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## CCBA PROJECT VALIDATION REPORT

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***BODEN CREEK ECOLOGICAL PRESERVE PROJECT  
TOLEDO DISTRICT, BELIZE, CENTRAL AMERICA***

**July 14, 2010**



*Photo of forest inventory field crew courtesy of Forest Carbon Offsets, LLC and the Conservation Management Institute*

***Validation Conducted by:***

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Appendix A CCBA Compliance Checklist

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## 1.0 Introduction

This report presents the findings of an audit conducted by Scientific Certification Systems (SCS), to validate the claim made by Forest Carbon Offsets, LLC (FCO), that the *Boden Creek Ecological Preserve Project* conforms to the Climate, Community and Biodiversity Project Design Standards (Second Edition). SCS has been accredited by the Climate, Community & Biodiversity Alliance (CCBA) to perform such validation audits.

### 1.1. Contact Information

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### 1.2. Objective

The objective of the validation audit was an independent assessment by SCS of the proposed project design against all criteria defined by the CCBA Project Design Standards. Validation results in a determination by SCS as to whether the project design complies with the standards and warrants submission for registration with CCBA. The ultimate decision on the registration of a proposed project activity, however, rests with CCBA.

### 1.3. Scope and Criteria

The project was assessed against the CCB Project Design Standards, Second Edition, to determine which of the fourteen required and three optional CCB Standards criteria the project satisfies. An "Approved" project is one which satisfies all 14 of the required criteria and a "Gold Level" approved project is one that additionally satisfies at least one of the optional criteria.

The scope of this assessment encompasses analysis of data and calculations as presented at the time of inception of project validation. The SCS Lead Auditor may issue one or more New Information Requests (NIR) or Non-Conformity Reports (NCR), as needed, and re-analyze new submissions.

## **1.4. Project Description**

The *Boden Creek Ecological Preserve Project* is a forest conservation project that protects 5,211 ha of native forest in Belize, Central America, for a project period of 20 years. Boden Creek Ecological Preserve (BCEP) is the owner and manager of the property and BCEP leases land to Belize Lodge and Excursions (BLE) ([www.belizelodge.com](http://www.belizelodge.com)) for its eco-tourism operations. Forest Carbon Offsets, LLC ([www.forestcarbonoffsets.net](http://www.forestcarbonoffsets.net)), is the Project developer and the Conservation Management Institute ([www.cmiweb.org](http://www.cmiweb.org)) at Virginia Tech is the Project technical lead.

The Project is located along Belize's Southern Highway near the town of Punta Gorda. With recent improvements to the Southern Highway, increasing development pressure is expected, including conversion of forest to citrus and banana plantations or other agricultural uses. Portions of the property were formerly in agricultural production and this, coupled with its proximity to the Southern Highway, makes the property a likely target for agricultural development.

The property is part of an important Meso-American biological corridor associated, in part, with the Golden Stream Corridor. In addition to sequestering carbon, the forest conservation project protects a portion of this corridor while maintaining habitat for several IUCN Red Listed species.

Boden Creek Ecological Preserve is near the Mayan communities of Golden Stream Village and Indian Creek Village and over 30 members of the community work at the Preserve, some of whom assist CMI with forest carbon field measurements and other project-related field studies. The Pine Hill Mennonite community is also adjacent to the preserve and directly benefits from conservation of the forest.

## **1.5. Summary of Validation Conclusion**

Following completion of SCS's duly-accredited validation process, it is our conclusion that the *Boden Creek Preserve Project* conforms to the CCBA Project Design Standards (Second Edition) at the Gold Level (see Appendix A).

## **2.0 Methodology**

SCS began reviewing the Project in February 2010, starting with a desk audit of Project documentation and correspondence with Forest Carbon Offsets, LLC. An independent auditor was then authorized by SCS to conduct a formal site visit and validation assessment in March 2010. Prior to the site visit, the Project was subject to an open public comment period, as required by the CCB Project Design Standards. Several comments were received and identified potential concerns that were investigated during the site visit. As part of the site visit the auditors participated in a public meeting involving the Project developers, the Project technical lead, BCEP, and various stakeholders, including members of the Mayan community and local conservation groups.

Following the site visit, 35 New Information Requests (NIRs) were written, requiring that the project proponents provide additional information so that conformance to the standards could be fully evaluated. Upon reviewing the additional information, a draft report was prepared by the auditors in June 2010. This report was subject to SCS's internal peer review process prior to its being submitted to Forest Carbon Offsets, LLC, for their review. A final report was then prepared in July 2010 and the Project was submitted to the CCBA for review and registration.

## 2.1. CCBA Standards

SCS conducted its evaluation to validate claims that the Project conforms to the CCBA Climate, Community and Biodiversity Project Design Standards (Second Edition) (“the CCB Standards”). The CCB Standards require conformance to 14 criteria in each of 4 categories: 1) General (5 criteria), 2) Climate (3 criteria), 3) Community (3 criteria), and 4) Biodiversity (3 criteria). In addition, applicants can achieve a higher level of validation through the application of three criteria in the Gold Level section. Gold level validation can be achieved by projects that meet the core requirements and at least one optional Gold Level criterion.

## 2.2. Auditor Qualifications

**Lead Auditor: Michael Thompson.** The evaluation was lead by Michael Thompson, M.Sc., under a contract with SCS. Mr. Thompson is a Certified Wildlife Biologist who has worked as a subcontractor to SCS for over 10 years, conducting certification evaluations to the Forest Stewardship Council's (FSC) forest management and chain-of-custody standards, as well as evaluations to the CCB Standards. He received his B.Sc. degree in wildlife from the University of Idaho and his M.Sc. degree in wildlife from the University of Maine. Mr. Thompson has over 25 years of experience in ecology, wildlife management, forest management, wetland science, and rare species conservation.

**Audit Team Member: Tanya Santos Neal.** Tanya Santos Neal , M.Sc., served as the local auditor, under contract with SCS. Mrs. Santos Neal holds a B.Sc. degree in Watershed Science from Colorado State University and an M.Sc. in Environmental Socioeconomics from the Tropical Agricultural Research and Higher Education Center (CATIE) in Costa Rica. She has worked as a Forest Officer with the Belize Forest Department for over 10 years, in the fields of protected areas management, wildlife management, forest management and administration and natural resources policy.

### **Technical Reviewer: Ryan Anderson**

Ryan Anderson holds a BS in Environmental Science from the University of Denver and an MS in Natural Resource Science and Management with emphasis in geospatial assessment, monitoring, and modeling of forest resources. His experience with terrestrial carbon cycle related research includes work at the Cedar Creek Long Term Ecological Research Station, the Chequamegon Ecosystem Atmosphere Study, and the North American Carbon Program's Site Synthesis modeling effort. His masters work focused on the use of LiDAR remote sensing for improved landcover classification, inventory of forest carbon stocks, and modeling of mean annual growth increments in the Chequamegon National Forest in northern Wisconsin. He is currently pursuing a Ph. D. in Forestry with the University of Montana's Numerical Terradynamic Simulation Group. His research focuses on the development and calibration of physiologically-based models of terrestrial ecosystem carbon, nitrogen, and water cycles.

## 2.3. Audit Process

The audit process included the following steps:

- Initial client meeting and Project orientation (via phone calls and emails);
- Review of Project documentation, including Project design reports, preliminary carbon models, and Project background descriptions;
- Review of stakeholder comments;

- Site visit on March 15-19, 2010, that included:
  - Project overview by Forest Carbon Offsets, LLC;
  - Property overview by BCEP;
  - Tour of forest and overview of forest inventory plot methodologies;
  - Trip down Golden Stream and into Port Honduras Marine Reserve with overview of biodiversity and conservation concerns;
  - Meetings with Mayan staff working for BLE;
  - Public meeting with local stakeholders, including members of the Mayan community and regional conservation groups;
  - Meetings with individual stakeholders;
- Issuance of 35 New Information Requests (NIR);
- Review of Forest Carbon Offsets, LLC, response to NIRs;
- Further document review and approval of draft report by SCS;
- Client review of draft report;
- Final report preparation; and
- Technical review and approval of the final report by SCS.

### **3.0 Stakeholder Comments**

The Project Design Document (PDD) was posted on the CCBA website on February 12, 2010, and the public comment period extended through March 12, 2010. Comments were received from 5 parties (see Appendix B).

Written comments were received from the following stakeholders and interested parties:

- Alan Feest, Water and Environmental Research Centre;
- Bruce Miller and Carolyn Miller, Independent Conservation Ecologists, Gallon Jug, Belize;
- George Headley, Bull Run Overseas, Ltd;
- Christine Lancaster, Calcarbon, Ltd; and
- Bartolo Teul, Ya'axche Conservation Trust.

All comments have been addressed by the auditors in this report. General themes included:

- Positive project for Belize that should be supported;
- Proper citation of referenced biological information;
- Accuracy and clarity of biodiversity descriptions;
- Clarification of local land conservation initiatives and protected area ownership;
- Labor and staff payment issues; and
- Working relationships with local conservation groups.

### **3.1. CCB Validation Findings**

This report of our validation findings addresses each of the CCBA criteria and indicators. For each criterion, the CCBA indicators are listed along with a description of the evidence that was considered, the findings from the audit, and, when applicable, Non-Conformity Reports (NCRs), Opportunities for Improvement (OFIs), and New Information Requests (NIRs). In the case of non-conformance, a Non-Conformity Report stipulates the deficiency and its relation to the CCB protocol. NCRs indicate broad

non-conformance at the criterion level that must be satisfied prior to project validation. An Opportunity for Improvement is issued when overall conformance with a criterion has been achieved but in instances where actions could be taken to further ensure compliance with an indicator. A New Information Request indicates when additional information is necessary to complete the validation. All NIRs must be received prior to project validation.

Throughout the remainder of the report, Forest Carbon Offsets, LLC, will be referred to as the “Project Proponents” or “the Proponents”. The Project Proponents collated much of their Project information in a document entitled *Boden Creek Ecological Preserve - Project Design Document*, dated January 27, 2010, which is available to the public on the CCBA website (<http://www.climate-standards.org>). The CCBA refers to such documents as Project Design Documents (PDD). The PDD was revised in June 2010 in response to 35 NIRs issued following the site visit by the auditors.

### 3.2. General Section

The General Section of the CCB Standards addresses original conditions in the project area baseline projections, project design and goals, management capacity and best practices, and legal status and property rights.

#### 3.2.1. G1 – Original Conditions in the Project Area

The original conditions at the project area and the surrounding project zone before the project commences must be described. This description, along with baseline projections (see G2), will help to determine the likely impacts of the project.

**Indicator G1.1.** The location of the project and basic physical parameters (e.g., soil, geology, climate).

**Findings:** Section G1.1 of the revised PDD identifies the location of the project and includes a description of the physical parameters associated with the property, including soils, geology, and climate. As part of the description of the Project, the PDD notes that the entire property is available for conversion to agriculture. During the audit, however, the potential for a regulatory requirement for a 1-chain buffer on streams was raised, but not resolved. In response to NIR 2010.1, FCO contacted the Ministry of Natural Resources and Environment and found that there was no such regulatory restriction. Both the Ministry and FCO, however, concluded that a 1-chain buffer was prudent, so FCO has voluntarily removed the lands within 1-chain of Golden Stream and Boden Creek from the lands considered to be eligible for conversion. CMI, the Project's technical lead, has a GIS and other related files that contain a great deal of additional information regarding the basic physical parameters associated with the Project Area, Project Zone, and Belize at the national level.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.1 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G1.2.** The types and condition of vegetation within the project area.

**Findings:** The revised PDD contains a detailed description of existing vegetation in the Project area along with information related to the forces driving stand composition (i.e., historic land use, recent land use, hurricanes, soils).

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.2 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G1.3.** The boundaries of the project area and the project zone.

**Findings:** The Project area and Project zone have been clarified and are shown in Figure 5 of the revised PDD. FCO was asked to explain why the Mayan village of Silver Creek was not included in the Project zone and, in response, they justified this decision based on community history and travel times (in excess of an hour) between Silver Creek and the Boden Creek property (see NIR 2010.3). The Project zone does not extend beyond the Project area boundary along one portion of the southern property line (see Figure 5 in revised PDD). These parcels to the south of the property are relatively large private properties that are not actively managed.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.3 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G1.4.** Current carbon stocks within the project area(s), using stratification by land-use or vegetation type and methods of carbon calculation (such as biomass plots, formulae, default values) from the Intergovernmental Panel on Climate Change's 2006 Guidelines for National GHG Inventories for Agriculture, Forestry, and Other Land Use or a more robust and detailed methodology.

**Findings:** Following the site audit FCO revised their current carbon stock calculations and provided the updated information in a new draft of the PDD (see Section G1.4 of the PDD). In response to NIR 2010.4, FCO provided all of the updated spreadsheets and other information used to derive carbon stock estimates. These calculations were independently reviewed by the audit team and found to be accurate, based on the assumptions stated by FCO. FCO's methodologies comply with IPCC guidelines for similar projects. Minor discrepancies in the PDD were discussed with FCO and found to be typographical errors, including: 1) p. 18, description of  $N_h$  contains a typographical error and should read "...area of stratum in hectares/area of the plot in hectares."; and 2) p. 18, the allowable error (E) is given



as 0.02 (i.e., 2%) when 0.2 (i.e., 20%) was used in all calculations. The sample size equation on page 18 of the revised PDD is for forests with multiple strata, whereas with the BCEP project the forest has been classified as a single strata for estimates of the initial carbon stock. Use of this equation, however, with a single stratum, results in the same sample size estimate. This sample size calculator is very sensitive to the relationship between the mean carbon estimate and the standard deviation of the estimate. In BCEP's case, the preliminary results from the 2008 study by Emrick and Dorr produced a standard deviation that was small in relation to the mean, resulting in a relatively small sample size calculation for the subsequent investigations. This is somewhat to be expected, given that the forest is relatively uniform following the recent hurricane, and FCO is aware of the potential need for more sample plots in the future if carbon stock estimates become more variable as stands develop. In the original PDD it appeared that some parts of the forest had not been sampled, and FCO confirmed that this was due to wet conditions and safety concerns in some parts of the forest. Such constraints were clarified in the revised PDD.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.4 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G1.5.** A description of communities located in the project zone, including basic socio-economic and cultural information that describes the social, economic and cultural diversity within communities (wealth, gender, ethnicity, etc.), identifies specific groups such as Indigenous Peoples and describes any community characteristics.

**Findings:** Belize is a culturally diverse country comprised of several distinct cultural groups and communities. In the Project area, Mayans are the predominant cultural group and FCO provides a description of the communities of Indian Creek Village and Golden Stream Village in the revised PDD. In response to NIR 2010.5, additional information regarding these communities was provided and included in the revised PDD. When the NIR was drafted, the relevance of Silver Creek Village to the Project zone was unknown. FCO's additional analyses, however, lead them to conclude that Silver Creek Village was not part of the Project zone, as defined by the CCBA (see NIR 2010.5) and the auditors concurred with this interpretation. The Project zone includes the adjacent Pine Hill Mennonite Community, which was also described in the revised PDD.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.5 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G1.6.** A description of current land use and customary and legal property rights including community property in the project zone, identifying any ongoing or unresolved conflicts or disputes and indentifying and describing any disputes over land tenure that were resolved during the last ten years (see also G5).

**Findings:** FCO provided comprehensive information regarding current land use and unresolved land tenure disputes in the Project zone. There are no known disputes involving the Project area (i.e., the BCEP parcel), but there is an ongoing Mayan land claims case before the Belize Supreme Court that potentially involves lands within the Project zone (see NIR 2010.6). Regardless of how this dispute is resolved, it is not expected to materially influence the Project area or implementation of the Project.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.6 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G1.7.** A description of current biodiversity within the project zone (diversity of species and ecosystems) and threats to that biodiversity, using appropriate methodologies, substantiated where possible with appropriate reference material.

**Findings:** BCEP has sponsored several professional inventories of biodiversity in the Project area, both in association with the CCBA project and prior to its inception. All studies were performed by professional ecologists and often with field assistance from local Mayans. In the original PDD, comments were received describing errors in how previous biodiversity studies were cited and how the data were presented and interpreted. These errors, while needing to be addressed, were technical in nature and not reflective of a material error in process or interpretation. The revised PDD (see Section G1.7) contains the corrected information, which illustrates that the BCEP Project area and Project zone have notable biodiversity values of national significance.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.7 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G1.8.** An evaluation of whether the project zone includes any of the following High Conservation Values (HCVs) and a description of the qualifying attributes:

- 8.1. Globally, regionally or nationally significant concentrations of biodiversity values;
  - a. protected areas
  - b. threatened species

- c. endemic species
- d. areas that support significant concentrations of a species during any time in their lifecycle (e.g. migrations, feeding grounds, breeding areas).

8.2. Globally, regionally or nationally significant large landscape-level areas where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance;

8.3. Threatened or rare ecosystems;

8.4. Areas that provide critical ecosystem services (e.g., hydrological services, erosion control, fire control);

8.5. Areas that are fundamental for meeting the basic needs of local communities (e.g., for essential food, fuel, fodder, medicines or building materials without readily available alternatives); and

8.6. Areas that are critical for the traditional cultural identity of communities (e.g., areas of cultural, ecological, economic or religious significance identified in collaboration with the communities).

**Findings:** FCO updated its analysis of HCVs in the Project zone and Project area and amended the PDD (see Table 7, High Conservation Values on BCEP and Project zone). Most notably, the Project zone provides habitat for a number of IUCN Red Listed species, is within a larger Meso-American Biological Corridor, and encompasses the *Nim Li Punit* Mayan archaeological site. Indicator G1.8.a requires an assessment of whether the Project zone includes any protected areas, as defined by IUCN guidelines (see Dudley, N. (Editor). 2008. *Guidelines for applying protected area management categories*. Gland, Switzerland: IUCN. 86 pp.). Applying the guidelines is a two-step process, first determining if an area is a "protected area" and then, if so, determining the proper protection area category (i.e., IUCN Categories I-VI). A protected area is defined by the IUCN as "a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve long-term conservation of nature with associated ecosystem services and cultural values." As defined, protected areas may be owned by governments, NGOs, private individuals, or companies. The Boden Creek Ecological Preserve appears to meet the IUCN definition of a protected area, given its stated purpose and management philosophy. Further, membership in BAPPA provides additional support for the parcel being an IUCN protected area. Our view is that BCEP most closely fits IUCN Category IV, Habitat/Species Management Areas. Table 7 of the revised PDD mentions the Port Honduras Marine Sanctuary as an HCV within the Project zone. While not technically within the Project zone, as defined by FCO, the BCEP Project clearly has relevance to the Sanctuary.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.8 dated April 2, 2010

**Opportunities for Improvement:** None

### 3.2.2. G2 – Baseline Projections

A baseline projection is a description of expected conditions in the project zone in the absence of project activities. The project impacts will be measured against this ‘without-project’ reference scenario.

The project proponents must develop a defensible and well-documented ‘without-project’ reference scenario that must:

**Indicator G2.1.** Describe the most likely land-use scenario in the absence of the project following IPCC 2006 GL for AFOLU or a more robust and detailed methodology, describing the range of potential landuse scenarios and the associated drivers of GHG emissions and justifying why the land-use scenario selected is most likely.

