations is consistent with those deemed most applicable for the project area by the technical expert hired by the audit team, and is in conformance with the priority for selecting equations given by the methodology. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.42 of 50 dated 3/4/2011

Standard Reference: CP-AB p.11-12
Document Reference: NA
Finding: CP-AB requires validation of the applicability of allometric equations using the methods provided on pages CP-AB 12-14. Please demonstrate that the equations selected for palm and cecropia species are applicable to the project area.
Proponent Response: This is a revised response to NIR 42:

The cecropia validation is presumed to be impossible since the height and dbh requirements have not been met by finding enough individual trees of adequate size in the field. We will remove the cecropia from the calculations and cite another conservative reduction in the projected biomass.
For the purposes of these calculations, cohune palm should be treated as a "non-tree woody species". This is more in line with the biology of the species. If we can acquire the original data from the Brown et. al. study in Belize
http://www.winrock.org/ecosystems/files/WI_Belize_ClosedForest_M3DADI_Report_2005.pdf

to do the equation validation we'll include the palms in a a new section entitled "Above ground non-tree biomass pool" where only the palms will be included. Otherwise we'll conservatively omit the palms as well. If that's the case, we'll need to plan on doing our own destructive sampling effort to deal with palms on this and future projects in Belize.

For the purposes of this audit, presume that the palms are conservatively removed from the analysis.

Auditor Response: Cecropia and palms were conservatively omitted from project biomass accounting. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.43 of 50 dated 3/4/2011

Standard Reference: Voluntary Carbon Standard 2007.1, Sec. 5.11; REDD-MF II step 3
Document Reference: BCEP Carbon PDD ver 2.doc, Appendix A; NIR13
Finding: Please provide a monitoring plan written with sufficient detail to ensure consistent

measurements throughout the lifetime of the project. In addition to the items described in NIR 13, this plan should include (but is not limited to):
-Measurement techniques for fallen trees with new shoots growing vertically from the fallen bole
-How the location of the diameter measurement point on each tree was determined
-measurement techniques applied for palms
-how trees were determined to be within the plot (i.e. distance to the face or center of the bole)
-consistent methods for dealing with butt swell or imperfections at the diameter measurement point
Proponent Response: See attached new copy of PDD with monitoring plan incorporated as appendix A.

Auditor Response: Additional details regarding the methods for monitoring biomass were provided and assessed by the validation team. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.44 of 50 dated 3/4/2011

Standard Reference: Voluntary Carbon Standard 2007.1, Sec. 5.11
Document Reference: Monitoring Plan
Finding: Field observations demonstrated that some biomass estimation plots were measured using a methodology that differed from that described in the monitoring plan, that these deviations were not well documented, and that tree tags on these plots appeared inconsistent with both the written plan and the verbal description provided by the project team. Please provide a detailed written account of the actual procedures used for all plot measurements, demonstrate that correct carbon stock calculations were made for these plots, and provide a plan for ensuring that consistent measurements will be made in future monitoring events.
Proponent Response: Originally the field methods were to measure all trees > 5cm occurring within a 14m radius of plot center. After the initial two plots were installed and measured 19 and 16, it was determined that a complete measurement of all trees > 5 cm would require far more time than planned and budgeted so a revised methodology was implemented that is described in this manual.
Plot 16 was remeasured during the survey using the revised methods and trees tagged outside of the plot boundary were not included in the database. Plot 19 was inventoried in the originally intended manner and the area expansion for that plot reflects the area used in the original methods. The expansion factor for that plot was 616 meters which is the area of a 14 meter radius circle making it equivalent to the other plots.

Auditor Response: After issuance of NCR 2011.48, all monitoring plots were re-measured. Those measurements were checked by a validation cruise. No evidence of methodological inconsistencies was found as a result of that validation exercise. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.45 of 50 dated 3/4/2011

Standard Reference: REDD-MF p. 5, M-MON
Document Reference: Spatial Data Provided, Field observations

Finding: Land in the project area must have qualified as forest for at least 10 years prior to the project start date. The audit team noted a line cut through the property that was not excluded from the project area. Additionally, it was not clear where all of the areas cleared for agriculture by the previous landowner were located, whether they were cleared in the ten years prior to the project start date, and whether they were included in the project boundary. Finally, the Southern Highway has been paved since the land survey provided by the project team, resulting in clearing of some forest area immediately adjacent to the road. Please provide a revised delineation of the project area that excludes all ineligible land and demonstrate that the classification accuracy meets the requirements of the VCS NM module.

