

Validated by:



**Rainforest
Alliance**

65 Millet St. Suite 201
Richmond, VT 05477 USA
Tel: 802-434-5491
Fax: 802-434-3116
www.rainforest-alliance.org

Carbon Forestry Validation Audit
Managed by:
Canada Regional Office
SmartWood Program
Rainforest Alliance
Tel: 647-899-7214
Fax: 1-877-438-1971
Contact person: Janice O'Brien
Email: jobrien@ra.org



**Rainforest
Alliance**

SmartWood Program

**Validation Assessment
Report for:
The Nature Conservancy Canada
Darkwoods Carbon Forest Project
in
Nelson, BC**

Date Final Report Issued:	21 April 2011
Date 2 nd Draft Final Report and CVA Issued:	20 April 2011
Date Draft Final Report Issued:	02 February 2011
Date Draft Report Issued:	25 November 2010
Field Audit Dates:	01 November – 05 November 2010
Lead Auditor:	Adam Gibbon
Audit Team Members:	Janice O'Brien and John Cathro
Senior Internal Reviewer:	Jared Nunery
Audit Standard:	VCS, 2007.1, Nov 2008 Voluntary Carbon Standard Program Update 21 January 2010 VCS, Tool for AFOLY Methodological Issues, Nov 2008 VCS, Guidance for AFOLU Projects, Nov 2008 VCS, Program Guidelines, Nov 2008 VCS, Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination, Nov 2008 VCS Program updates.
Validation Code(s):	RA-VAL-VCS-014368
Validation Statement Issued:	21 April 2011
Project Latitude/Longitude:	49.286763°, -116.921845°
Project Proponent Contact:	Tom Swann, NCC
Project Proponent Address:	825 Broughton Street, Suite 200 Victoria, Canada, V8W 1E5



Voluntary Carbon Standard 2007 Validation Report Template

19 November 2007

Validation Report:

Name of Verification company:	Date of the issue:
Rainforest Alliance	21 April 2011
Report Title:	Approved by:
Validation Report 3GT's Darkwoods Project	Jared Nunery
Client:	Project Title:
3GreenTree Ecosystem Services Limited, Ecosystem Restoration Associates INC and The Nature Conservancy of Canada.	Darkwoods Forest Carbon Project
Summary:	
The Darkwoods Forest Carbon Project involves the avoidance of logging on 54,792 hectares of private land in British Colombia, Canada. This validation assessment was carried out to assess the conformance of the project with the VCS 2007.1 Standard. The audit has involved the desk based assessment of project and supporting documentation, the inspection of data and further documentation at the Darkwoods offices in Nelson, B.C, interviews with stakeholders, and a visit to the project site. Following three rounds of assessment and reports, the field audit (and associated draft report), the desk based re-assessment (and the associated draft final report) and the CAR verification audit (and associated CVA Appendix) the Project Design and associated documents have been modified such that they now meet the VCS 2007.1 standard for validation. The most significant modifications were related to the final GHG emissions accounting steps, the monitoring plan and the transparent documentation of how the models/spreadsheets used interact to execute the methodology's carbon accounting steps.	
Work carried out by:	Number of pages:
Adam Gibbon, Janice O'Brien and John Cathro	73

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1 Introduction

1.1 Objective

The purpose of this report is to document the conformance of Darkwoods Forest Carbon Project with the requirements of the Voluntary Carbon Standard (VCS) validation standards. The project was developed by 3GreenTree Ecosystem Services Limited and Ecosystems Restoration Associates INC. The Project Proponent is the Nature Conservancy of Canada. The report presents the findings of qualified Rainforest Alliance auditors who have evaluated the Project Proponent's systems and performance against the applicable standard(s). Section 6 below provides the audit conclusions.

The Rainforest Alliance's [SmartWood](http://www.rainforest-alliance.org/smartwood) program was founded in 1989 to certify forestry practices conforming to Forest Stewardship Council (FSC) standards and now focuses on providing a variety of forest auditing services. In addition to being an ANSI ISO 14065:2007 accredited verifier and validator with VCS, Rainforest Alliance SmartWood program is also a member of the Climate, Community, and Biodiversity Alliance (CCBA) standards, and an approved verification body with a number of other forest carbon project standards. For a complete list of the services provided by Rainforest Alliance see http://www.rainforest-alliance.org/climate.cfm?id=international_standards.