**Findings:** The original and revised PDDs contain detailed analyses of alternative land uses and justification for the proposed most likely land-use scenario (see, also, NIR 2010.9). As part of the audit, auditors were able to view active agricultural operations in the vicinity of the Project and concurred that conversion of the property to a combination of citrus or banana plantation, cattle grazing, and/or aquaculture is the most likely land use, absent the project. This conclusion is bolstered by the fact that a portion of the property used to be in agricultural use and much of the forest was recently impacted by a hurricane. Figure 4 of the revised PDD, a vegetation map of the Project area and surrounding lands visually highlights the fact that BCEP is bordered on the north and west by active and expanding agricultural operations.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.9 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G2.2.** Document that project benefits would not have occurred in the absence of the project, explaining how existing laws or regulations would likely affect land use and justifying that the benefits being claimed by the project are truly ‘additional’ and would be unlikely to occur without the project.

**Findings:** The PDD provides a list of laws that potentially relate to land use in the Project area. Despite these regulations, it is clear that there are no regulations that would prohibit the conversion of BCEP from forest to agricultural use. In fact, many Government of Belize policies encourage the economic development associated with agricultural uses. We concur with FCO, then, that the benefits associated with conserving the forest would be unlikely to occur without the Project and that the Project benefits are, in fact, additional.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.10 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G2.3.** Calculate the estimated carbon stock changes associated with the ‘without project’ reference scenario described above. This requires estimation of carbon stocks for each of the land-use classes of concern and a definition of the carbon pools included, among the classes defined in the IPCC 2006 GL for AFOLU. The timeframe for this analysis can be either the project lifetime (see **G3**) or the project GHG accounting period, whichever is more appropriate. Estimate the net change in the emissions of non-CO<sub>2</sub> GHG emissions such as CH<sub>4</sub> and N<sub>2</sub>O in the ‘without project’ scenario. Non-CO<sub>2</sub> gases must be included if they are likely to account for more than 5% (in terms of CO<sub>2</sub>-equivalent) of the project’s overall GHG impact over each monitoring period.

Projects whose activities are designed to avoid GHG emissions (such as those reducing emissions from deforestation and forest degradation (REDD), avoiding conversion of non-forest land, or certain improved forest management projects) must include an analysis of the relevant drivers and rates of deforestation and/or degradation and a description and justification of the approaches, assumptions and data used to perform this analysis. Regional-level estimates can be used at the project’s planning stage as long as there is a commitment to evaluate locally-specific carbon stocks and to develop a project-specific spatial analysis of deforestation and/or degradation using an appropriately robust and detailed carbon accounting methodology before the start of the project.

**Findings:** The revised PDD includes a detailed description of the without-project scenario and a subsequent estimate of carbon stock changes associated with agricultural land use. Based on deforestation rate data, FCO estimates that approximately 2.3% of the property would be converted to agricultural uses during each year of the of the 20-year lifespan of the Project. Under such a scenario, much of the property would remain as forest at the end of the Project. The assumption of a 2.3% loss of forest per year is undoubtedly conservative and an alternative scenario is that the new landowner, upon purchasing the property, would convert almost all of the forest to agricultural uses. FCO considered both scenarios and concluded that their conservative approach is appropriate for the Project. Using best available information, FCO calculated the estimated carbon stocks for the new agricultural areas in the without project scenario as well as for the remaining forested areas. As previously noted, FCO's carbon calculations were checked by the audit team and found to be reasonable and accurate. The model assumes, though, linear increases in carbon over the life of the Project in the remaining forest, whereas actual accumulation rates could reasonably be expected to be non-linear. Two points, however, support FCO's model: 1) the forest is a relatively young one that is rapidly developing following the recent hurricane, and 2) the Project lifespan is short in relation to the longevity of forests of this type. We concur, therefore, that the assumption of linear increases is reasonable at the Project validation phase.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.11 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G2.4.** Describe how the ‘without project’ reference scenario would affect communities in the project zone, including the impact of likely changes in water, soil and other locally important ecosystem services.

**Findings:** The revised PDD contains a general description of how the without-project scenario - conversion to agricultural uses - would impact the communities. Our assessment of this information was supported by site visits to agricultural areas while in Belize and interviews with members of the local Mayan community. In addition to the potential for soil erosion and related impacts to water quality, concerns expressed by community members included loss of jobs associated with BLE and BCEP, increased use of chemical pesticides and secondary impacts on local people and their gardens, and loss of forested habitat that provides a refuge for animals that are important to the community.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.12 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G2.5.** Describe how the ‘without project’ reference scenario would affect biodiversity in the project zone (e.g., habitat availability, landscape connectivity and threatened species).

**Findings:** The response provided by FCO to NIR 2010.13 provides a general description of anticipated biodiversity impacts associated with the "without project" scenario and additional information is included in the revised PDD. In Section G2.3, for example, FCO explains that the assumed "without project" scenario is a loss of 2.3% of the forest per year for 20 years, meaning that loss of forested habitat would occur in small blocks on an annual basis. FCO further explains that conversion to agriculture is likely to occur in adjacent areas, resulting - by the end of the Project lifespan - in a large cleared area that was formerly forest. In addition to the direct impacts associated with clearing, the remaining forest surrounding the agricultural areas would be indirectly diminished due to edge effects (e.g., increased predation on nesting birds in the forests adjacent to agricultural areas).

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.13 dated April 2, 2010

**Opportunities for Improvement:** None

### ***3.2.3. G3 – Project Design and Goals***

The project must be described in sufficient detail so that a third-party can adequately evaluate it. Projects must be designed to minimize risks to the expected climate, community and biodiversity benefits and to maintain those benefits beyond the life of the project. Effective local participation in

project design and implementation is key to optimizing multiple benefits, equitably and sustainably. Projects that operate in a transparent manner build confidence with stakeholders and outside parties and enable them to contribute more effectively to the project.

The project proponents must:

**Indicator G3.1.** Provide a summary of the project's major climate, community and biodiversity objectives.

**Findings:** The Project's major objectives are described in Section G3.1 of the PDD and are all related to achieving the benefits associated with conserving a large block of native Belizean forest.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator G3.2.** Describe each project activity with expected climate, community and biodiversity impacts and its relevance to achieving the project's objectives.

**Findings:** Project activities are described in Section G3.2 of the PDD and were the subject of extensive discussions during the audit. Project activities are tied to achieving the Project's objectives and appear to be both reasonable and achievable, given available resources.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator G3.3.** Provide a map identifying the project location and boundaries of the project area(s), where the project activities will occur, of the project zone and of additional surrounding locations that are predicted to be impacted by project activities (e.g. through leakage).

**Findings:** The required maps are provided in the PDD and additional maps are available in the Project's extensive GIS.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator G3.4.** Define the project lifetime and GHG accounting period and explain and justify any differences between them. Define an implementation schedule, indicating key dates and milestones in the project's development.

**Findings:** The Project lifetime and GHG accounting period extend from 2010 through 2029. Section G3.4 of the PDD includes an implementation schedule with Project milestones.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.14 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G3.5.** Identify likely natural and human-induced risks to the expected climate, community and biodiversity benefits during the project lifetime and outline measures adopted to mitigate these risks.

**Findings:** FCO has identified the potential risks to achieving Project benefits - including Governmental instability and changes in leadership at BCEP or BLE - and will mitigate these risks by placing a deed restriction on the Project's carbon benefits for the lifespan of the Project.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.15 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G3.6.** Demonstrate that the project design includes specific measures to ensure the maintenance or enhancement of the high conservation value attributes identified in **G1** consistent with the precautionary principle.

**Findings:** Maintenance of High Conservation Values is primarily associated with preserving the forest and protecting it from unauthorized activities. This will be achieved through regular patrols of the forest by local Mayans hired by BLE.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None



**New Information Requests:** See NIR 2010.16 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G3.7.** Describe the measures that will be taken to maintain and enhance the climate, community and biodiversity benefits beyond the project lifetime.

**Findings:** One goal of the Project is providing economic support for the BLE tourist operations, which are centered around providing healthy native forests for guests to experience. Project benefits, therefore, are expected to continue beyond the Project lifetime in association with management of the property as an ecological preserve. FCO also hopes to encourage similar projects on other private reserves in Belize (see PDD Section 3.7).

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator G3.8.** Document and defend how communities and other stakeholders potentially affected by the project activities have been identified and have been involved in project design through effective consultation, particularly with a view to optimizing community and stakeholder benefits, respecting local customs and values and maintaining high conservation values. Project developers must document stakeholder dialogues and indicate if and how the project proposal was revised based on such input. A plan must be developed to continue communication and consultation between project managers and all community groups about the project and its impacts to facilitate adaptive management throughout the life of the project.

**Findings:** FCO has consulted with communities and stakeholders through a range of activities that have included written correspondence, phone calls, direct discussions, and meetings, as appropriate to the cultural group. Consultation with the Mayan community has included meetings within villages that are planned with input from the village Alcalde (the village leader). These meetings were also planned, in part with input from local community leaders and NGOs, during a meeting attended by the auditors. FCO and CMI have used local Mayans employed by BLE for some of the carbon and biodiversity monitoring efforts. Design and implementation of these field efforts have benefited from the local knowledge and input provided by the Mayans. Project proponents intend to maintain regular communication with the Mayan community through regular public meetings held in the villages. BLE managers periodically consult with the Mennonite community through face-to-face meetings, while respecting that the community places great value on its privacy.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.17 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G3.9.** Describe what specific steps have been taken, and communications methods used, to publicize the CCBA public comment period to communities and other stakeholders and to facilitate their submission of comments to CCBA. Project proponents must play an active role in distributing key project documents to affected communities and stakeholders and hold widely publicized information meetings in relevant local or regional languages.

**Findings:** Methods used to publicize the CCBA comment period are listed in Section G3.9 of the PDD. Auditors confirmed that materials were posted on websites as described and the PDD was prominently displayed at the BLE facilities at the time of the audit.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.18 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G3.10.** Formalize a clear process for handling unresolved conflicts and grievances that arise during project planning and implementation. The project design must include a process for hearing, responding to and resolving community and other stakeholder grievances within a reasonable time period. This grievance process must be publicized to communities and other stakeholders and must be managed by a third party or mediator to prevent any conflict of interest. Project management must attempt to resolve all reasonable grievances raised, and provide a written response to grievances within 30 days. Grievances and project responses must be documented.

**Findings:** FCO explained to community members and other stakeholders that BAPPA tentatively agreed to serve as the third party in any disputes related to the Project. Labor disputes associated with BLE would properly be handled through existing government programs and regulations. FCO has since confirmed that BAPPA is prepared to serve as the third party for Project disputes.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.19 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G3.11.** Demonstrate that financial mechanisms adopted, including projected revenues from emissions reductions and other sources, are likely to provide an adequate flow of funds for project implementation and to achieve the anticipated climate, community and biodiversity benefits.

**Findings:** FCO provided business plans and financial spreadsheets for auditor review during and after the site visit to Belize. This information supports FCO's contention that anticipated Project revenues are adequate to fund expected Project activities.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.20 dated April 2, 2010

**Opportunities for Improvement:** None

### **3.2.4. G4 – Management Capacity and Best Practices**

The success of a project depends upon the competence of the implementing management team. Projects that include a significant capacity-building (training, skill building, etc.) component are more likely to sustain the positive outcomes generated by the project and have them replicated elsewhere.

Best practices for project management include: local stakeholder employment, worker rights, worker safety and a clear process for handling grievances.

The project proponents must:

**Indicator G4.1.** Identify a single project proponent which is responsible for the project's design and implementation. If multiple organizations or individuals are involved in the project's development and implementation the governance structure, roles and responsibilities of each of the organizations or individuals involved must also be described.

**Findings:** Section G4.1 of the PDD identifies all parties involved in the Project and their respective roles. The structure of the Project and the roles of each party were discussed during the audit and it appears that the Project is well-organized and that all parties understand their roles and responsibilities.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator G4.2.** Document key technical skills that will be required to implement the project successfully, including community engagement, biodiversity assessment and carbon measurement and monitoring

skills. Document the management team's expertise and prior experience implementing land management projects at the scale of this project. If relevant experience is lacking, the proponents must either demonstrate how other organizations will be partnered with to support the project or have a recruitment strategy to fill the gaps.

**Findings:** Key technical skills required for Project implementation are described in Section G4.2 of the PDD, along with an overview each Project participant's experience. Individual interviews were held with FCO, CMI, and BLE staff members during the audit and all were found to be highly experienced professionals with the skills necessary to accomplish the Project's objectives. In fact, the experience level being brought to bear on this Project is notable. FCO has experience in Belize and BLE has a long history of working with Mayans. The Project team, however, recognizes that consultation with Mayan stakeholders is important and has sought guidance from appropriate parties - including village leaders - regarding how best to ensure productive lines of communication.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.21 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G4.3.** Include a plan to provide orientation and training for the project's employees and relevant people from the communities with an objective of building locally useful skills and knowledge to increase local participation in project implementation. These capacity building efforts should target a wide range of people in the communities, including minority and underrepresented groups. Identify how training will be passed on to new workers when there is staff turnover, so that local capacity will not be lost.

**Findings:** The Project has developed and is implementing training programs for local Mayans so that they can assist with patrols, collection of forest carbon data, biodiversity monitoring, and tasks associated with operation of the eco-tourism operation. Mayans working on the Project were privately interviewed during the audit and we found that the training was occurring as described and that workers appreciated the opportunity to learn and apply new skills. Staff retention at BCEP is notably high, but new workers will receive similar training, as appropriate, to ensure that local capacity will not be lost during the life of the Project.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.22 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G.4.4.** Show that people from the communities will be given an equal opportunity to fill all employment positions (including management) if the job requirements are met. Project proponents must explain how employees will be selected for positions and where relevant, must indicate how local community members, including women and other potentially underrepresented groups, will be given a fair chance to fill positions for which they can be trained.

**Findings:** The Project employs members of the local Mayan community for field data collection positions, patrolling, Project monitoring (carbon and biodiversity), and for a range of positions associated with the eco-tourism operations, including management positions. Women in the region have few employment opportunities and BLE eco-tourism operations represent one of the more important sources of employment of Mayan women. Village leaders and other stakeholders provided input regarding job postings and other employment-related aspects of the Project during public stakeholder meetings.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator G4.5.** Submit a list of all relevant laws and regulations covering worker's rights in the host country.

Describe how the project will inform workers about their rights. Provide assurance that the project meets or exceeds all applicable laws and/or regulations covering worker rights and, where relevant, demonstrate how compliance is achieved.

**Findings:** Policies and procedures for informing workers of their rights are listed in Section G4.5 of the PDD and were discussed with the Project proponents during the audit. Some parties in commenting on the draft PDD noted that some BLE workers had not been paid in a timely fashion in the past. BLE and FCO were very forthcoming about this issue before and during the audit and explained when such instances had occurred and why (primarily due to cash flow). The carbon Project is, in part, a means of stabilizing cash flows to help avoid future issues related to payment of wages. BLE workers were privately interviewed during the audit and asked about the payment issue. Those interviewed explained that they were always informed as to why payment would be late and accepted that BLE managers were doing the best that they could to ensure prompt payment of wages. The consensus also seemed to be that payment of wages was not currently an issue. Several workers were randomly selected for private, one-on-one interviews about wage payment and none expressed any concern for the matter. It is our opinion, then, that - while unfortunate - the payment issue was in response to fluctuating income associated with the tourist trade and that workers understood the issues and accepted BLE's good faith efforts. We also conclude that the proposed carbon Project could potentially stabilize cash flow for the operations, thereby avoiding such concerns during the life of the Project.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.23 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G4.6.** Comprehensively assess situations and occupations that pose a substantial risk to worker safety. A plan must be in place to inform workers of risks and to explain how to minimize such risks. Where worker safety cannot be guaranteed, project proponents must show how the risks will be minimized using best work practices.

**Findings:** Section G4.6 of the PDD lists job-related hazards and includes snake bite, poachers, boat accidents, vehicle accidents, machete cuts, and chainsaw cuts. To that we would add the potential for slips, trips, and falls and heat exhaustion. CMI and BLE staff were interviewed during the audit to determine what safety standards were in place and we found safety to be a priority for all parties. We also found that, to date, there have been no major injuries associated with Project activities. During field visits that were conducted as part of the audit we had an opportunity to observe safety practices associated with foot travel, machete use, canoe travel, travel in vehicles, and being in the field during hot, humid days. In all instances it appeared that Project safety programs were being implemented with due diligence.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.24 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G4.7.** Document the financial health of the implementing organization(s) to demonstrate that financial resources budgeted will be adequate to implement the project.

**Findings:** The financial health of FCO, CMI, and BLE were considered during the audit and evidence of financial health was gathered through personal interviews, review of company websites, and inspection of Project budget spreadsheets. FCO is a well-capitalized organization supported by an experienced staff. CMI is a large and well-funded research program within Virginia Tech and appears to be a thriving university program. BLE has been operating in Belize for many years and it is evident that the managers have a clear understanding of the eco-tourism market. With FCO's assistance, they also have a clear understanding of how the carbon project would positively influence the operation's bottom line. Project spreadsheets showing income and expense projections for BLE following implementation of the carbon project also demonstrate that with Project implementation BLE should have the financial resources necessary for all Project activities.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

### **3.2.5. G5 – Legal Status and Property Rights**

The project must be based on a solid legal framework (e.g., appropriate contracts are in place) and the project must satisfy applicable planning and regulatory requirements.

During the project design phase, the project proponents should communicate early on with relevant local, regional and national authorities in order to allow adequate time to earn necessary approvals. The project design should be sufficiently flexible to accommodate potential modifications that may arise as a result of this process.

In the event of unresolved disputes over tenure or use rights to land or resources in the project zone, the project should demonstrate how it will help to bring them to resolution so that there are no unresolved disputes by the start of the project.

Based on information about current property rights provided in **G1**, the project proponents must:

**Indicator G5.1.** Submit a list of all relevant national and local laws and regulations in the host country and all applicable international treaties and agreements. Provide assurance that the project will comply with these and, where relevant, demonstrate how compliance is achieved.

**Findings:** Section G5.1 of the PDD provides the required list of relevant laws and regulations, although it should be noted few regulations specifically apply to a forest conservation project. During the course of the audit, FCO made numerous references to occasions when the opinion of Project attorneys had to be obtained. For the scale of the Project, then, the use of professional attorneys is seen in a positive light and should help ensure compliance with all relevant regulations. FCO, for its part, demonstrated that before it undertakes a carbon project, it undertakes an extensive regulatory due diligence effort. In addition, BLE managers demonstrated a detailed understanding of relevant Belizean laws and regulations.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.25 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G5.2.** Document that the project has approval from the appropriate authorities, including the established formal and/or traditional authorities customarily required by the communities.

**Findings:** BLE demonstrated that they are legally registered to do business in Belize, as evidenced by appropriate Government of Belize certificates. As noted above, no formal approval is needed from the Government of Belize to undertake a forest conservation carbon project. FCO did, however, seek the approval of the Alcaldes in the Mayan villages of Indian Creek and Golden Stream.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.26 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator G5.3.** Demonstrate with documented consultations and agreements that the project will not encroach uninvited on private property, community property, or government property and has obtained the free, prior, and informed consent of those whose rights will be affected by the project.