Proponent Response:

(Describe and provide objective evidence)

The revised classification follows. Land in the project area was classified using imagery from 1993 and prior and using the BERDS boundary file:

[Table excluded to save space]

The Forest class area is the only part of the property included in the project. The BERDS boundary file results in a slightly larger land area than that recorded on the deeds, so we reduced the Forest class area to 3,980 hectares. The data used was from an analysis performed by MDA Federal for 1993. The report is attached detailing classification accuracy (95.8%).

Auditor Response: The validation team reviewed the revised project area and found it to be a conservative estimate of the area of forested land in the project area. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NIR Number 2011.46 of 50 dated 3/22/2011

Standard Reference: BLPL p 4

Document Reference: NA

Finding: The BLPL module requires that "if government approval is required for deforestation to occur, the intention to deforest within the project area must be demonstrated by evidence:

o Recent approval from relevant government department (local to national) for conversion of forest to an alternative land use; or

o Documentation that a request for approval has be filed with the relevant government department for permission to deforest and convert to alternative land use;"

The Belize Environmental Impact Assessment (Amendment) Regulations (2007), schedule I, item (14)(d) and (g) requires an environmental impact assessment for clearing of land over 300 acres.

As a piece of the project area was acquired in 2008, the year following the year in which the EIA regulations were amended, please provide either (a) a demonstration that the project meets the requirements of the methodology as outlined above; or (b) a demonstration that the Environmental Impact Regulations cited above are not applicable to the project.

Proponent Response: Presumably all lands cleared over 300 acres in Belize are subject to this law. Belize common practice is to ignore the law in its entirety, or common practice is to provide a waiver from the law since there are no published reports of EIAs being conducted for agricultural land clearing in Belize (http://www.doe.gov.bz/EIAs.html), and there are no published reports of EIAs being declined in Belize (http://www.doe.gov.bz/EIAs.html).

Regardless, this law has clearly not been a barrier to clearing land as evidenced by the extensive land clearing that has gone on in the country since 2007. Given the monumental

effort Belize is undergoing to support agriculture (http://www.agriculture.gov.bz/PDF/Policy_Document.pdf) and the national policy supporting the expansion of agriculture (http://www.embassyofbelize.org/belize-profile/economy.html) including technical, financial, and international development assistance, it is unlikely at best that any restriction would be placed on land clearing for agriculture if an EIA or study were required. If an EIA or environmental study were required it would be conducted and approved. For example, the Balam Jungle Estates EIA approved by the Government of Belize on October 26, 2007 would clear 25,784 acres *and* commercially log another 44,345 acres, for a total of 70,129 acres of cleared lowland tropical moist forest, in the same ecozone as BCEP.

Since the agent of deforestation is a "class of deforesting agents", Belize laws do not require that "classes of deforesting agents" apply for an EIA since only a single institution can apply for an EIA, as demonstrated by Balam Jungle Estates government approved EIA to clear 70,129 acres. So professional judgment would lead us to believe that since there are no substantive barriers to land clearing by a single institution, even at scales that are 7x times the scale of BCEP as evidenced by Balam Jungle Estates EIA approval granted by the Government of Belize October 26, 2007, it is clear that EIAs are routinely approved for a scale 7x that of BCEP for a single institution and would be approved for "classes of deforestation agents".