Dispute resolution: If Rainforest Alliance clients encounter organizations or individuals having concerns or comments about Rainforest Alliance / SmartWood and our services, these parties are strongly encouraged to contact the SmartWood program headquarters directly.

1.2 Scope and Criteria

Scope: The scope of the validation audit is to assess the conformance of The Nature Conservancy Of Canada's Improved Forest Management project in Nelson, BC against the VCS 2007.1 standard. The objectives of this audit included an assessment of the project's conformance with the VCS 2007.1 requirements and any additional requirements of VCS AFOLU projects. In addition, the audit assessed the project with respect to the baseline scenarios presented in the project design document. The project covers an area of 54,792 hectares. The land is fee simple, privately owned. The forest type is interior temperate rainforest, primarily Englemann-Subalpine Spruce and Interior Cedar-Hemlock. The project has a lifetime of 100 years, and estimates it will result in a net GHG benefit of 14.65 million tCO₂e over the course of the project lifetime. The audit will assess the GHG assertions and baseline estimates made by the project against agreed validation criteria of the VCS.

Standard criteria: Criteria from the following documents were used to assess this project:

- Voluntary Carbon Standard, 2007.1, Nov 2008
- Voluntary Carbon Standard, Tool for AFOLU Methodological Issues, Nov 2008
- Voluntary Carbon Standard, Guidance for Agriculture, Forestry and Other Land Use Projects, Nov 2008
- Voluntary Carbon Standard, Program Guidelines, Nov 2008
- Voluntary Carbon Standard, Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination, Nov 2008
- Voluntary Carbon Standard Program Normative Document - Double Approval Process v1.1
- Applicable Voluntary Carbon Standard Program Updates (<http://www.v-c-s.org/policyannounce.html>)
- Applicable VCS Association Policy Announcements (<http://www.v-c-s.org/policyannounce.html>)
- VM0012 Improved Forest Management on Privately Owned Properties in Temperate and Boreal Forests (LTPF)

Materiality: All stocks and emissions equal to or greater than 5% of the total GHG assertion as defined in section 7.3.1 of the VCS 2007.1 standard.

1.3 VCS project Description

Summary Description of the Project (Taken from the PD version 1.8)

“The Nature Conservancy of Canada (NCC) acquired the fee simple 54,792 ha (135,394 acre) Darkwoods Property near Creston, BC from the Pluto Darkwoods Corporation in April of 2008, with the objective of managing the land for ecological conservation objectives. NCC is developing a 100 year VCS IFM-LtPF forest carbon project with a start date of the acquisition date to provide carbon finance as a significant part of acquisition financing and funding for ongoing property management and ownership costs.

The Darkwoods Forest Carbon Project achieves net GHG emission reductions and removals through the avoidance of emissions due to logging in the baseline scenario. The Darkwoods property was being sold by the previous owner, Pluto Darkwoods on a bid basis based on a sales price from a formal property and timber valuation/appraisal similar to the baseline scenario. The most plausible baseline scenario is a market-driven acquirer who implements a 15 year depletion of current mature timber stocks to provide a reasonable internal rate of return on investment. Under the baseline scenario, a 100 year uneven harvest schedule is implemented with the typical regional practice of clearcut logging with minimum legal requirements for private forestlands in B.C. and comparable regional practices.

The project scenario is conservation management activities, wherein NCC undertakes the carbon project and ecosystem protection and enhancement activities. The project scenario anticipates a low level of timber removal as part of conservation management activities for ecosystem/habitat enhancement and risk management.”

1.4 Level of assurance

The GHG assertion will be validated to a reasonable level of assurance. Based on the audit findings, a positive validation statement reasonably assures that the project GHG assertion is materially correct and is a fair representation of the GHG data and information. Additionally, the GHG assertion is prepared in accordance with the VCS 2007.1 standard.