**Findings:** The Project is situated on private property owned by BCEP, as evidenced by deeds and other documents provided to the auditors. FCO met with the Alcaldes and other village stakeholders in the Mayan communities of Indian Creek and Golden Stream, where it was confirmed that the villages supported the carbon project and that there was no infringement on community property associated with Project implementation.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See G5.6

**Opportunities for Improvement:** None

**Indicator G5.4.** Demonstrate that the project does not require the involuntary relocation of people or of the activities important for the livelihoods and culture of the communities. If any relocation of habitation or activities is undertaken within the terms of an agreement, the project proponents must demonstrate that the agreement was made with the free, prior, and informed consent of those concerned and includes provisions for just and fair compensation.

**Findings:** No relocations of any kind are required to implement the Project.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None



**Indicator G5.5.** Identify any illegal activities that could affect the project’s climate, community or biodiversity impacts (e.g., logging) taking place in the project zone and describe how the project will help to reduce these activities so that project benefits are not derived from illegal activities.

**Findings:** Illegal activities could include illegal hunting, timber theft, or wood gathering. To minimize the risk of these activities occurring and diminishing Project benefits, the Project proponents will hire and train local Mayans to regularly patrol the property. Such patrols have occurred in the past and continue to occur on a more limited basis. With implementation of the carbon project, funds are expected to be sufficient to support returning to previous patrol levels.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator G5.6.** Demonstrate that the project proponents have clear, uncontested title to the carbon rights, or provide legal documentation demonstrating that the project is undertaken on behalf of the carbon owners with their full consent. Where local or national conditions preclude clear title to the carbon rights at the time of validation against the Standards, the project proponents must provide evidence that their ownership of carbon rights is likely to be established before they enter into any transactions concerning the project’s carbon assets.

**Findings:** Under the legally binding agreement between BCEP and FCO, the landowner maintains rights to ownership of carbon, while FCO has the right to serve as the agent of the landowner (i.e. BCEP). This agreement was discussed with both FCO and BCEP during the audit and it was confirmed that the landowner is making an informed decision regarding ownership of the carbon rights.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.27 dated April 2, 2010

**Opportunities for Improvement:** None

### **3.3. Climate Section**

#### **3.3.1. CL1 – Net Positive Climate Impacts**

The project must generate net positive impacts on atmospheric concentrations of greenhouse gases (GHGs) over the project lifetime from land use changes within the project boundaries.

The project proponents must:

**Indicator CL1.1.** Estimate the net change in carbon stocks due to the project activities using the methods of calculation, formulae and default values of the IPCC 2006 GL for AFOLU or using a more robust and detailed methodology. The net change is equal to carbon stock changes *with* the project minus carbon stock changes *without* the project (the latter having been estimated in **G2**). This estimate must be based on clearly defined and defensible assumptions about how project activities will alter GHG emissions or carbon stocks over the duration of the project or the project GHG accounting period.

**Findings:** Carbon stock comparisons between the with and without project scenarios were described with regards to Indicator G2.3 (see above and see Section G2.3 of the PDD), where it was shown that the Project - conservation of a native forest as opposed to conversion to agriculture - will have net positive impacts over the life of the Project. As previously noted, FCO's assumptions regarding the rate at which the forest would be converted in the without project scenario are arguably quite conservative.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator CL1.2.** Estimate the net change in the emissions of non-CO<sub>2</sub> GHG emissions such as CH<sub>4</sub> and N<sub>2</sub>O in the *with* and *without* project scenarios if those gases are likely to account for more than a 5% increase or decrease (in terms of CO<sub>2</sub>-equivalent) of the project's overall GHG emissions reductions or removals over each monitoring period.

**Findings:** Project activities are not expected to account for more than a 5% increase or decrease in GHG emissions (in terms of CO<sub>2</sub>-equivalent).

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator CL1.3.** Estimate any other GHG emissions resulting from project activities. Emissions sources include, but are not limited to, emissions from biomass burning during site preparation, emissions from fossil fuel combustion, direct emissions from the use of synthetic fertilizers, and emissions from the decomposition of N-fixing species.

**Findings:** Project activities associated with the forest conservation project are not expected to result in any other GHG emissions.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator CL1.4.** Demonstrate that the net climate impact of the project is positive. The net climate impact of the project is the net change in carbon stocks plus net change in non-CO<sub>2</sub> GHGs where appropriate minus any other GHG emissions resulting from project activities minus any likely project-related unmitigated negative offsite climate impacts (see CL2.3).

**Findings:** Net changes in climate impact are associated with conservation of the forest, as non CO<sub>2</sub> GHG levels are not expected to change by 5% or more and no other GHG emissions are anticipated (see above). Overall, net positive climate impacts associated with carbon sequestration in the conserved forest are positive.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator CL1.5.** Specify how double counting of GHG emissions reductions or removals will be avoided, particularly for offsets sold on the voluntary market and generated in a country with an emissions cap.

**Findings:** All of the Project's emission reductions will be registered and held by an independent public third-party registry to ensure proper accounting and to avoid double-counting. Belize does not have a national carbon accounting registry at this time.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

### 3.3.2. CL2 – Offsite Climate Impacts ('Leakage')

The project proponents must quantify and mitigate increased GHG emissions that occur beyond the project area and are caused by project activities (commonly referred to as 'leakage').

The project proponents must:

**Indicator CL2.1.** Determine the types of leakage that are expected and estimate potential offsite increases in GHGs (increases in emissions or decreases in sequestration) due to project activities. Where relevant, define and justify where leakage is most likely to take place.

**Findings:** Leakage is not expected to be a material concern associated with implementation of the Project. Theoretically, forest conservation projects could result in increased pressure to convert non-protected forests, but this is not a practical concern at the scale of the BCEP Project. In addition, the Project does not result in the displacement of any activities that might, in turn, be directed toward other, off-site properties.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator CL2.2.** Document how any leakage will be mitigated and estimate the extent to which such impacts will be reduced by these mitigation activities.

**Findings:** There are no anticipated leakage impacts that would need to be mitigated.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator CL2.3.** Subtract any likely project-related unmitigated negative offsite climate impacts from the climate benefits being claimed by the project and demonstrate that this has been included in the evaluation of net climate impact of the project (as calculated in **CL1.4**).

**Findings:** There are no anticipated leakage impacts that would need to be accounted for.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator CL2.4.** Non-CO<sub>2</sub> gases must be included if they are likely to account for more than a 5% increase or decrease (in terms of CO<sub>2</sub>-equivalent) of the net change calculations (above) of the project's overall off-site GHG emissions reductions or removals over each monitoring period.

**Findings:** Non-CO<sub>2</sub> gases are not expected to account for more than a 5% increase or decrease (in terms of CO<sub>2</sub>-equivalent) of the net change calculations of the project's overall off-site GHG emissions reductions or removals over each monitoring period.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

### **3.3.3. CL3 – Climate Impact Monitoring**

Before a project begins, the project proponents must have an initial monitoring plan in place to quantify and document changes (within and outside the project boundaries) in project-related carbon pools, project emissions, and non-CO<sub>2</sub> GHG emissions if appropriate. The monitoring plan must identify the types of measurements, the sampling method, and the frequency of measurement.

Since developing a full monitoring plan can be costly, it is accepted that some of the plan details may not be fully defined at the design stage, when projects are being validated against the Standards. This is acceptable as long as there is an explicit commitment to develop and implement a monitoring plan.

The project proponents must:

**Indicator CL3.1.** Develop an initial plan for selecting carbon pools and non-CO<sub>2</sub> GHGs to be monitored, and determine the frequency of monitoring. Potential pools include aboveground biomass, litter, dead wood, belowground biomass, wood products, soil carbon and peat. Pools to monitor must include any pools expected to decrease as a result of project activities, including those in the region outside the project boundaries resulting from all types of leakage identified in CL2. A plan must be in place to continue leakage monitoring for at least five years after all activity displacement or other leakage causing activity has taken place. Individual GHG sources may be considered 'insignificant' and do not have to be accounted for if *together* such omitted decreases in carbon pools and increases in GHG emissions amount to less than 5% of the total CO<sub>2</sub>-equivalent benefits generated by the project. Non-

CO<sub>2</sub> gases must be included if they are likely to account for more than 5% (in terms of CO<sub>2</sub>-equivalent) of the project's overall GHG impact over each monitoring period. Direct field measurements using scientifically robust sampling must be used to measure more significant elements of the project's carbon stocks. Other data must be suitable to the project site and specific forest type.

**Findings:** FCO and CMI provided auditors with their initial plan for monitoring above ground and below ground carbon stocks associated with woody biomass (see Section CL3.1 of the PDD). As noted above, the Project is not expected to materially influence non-CO<sub>2</sub> GHGs or result in other sources of GHG emissions.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator CL3.2.** Commit to developing a full monitoring plan within six months of the project start date or within twelve months of validation against the Standards and to disseminate this plan and the results of monitoring, ensuring that they are made publicly available on the internet and are communicated to the communities and other stakeholders.

**Findings:** FCO has committed to developing the required full monitoring plan (see PDD Section CL3.2).

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

### 3.4. Community Section

#### 3.4.1. CM1 – Net Positive Community Impacts

The project must generate net positive impacts on the social and economic well-being of communities and ensure that costs and benefits are equitably shared among community members and constituent groups during the project lifetime.

Projects must maintain or enhance the High Conservation Values (identified in **G1**) in the project zone that are of particular importance to the communities' well-being.

The project proponents must:

**Indicator CM1.1.** Use appropriate methodologies to estimate the impacts on communities, including all constituent socio-economic or cultural groups such as indigenous peoples (defined in **G1**), resulting from planned project activities. A credible estimate of impacts must include changes in community well-being due to project activities and an evaluation of the impacts by the affected groups. This estimate must be based on clearly defined and defensible assumptions about how project activities will alter social and economic well-being, including potential impacts of changes in natural resources and ecosystem services identified as important by the communities (including water and soil resources), over the duration of the project. The ‘with project’ scenario must then be compared with the ‘without project’ scenario of social and economic well-being in the absence of the project (completed in **G2**). The difference (i.e., the community benefit) must be positive for all community groups.

**Findings:** The Project proponents and community stakeholders have identified numerous benefits associated with conserving the forest and preventing its conversion to agriculture (see above). A key benefit, however, is the creation of well-paying jobs. Employment levels and wage rates will be monitored to quantify community benefits. This approach was shared with community stakeholders during meetings held by the Project proponents in the Mayan villages of Indian Creek and Golden Stream (see Section CM1.1 of the PDD).

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.28 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator CM1.2.** Demonstrate that no High Conservation Values identified in **G1.8.4-6** will be negatively affected by the project.

**Findings:** The Nim Li Punit archaeological site was identified as a community-related HCV in the Project zone. This site, however, is owned by the Government of Belize and is not under the control of the Project proponents. Conservation of the BCEP forest will not negatively influence the HCVs associated with the archaeological site.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.29 dated April 2, 2010

**Opportunities for Improvement:** None

### ***3.4.2. CM2 – Offsite Stakeholder Impacts***

The project proponents must evaluate and mitigate any possible social and economic impacts that could result in the decreased social and economic well-being of the main stakeholders living outside the project zone resulting from project activities. Project activities should at least 'do no harm' to the well-being of offsite stakeholders.

The project proponents must:

**Indicator CM2.1.** Identify any potential negative offsite stakeholder impacts that the project activities are likely to cause.

**Findings:** No material negative offsite stakeholder impacts are expected to be associated with conserving the BCEP forest.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator CM2.2.** Describe how the project plans to mitigate these negative offsite social and economic impacts.

**Findings:** No negative offsite impacts that warrant mitigation are expected to be associated with Project activities.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator CM2.3.** Demonstrate that the project is not likely to result in net negative impacts on the well-being of other stakeholder groups.

**Findings:** The Project is not expected to result in net negative impacts on the well-being of any other stakeholder groups.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None



**Opportunities for Improvement:** None

### **3.4.3. CM3 – Community Impact Monitoring**

The project proponents must have an initial monitoring plan to quantify and document changes in social and economic well-being resulting from the project activities (for communities and other stakeholders). The monitoring plan must indicate which communities and other stakeholders will be monitored, and identify the types of measurements, the sampling method, and the frequency of measurement.

Since developing a full community monitoring plan can be costly, it is accepted that some of the plan details may not be fully defined at the design stage, when projects are being validated against the Standards. This is acceptable as long as there is an explicit commitment to develop and implement a monitoring plan.

The project proponents must:

**Indicator CM3.1.** Develop an initial plan for selecting community variables to be monitored and the frequency of monitoring and reporting to ensure that monitoring variables are directly linked to the project's community development objectives and to anticipated impacts (positive and negative).

**Findings:** FCO has developed an initial plan for monitoring community variables associated with Project-related employment (see Section CM3.1 of the PDD). The selected variables are directly related to anticipated Project community benefits.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.30 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator CM3.2.** Develop an initial plan for how they will assess the effectiveness of measures used to maintain or enhance High Conservation Values related to community well-being (G1.8.4-6) present in the project zone.

**Findings:** Management of the Nim Li Punit archaeological site is the responsibility of the Government of Belize and outside the influence of the Project proponents. Nonetheless, the Project proponents will stay informed regarding any management actions undertaken by the Government of Belize and will provide input where opportunities exist and where relevant.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.31 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator CM3.3.** Commit to developing a full monitoring plan within six months of the project start date or within twelve months of validation against the Standards and to disseminate this plan and the results of monitoring, ensuring that they are made publicly available on the internet and are communicated to the communities and other stakeholders.

**Findings:** The Project proponents have committed to developing a full monitoring plan within the required timeframe (see Section CM3.1 of the PDD).

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

### **3.5. Biodiversity Section**

#### ***3.5.1. B1 – Net Positive Biodiversity Impacts***

The project must generate net positive impacts on biodiversity within the project zone and within the project lifetime, measured against the baseline conditions.

The project should maintain or enhance any High Conservation Values (identified in **G1**) present in the project zone that are of importance in conserving globally, regionally or nationally significant biodiversity.

Invasive species populations must not increase as a result of the project, either through direct use or indirectly as a result of project activities.

Projects may not use genetically modified organisms (GMOs) to generate GHG emissions reductions or removals. GMOs raise unresolved ethical, scientific and socio-economic issues. For example, some GMO attributes may result in invasive genes or species.

The project proponents must:

**Indicator B1.1.** Use appropriate methodologies to estimate changes in biodiversity as a result of the project in the project zone and in the project lifetime. This estimate must be based on clearly defined and defensible assumptions. The ‘with project’ scenario should then be compared with the baseline

'without project' biodiversity scenario completed in G2. The difference (i.e., the net biodiversity benefit) must be positive.

**Findings:** As noted above, FCO and CMI have developed conservative estimates of forest conversion rates associated with the without project scenario, namely an approximately 2.3% loss of forest per year, generally occurring in a continuously expanding block. This without project scenario contrasts with complete protection of the forest associated with the with project scenario. In addition to the clear contrast in forest acreage, the Project proponents have described the biodiversity benefits associated with conserving the forest and have contrasted these benefits with the substantially lower biodiversity values associated with an agricultural landscape (see Section B1.1 of the PDD).

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.32 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator B1.2.** Demonstrate that no High Conservation Values identified in G1.8.1-3 will be negatively affected by the project.

**Findings:** The with project forest conservation scenario clearly has positive impacts on the identified biodiversity HCVs (see Section G1.8.1-3).

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator B1.3.** Identify all species to be used by the project and show that no known invasive species will be introduced into any area affected by the project and that the population of any invasive species will not increase as a result of the project.

**Findings:** No vegetation will be planted in association with the Project and Project monitoring activities are not expected to increase populations of invasive species.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator B1.4.** Describe possible adverse effects of non-native species used by the project on the region's environment, including impacts on native species and disease introduction or facilitation. Project proponents must justify any use of non-native species over native species.

**Findings:** No exotic species will be used for any aspect of Project implementation.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator B1.5.** Guarantee that no GMOs will be used to generate GHG emissions reductions or removals.

**Findings:** No GMOs will be used for any aspect of Project implementation.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

### ***3.5.2. B2 – Offsite Biodiversity Impacts***

The project proponents must evaluate and mitigate likely negative impacts on biodiversity outside the project zone resulting from project activities.

The project proponents must:

**Indicator B2.1.** Identify potential negative offsite biodiversity impacts that the project is likely to cause.

**Findings:** No potentially negative offsite biodiversity impacts were identified. The forest conservation project is, instead, expected to have positive offsite biodiversity impacts (see Section B2.1 of the PDD).

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator B2.2.** Document how the project plans to mitigate these negative offsite biodiversity impacts.

**Findings:** No negative offsite biodiversity impacts warranting mitigation are expected to be associated with Project activities.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator B2.3.** Evaluate likely unmitigated negative offsite biodiversity impacts against the biodiversity benefits of the project within the project boundaries. Justify and demonstrate that the net effect of the project on biodiversity is positive.

**Findings:** No negative, unmitigated, offsite biodiversity impacts are expected to be associated with Project activities. The overall impact of the forest conservation project on biodiversity is notably positive, as was noted by several parties who commented during the CCBA public comment period (see Appendix B).

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

### ***3.5.3. B3 – Biodiversity Impact Monitoring***

The project proponents must have an initial monitoring plan to quantify and document the changes in biodiversity resulting from the project activities (within and outside the project boundaries). The monitoring plan must identify the types of measurements, the sampling method, and the frequency of measurement.

Since developing a full biodiversity-monitoring plan can be costly, it is accepted that some of the plan details may not be fully defined at the design stage, when projects are being validated against the

Standards. This is acceptable as long as there is an explicit commitment to develop and implement a monitoring plan.

The project proponents must:

**Indicator B3.1.** Develop an initial plan for selecting biodiversity variables to be monitored and the frequency of monitoring and reporting to ensure that monitoring variables are directly linked to the project's biodiversity objectives and to anticipated impacts (positive and negative).

**Findings:** The Project proponents have put forth a detailed biodiversity monitoring plan that is based on previous work by CMI and other parties in the Project area (see Section B3.1 of the PDD). Selected variables are directly linked to the Project's forest conservation biodiversity objectives.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.33 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator B3.2.** Develop an initial plan for assessing the effectiveness of measures used to maintain or enhance High Conservation Values related to globally, regionally or nationally significant biodiversity (**G1.8.1-3**) present in the project zone.

**Findings:** The Project proponents have developed an initial plan for assessing the effectiveness of measures taken to maintain or enhance HCVs related to biodiversity in the Project zone (see Section B3.2 of the PDD).

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.34 dated April 2, 2010

**Opportunities for Improvement:** None

**Indicator B3.3.** Commit to developing a full monitoring plan within six months of the project start date or within twelve months of validation against the Standards and to disseminate this plan and the results of monitoring, ensuring that they are made publicly available on the internet and are communicated to the communities and other stakeholders.