Auditor Response: The validation team asked the technical expert hired by the audit team to assess common practice with regard to environmental impact laws in Belize. He responded as follows:

> It is never common practice to not enforce environmental laws in Belize even though it may be common practice to ignore the laws. I think that the standards are clear that if government approval is required for deforestation to occur that it should be obtained. Only if it is common practice for the government to relax the requirement should it not be required under the standards, and this is clearly not the case. I would agree that most EIA's are approved but that is not surprising as the idea behind an EIA is to ensure that development occurs properly but occurs none-the-less. It is neither logical nor legally correct to say that because no EIA's are rejected that one does not need an EIA. The first and second paragraphs of FCO's response are therefore irrelevant. I am not entirely clear with where FCO was going with the third and final paragraph of their response. It is clear that the class of deforesting agents (those deforesting lands in excess of 300 acres) are required to obtain an EIA, as specified in the law.
>
> I verified whether EIAs are required for forest clearing in excess of 300 acres and whether any entities have submitted EIAs recently, and I received positive responses from the Department of the Environment. You can email them at evirodept@btl.net attn: Mr. Anthony Mai. The Department recently moved so they do not have phone lines installed as yet. The person I spoke to said that if they came across anyone clearing forest in excess of 300 acres they would be fined. I asked whether it is common practice to allow deforestation in excess of 300 acres without an EIA and the response was a clear no.

Subsequently, The validation team consulted the VCSA with regards to whether the requirement of demonstration of government approval or filing for approval applied to classes of deforestation agents. As communicated in an email from Carolyn Ching to the validation team dated 11 April 2011, the VCSA ruled that "where the agent of deforestation

is a class of agents it would not be possible to get governmental approval so it would not be necessary [to demonstrate approval]."
Consequently, though it appears that an EIA is indeed required for legal conversion of the project area to nonforest land and none was sought, based on VCS ruling, when the specific agent of deforestation cannot be identified, evidence of government approval or intent to seek government approval is not required. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NCR Number 2011.47 of 50 dated 4/11/2011

Standard Reference: A/R Methodological tool "Estimation of direct nitrous oxide emission from nitrogen fertilization"; LK-ASP Module
Document Reference: BCEP Final Carbon Table.xlsx
Finding: The following errors were identified in the BCEP Final Carbon Table spreadsheet:
-The nitrogen content of synthetic fertilizer (parameter SFiNC) was calculated from its N-P-K rating incorrectly (fertilizer tab, cell B27).
-The $\Delta_{CBSL,i}$ parameter in the leakage module equation (7) refers to the parameter calculated in equation (3) of the BL-PL module. In row 21 of the leakage tab on the excel spreadsheet provided, the parameter calculated in equation (1) of the BL-PL module is used instead of the parameter calculated in equation (3) of BL-PL.
-The PFc parameter is specified in cell B5 as 100%, but as 0.645 in row 18 of the project leakage table. Please use consistent parameter values and provide a justification for the selected parameter.
Please provide an updated version of the carbon calculation spreadsheet with these errors corrected.
Proponent Response: We stand corrected on the NPK issue. We assumed incorrectly that 19-9-19 was parts not percentages.
The leakage calculation is adjusted.
The reference to the percentage of land remaining for leakage still forested is corrected and made consistent.
A new version of the spreadsheet and PDD are attached.

Auditor Response: The required corrections were made. An additional error was discovered in the SFiNC parameter, which resulted in the issuance of NCR 2011.49. That error was subsequently corrected as well. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NCR Number 2011.48 of 50 dated 4/11/2011

Standard Reference: VCS 2007.1 7.3.1
Document Reference: Inventory Data
Finding: Based on comparison to data collected by the validations team, the project's carbon inventory did not meet the accuracy standards of the VCS. The inventory must be corrected prior to issuance of a positive validation opinion.

Proponent Response: See attached new inventory and final version of PDD.

Auditor Response: All plots in the project area were re-measured. The accuracy of the revised inventory was assessed with a validation cruise on May 23 and 24, 2011, in which seven plots were re-measured. The accuracy of the reported data was found to be within the requirements of the VCS standard. The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

NCR Number 2011.49 of 50 dated 4/11/2011
Standard Reference: A/R Methodological tool "Estimation of direct nitrous oxide emission from nitrogen fertilization" **Document Reference:** BCEP Final Carbon Table.xlsx **Finding**: The parameter SFiNC is expressed as a number of grams in project calculation worksheets. Correct application of the tool requires the parameter to be expressed as a proportion. **Proponent Response**: See attached new inventory and final version of PDD. **Auditor Response**: The Proponent's response adequately addresses the finding in accordance with The VCS 2007.1 Protocol and selected methodology.

Note: Due to a numbering error by the lead validator, two findings were assigned the number 2011.38. There is no missing finding 2011.50.