**Findings:** As noted above, the Project proponents have already prepared a detailed biodiversity monitoring plan. This plan will be finalized and then made publicly available, as described in Section B3.3 of the PDD.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

### 3.6. Gold Level Section

#### 3.6.1. GL1 – Climate Change Adaptation Benefits

This Gold Level Climate Change Adaptation Benefits criterion identifies projects that will provide significant support to assist communities and/or biodiversity in adapting to the impacts of climate change. Anticipated local climate change and climate variability within the project zone could potentially affect communities and biodiversity during the life of the project and beyond. Communities and biodiversity in some areas of the world will be more vulnerable to the negative impacts of these changes due to: vulnerability of key crops or production systems to climatic changes; lack of diversity of livelihood resources and inadequate resources, institutions and capacity to develop new livelihood strategies; and high levels of threat to species survival from habitat fragmentation. Land-based carbon projects have the potential to help local communities and biodiversity adapt to climate change by: diversifying revenues and livelihood strategies; maintaining valuable ecosystem services such as hydrological regulation, pollination, pest control and soil fertility; and increasing habitat connectivity across a range of habitat and climate types.

The project proponents must:

**Indicator GL1.1.** Identify likely regional climate change and climate variability scenarios and impacts, using available studies, and identify potential changes in the local land-use scenario due to these climate change scenarios in the absence of the project.

**Findings:** Gold Level validation for this indicator is not a component of the Project.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator GL1.2.** Identify any risks to the project’s climate, community and biodiversity benefits resulting from likely climate change and climate variability impacts and explain how these risks will be mitigated.

**Findings:** Gold Level validation for this indicator is not a component of the Project.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator GL1.3.** Demonstrate that current or anticipated climate changes are having or are likely to have an impact on the well-being of communities *and/or* the conservation status of biodiversity in the project zone and surrounding regions.

**Findings:** Gold Level validation for this indicator is not a component of the Project.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator GL1.4.** Demonstrate that the project activities will assist communities *and/or* biodiversity to adapt to the probable impacts of climate change.

**Findings:** Gold Level validation for this indicator is not a component of the Project.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

### **3.6.2. GL2 – Exceptional Community Benefits**

This Gold Level Exceptional Community Benefits criterion recognizes project approaches that are explicitly pro-poor in terms of targeting benefits to globally poorer communities **and** the poorer, more vulnerable households and individuals within them. In so doing, land-based carbon projects can make a significant contribution to reducing the poverty and enhancing the sustainable livelihoods of these groups. Given that poorer people typically have less access to land and other natural assets, this optional criterion requires innovative approaches that enable poorer households to participate effectively in land-based carbon activities. Furthermore, this criterion requires that the project will ‘do no harm’ to poorer and more vulnerable members of the communities, by establishing that no member



of a poorer or more vulnerable social group will experience a net negative impact on their well-being or rights.

Project proponents must:

**Indicator GL2.1.** Demonstrate that the project zone is in a low human development country OR in an administrative area of a medium or high human development<sup>55</sup> country in which at least 50% of the population of that area is below the national poverty line.

**Findings:** Gold Level validation for this indicator is not a component of the Project.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator GL2.2.** Demonstrate that at least 50% of households within the lowest category of well-being (e.g., poorest quartile) of the community are likely to benefit substantially from the project.

**Findings:** Gold Level validation for this indicator is not a component of the Project.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator GL2.3.** Demonstrate that any barriers or risks that might prevent benefits going to poorer households have been identified and addressed in order to increase the probable flow of benefits to poorer households.

**Findings:** Gold Level validation for this indicator is not a component of the Project.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator GL2.4.** Demonstrate that measures have been taken to identify any poorer and more vulnerable households and individuals whose well-being or poverty may be negatively affected by the project, and that the project design includes measures to avoid any such impacts. Where negative impacts are unavoidable, demonstrate that they will be effectively mitigated.

**Findings:** Gold Level validation for this indicator is not a component of the Project.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

**Indicator GL2.5.** Demonstrate that community impact monitoring will be able to identify positive and negative impacts on poorer and more vulnerable groups. The social impact monitoring must take a differentiated approach that can identify positive and negative impacts on poorer households and individuals and other disadvantaged groups, including women.

**Findings:** Gold Level validation for this indicator is not a component of the Project.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

### **3.6.3. GL3 – Exceptional Biodiversity Benefits**

All projects conforming to the Standards must demonstrate net positive impacts on biodiversity within their project zone. This Gold Level Exceptional Biodiversity Benefits criterion identifies projects that conserve biodiversity at sites of global significance for biodiversity conservation. Sites meeting this optional criterion must be based on the Key Biodiversity Area (KBA) framework of vulnerability and irreplaceability. These criteria are defined in terms of species and population threat levels, since these are the most clearly defined elements of biodiversity. These scientifically based criteria are drawn from existing best practices that have been used, to date, to identify important sites for biodiversity in over 173 countries.

Project proponents must demonstrate that the project zone includes a site of high biodiversity conservation priority by meeting either the vulnerability *or* irreplaceability criteria defined below:

**Indicator GL3.1.** Vulnerability

Regular occurrence of a globally threatened species (according to the IUCN Red List) at the site:

- 1.1. Critically Endangered (CR) and Endangered (EN) species - presence of at least a single individual; or
- 1.2. Vulnerable species (VU) - presence of at least 30 individuals or 10 pairs.

**Findings:** The Project meets this Gold Level indicator based on the confirmed regular presence of three IUCN Red List endangered species (IUCN-EN), including Baird's tapir, Yucatan black howler monkey, and Geoffroy's spider monkey.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** See NIR 2010.35 dated April 2, 2010

**Opportunities for Improvement:** None

Or,

**Indicator GL3.1.** Irreplaceability

A minimum proportion of a species' global population present at the site at any stage of the species' lifecycle according to the following thresholds:

- 2.1. Restricted-range species - species with a global range less than 50,000 km<sup>2</sup> and 5% of global population at the site; or
- 2.2. Species with large but clumped distributions - 5% of the global population at the site; or
- 2.3. Globally significant congregations - 1% of the global population seasonally at the site; or
- 2.4. Globally significant source populations - 1% of the global population at the site.

**Findings:** Gold Level validation for this indicator is not a component of the Project.

**Conformance:** Yes  No  N/A

**Non-Conformity Reports:** None

**New Information Requests:** None

**Opportunities for Improvement:** None

#### 4.0 CCB Validation Conclusion

Following completion of SCS's duly-accredited validation process, it is our opinion that the *Boden Creek Ecological Preserve Project* conforms to the CCBA Climate, Community and Biodiversity Project Design Standards (Second Edition) at the Gold Level (see Appendix A).

#### 5.0 Corrective Action Requests

Please see section 3.1 of this report for descriptions of the types of corrective action requests. Please see section 3 for references to these corrective action requests.

**Non-Conformity Reports:**

None.

**New Information Requests:**

NIR Number 1 of 35 Dated April 2, 2010	CCBA ver. 2 G1.1
<p><b>Finding:</b> In the general description of the project it is assumed that all 12,876 acres of forest is available for conversion to agriculture. During the audit, however, Tanya Santos noted that there might be a regulation related to water body buffers (i.e., potentially a 1-chain buffer). Please review Belizean law and regulations and determine if such regulations exist and, if so, apply to the Boden Creek project. If there are regulatory constraints on conversion to agriculture, please identify any areas subject to such constraints. See also NIR 10.</p>	
<p><b>Proponent Response on May 15, 2010:</b> All forest in the project area is available for conversion to agriculture except a one-chain buffer surrounding Boden Creek and Golden Stream (personal communication Ministry of Natural Resources and Environment, Belize). There are no regulatory constraints on conversion to agriculture. A one-chain buffer on Boden Creek and Golden Stream has been removed (66 ha) from consideration for conversion from the project and identified on the project map in the latest version of the PDD.</p>	
<p><b>Auditor Response:</b> FCO called the Ministry of Natural Resources and Environment on March 30, 2010, to discuss the potential need for a 1-chain buffer on streams with the on-call staff person. FCO's understanding following this call is that there are no specific regulations requiring a 1-chain buffer, but both parties agreed that including a 1-chain buffer was both prudent and conservative. Given that FCO's response is conservative, and likely goes beyond regulatory requirements, the NIR response is considered to be acceptable.</p>	

NIR Number 2 of 35 Dated April 2, 2010	CCBA ver. 2 G1.2
<p><b>Finding:</b> Please provide a more detailed description of the vegetation found in the project area, including stand composition (tree species), dbh, height, and basal area, to better characterize the project area and to support the assumption that the entire forest can be typed as one stand type.</p>	
<p><b>Proponent Response on May 15, 2010:</b> Please see section G1.2. Types and Condition of Vegetation at the Project Area of the revised PDD data May 28, 2010</p>	
<p><b>Auditor Response:</b> The revised PDD contains more detailed descriptions of the vegetation found in the Project area.</p>	

**Finding:** Please clarify what is considered to be the "project zone", by providing a map and narrative description of the project zone, and review the PDD to ensure that all references to the project zone are consistent with this definition. Note that the "reference area" described in the PDD is likely a subset of the broader project zone.

**Proponent Response on May 15, 2010:** The Project Zone includes the Pine Hill Mennonite Community, Indian Creek Village, and Golden Stream Village. The Project Zone is defined as the Project Area plus the land within the boundaries of the adjacent communities and properties affected by the Project and these communities and lands include Golden Stream Village, Indian Creek Village, Pine Hill Mennonite Community, and the YCT lands to the northeast. See latest version of the PDD G1.3.

**Auditor Response:** The boundary of the Project zone has been clarified (see Figure 5 in revised PDD) and appears to be in compliance with the CCBA's general guidelines. FCO was asked why the relatively nearby Mayan community of Silver Creek was not included in the Project zone. FCO based this decision on community descriptions in the publication *Mayan Atlas: The Struggle to Preserve Maya Land in Southern Belize*, discussions with community leaders in Indian Creek, Golden Stream, and Silver Creek, and personal investigations in Silver Creek. FCO's conclusion was that, although nearby, the travel time from Silver Creek to the Boden Creek Preserve (in excess of an hour) precluded community members from having regular interaction with the proposed project.

**Finding:** Please provide supporting documentation (e.g., spreadsheets, technical reports) for the assessment of carbon stocks for both the 'with' and 'without' project scenarios. As appropriate, identify specific assumptions and data sources for all carbon calculations. In the response, please also include: a) a copy of the referenced Emrick and Dorr (2008) paper, b) the spreadsheet and input data used to determine sample size for forest inventory plots, and c) an explanation of areas within the forest that were not available for sampling (i.e., the southern portion was described as being "too wet to access" during the audit).

**Proponent Response on May 15, 2010:** Requested documents were sent to the auditors. During the rainy season, some parts of the property are difficult to access due to standing water on the limited roads. The inaccessible area is very similar to the area accessed for data collection based on remote sensing data. Given that plus the expense, hardship, and risk of accessing those areas in the rainy season, we determined that the benefits did not outweigh the costs. We will continue to monitor those areas by remote sensing and access them on foot when conditions are more favorable.

**Auditor Response:** All requested documents were provided and carbon calculations were reviewed by the audit team.

**Finding:** Please provide a more comprehensive description of the communities within the project zone, including but not necessarily limited to Indian Creek, Golden Stream, Silver Creek, and the Mennonite community.

**Proponent Response on May 15, 2010:** There are three communities located in the Project Zone. The communities are Indian Creek Village, Golden Stream Village, and Pine Hill Mennonite Community. The three communities do not reside in the Project area.

Indian Creek Village is a 100% Ke'kchi Maya village recognized by the Belize government as a community in 1969. Indian Creek Village citizens originally migrated to Indian Creek Village from Laguna Village. Few jobs are available to the community beyond traditional milpa farming with the exception of working at BCEP and BLE. The population of Indian Creek Village is estimated at 447 individuals in 1997 (Toledo Maya Cultural Council 1997). This is roughly 2% of Toledo District's rural population.<sup>1</sup> The village is a collection of Ke'kchi Mayan houses stretched along the Southern highway in close proximity to the Project. Indian Creek Village does have a school with grades 1-8 and several churches. The Mayan archaeological site Nim Li Punit is within Indian Creek Village. Directly south of Indian Creek Village is BCEP. The community members of Indian Creek Village self-identify as 37% Catholic and 63% other Christian religions (Toledo Maya Cultural Council 1997). 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 traditionally occurred west and north of the village (Steinberg 1998).

Golden Stream Village is a 53% Ke'kchi Maya / 47% Mopan Maya village recognized by the Belize government as a community around 1986. Golden Stream Village citizens originally migrated to Golden Stream Village from Pueblo Viejo and Santa Cruz in two waves – in 1970 and in 1985. Few jobs are available to the community beyond traditional milpa farming with the exception of working at BCEP and BLE. Population of Golden Stream Village is estimated at 317 individuals in 2000<sup>2</sup>. This is roughly 1.7% of Toledo District's rural population.<sup>3</sup> The village is a collection of Ke'kchi and Mopan houses stretched along the Southern highway about 44 kilometers north of Punta Gorda. Golden Stream Village does have a school built in 1996. South of Golden Stream Village is BCEP. Work activities include milpa farming, raising animals, hunting and fishing. Traditional hunting areas are in the mountains north of Golden Stream Village (Steinberg 1998). Besides holding Mayan religious beliefs, the community members of Golden Stream Village self-identify as 12% Catholic and 88% other Christian religions (Toledo Maya Cultural Council 1997). According to personal interviews and official correspondence, Golden Stream Village has never traditionally used the BCEP property for hunting, medicinal plant collecting, or other activities.

Both the Indian Creek Village and the Golden Stream Village are traditional Maya communities. These communities have a traditional chief that is called an Alcalde, or *notch winic* or *pohlil kah*

<sup>1</sup> [http://www.statisticsbelize.org.bz/dms20uc/dm\\_tree.asp?pid=6](http://www.statisticsbelize.org.bz/dms20uc/dm_tree.asp?pid=6)

<sup>2</sup> <http://celade.cepal.org/cgibin/RpWebEngine.exe/PortalAction?&MODE=MAIN&BASE=CPVBLZ2000&MAIN=WebServerMain.inl>

<sup>3</sup> [http://www.statisticsbelize.org.bz/dms20uc/dm\\_tree.asp?pid=6](http://www.statisticsbelize.org.bz/dms20uc/dm_tree.asp?pid=6)

(Mopan) or *mamah* or *ruj'il* (Ke'kchi) (Toledo Maya Cultural Council 1997). The Alcalde system is similar to a traditional Mayan village council system.<sup>4</sup> The Alcalde manages community conflicts, judges misdeeds, assembles communities for religious ceremonies and community events such as village cleanings, maintenance, and construction projects. The Alcalde manages the communal lands of the Maya. This is the typical land management regime for the Maya of southern Belize.

The Pine Hill Mennonite Community is reclusive and interacts minimally with others from outside their community. The community is a Kleine Gemeinde Mennonite community. It is a recent Mennonite settlement, begun in 1996, located on a privately owned block west of BCEP. The Pine Hill community migrated south from Barton Creek in the Cayo District. The Pine Hill Mennonite Community includes many houses, barns, a circular lumber mill powered by eight horses, cheese production facilities and a dairy industry, honey, cattle ranching, fields for hay, and wood working facilities (personal visit). The community is considering future expansion including coffee and chocolate production and small scale production of goat's cheese.<sup>5</sup>

The Pine Hill Mennonite Community bases their convictions on a framework against modernistic trends living simply and in nonconformity to the world. Similar to their brethren at Upper Barton Creek, "They did not own any equipment with motors and did not use electricity. They opposed education above elementary school and the influence of worldly literature. They believed in strict discipline and religious teaching for children and also practiced strict discipline among adults to avoid "erring doctrines" and carnal-mindedness. Members were accepted from any nationality but only upon evidence of a change of heart and life. They did not smoke or drink, they dressed plainly, and the men wore beards. They farmed on a small scale using horses, producing vegetables, cattle, honey, etc."<sup>6</sup>

For figures and tables see new version of the PDD.

**Auditor Response:** The revised PDD contains detailed descriptions of the Mayan villages of Golden Stream and Indian Creek. When the NIR was drafted, the relevance of Silver Creek Village to the Project zone was unknown. FCO's additional analyses, however, lead them to believe that Silver Creek Village was not part of the Project zone. Indicator G1.5 of the CCBA standards requires a description of communities located in the Project zone and communities are described as "*...all groups of people...who live within or adjacent to the project area as well as any groups that regularly visit the area and derive income, livelihood, or cultural values from the area.*" Silver Creek Village is over an hour away from the Boden Creek Preserve and there is no evidence that community members visit the Preserve regularly or derive income, livelihood, or cultural values from the property. Based on these facts, we concur with FCO's determination that Silver Creek Village is not within the Project zone, as defined by the CCBA standards.

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<sup>4</sup> <http://unpan1.un.org/intradoc/groups/public/documents/un/unpan023193.pdf>

<sup>5</sup> Newspaper of the Toledo Chapter of the Belize Tourism Industry Association, Toledo Howler, August 2009, Year 3, Issue 1

<sup>6</sup> Friesen, Heinrich P. "Upper Barton Creek Colony, Belize." Global Anabaptist Mennonite Encyclopedia Online. 1989. Web. 29 March 2010. <http://www.gameo.org/encyclopedia/contents/U64.html>

**Finding:** Please provide a description of any land disputes in the project zone, including but not necessarily limited to Mayan land claims (reference the Mayan Atlas as well as the recent and ongoing court cases), the road to the Mennonite community (i.e., a potential dispute was noted during the audit), and potential disputes noted in the YCT comments. As appropriate, provide supporting evidence for why such disputes are, or are not, relevant to the project.

**Proponent Response on May 15, 2010:** There are no ongoing property disputes with the Project property. Copies of the independent title searches are available from the Project Developer and have been reviewed by the auditor.

The Pine Hill Mennonite Community owns their property in fee simple and are actively seeking to expand their property either onsite or to another region (personal communication) to increase coffee and chocolate production and small scale production of goat's cheese.<sup>7</sup> The Pine Hill Mennonite Community has received permission to build and maintain a road on B CEP's property to more easily access their property from the Southern Highway. Relationships between B CEP and the Pine Hill Mennonite Community are good. The road to the Mennonite community is maintained by the Mennonites and made available by the project as a courtesy to a neighbor. There are no written agreements for use of the right-of-way. This sort of arrangement is common within Belize, and contributes to improved neighbor relations. The Mennonite community does not have a legal claim to use the right-of-way.

The Mayan villages of southern Belize including both Indian Creek Village and Golden Stream Village are currently involved in a court case in Belize to seek official titling of their customary land rights based on the book Maya Atlas: The Struggle to Preserve Maya Land in Southern Belize. According to all involved (personal communication with stakeholders and governmental officials), the Maya of southern Belize have no stated interest in the B CEP property. We have reviewed the Maya Atlas, and the Project does not fall within the disputed areas. This potential dispute is not relevant to the project.

**Auditor Response:** FCO provided additional information concerning potential land disputes in and around the Project area (see above) and included much of this information in the revised PDD. In addition, issues raised in YCT's comments during the CCBA public comment period were discussed during a public meeting as part of the site audit. Auditors considered this information and independently reviewed information related to ongoing Mayan land claims in the Toledo District that are currently before Belize's Supreme Court and expected to be ruled on this year. Auditors also reviewed relevant portions of the Maya Atlas.

Mayan land claims in Belize involve deeply complex issues and currently center around efforts to secure a Mayan Homeland in the Toledo District of southern Belize. Our understanding - from information presented by FCO, review of the Maya Atlas, and review of the pending court case - is that potential Mayan land claims occur on lands along the Southern Highway, adjacent to B CEP, but

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<sup>7</sup> Newspaper of the Toledo Chapter of the Belize Tourism Industry Association, Toledo Howler, August 2009, Year 3, Issue 1



do not involve the subject property. Our further understanding is that the majority of Mayans respect the legal rights of landowners with appropriate parcel deeds (see p. 8 of the Maya Atlas). In addition, at no time during our meetings in Belize - which included private, confidential meetings with local Mayans - did anyone mention any land claims related to the B CEP property. Finally, FCO provided copies of current Title Certificates for the property. We conclude, therefore, that the subject property does not appear to be the subject, or focus, of any land disputes related to Mayan land claims.

We note that the agreement to allow the adjacent Mennonite community to access their lands over a road that is, in large part, on B CEP property is informal. FCO, however, asserts that this is culturally appropriate for southern Belize. As part of the audit, the road was traveled all the way to the Mennonite settlement and appeared to be in good repair, in response to the Mennonite's maintenance activities.

Comments made by the Ya'axche Conservation Trust (YCT) related to nearby conservation lands (see Appendix B) primarily related to the names of parcels, correct characterization of the parties involved in land conservation deals, acreages, and ownership. In general, the issues related to incorrect information available to FCO at the time the original PDD was drafted, as explained by FCO in a public meeting attended by YCT. The revised PDD contains corrected descriptions of all relevant parcels.

**NIR Number 7 of 35 Dated April 2, 2010**

**CCBA ver. 2 G1.7**

**Finding:** Please provide copies of the biodiversity inventories referenced in Section G1.7 (e.g., the work by Miller and Miller).

**Proponent Response on May 15, 2010:** A copy of the document has been transmitted to the auditors.

**Auditor Response:** Documents received and reviewed. In addition, information included in the PDD derived from the work of Miller and Miller has been corrected in response to comments received from the Millers.

**NIR Number 8 of 35 Dated April 2, 2010**

**CCBA ver. 2 G1.8**

**Finding:** Indicator G1.8 contains very specific definitions of areas with "High Conservation Values" (HCVs) (see 8.1 a-d, 8.2, 8.3, 8.4, 8.5, and 8.6) that are the basis for all HCV analyses in the remainder of the standards. The definition of HCVs in Section G1.8 of the PDD, however, is not entirely consistent with the definition of HCV in the CCBA standards. Please provide an analysis of potential areas with HCVs in the project zone, with specific emphasis on HCV sites in the project area.

**Proponent Response on May 15, 2010:** An evaluation of HCVs was performed.

This project addresses multiple High Conservation Values in the form of threatened species (8.8.b) and globally and regionally significant large landscape-level areas where viable populations of most if

not all naturally occurring species exist in natural patterns of distribution and abundance (8.2) plus protection of the Port Honduras Marine Sanctuary which encompasses notable coral reef habitat at risk from water quality degradation and global climate change (8.3). The threatened species are listed in the PDD. The project helps comprise the Mesoamerican Biological Corridor,<sup>8</sup> and is a part of the Mesoamerican “Hot Spot” for biodiversity as determined by Conservation International<sup>9</sup>.

Threatened and Endangered Ecosystems: Project site drains directly into the Port Honduras Marine Sanctuary. Water quality impacts (agricultural chemical and sediment runoff) from the “without project” scenario would have significant deleterious effects on important coral reef habitat.<sup>10</sup>

Nim Li Punit, a community HCV, is within the project zone but not within the Project area. Nim Li Punit is an archaeological site managed as a tourist attraction and research site. The ecotourism activity at the Project will enhance visitation at Nim Li Punit.

See revised PDD for table and additional figure.

**Auditor Response:** FCO updated its analysis of HCVs in the Project zone and Project area and amended the PDD (see Table 7, High Conservation Values on BCEP and Project zone). Indicator G1.8.a requires an assessment of whether the Project zone includes any protected areas, as defined by IUCN guidelines (see Dudley, N. (Editor). 2008. *Guidelines for applying protected area management categories*. Gland, Switzerland: IUCN. 86 pp.). Applying the guidelines is a two-step process, first determining if an area is a “protected area” and then, if so, determining the proper protection area category (i.e., IUCN Categories I-VI). A protected area is defined by the IUCN as “a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve long-term conservation of nature with associated ecosystem services and cultural values.” As defined, protected areas may be owned by governments, NGOs, private individuals, or companies. The Boden Creek Ecological Preserve appears to meet the IUCN definition of a protected area, given its stated purpose and management philosophy. Further, membership in BAPPA provides additional support for the parcel being an IUCN protected area. Although not in the Project zone proper, the Port Honduras Marine Sanctuary, is also an IUCN protected area. Our view is that BCEP most closely fits IUCN Category IV, Habitat/Species Management Areas.

Table 7 of the revised PDD mentions the Port Honduras Marine Sanctuary as an HCV within the Project zone. While not technically within the Project zone, as defined by FCO, the BCEP Project clearly has relevance to the Sanctuary.

While there may be some slight confusion over proper HCV terms, as applied by the CCBA, we conclude that FCO has met the intent of the NIR.

**NIR Number 9 of 35 Dated April 2, 2010**

**CCBA ver. 2 G2.1**

**Finding:** Please provide a more comprehensive analysis of potential alternative land uses (e.g., purchase by another conservation entity, purchase by the Mennonite community, purchase by

<sup>8</sup> <http://earthtrends.wri.org/text/environmental-governance/map-478.html>

<sup>9</sup> <http://www.biodiversityhotspots.org/xp/hotspots/mesoamerica/Pages/default.aspx>

<sup>10</sup> Belize Coastal Threat Atlas, [http://pdf.wri.org/belize\\_threat\\_atlas.pdf](http://pdf.wri.org/belize_threat_atlas.pdf)

another tourism operation) that includes additional support for why conversion to agricultural use is the most likely scenario absent the project. Specifically describe the methodologies used to identify and evaluate competing potential land uses, including the local drivers (for or against) each identified alternative land use scenario.

**Proponent Response on May 15, 2010:** A new section G2.1 has been written to address this request. See PDD [and below].

### **Alternative Potential Land Use**

Some of the alternative land uses are more likely and pose a much larger deforestation threat than others. The following is a “ranking” of the five most likely alternative land uses that would result in deforestation. Each of the alternative land uses are widely recognized based on available scientific literature, as deforestation drivers locally, regionally and nationally (FAO 2003)

1. **Conversion to Agriculture.** Conversion to agriculture is the most likely alternative land use scenario and is the most pervasive driver for deforestation and land use change in the project area. Agricultural products could include cattle, citrus, bananas, aquaculture, cacao, rice, etc. The conversion of forestland in Belize to agriculture is both a national and regional trend. The FAO (2003) estimated that by 1989 about 217,241 hectares, or about 10%, of the national land area had been converted from forest to agricultural land. Furthermore, by the first half of the 1990’s it was estimated that 25,000 hectares of forested land were being lost yearly due to conversion to agricultural land (FAO 2003).

A regional analysis of land use change was performed to support this project (see appendix for full report). The analysis found that at the start of the historical reference period (1993), there were 110,493 ha of forest within a regional reference area (Figure 13). By 2009 there were only 94,662 ha of forest in the reference area, 15,831 fewer ha. Most deforestation took place between 2006 and 2009 and was due to cropland expansion. The majority of cropland expansion took place in the northern portion of the reference area, close to Independence Town but there was also extensive cropland expansion immediately west of the project area. In total, 15% of the forest within the reference area was lost to deforestation, mostly due to cropland expansion.

Locally BCEP is bordered and in close proximity to several farms involved in the production of banana, citrus, and cattle. The owner has indicated that some of these landowners expressed an interest in buying portions of BCEP in order to expand their operations. Furthermore, the previous owners of BCEP operated a citrus, banana and cattle operation on the project site which ceased only after the current owner purchased the property (Bowen-Jones 2001).

2. **Conversion of forest land to settlements.** The second most likely alternative land use in our analysis would be expansion of settlements and conversion of forestland to support the expansion. Population in the Toledo district has been steadily increasing and is a driver of deforestation through the need to expand and create settlements to accommodate a larger population. The increase in population is attributed to immigrants coming from politically unstable, neighboring countries and internal movements of the population. Population has increased steadily since the 1980’s varying widely with a current rate of 3% (Moore 2007).

3. **Illegal logging of timber for commercial use.** The third most likely alternative land use leading to deforestation would be illegal logging. This land use would be particularly relevant if an absentee landowner purchased the property. Illegal logging has become a significant problem in Belize and approximately 60% of all logging in Belize is illegal (Young 2008). Of the 60,145 m<sup>3</sup> of wood processed in 1999, 39% was harvested illegally (FAO 2005). The potential for illegal logging at BCEP is exacerbated because of the close proximity of the Southern Highway thus providing an all

weather transportation link (Chomitz and Gray 1996).

4. **Logging of timber for local and domestic use.** The fourth most likely alternative land use leading to deforestation is timber harvesting for domestic use. Our analysis indicated that this alternative land use would be a low impact driver of deforestation in the project area. Local people use several different forest products and have been doing so sustainably for hundreds of years. The Toledo district ethnically is predominately Mayan, with the highest percentage (65%) of Mayans in Belize (Levasseur and Oliver 2000). Although Mayans may use harsh methods for clearing farmland (slash and burn) there is little evidence they harvest substantial amounts of wood for commercial use (Levasseur and Oliver 2000).

5. **Purchase of the Land to Operate Ecotourism Lodges.** The fifth and least likely alternative land use would be the purchase of BCEP by a different owner to operate the ecotourism lodges. If the economics of the current operation is not sufficient to support the current ecotourism lodges it would be unlikely to change sufficiently to allow a different landowner to succeed.

**Auditor Response:** The revised PDD includes a more detailed analysis of potential alternative land uses, based on a review of the scientific and technical literature, and Appendix A of the revised PDD includes a comprehensive analysis of land use trends in the region.

**NIR Number 10 of 35 Dated April 2, 2010**

**CCBA ver. 2 G2.2**

**Finding:** Based on the analysis of laws and regulations noted in NIR 1, as well as the clarification of alternative potential land uses in NIR 9, please provide additional justification supporting the claim that project benefits are truly additional. If in the analysis of additionality it is assumed that applicable laws are routinely ignored or not enforced, please provide support for these assumptions.

**Proponent Response on May 15, 2010:** Without the Project, financial stability for the project will not be achieved, and the land is likely to be sold and converted to aquaculture and/or citrus or pasture. Successful commercialization of the emission reduction credits from the project will make the entire project financially sustainable. Project financial accounts were made available to the auditor to confirm the financial stability issue. This presumption is based on surrounding land use and land use history. Based on remote sensing analysis, significant deforestation has been taking place primarily for citrus and aquaculture and to a lesser extent pasture. With an increasing population both in Belize and the world, food demand should increase not decrease, and pressure to deforest the region will continue. Other competing land uses that do not involve deforestation are notably absent.

From this analysis and based on personal communication with the Ministry of Natural Resources and the Environment and the Belize Forest Department, it is clear that the BCEP property is easily converted legally to a citrus plantation. The only caveat is that there must be a one-chain riparian buffer on either side of Golden Stream and Boden Creek (personal communication).

**Auditor Response:** The revised PDD contains a detailed list of laws that potentially relate to land use in Belize (see Section G2.2) and these laws were reviewed by FCO to determine how they might apply to the BCEP property. This analysis was supported by discussions with Ministry of Natural Resources and the Environment staff and consultation with attorneys in Belize. FCO's overall

conclusion is that there are few, if any, regulatory restrictions governing land use in Belize and none that would prevent the conversion of the BCEP property to agricultural uses. FCO provided compelling evidence that the BLE operations, given the global economic downturn, are financially struggling and that selling the property for agricultural use must be seriously considered. This position was supported by private interviews with BLE managers who, in addition, indicated that the only serious offers to date for the land were from parties interested in agriculture.

**NIR Number 11 of 35 Dated April 2, 2010**

**CCBA ver. 2 G2.3**

**Finding:** In support of the carbon change claims in the PDD, please provide: a) description of the typical fate of trees when land is cleared for agriculture (i.e., are forest products recovered or disposed of; is woody material piled and left or piled and burned), b) justification for why project models don't account for trees moving into a forest products carbon pool for the "without project" scenario, c) additional support for using the Hughes *et al.* (1999) data from forests in Mexico to characterize the growth rate of local forests, and d) additional support for the 17.5% linear carbon accumulation rate for citrus groves. Additional information that would further facilitate assessment of compliance to this indicator includes: a) the range of sizes of citrus groves in the region, b) the typical life cycle of citrus groves in the region (i.e., when are trees considered to be over-mature and in need of replacement), and c) conversion (i.e., from forest to cleared) rates for private property by parcel size class.

Page 31 of the PDD refers to detailed methods on the calculation of deforestation rates within the reference area being included in an Appendix. Such an appendix, however, was not included in the PDD (please provide). During the audit an error in Table 13 was noted; please provide an updated table.

**Proponent Response on May 15, 2010:** Please Refer to section G2.3. Carbon Stock Changes in the revised PDD dated May 28, 2010.

Note also that the revised PDD does not use a reference area to calculate deforestation.

**Auditor Response:** Section G2.3 of the revised PDD contains the requested information.

**NIR Number 12 of 35 Dated April 2, 2010**

**CCBA ver. 2 G2.4**

**Finding:** Please provide a more comprehensive description of the "without project" impacts on local communities in the project zone. Such impacts could include, but not be limited to, impact of pesticide use on human health, wildlife habitat impacts (and loss of hunting opportunity), traffic, noise, and soil erosion.

**Proponent Response on May 15, 2010:** In the without-Project scenario, BCEP would sell the property which would most likely lead to rapid conversion to citrus and/or aquaculture. This would increase the quantity of chemical fertilizers, insecticides, and herbicides used on the BCEP property. Since the BCEP property forms part of the local water board district for both Indian Creek Village and

Golden Stream Village, converting the BCEP property to citrus and aquaculture would most likely have an adverse impact on the local communities' health, and was identified as a concern by local communities during stakeholder meetings. Water quality impacts from citrus and aquaculture are well documented problems for coral reef health, and a healthy reef is necessary for the substantial tourism industry in the district.

The most substantial impact of the baseline scenario would be a substantial reduction in number and quality of jobs with a near total loss of jobs for women.

No additional traffic would be expected from the without project scenario although an increase in truck traffic would be expected at harvest time and during land clearing.

An increase in legal hunting opportunities may occur under the without project scenario depending on the policy of the owner. An increase in illegal hunting is quite probable

Erosion would certainly increase during land clearing.

No substantial increase in noise would be expected under the "without project" scenario.

**Auditor Response:** The revised PDD (see Section 2.4) contains the requested information.

**NIR Number 13 of 35 Dated April 2, 2010**

**CCBA ver. 2 G2.5**

**Finding:** Please provide a more specific assessment of how the "without project" scenario would impact biodiversity. We note that the "without project" scenario appears to be described as a 2.3% loss of forest cover to agriculture per year. Over the project lifetime, then, it appears that annual losses of forest cover would range from 190-296 acres (average 228 acres) and that by the end of the project lifetime approximately 8,000 acres of forest would remain (62% of existing forest cover). As part of this assessment, please describe whether anticipated annual losses of forest cover would most likely be adjacent to previously cleared areas - resulting in an approximately 5,000-acre clearing by the end of the project - or whether openings would most likely be scattered over the nearly 13,000-acre property.

**Proponent Response on May 15, 2010:** Without the Project, this property will in large part be converted to agriculture further endangering IUCN species of concern. In fact, biodiversity loss will be substantial including all the species of concern, plus all the large mammals. Clearing the property will result in significant landscape level fragmentation limiting species interchange along a large portion of coastline. Impacts to reef will be substantial and all negative.<sup>11</sup> Ending property patrols and ending restrictions on hunting will result in an increase in hunting of large animals like Baird's tapir and others that form a prey base for large cats.

In addition to species of concern (T&E) all bats occurring on or around the BCEP are providing critical ecosystem services. If there is habitat conversion key pollinators, seed dispersers and insect

<sup>11</sup> <http://www.wri.org/project/reefs-belize>.

predators will be lost. This would impact the entire Golden Stream Corridor area. These ecological services are critical for natural forest and habitat regeneration after natural disaster such as Hurricane Iris.

The deforestation predicted to occur in the baseline scenario will in all likelihood not encompass the entire property, but the fragmentation, reduction in patch size, and additional hunting pressure will have profoundly deleterious effects on the entire property.

**Auditor Response:** The response provided by FCO above provides a general description of anticipated biodiversity impacts associated with the "without project" scenario. Additional information is included in the revised PDD. In Section G2.3, for example, FCO explains that the assumed "without project" scenario is a loss of 2.3% of the forest per year for 20 years (see Findings, above). Section 2.3 further explains that due to recent hurricane damage, the BCEP currently lacks high-quality forest products and upon clearing for agriculture, woody materials would most likely be piled and burned. Elsewhere in the PDD it is explained that the most likely "without project" scenario is an ever-expanding agriculture area, resulting in a single open block of open land at the end of the 20-year project, rather than small openings scattered throughout the forest.

**Finding:** Please provide a project implementation schedule that includes key dates and milestones.

**Proponent Response on May 15, 2010:** The following table was inserted in the PDD:

**Table 1: BCEP Project Timeline**

Milestone	2007-2009	2010	2015	2020	2025	2030
BCEP Formed						
Survey Work Conducted						
CCBA Project Validation						
VCS Project Validation						
Initial financing						
Deed Restriction						
First Verification						
Second Verification						
Third Verification						
Fourth Verification and Project End						

**Auditor Response:** The provided implementation schedule is acceptable.

**Finding:** Please provide an assessment of the potential risks to project benefits associated with a) BLE failing as a business enterprise (i.e., the Lodge is closed and no longer generating income), and b) parties exercising their rights to oil and mineral resources associated with the property. For material risks, please provide a description of measures that will be taken to mitigate such risks (e.g., a potential deed restriction on carbon rights was described during the audit).

**Proponent Response on May 15, 2010:** Risks for failure of BLE, as the ecotourism operator for BCEP, would have a temporary impact on the project particularly from the standpoint of the livelihoods provided by employment at BLE. Presumably, with support from BCEP, a replacement contractor could be found or developed internally. A plan for stabilizing cash flow for BLE has been shared with the auditor as a part of the financial management plan. Unstable cash flow is the biggest risk factor for BLE.

Risks to the project from instability in the Government or a change in leadership at BCEP or BLE are considered minimal. In any case, BCEP has agreed to a deed restriction for the life of the project to ensure permanence protecting the climate and biodiversity benefits of the project.

To the best of our knowledge there are no oil or mineral resources on the project site and exploration for mineral resources is not occurring nor is it expected to occur. If oil is discovered on the site, it would belong to the Government of Belize. Similar sites in Belize where oil extraction is taking place have minimal above ground disturbance. Section 26 paragraph 6 of the National Petroleum Act states:

“(6) Subject to this Act, where, in the course of conducting petroleum operations pursuant to a contract, the rights of the owner or lawful occupier of any land are disturbed or damage to any crops, trees, buildings, stock, works or other property thereon is caused, the contractor is liable to pay the owner or lawful occupier fair and reasonable compensation in respect of the disturbance or damage according to the respective rights or interests of the owner or lawful occupier concerned. The amount of compensation payable shall be determined by agreement between the parties or if the parties are unable to reach agreement or the agreed compensation is not paid, the matter may be treated in accordance with the Arbitration Act.”

Based on this, the contractor for the Government extracting the oil would be responsible for compensating the owner of the credits for any reversals suffered as a result of the oil extraction process.

The greatest natural risk to the Project is a direct hit by a hurricane. Hurricane Iris struck the Project site directly in 2001 resulting in a massive blow down of trees. Therefore, this area is currently in a state of ecological regeneration as is much of the Toledo District likewise impacted in this natural cycle. A detailed discussion of hurricane history and likely impacts may be found in Appendix A.



**Auditor Response:** The above information, which is included in the revised PDD, provides the requested assessment.

**NIR Number 16 of 35 Dated April 2, 2010**

**CCBA ver. 2 G3.6**

**Finding:** Please elaborate on efforts that will be made to maintain or enhance areas with HCVs, as defined in G1.8 (see NIR 8).

**Proponent Response on May 15, 2010:** The primary strategy for maintaining High Conservation Values is protection through patrolling and managing the property for existing high quality habitats with no reduction in forest cover. The only high conservation value for community is the government owned and operated Nim Li Punit archaeological site which is not on the project property. Indirectly, maintenance of the ecotourism operation will improve visitation at the Nim Li Punit site, making the government more likely to take appropriate measures to protect the site.

No enhancement of HCVs is required or anticipated.

**Auditor Response:** The Project design is to avoid forest clearing associated with conversion of the property to agricultural uses. This approach, as described by FCO, should maintain HCVs identified in G1.8. Proposed patrols should also guard against unauthorized land uses and direct and indirect impacts to HCV resources.

**NIR Number 17 of 35 Dated April 2, 2010**

**CCBA ver. 2 G3.8**

**Finding:** Please provide additional information to document and defend how communities and stakeholders potentially influenced by the project were identified and consulted, with particular emphasis on local Mayan communities and the adjacent Mennonite community. Please provide a plan for how effective communication and consultation with local communities will be maintained over the life of the project.

**Proponent Response on May 15, 2010:** BCEP has actively engaged local stakeholders in designing the CCB Project with various onsite consultations. Members of the local communities are the primary employees of BCEP participating in permanent sample plot measuring, setting up remote large mammal camera traps, setting up Anabat software recording devices, conducting forest patrols, educating other local community members about forest protection, and engaging in other knowledge transfer activities. Stakeholder involvement has been solicited formally and informally over a period of time so as to inform stakeholders about the BCEP Project and so as to receive their feedback.

- Information posted on the website (<http://www.belizelodge.com/home.html>) since late February.
- Direct email and phone contact with Belize economic specialist Dr. Jim Bass.
- Direct email and phone contact with Belize ecology specialists Dr. Miller and Mrs. Miller.
- Held meeting with management representatives from TIDE, YCT, and Golden Stream

Corridor and Alcaldes and representatives from Indian Creek and Golden Stream March 17, 2010, 5pm to 8pm.

- Direct email and phone contact culminating in meeting with the Belize Association for Private Protected Areas (BAPPA) on March 19, 2010 in Belize City, Belize.
- Visited Indian Creek Village, and sharing the CCB Project PDD with the Indian Creek Village and hosted public meetings at Indian Creek Village and Golden Stream Village, April 10th, 2010 (Figure 17: Poster advertising CCB public stakeholder meetings April 10th, 2010). Indian Creek Village meeting had 31 attendees with formal representation from the Indian Creek Village Parent Teacher Association, primary school, water board, Chairman, Secretary, Vice President, and Alcalde. Golden Stream Village meeting had 9 attendees with formal representation including the Alcalde, Chairmen, and others.
- Displayed for all clients of BLE at Indian Creek eco-lodge entrance point since late February.
- Displayed and shared with all BLE employees and their community members through printed materials and presentations with staff stakeholder meeting attended by 7 local women and 16 local men and local men and local women in managerial positions on Wednesday March 17<sup>th</sup>, 2010 at 5pm.
- The PDD was made available on the CCBA webpage and open to public comments (<http://www.climate-standards.org/projects/index.html>) beginning February 12, 2010.
- Public meetings held at Indian Creek Village and Golden Stream Village, April 10<sup>th</sup>, 2010..
- Direct personal meetings with the Alcalde, Chairman, Secretary, and Vice President from the villages of Indian Creek and Golden Stream.

The plan for continuing involvement by the local communities includes regular public meetings held in the villages by a staff member of BCEP hired for that purpose.

**Auditor Response:** The listed activities provided the requested information. In addition, FCO provided auditors with trip notes from the April 10 meetings in Indian Creek and Golden Stream.

**NIR Number 18 of 35 Dated April 2, 2010**

**CCBA ver. 2 G3.9**

**Finding:** Please elaborate on the steps that were taken to publicize the PDD comment period in the local community. In addition, a widely-publicized informational meeting in local languages, as appropriate, is required. Please hold such a meeting, notifying SCS of when and where such meeting will take place with enough advance notice to provide an opportunity for attendance, and report on the outcome prior to finalizing the PDD for project validation.

**Proponent Response on May 15, 2010:** BCEP publicized its CCBA Project for public comment online through the following avenues:

- Information posted on the website (<http://www.belizelodge.com/home.html>) since late February.
- Direct email and phone contact with Belize economist Dr. Jim Bass.
- Direct email and phone contact with Belize ecologists Dr. Miller and Mrs. Miller.
- Held meeting with management representatives from TIDE, YCT, and Golden Stream Corridor and Alcaldes from Indian Creek and Golden Stream March 17, 2010, 5pm to 8pm. In

attendance were 14 local leaders.

- Direct email and phone contact culminating in meeting with the Belize Association for Private Protected Areas (BAPPA) on March 19, 2010 in Belize City, Belize.
- Visited Indian Creek Village, and sharing the CCB Project PDD with the Indian Creek Village and hosted public meetings at Indian Creek Village and Golden Stream Village, April 10th, 2010 (Figure 17: Poster advertising CCB public stakeholder meetings April 10th, 2010). Indian Creek Village meeting had 31 attendees with formal representation from the Indian Creek Village Parent Teacher Association, primary school, water board, Chairman, Secretary, Vice President, and Alcalde. Golden Stream Village meeting had 9 attendees with formal representation including the Alcalde, Chairmen, and others.
- Displayed for all clients of BLE at Indian Creek eco-lodge entrance point since late February.
- Displayed and shared with all BLE employees and their community members through printed materials and presentations with staff stakeholder meeting attended by 7 local women and 16 local men and local men and local women in managerial positions on Wednesday March 17th, 2010 at 5pm.
- The PDD was made available on the CCBA webpage and open to public comments (<http://www.climate-standards.org/projects/index.html>) beginning February 12, 2010.
- Public meetings held at Indian Creek Village and Golden Stream Village, April 10<sup>th</sup>, 2010.
- Held meeting with YCT leadership Monday April 12, 2009 in Punta Gorda.

**Auditor Response:** The listed information provided the requested materials.

**NIR Number 19 of 35 Dated April 2, 2010**

**CCBA ver. 2 G3.10**

**Finding:** Please elaborate on the proposed dispute resolution process, noting in particular the third-party or mediator that will implement the process (required by CCBA G3.10).

**Proponent Response on May 15, 2010:** The BAPPA has tentatively agreed to serve as an independent 3<sup>rd</sup> party in country to receive and document grievances related to the CCB project. BAPPA will tentatively serve as a mediator keeping all parties informed of the status of grievances and their resolution. A record of grievances and their resolution will be a part of the monitoring process for future verifications.

Stakeholder grievances related to employment will be handled according to Belizean law through the Belize Labor Department.

**Auditor Response:** FCO explained to community members and other stakeholders that BAPPA tentatively agreed to serve as the third party in any disputes related to the Project. Labor disputes associated with BLE would properly be handled through existing government programs and regulations. FCO has since confirmed that BAPPA is prepared to serve as the third party of Project disputes.

**NIR Number 20 of 35 Dated April 2, 2010**

**CCBA ver. 2 G3.11**

**Finding:** Please provide the BLE business plan (noted during the audit), or similar evidence, supporting the claim that projected revenues from carbon sequestration will be adequate to fully support project implementation.

**Proponent Response on May 15, 2010:** Confidential business plan submitted to auditors.

**Auditor Response:** BLE business plans and spreadsheets were provided for auditor review.

**NIR Number 21 of 35 Dated April 2, 2010**

**CCBA ver. 2 G4.2**

**Finding:** Please identify the skills needed for stakeholder consultation and communication (e.g., ability to communicate in local Mayan language, as necessary) and identify the relevant skills and experience of the parties responsible for conducting stakeholder consultation and communication for the project.

**Proponent Response on May 15, 2010:** The diplomatic skills needed to successfully work with the local communities will be bolstered by the addition of a staff member dedicated to interacting with the villages and other stakeholders. This staff member will be a local Mayan community member who has the capacity to translate, on a daily basis, into Ke'kchi and Mopan Mayan languages. This staff member needs to understand the local community organization and power centers and have the communication and listening skills necessary to present the Project in a non-threatening and educational manner. See section G4.2.

**Auditor Response:** The requested information is provided above and in Section 4.2 of the revised PDD.

**NIR Number 22 of 35 Dated April 2, 2010**

**CCBA ver. 2 G4.3**

**Finding:** Please provide a more comprehensive plan for capacity building that includes descriptions of specific target audiences (e.g., BAPPA, private lands, and/or local Mayan community forest projects).

**Proponent Response on May 15, 2010:** BCEP will employ and train local staff from Indian Creek Village and Golden Stream Village and other villages in the following roles:

- Rangers and patrols
- Assisting forest carbon data collection
- Assisting biodiversity data collection

BCEP employs local people within its operation. The local community is almost entirely Mayan, a minority ethnic group in Belize representing 11% of Belize's population according its 2000 census.<sup>12</sup> The Project also increases female labor force participation locally by focusing on hiring female head-of-households. Furthermore, this Project has increased knowledge transfer across the public and private sectors within Belize focusing on carbon sequestration. BCEP will engage the Belize Association of Private Protected Areas (BAPPA) to demonstrate to them how carbon sequestration, biodiversity protection, and sustainable local economic development can co-exist within both the private and public sectors.

**Auditor Response:** The plan, as outlined above and in Section 4.3 of the revised PDD, while still in its early stages, adequately addresses the requirements of the indicator.

**NIR Number 23 of 35 Dated April 2, 2010**

**CCBA ver. 2 G4.5**

**Finding:** As required by the indicator, please provide a more specific list of laws and regulations related to worker rights and elaborate on how workers have been, or will be, informed of these rights. Describe how compliance with relevant laws and regulations will be ensured during the life of the project.

**Proponent Response on May 15, 2010:** BCEP will follow all applicable labor laws under Belize Labour Act Chapter 297, Labour Act 297S – Subsidiary Act, and Belize International Labour Organization Conventions Act Chapter 304:01 Revised Edition 2003.<sup>13</sup> BCEP is obliged, under Belizean laws to follow appropriate safe labor practices toward the prevention of injuries in the workplace. Additionally BCEP complies with all other applicable local, district, and national workplace standards. Belize has the following relevant labor laws:

- International Labour Organization Conventions Act
- Labour Act
- Labour (Subsidiary Laws)
- Protection Against Sexual Harassment Act
- Protection Against Sexual Harassment Commencement Act Order
- Public Safety Act
- Trade Unions Act
- Trade Unions Regulations
- Trade Unions and Employers Organizations (Registration, Status and Recognition) Act
- Trade Unions and Employers Organizations (Registration, Status and Recognition) Act (Commencement) Order

Employees are made aware of their legal rights when they sign a contract to work for BCEP. Currently, BCEP employees are expected to be paid between according Belize labor standards and in a timely manner as according to Belize labor standards.

<sup>12</sup><http://celade.cepal.org/cgibin/RpWebEngine.exe/PortalAction?&MODE=MAIN&BASE=CPVBLZ2000&MAIN=WebServerMain.inl>.

<sup>13</sup> [www.belize-law.org](http://www.belize-law.org).

A plan is in place to use income from this project to buffer cash flow issues for payroll which has been the source of complaints in the past.

**Auditor Response:** Relevant laws are listed above and in Section 4.5 of the revised PDD. FCO further explains how the Project will ensure compliance with these laws and regulations.

**NIR Number 24 of 35 Dated April 2, 2010**

**CCBA ver. 2 G4.6**

**Finding:** Please provide a more comprehensive assessment of the safety risks associated with project activities and describe plans for mitigating such risks. As part of this assessment, explain how workers have been informed about such risks and associated mitigation measures.

**Proponent Response on May 15, 2010:** All local, district, and national workplace standards will be met at the moment of hiring of each staff member. Local regulations and safety concerns will be discussed with each employee with an emphasis on guaranteeing workplace safety according to Belizean law.<sup>14</sup> Each employee signs a work contract that certifies that safety information has been communicated.

Hazard	Safety Strategy and Equipment
Snake bite	First aid training. Adequate boots. Radios. Minimum 2 person crews.
Poachers	Radios. Minimum 2 person crews.
Boat Accidents	Radios. PFDs.
Vehicle Accidents	Radios.
Machete cuts	First aid training. First aid kit. Radios. Minimum 2 person crews. Eye protection. Adequate boots.
Chainsaw cuts	First aid training. First aid kit. Radios. Minimum 2 person crews. Eye and ear protection. Chaps. Adequate boots.

**Auditor Response:** The information provided above and in Section 4.6 of the revised PDD provides the requested information.

**NIR Number 25 of 35 Dated April 2, 2010**

**CCBA ver. 2 G5.1**

**Finding:** Please submit a list of specific laws and regulations that potentially apply to project implementation and describe the means by which compliance with such requirements will be ensured over the life of the project.

<sup>14</sup> <http://www.lowtax.net/lowtax/html/jbzlab.html>.

**Proponent Response on May 15, 2010:** BCEP complies will comply with all applicable local, district, and national labor standards. BCEP follows all applicable environmental laws including the Belize Environmental Protection Act Chapter 328, Revised Edition 2000.<sup>15</sup>

Belize has the following relevant labor laws:

- International Labour Organization Conventions Act
- Labour Act
- Labour (Subsidiary Laws)
- Protection Against Sexual Harassment Act
- Protection Against Sexual Harassment Commencement Act Order
- Public Safety Act
- Trade Unions Act
- Trade Unions Regulations
- Trade Unions and Employers Organizations (Registration, Status and Recognition) Act
- Trade Unions and Employers Organizations (Registration, Status and Recognition) Act (Commencement) Order

The project team conducted an exhaustive law review for the PDD:

- Belize Private Forests (Conservation) Act, Chapter 217, Revised Edition 2000.
  - This is a revised edition of the law, prepared by the Law Revision Commissioner under the authority of the Law Revision Act, Chapter 3 of the Laws of Belize, Revised Edition 1980 - 1990.
- Forests Act, Chapter 213, Revised Edition 2003.
  - This is a revised edition of the Subsidiary Laws, prepared by the Law Revision Commissioner under the authority of the Law Revision Act, Chapter 3 of the Substantive Laws of Belize, Revised Edition 2000.
- Forest Fire Protection Act, Chapter 212, Revised Edition 2000.
- Water and Sewage Act, Chapter 222.
  - Defines riparian protection as “that the flow of the stream does not fall below the minimum quantity necessary to secure the interest of public health and the protection of the rights of riparian and other land-owners.” (p. 46)
- Water Industry Act, Chapter 222.
- Belize Agricultural Health Authority Act, Chapter 211.
- Fisheries Act, Chapter 210.
- Timber Industry Act, Chapter 341.
- Land Utilization Act, Chapter 188.
  - The Minister may, for the better utilization of land, make regulations-
    - to demarcate areas, water catchment areas or watersheds and prohibiting the clearing of any vegetation within those areas;
    - to provide for such other measures as may be required to prevent soil erosion;
    - restricting the construction of buildings within stipulated distances from the middle line of any road or street;
    - to demarcate specific areas as special development areas and to stipulate

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<sup>15</sup> [www.belize-law.org](http://www.belize-law.org).

- the type of development that will be permitted within those areas;
  - for the clearing of any forest or the felling of any trees; and
  - to provide for all such other things as may be necessary for the better carrying out of the provisions of this Part of the Act.
- Citrus (Processing and Production) Act, Chapter 277.

From this analysis and based on personal communication with the Ministry of Natural Resources and the Environment and the Belize Forest Department, it is clear that the BCEP property could easily be converted legally to a citrus plantation. The only caveat is that there must be a one-chain riparian buffer on either side of Golden Stream and Boden Creek (personal communication with the Ministry of Natural Resources and Environment, Belize).

There are no property disputes within the Project Area per personal communication with the Belize Forestry Department and the legal resources assisting with the claims of the 38 Mayan villages of southern Belize.

**Auditor Response:** The requested list of regulations is provided above and in Section 5.1 of the revised PDD. In this response, and elsewhere, FCO has demonstrated the ability to identify and comply with relevant regulations, relying when necessary on lawyers experienced in Belizean law.

**NIR Number 26 of 35 Dated April 2, 2010**

**CCBA ver. 2 G5.2**

**Finding:** Please provide additional information regarding what approvals, if any, are required to implement the project. Section G5.2 references attached deeds for the property, but were not included. It is not necessary to include these in the PDD, but please provide copies of these documents for auditor review.

**Proponent Response on May 15, 2010:** FCO warrants that all actions and documentation for the Project establishment as a carbon sequestration Project have and will be met. Private legal documents have been shared with the verifier upon the auditor’s request. Deeds have been reviewed and read by the auditor. The Mayan Atlas has been reviewed. The Project does not encroach upon community property. Even though the property is privately held and no approvals are required from the Government of Belize or the local communities, verbal support of the local village leadership (the Alcaldes) has been secured.

**Auditor Response:** Apparently no formal approvals are needed from the Government of Belize and approvals, as such, under the traditional Mayan Alcaldes system were voluntarily sought and received. Copies of appropriate property Title Certificates were provided to the auditors.

**NIR Number 27 of 35 Dated April 2, 2010**

**CCBA ver. 2 G5.6 (see also G5.3)**

**Finding:** Please provide a copy of the legally binding document securing the logging rights (and carbon sequestration) for FCO over the life of the project.



Please confirm that clear title was determined for the Whitney Block (i.e., indicated as in progress in the PDD).

**Proponent Response on May 15, 2010:** Confidential agency agreement and Deed of Conveyance sent under separate cover.

The title search for the Whitney Block identified some minor spelling and naming convention errors that are being addressed. In addition, when Mr Whitney's wife passed away, her name was not removed from the title before it was transmitted to BLE. At present, BCEP has a Deed of Conveyance which allows the owner to convert the property as he sees fit within the legal boundaries of the country which are described in the PDD. The plan is that when the final title is issued, these problems will be fixed, plus the deed restriction will be put on the property per the PDD.

We are also preparing a certification for signature by the owner confirming his rights to the carbon resource on the property. That certification will be completed before any sales from the project.

**Auditor Response:** Requested documentation was provided.

**NIR Number 28 of 35 Dated April 2, 2010**

**CCBA ver. 2 CM1.1**

**Finding:** Please provide a more specific estimate of anticipated community benefits that are expected to be associated with the project. As part of this, please elaborate on the metrics that will be used to measure project benefit for both the "with" and "without" project scenarios. Provide evidence that affected groups have had an opportunity to evaluate and comment on anticipated community benefits.

**Proponent Response on May 15, 2010:** The primary community benefit is jobs. At public meetings in both villages and on the property, a major point of agreement was that the jobs provided are something the community wants. That was confirmed by meetings with the Alcaldes.

The anticipated employment levels are detailed in the business plan submitted under separate cover.

The metrics for monitoring these jobs is two-fold, the payroll records and records kept by the Belize Labor Department on complaints. Late payment complaints should drop to zero once the project is up and running and the cashflow problem is resolved. We are moving to an electronic payment system to facilitate this.

**Auditor Response:** Section CM1.1 of the revised PDD provides the requested information.

**Finding:** Demonstrate that no HCVs related to communities, as defined by G1.8 4-6), will be negatively affected by the project.

**Proponent Response on May 15, 2010:** The only community HCV identified is the Nim Li Punit archaeological site. This site is in the Project Zone, but not in the Project area. This site is owned and operated by the Government of Belize. The “with project” scenario will result in significant increases in visitation by tourists, and presumably a higher likelihood that the Government of Belize will maintain and protect the site. Looting of archaeological sites is still a problem in Belize. The “without project” scenario would not have a direct negative impact on the HCV, but a reduction in visitation would not be good for future allocations of resources to the site by the Government of Belize.

**Auditor Response:** Section CM1.2 of the revised PDD provides the requested analysis.

**Finding:** Please clarify what community data will be used to characterize the "without project" scenario and provide an initial plan for collecting such information.

**Proponent Response on May 15, 2010:** To measure the socio-economic impacts of the with-Project scenario, the monitoring metric will be annual employment of local community personnel in annual work-hours actualized for the Project and measured against the “without Project” scenario. Monitoring data will include payroll records, annual audits, and records maintained by the Belize Labor Department. Comparisons will be made between project metrics and the most recent Toledo District census<sup>16</sup> to determine the number of full-time-equivalent jobs that pay at least 2.5 times the poverty rate with 100% timely payroll according to the Belize Labor Act. This metric will be compared to the number of jobs provided by citrus plantations.

**Auditor Response:** Section CM3.1 of the revised PDD provides the requested information.

**Finding:** Provide an initial plan for how you will assess the effectiveness of measures taken to conserve HCVs associated with community values, as described in G1.8 4-6, if present.

**Proponent Response on May 15, 2010:** The only HCV identified is the Nim Li Punit archaeological site. Since the project has no control or direct input to the operations of the site monitoring will simply consist of a confirmation that the site is still in existence.

<sup>16</sup> 2002 Belize Poverty Assessment Report 2004. National Human Development Advisory Committee, Government of Belize. [http://www.statisticsbelize.org.bz/dms20uc/dm\\_filedetails.asp?action=d&did=13](http://www.statisticsbelize.org.bz/dms20uc/dm_filedetails.asp?action=d&did=13)

**Auditor Response:** Response is appropriate to the identified HCV resources, which are not under the control of the Project proponents.

**NIR Number 32 of 35 Dated April 2, 2010**

**CCBA ver. 2 B1.1**

**Finding:** Please provide a specific comparison of the biodiversity benefits associated with the "with" and "without" project scenarios that includes a description of the methodologies employed and any required assumptions. We note that the "without project" scenario appears to be limited to 2.3% clearing per year (average 228 acres per year over the project lifetime), with approximately 8,000 acres of forest cover (62% of existing) remaining at the end of the project. As part of this comparison, specifically describe your assumptions related to the removal of forest cover (i.e., in adjacent blocks, resulting in a large clearing, or in isolated clearings scattered throughout the forest).

**Proponent Response on May 15, 2010:** The biodiversity objective for the Project is to maintain existing biodiversity and HCVs to the extent possible barring set backs from natural processes.

With Project Scenario

The "with project" scenario presumes that with proper protection of the site, that the exceptional, existing biodiversity of the site will be maintained. By providing patrols to eliminate hunting and illegal removal of tree cover, existing populations and habitat will remain on the site. Any potential impacts to populations or habitat will be from natural causes only. The existing biodiversity including multiple HCVs are described in detail in Appendix B.

The following surveys were conducted:

1. Bats: Bats are excellent indicators of forest health.
2. Large-medium mammals: Apex predators are keystone predators that indicate ecosystem health. Mid-size mammals are important contributors to seed dispersal and as prey for apex predators.
3. Birds: Surveys for birds were included to identify potential populations of IUCN listed species and to get an overview of the bird fauna. A full bird survey was not conducted.
4. Anecdotal Observations: Anecdotal observations of other species were noted.

Without Project Scenario

The "without project" scenario presumes that the property is in large part converted to agricultural uses removing all native habitat from approximately half the property in one large block. Patrols to eliminate hunting and illegal removal of forest cover would not occur, and expectations are that significant negative impacts to hunted species and predators that rely on hunted species would result. Habitat for forest species is unavailable in agricultural habitats (citrus, aquaculture, and pasture), and while some species do occur in agricultural settings, there is little or no overlap in the

biodiversity of the forest and the biodiversity of agricultural fields/plantations. Based on extensive review of the literature, and in the professional opinion of the biologist on staff<sup>17</sup>, there is little value in documenting this well known difference.

**Auditor Response:** The biodiversity benefits (i.e., retaining forest) of the Project have been demonstrated through literature reviews and property-specific inventories. In the "without project" scenario, the forest would be converted to agriculture and such cleared areas would be devoid of the biodiversity values associated with native forests.

**NIR Number 33 of 35 Dated April 2, 2010**

**CCBA ver. 2 B3.1**

**Finding:** Please clarify in Table 22 that camera traps will be used to characterize medium to large mammal populations (i.e., not acoustical detectors).

Please describe the data that you will use to characterize the anticipated biodiversity benefits associated with the "without project" scenario (i.e., conversion to citrus and shrimp farming). As noted in NIR 32, please provide your assumptions regarding the size and distribution of forest conversion areas (i.e., one large area or multiple smaller areas).

**Proponent Response on May 15, 2010:** Camera traps will be used to capture images of large to medium mammals. Other incidental data on large birds may also be recorded.

The biodiversity benefits claimed is totally dependent on the biodiversity of natural forests. Biodiversity of shrimp farms and citrus plantations is not considered to be of value. Given that there is almost no overlap between the biodiversity of forests and agricultural habitats, and zero overlap with the IUCN species of primary concern, we will characterize biodiversity in the monitoring plan for the "with project" scenario using data collected in a manner already described. We will characterize biodiversity of agricultural fields as zero, based on the literature, since our metric is forest biodiversity and IUCN species.

We would expect under the "without project" scenario that conversion would take place primarily in one large block. We would also expect that key components of biodiversity on the remaining unconverted part of the property to be negatively impacted by an increase in legal and illegal hunting, edge effects, and habitat fragmentation. The entire property will be negatively impacted while the converted portion essentially goes to zero.

**Auditor Response:** The requested information was provided.

**NIR Number 34 of 35 Dated April 2, 2010**

**CCBA ver. 2 B3.2**

**Finding:** Please demonstrate that HCVs associated with biodiversity, as defined by G1.8 1-3, will not be negatively impacted by project implementation.

<sup>17</sup> Personal Communication, Jeff Waldon, Certified Wildlife Biologist.

**Proponent Response on May 15, 2010:** The primary strategy used to maintain the biodiversity HCVs is to protect the property through patrols. The monitoring metric is presence/absence of the biodiversity HCVs. Loss of an IUCN species is not necessarily considered a failure of the project if that loss is not linked to anthropomorphic factors like hunting. Maintenance of forest cover (as determined by permanent plots and satellite imagery) and the habitats within the forest is the responsibility of the project. Monitoring of all HCVs will be conducted and is expected to be 100% effective at determining presence/absence of the HCVs.

**Auditor Response:** The requested analysis was performed, as described in Section B3.2 of the revised PDD.

**NIR Number 35 of 35 Dated April 2, 2010**

**CCBA ver. 2 GL3.1 1.1 and 1.2**

**Finding:** Please provide a single table of IUCN Red List Critically Endangered (CR), Endangered (EN), or Vulnerable (VU) in the project area. If exceptional biodiversity benefits are only being claimed based on Vulnerable status, please demonstrate that at least 30 individuals, or 10 pairs, occur in the project area.

**Proponent Response on May 15, 2010:** Project site protects habitat for three endangered IUCN endangered species and multiple species globally, nationally, or locally rare and endangered. Project site protects water quality for the Port Honduras Marine Sanctuary and the largest most pristine coral reef system in western hemisphere. Project site is within the Mesoamerica Biodiversity Hotspot as identified by Conservation International<sup>18</sup>. See Appendix B for details.

Common name	Scientific name	Status
Baird's tapir	<i>Tapirus bairdii</i>	IUCN-EN
Yucatan black howler monkey	<i>Alouatta pigra</i>	IUCN-EN
Geoffroy's spider monkey	<i>Ateles geoffroyi</i>	IUCN-EN
Yellow-headed parrot <sup>19</sup>	<i>Amazona oratrix</i>	IUCN-EN
Central American River Turtle <sup>20</sup>	<i>Dermatemys mawii</i>	IUCN-EN

**Auditor Response:** The requested information was provided.

**Opportunities for Improvement:** None.

<sup>18</sup> See Mesoamerica Biodiversity Hotspot available at <http://www.biodiversityhotspots.org/xp/hotspots/mesoamerica/Pages/default.aspx> accessed 1/21/2010.

<sup>19</sup> Note: Yellow-headed parrot habitat is successional and declining on the property due to natural processes. It is unlikely that Yellow-headed parrot will be found on the property throughout the project period.

<sup>20</sup> Observed by Bowen-Jones (2001). Monitoring is not envisioned for this species due to technical and budgetary constraints. Anecdotal observations will be recorded.

**General Section**

**Conformance**

G1.	Original Conditions in the Project Area (Required)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
G2.	Baseline Projections (Required)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
G3.	Project Design and Goals (Required)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
G4.	Management Capacity and Best Practices (Required)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
G5.	Legal Status and Property Rights (Required)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>

**Climate Section**

CL1.	Net Positive Climate Impacts (Required)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
CL2.	Offsite Climate Impacts (“Leakage”) (Required)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
CL3.	Climate Impact Monitoring (Required)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>

**Community Section**

CM1.	Net Positive Community Impacts (Required)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
CM2.	Offsite Community Impacts (Required)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
CM3.	Community Impact Monitoring (Required)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>

**Biodiversity Section**

B1.	Net Positive Biodiversity Impacts (Required)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
B2.	Offsite Biodiversity Impacts (Required)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
B3.	Biodiversity Impact Monitoring (Required)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>

**Gold Section**

GL1.	Climate Change Adaptation Benefits (Optional)	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
GL2.	Exceptional Community Benefits (Optional)	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
GL3.	Exceptional Biodiversity Benefits (Optional)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>

**CCBA Validation Level Attained:**

<b>APPROVED</b> (all requirements met)	<input type="checkbox"/>
<b>GOLD</b> (all requirements and also at least one optional Gold Level criterion met)	<input checked="" type="checkbox"/>

This is an excellent proposal and should be supported. Of particular merit is the setting up of a biodiversity baseline recording system that generates numerical values for biodiversity of special groups of interest. This is novel in my experience for a tropical reserve. I have produced a computer programme (FUNGIB) that would enable the easy calculation of the indices that are proposed to be used (plus some others) which is freely available if this would be of interest to the team.

Alan Feest  
a.feest@bristol.ac.uk  
Water and Environmental Management Research Centre  
February 12, 2010

The project site lies along a critical biological corridor within Belize as recognized in national and regional meetings over the last decade or more. Validation of the project will be important, not only for the surrounding area, but as a model for future carbon off set projects within Belize.

As this project design document may serve as a standard for future projects, it is important to clarify and vet all statements made, as well as carefully describe methodologies that include biodiversity monitoring. In order to have a robust and transparent document linking statement to original sources we have carefully reviewed the document and provided comments, corrections and observations that would improve the final edited version for consideration of validation.

We strongly support validation of this project and assume after final editing this project document will provide guidelines for similar projects in the future. The following comments/corrections are provided in an effort to strengthen the project design document, not detract from it.

General comments:

Pages of text and some tables and other graphics were "cut and pasted" WITHOUT CITATION from previous work done by Miller and Miller 2008. There are many sections of the report with missing citations and incorrect citations. It appears that the author of the biodiversity section did not have adequate experience in Belize to address this section. It appears that the author was also not aware of the level of relevant work previously completed within Belize and lacked familiarity with basic species occurrences for the country. We suggest that future projects include experienced and knowledgeable partners for the area of consideration to avoid such issues in the future.

Specific comments:

p. 16 – "Figure 5: Project Area: Forest vs. Non-Forest Map".

The legend here and on subsequent maps is not clear and could be misleading for those not familiar with the property. The "Project area" legend shows as "white areas" as the Project Area and "green" as forested areas. There is much "white" indicated for areas outside of the project boundary. Perhaps a transparent background diagonal hatch or something similar could be used for the BCEP area?

p. 21 Equation 2 - asai and pataju includes palm species not found in Belize, calculations using them may not have relevance to Belizean landscapes without a cross reference for similar species.

p. 24 Correction: "BLE also founded an NGO, the Golden Stream Corridor Preserve, that was able to purchase two other parcels (15,038 acres) through fundraising efforts of BLE." Footnote 16 was checked against the online reference and this statement is not supported. Note the NGO was not the "Golden Stream Corridor Preserve" which is a geographic area. The citation does indicate that Fauna and Flora International "FFI immediately transferred the Golden Stream Corridor Preserve (GSCP) to a nascent local conservation group (NGO), the Ya'axché Conservation Trust (YCT)."

p. 24. In the section "G1.7. Current Biodiversity within the Project Zone" the IUCN designations are incorrect. The author had not vetted these and we provide corrected designations below when the tables are addressed.

Correction: "A two-year biodiversity assessment was conducted from 2008 – 2009..." should read "from 2007 – 2009" as field work for the project began in 2007.

Correction: "This assessment focused on monitoring small mammals, medium - large mammals, bats, and birds." Note this was a baseline data collection project and not a *monitoring effort*.

“Bats were surveyed using Anabat acoustic sampling and physical capture because of the highly reliable nature of the data.” This statement erroneously cites the Titley Scientific web site and is not an adequate reference as this does not take into account capture methods. A more robust statement and citation is needed here.

p. 24 and continued on 25 the statement is in error and demonstrates a lack of careful review and due diligence of the conservation status of species by the author of this section. “Two of these mammals, the Least Sac-winged Bat (*Balantiopteryx io*) and the Van Gelder’s bat (*Bauerus dubiaquercus*) are listed as endangered by the International Union of Conservation of Nature (IUCN-E), plus three other species are listed as vulnerable (IUCN-Vu), the Baird’s tapir (*Tapirus bairdii*), Collared peccary (*Pecari tajacu*), and White-lipped peccary (*Tayassu pecari*).” The IUCN status are misrepresented here and corrected below in table 7.

The next sentence makes no mention of the IUCN status of the spotted cats. “In addition to the above, jaguars (Figure 8: Station #6 Boden Creek Trail, April 3, 3008 03:47h, likely pair with inset photograph captured 30 seconds earlier (Miller and Miller 2008)) and ocelot were documented on the property.” The spotted cats were omitted and not listed under mammals as either “Belize concern” (all are) nor with the IUCN current status provided. The spotted cats were a major component of the camera trapping and should be listed in table 7.

p. 25 Corrections are necessary for Table 7.

The correct family is missing on one species as well as the IUCN rankings are incorrect for most species listed. It is imperative that when using internationally recognized designations for conservation status are used that they be accurate. Below the current IUCN conservation status has been added and includes the spotted cats known to occur at the project site.

Table 7: Mammals of special conservation concern documented on the Project site

FAMILY	Common name	Scientific name	T&E
Emballonuridae	Least Sac-winged Bat	Balantiopteryx io	IUCN VU
Mormoopidae	Ghost-faced Bat	Mormoops megalophylla	BZ-concern
	Big Naked-backed Bat	Pteronotus gymnonotus	BZ-concern
Phyllostomidae	Underwood's Long-tongued Bat	Hylonycteris underwoodi	BZ-concern
Vespertilionidae	Van Gelder's bat	Bauerus dubiaquercus	IUCN NT
Cebidae	Yucatán Black Howler Monkey	Alouatta pigra	IUCN E
	Geoffroy's Spider Monkey	Ateles geoffroyi	IUCN E
Tapiridae	Baird's tapir	Tapirus bairdii	IUCN E
Tayassuidae	Collared peccary	Pecari tajacu	IUCN LC
	White-lipped peccary	Tayassu pecari	IUCN NT
Felidae	Ocelot	Leopardus pardalis	IUCN LC
	Margay	Leopardus wiedii	IUCN NT
	Jaguar	Panthera onca	IUCN NT

As a note, the species Dark Long-tongued Bat (*Lichonycteris obscura*, Phyllostomidae) was not verified on the property. That record was the result of an erroneous ID and corrected to *Hylonycteris underwoodi*. This species should be removed from the table.

A review of the current IUCN status for all species can be verified at <http://www.iucnredlist.org/apps/redlist/search>



Bat species warranting conservation consideration in Belize include *Balantiopteryx io*, *Bauerus dubiaquercus* designated by IUCN as vulnerable and near threatened. Additional species of concern for Belize that have been verified to occur at BCEP include *Mormoops megalophylla*, *Pteronotus gymnonotus* and *Hylonycteris underwoodi*. The citation Miller 2009 should be used for these. Table 8: Birds of special conservation concern documented on the Project site. Family names are missing for some species and the genera should be spelled out first time used.

p. 35 G2.5. Baseline Biodiversity: We suggest this can be strengthened by adding something like this:

In addition to species of concern (T&E) all bats occurring on or around the BCEP are providing critical ecosystem services. If there is habitat conversion key pollinators, seed dispersers and insect predators will be lost. This would impact the entire Golden Stream Corridor area. These ecological services are critical for natural forest and habitat regeneration after natural disaster such as Hurricane Iris.

p. 37-38 Figs. 10, 11, 12 have been directly lifted from the Miller & Miller 2008 project report WITHOUT CITATION.

p. 41 "Project property is owned by BCEP in fee simple." What does this mean? This legal terminology for land ownership should be clarified for the reader not familiar with Belize law.

p. 42. "BCEP already trains and employs guides and patrol personnel while actively engaged in biodiversity data collection (Miller and Miller 2008)." While there were periodic patrols of the property, we were not aware of any BCEP personnel engaged in biodiversity data collection during our project.

p. 54, 55, 59, 61, 65 contains text on birds, bats, small mammals, large mammals, tables directly lifted from Miller & Miller 2008 WITHOUT CITATION.

p. 54 Table 17: Birds of special conservation concern documented on the Project site (adapted from Miller and Miller 2008) this is redundant to table 8 and also perpetuates the missing family names noted with table 8 above.

p. 56 Table 18

*Lichonycteris obscura* Dark Long-tongued Bat should be removed as noted above.

*Rhogeessa tumida* Black-winged Little Yellow Bat has been renamed and is now *R. aeneus Yucatan Yellow Bat*, This species was correctly listed in Miller and St. Germain (2009).

P. 59 "A small mammal live-trapping study was conducted from February 28 to March 22, 2008 by B. M. Miller with Rex Medlin and Tom Risch from Arkansas State University." Needs to be referenced to the Miller and Miller (2008) report.

p. 61 has an incorrect species name: see black howler monkeys (*Alouatta caraya*)...

Note the Black Howler Monkey (*Alouatta caraya*) is a South American species distributed from Argentina, Bolivia, Brazil and Paraguay, being the southernmost member in the Alouatta genus.

The correct name for the regional endemic is the Yucatan Black Howler Monkey *Alouatta pigra*.

p. 63 the incorrect taxa for the monkey is again listed in Table 20: All mammalian species documented during each study on BCEP.

p. 68. We suggest rephrasing "Bats represent 20% of all mammalian species worldwide.." to a more relevant "Bats represent >50% of the terrestrial mammals of Belize."

p. 68 contains text from Miller and St. Germain 2009 but is not cited here.

p. 69. Sampling Array section.

As this document will serve as a standard for future project design documents it is important to have a distinction between "Surveillance vs. Monitoring." Suggested text below:

Often, what has been referred to as "monitoring" is actually surveillance, or tracking the change over time. Monitoring differs from surveillance as the goal is to track progress over time towards a target or objective. If there is no clear idea of what this objective is, then there is nothing to monitor. Setting explicit targets lies at the core of effective monitoring. Monitoring towards a target provides data verifying whether management efforts are successful, whereas surveillance alone will not provide that information (Wilke 2005). We suggest that the monitoring targets initially be equal to or greater than the baseline numbers of the conservation targets (e.g., if 21 bat species were detected during baseline surveys, then recording 21 or more species in subsequent surveys shows stability). If the relative abundance of a bat species of conservation concern drops below the established targets, then management intervention may be required. Effective bat conservation relies on gathering sufficient information to identify changes in populations that are of conservation concern and to measure the population response to management (Walsh et al. 2006).

Where acoustic monitoring stations are located will in large part determine what species are sampled. Placement of stations depends on the monitoring targets as noted above. Simply placing these in an area paired with camera traps may not provide the desired results as the habitat criteria may vary between medium and large mammals traversing the area vs. use of the area by foraging bats.

Establishing the locations for each monitoring station will generally be determined by the initial baseline sampling period. Experience in the Neotropics has shown that for baseline data collection, a minimum of 3 nights is required for documenting the presence/absence of the common species, although 5-10 nights is considerably better for detecting rare species. Rare species are

often those that are of conservation concern and may be focal monitoring targets. This is corroborated by using rarefaction species accumulation curves (Gotelli and Colwell 2001).

The determination of the number of acoustic stations required for the simultaneous collection of data will depend on the area of the landscape to be monitored. We suggest that a statistical power analysis (Aughney and Roche 2006; Barclay et al., 2004; Gerrodette 1987) be used to estimate the optimum number of simultaneous monitoring stations in order to statistically detect trends.

This is important as the results of the power analysis will determine whether the number of stations (sample size) is too high or too low. If the number of stations used is too low, the data may lack the precision to reliably detect trends that are being monitored.

Conversely if too many are used, time and resources may be wasted, often for only minimal gain.

p. 71 Under "Avian IUCN species of special concern" it is stated that locations are proposed to be recorded as UTM Coordinates, NAD84 16Q. The national standard and all base topographic maps for Belize use NAD Central America 1927 as the base datum. By using the NAD84 base datum additional conversions will be necessary before the data can be used. Alternatively a global standard WGS84 could be used and that converted to the correct NAD CentAm 1927 base datum allowing spatially explicit data recording.

p. 71 "At BCEP the Yellow-headed parrot (*Amazona oratrix*) is listed as IUCN-Endangered (IUCN 2009)." This species is listed by IUCN as globally endangered.

p. 72. Section "B3.3. Biodiversity Impact Monitoring Implementation" This section should include the comments or refer to those noted above on monitoring vs. surveillance.

The section "GL3.1. Vulnerability or Irreplaceability", beginning on page 72 appears to be redundant cut-paste information from earlier in the report. If the format for the CCB standard requires this redundancy, this should be more concisely summarized.

p. 73 Table 23: Endangered birds in the Project site. This seems to be in error listing these as Endangered? What is the citation for this? Perhaps the author was implying birds of conservation concern and this should be corrected to reflect the conservation concern status as not to be misleading that all on the list are endangered. The same errors from table 8 occur here and the table appears to be redundant.

Tables 24 and 25 are also redundant and appear to be filler, including the incorrect taxonomic and IUCN information.

p. 79 "Literature cited" includes numerous citations that are not referenced in the text.

Regarding the sections on birds it would be worth including relevant synthesis from national bird related conservation projects such as Avian Risk (Miller and Miller 1997) and Waterbird Risk assessments for Belize as well as referring to the recently completed Important Bird Areas project for Belize in the context of the BCEP.

Other key national projects that were over looked that would add support include the Key Biodiversity Areas (Meerman 2007) project and the Phase I of the Risk Assessment of the Bats of Belize (Miller 2009). The Belize National Protected Areas System Plan Meerman and Wilson (2005) and Meerman (2005) would also be valuable.

The last several pages are redundant (i.e., data appears earlier) and again, was cut-and-pasted from the Miller & Miller 2008 report WITHOUT CITATION.

#### **Literature Cited**

- Aughney, T., and N. Roche. 2006. Irish Bat Monitoring Programme, Proposals and Recommendations for a Pilot Daubenton's Bat Waterway Survey. Bat Conservation Ireland, [www.batconservationireland.org](http://www.batconservationireland.org)
- Barclay, R. M. R., G. F. McCracken, and A. L. Walsh. 2004. Designing Bat Activity Surveys and Monitoring Projects Pp. 157-165 in Proceedings of the Bat Echolocation Symposium and Tutorial. Bat Conservation International, Austin, Texas.
- Gerrodette, T. 1987. A Power Analysis for Detecting Trends. *Ecology*. 68:1364-1372.
- Gotelli, N. J., and R. K. Colwell. 2001. Quantifying biodiversity: procedures and pitfalls in the measurement and comparison of species richness *Ecology Letters*. 4:379-39
- Meerman, J. C. 2005. Belize Protected Areas Policy and System Plan: RESULT 2: Protected Area System Assessment & Analysis National List of Critical Species. Belize Tropical Forest Studies, Research Paper Report. Number: 1-8. Meerman, J. C. 2007. Establishing a Baseline to Monitor Species and Key Biodiversity Areas in Belize. Belize Tropical Forest Studies, Research Paper Report. Number: 1-15.
- Meerman, J. C., and J. R. Wilson. 2005. The Belize National Protected Areas System Plan, Research Paper Report. Number: 61 pp.

- Miller, B. W. 2009. A Risk Assessment of the Bats of Belize, Phase I, in the context of the Selva Maya Region. Neotropical bat project and the Critical Ecosystems Partnership Fund, Research Paper Report. Number: 1-236.
- Miller, B. W., and C. M. Miller. 1997. An Avian Risk Assessment, Bird Species of Conservation Concern. Technical Report Series: Tropical Forest and Reserve Planning Project, Belize, Wildlife Conservation Society, Programme for Belize and Nature Conservancy, Research Paper Report. Number: 1-81.
- Miller, B. W., and C. M. Miller. 2006. A Waterbird Assessment for Belize Bird Life International, Research Paper Report. Number: 1-428.
- Miller, C. M., and B. W. Miller. 2008. Report and BAPPA Criteria Review for Boden Creek Ecological Preserve, Research Paper Report. 25 pp.
- Walsh, A. L., C. M. C. Catto, T. M. Hutson, S. Langton, and P. A. Racey. 2006. The United Kingdom National Bat Monitoring Programme: turning conservation goals into tangible results. 46 pp.
- Wilkie, D. 2005. Measuring our effectiveness: a framework for monitoring. Wildlife Conservation Society, New York.

Bruce W. Miller, PhD.  
Carolyn M. Miller, MSc.  
Gallon Jug, Belize  
March 09, 2010

Most private ecological projects are driven by the vision and commitment of key dedicated individuals who do their best, often on a shoe string budget, to preserve and enhance a key biosystem. The addition of carbon credits can make the critical difference between success and failure, particular here in Belize where we struggle to attract the attention of many international donor organizations.

The Boden Creek Ecological Preserve project is a great example of this type of effort and the additional income stream will no doubt be a large help to a very worthy effort to preserve a key and threatened environment in Southern Belize.

Their efforts to preserve the biodiversity of an important ecosystem are to be applauded.

George W. Headley  
Managing Director  
Bull Run Overseas, Ltd  
Cayo, Belize  
March 10, 2010

This project document is clearly written and provides a detailed description of the biodiversity of the area, the cultural importance and social impacts of the project. This project is important for the protection of wildlife corridors in Belize and the creation of alternative livelihoods for local people. It is a clearly a project that should be supported.

Christine Lancaster  
Managing Director  
Calcarbon Ltd

To whom it may concern

Please find comments below from the Ya'axche Conservation Trust, a Conservation and development organization whose property borders with the project area under review. Hope it is not too late for submission.

Bartolo Teul  
Program manager  
Ya'axche

### G1.1. Project Area Location and Physical Parameters

The Boden Creek Ecological Preserve (“the Project”) is located in the district of Toledo, about 23 km north of Punta Gorda, Belize. The Project boundary consists of 12,876 acres of which 12,876 acres are available for aquaculture, industrial logging and commercial agriculture according to Belize’s national plans for agriculture<sup>2</sup> and aquaculture developments<sup>3</sup> in the absence of finance from any carbon trade scheme.

**Comment [ED1]:** On the protected areas map of Belize published by the government, BCEP is not recognized as a private protected areas.

### G1.6. Current Land Use and Land Tenure in the Project Zone

The Project is in the Toledo District of Southern Belize, Central America (Figure 7: Project and neighbors). The Toledo District is Belize's southernmost and poorest region, yet has the greatest ecotourism potential because of its vast areas of undisturbed habitat, excellent populations of tropical birds and charismatic mega fauna, high concentration of protected areas, and low population density. Land use directly impacts the health of the Port Honduras Marine Reserve, a world-class coral reef/mangrove system that supports a large part of the ecotourism potential of the district. Currently there are two protected areas east of the Project. These are the Golden Stream Parcel 9,554 acres owned by FFI / YCT and Manatee Creek Parcel 5,416 owned by Fauna & Flora International (FFI) / Ya'axché Conservation Trust (YCT). Together these two parcels along with the Project create the Golden Stream Corridor Preserve (GSCP). The GSCP was developed in 1998 by FFI and BLE because the region was under significant threat from industrial logging, citrus cultivation and shrimp farming. Forming a key component of the Mesoamerican Biological Corridor<sup>13</sup>, the area contains 300 recorded tree species, a diverse assemblage of mammals including threatened species such as jaguar and Baird's tapir, and 40% of Belize's bird species.

**Comment [ED2]:** This is land owned by Ya'axche not FFI

The Project is part of a regional coordinated “ridge to reef” strategy for both conservation management and sustainable development in the Golden Stream Watershed. The Golden Stream Watershed drains directly into the Port Honduras Marine Sanctuary. Land use change in the Golden Stream Watershed and nearby watersheds has been identified by Fauna and Flora International as a risk factor for reef habitats.<sup>14</sup> This is an area that represents one of the last major links in Central America of lowland tropical broadleaf forest connecting the marine environment

**Comment [ED3]:** PHMR is managed by TIDE. BLE had entered into an agreement with TIDE to collect entry fee into PHRM and then transfer to TIDE but this was never honored.

### G3.1. Major Climate, Community and Biodiversity Objectives

The climate objective is to avoided emissions from deforestation ex ante (2010 – 2029) of 1,908,718 mtCO<sub>2</sub>e and ex post (2006 – 2009) of 98,587 mtCO<sub>2</sub>e.

Scientific Certification Systems  
July 13, 2010

The community objective is to secure 59 relatively high paying jobs .

**Comment [ED4]:** What kind of jobs ? Is there the capacity in Indian Creek to conduct this work ?

The biodiversity objective is to conserve habitat for 29 species of concern plus rare coastal jaguar and ocelot populations. Protect water quality for Port Honduras Marine Sanctuary.

### G3.3. Location of Project Activities

The Project is in the Toledo District of Southern Belize, Central America (Figure 7: Project and neighbors) The Toledo District is Belize's southernmost and poorest region, yet has the greatest ecotourism potential because of its vast areas of undisturbed habitat, excellent populations of tropical birds and charismatic mega-fauna, high concentration of protected areas, and low population density. Land use directly impacts the health of the Port Honduras Marine Reserve, a world-class coral reef/mangrove system that supports a large part of the ecotourism potential of the district.

Currently there are two protected areas east of the Project. These are the Golden Stream Parcel 9,554 acres owned by FFI / YCT and Manatee Creek Parcel 5,416 owned by Fauna & Flora International (FFI) / Ya'axché Conservation Trust (YCT). Together these two parcels along with the Project create the Golden Stream Corridor Preserve (GSCP).

**Comment [ED5]:** This is owned by Ya'axche only.

**Comment [ED6]:** This is land owned by Golden Stream Conservation Group, with Ya'axche' being majority shareholder at 57%

**Comment [ED7]:** This is inaccurate, GSCP is the combination of the 9554 and 5416 acres described above.

The project zone includes nearby communities that are impacted by the Project including Indian Creek Village and the Pine Hill Mennonite Community.

**Comment [ED8]:** BLE has a long history of reports to the Belize Labour Department for late payment of salaries to workers who are mostly from Indian Creek.

### G3.7. Measures Taken to Enhance Climate, Community, Biodiversity Benefits

BCEP intends for this Project to be a focal point for sustainable eco-tourism activities demonstrating how carbon sequestration, biodiversity enhancement, and sustainable community development can be achieved effectively, equitably, and efficiently. Because of the Project's profile within Belize it is expected that the Project will act as catalyst for other projects regionally. Specifically, BCEP will engage Belize Association of Private Protected Areas (BAPPA) as a medium for this information exchange. Furthermore, it is expected that The Nature Conservancy, the Ya'axche Conservation Trust (YCT), the National Protected Areas Commission (NPAC), and the Association of Protected Areas Managers Organization (APAMO) will also be interested in supporting the mission of BCEP post-Project within the Golden Stream Corridor Preserve area.

**Comment [ED9]:** The project has not communicated with either BAPPA or APAMO about this project.

**Comment [ED10]:** Despite numerous attempts Ya'axche' has never been able to establish a working relations with BCEP, they have when requested refused access to Ya'axche to conduct water quality monitoring.

### G3.9. Publicizing the Public Comment Period

BCEP will publicize its CCBA Project for public comment online through the following avenues:

**Comment [ED11]:** Both may indeed be interested but there has been no dialogue with either.

BCEP website.

**Comment [ED12]:** GSCP is the name of the private protected area that Ya'axche owns.

Direct contact with the Association of Protected Areas Management Organizations (APAMO) is Belize's leading network of environmental non-governmental organizations, particularly in the areas of protected areas management. Its 18 member agencies are responsible for or involved in the management of twenty-one (21) terrestrial protected areas and nine (9) marine protected areas.

Visiting the Indian Creek Village, and sharing the CCB Project PDD with the Indian Creek Village. Displayed for all clients of BCEP at each eco-lodge entrance point.

22 Verl Emrick, per BCEP commission. © Forest Carbon Offsets, LLC, 2010 Page 42 of 82

Displayed and shared with all BCEP employees and their community members through printed materials and presentations.

The PDD will be made available on the CCBA webpage

### G3.10. Conflict Resolution Tools

The Project includes a process for hearing, responding to and resolving community and other stakeholder comments during the Project life. FCO will attempt to respond to all reasonable comments raised, and provide a written response to comments within 30 days. Comments and Project responses will be documented. Please email: [jeffwaldon@forestcarbonoffsets.net](mailto:jeffwaldon@forestcarbonoffsets.net) if you have any comments or questions.

**Comment [ED13]:** It is very unlikely that BLE will ever have a positive relationship with the Indian Creek Community.

### G4.5. Employment Laws

BCEP follows all applicable labor law under Belize Labour Act Chapter 297, Labour Act 297S – Subsidiary Act, and Belize International Labour Organization Conventions Act Chapter 304:01 Revised Edition 2003.<sup>24</sup> BCEP is obliged, under Belizean laws to follow appropriate safe labor practices toward the prevention of injuries in the workplace. Additionally BCEP complies with all other applicable local, district, and national workplace standards.

**Comment [Y14]:** Reports from former employees claim that wages are withheld sometimes as long as 3 months

### G5.5. Illegal Activities

Project will include regular patrols to address illegal hunting, timber poaching, or wood gathering. No evidence of illegal activities on the property was detected during field investigations in 2008 and 2009.

**Comment [ED15]:** Lack of patrols and presence by BLE is placing increased hunting pressure on GSCP

Some further comments on the Boden Creek project

P10 – The map of BCEP is doctored and erroneous BCEP does not extend to the Columbia River Forest Reserve to the north. Probably to justify the third comment mentioned below)

P12 – Rainfall in Punta Gorda is considerably more than that in BCEP, it would be more accurate to quote rainfall data from Big Falls.

P23 – The map is outdated and doesn't reflect TIDE's new private lands.

P26 – It is inaccurate to say that the project connects montane with coastal habitats, there is a band of community (primarily agricultural) land between it and the Maya Mountains), except through the Golden Stream Corridor Preserve.

P23 – “Commercializing the value of the avoided CO<sub>2</sub> emissions will provide the capital required to keep the ecotourism operation solvent in the off season.” - This appears to be a short term solution; what happens when these funds are spent?

P24 – Unsure if claim that the secondary tropical forest of BCEP is similar to the tropical forest. This claim needs to be investigated carefully comparing UNESCO ecosystem classes.

P36 – GSCP is just one protected area, but they should also mention TIDE’s new PPAs just south of them.

P39 – BCEP looks surprisingly small on the hurricane, is that artistic licence?

P40 – The Maya Leaders alliance law suit is a threat to the project, and should be included here.

P41 – The statement that BLE is Indian Creek’s primary employer was true many years ago but is no longer true. Cisco construction, Local citrus plantations and Ya’axché employ just as many people if not more than BLE.

P45 – There are known to be a huge number of illegal activities occurring on the property, including in 2008/9: one of the buildings being set on fire by arsonists, a deer shot beside Jungle lodge and high levels of fishing/hunting/plant extraction.

P52&73 – BCEP is a separate area to the west of GSCP, and therefore the statement: “Boden Creek Ecological Preserve is at the heart of the Golden Stream Corridor Preserve (GSCP)” is inaccurate.

It should be mentioned that Indian Creek has one of the highest incidences of malaria in the country. This project should address that as well, through surveys of the ponds by Indian Creek and then forming a plan of action.

In addition to Lisel’s comments, it must be noted that BLE has demonstrated that it does not wish to collaborate and specifically instructed Miller & Miller from Virginia Tech not to collaborate with Ya’axché during their biodiversity surveys in 2008.

As of June last year, according to TIDE Executive Director, BLE has also not met its obligations under an MoU that it signed with TIDE, specifically as they relate to paying a user fee for accessing the Port Honduras Marine Reserve, an area that is used throughout this proposal to argue for BCEP’s ecological importance.