2 Methodology

2.1 Description of the Audit Process

The audit team conducted a desk based pre-validation of the project's documentation. The audit team then travelled to the project site for a field audit lasting 5 days from 01 November 2010 to 05 November 2010. During this field audit four days were spent in the Darkwoods' Offices conducting interviews, document and data inspections. One day was spent visiting the project site. The site visit consisted of a guided helicopter tour with 1 set down. Following the issuance of the draft report, revised material was submitted for re-assessment. The assessment of the revised materials was done via a desk assessment. This assessment resulted in the audit report dated 02 February 2011. Within this report some corrective action requests remained open. Therefore a desk based CAR verification audit was necessary to assess revised materials. The results of the CAR verification audit are presented as Appendix B to this report.

Location/Facility	Date(s)	Length of Audit	Auditor(s)
Darkwoods Office and Project Site, Nelson BC	Nov 1-5, 2010	5 days onsite	Adam Gibbon, Janice O'Brien, John Cathro
Rainforest Alliance Offices in London and Canada	Jan 19-21, 2010	3 days desk audit	Adam Gibbon, Janice O'Brien
Rainforest Alliance Offices in London	Apr 6-20, 2011	3 days desk audit	Adam Gibbon

2.2 Audit team

Auditor(s)	Qualifications
Janice O'Brien 25 November 2010 Assessment 02 Feb 2011 Assessment	Janice has a Master's Degree in Forest Conservation from the University of Toronto and has been with SmartWood for 3 years. Janice acts as both the Canadian Carbon Task Manager and a Chain of Custody Coordinator. She has task managed several Carbon pre-assessments projects in Canada, has completed a training program in GHG Accounting for Forests and participated as an auditor in 2 Carbon Pre-Assessments. She has coordinated approximately 450 Chain of Custody audits and assessments, conducted approximately 15 assessments/audits, and participated in 1 Forest Management Audit. Prior to joining SmartWood she worked in operational and financial risk management for 13 years.
Adam Gibbon, Lead Auditor 25 November 2010 Assessment 02 Feb 2011 Assessment 20 April CVA Assessment	Adam's role as Technical Specialist in Rainforest Alliance's Climate Program involves being a lead auditor for REDD+ projects and methodologies in the voluntary carbon market, providing training on REDD+ and climate change to a broad range of groups worldwide, and providing technical input into on adaptation and mitigation for agriculture and forestry projects. Adam has led the technical climate change related of over ten CCBA validations. He has also led five VCS methodology assessments, three VCS validations and one Plan Vivo

	verification. Adam is a qualified lead auditor for the Climate Action Reserve, has been appointed to the Plan Vivo Technical Advisory panel and is a VCS AFOLU expert in REDD. Adam has trained over 150 people in Indonesia, Nicaragua, Rwanda, Spain, UK, Vietnam in REDD+ project auditing and project development. Recipients of the training included Rainforest Alliance auditors, government officials, private consultants and NGO representatives. Adam has been the lead author of recent Rainforest Alliance publications such as, “Guidance on coffee carbon project development using the (CDM) simplified agroforestry methodology”, and “Forest Carbon Project Feasibility Study in Quang Tri Province, Vietnam”. He has also had published work peer reviewed scientific journals, for example; Gibbon et al., 2010; Ecosystem Carbon Storage Across the Grassland–Forest Transition in the High Andes of Manu National Park, Peru. Before joining Rainforest Alliance Adam worked at Oxford University as a researcher. His research emphasized the potential of carbon markets to finance sustainable management of forest resources. Adam earned a distinction on the Environmental Change and Management MSc. Program at Oxford University. He was awarded the Sir Walter Raleigh Scholarship at Oriel College, Oxford. He graduated with a first class degree from Durham University, with a BSc in Natural Sciences, specializing in Geology, Chemistry & Geography.
John Cathro, RPF 25 November 2010 Assessment	John has 20 years experience in the forest sector with industry, government, communities and First Nations. He has worked within the FSC framework for over 10 years developing standards, assisting companies get certified and conducting forest management and chain of custody assessments and audits. John has completed SmartWood auditing training for Chain of Custody and Forest Management and has been involved in more than 75 audits and assessments in western Canada.

2.3 Stakeholder Consultation Process

The consultation process used for this has been as followed:

- The proponent provided their stakeholder list that contains detailed information including key individuals, affiliation and contact information. This list contains approximately 200 local, provincial and national contacts;
- The auditors prepared their own list of key stakeholders based on local knowledge of groups, agencies and individuals with specific technical knowledge of the Darkwoods property;
- Based on this combined information, the auditors identified and contacted approximately 25 groups and individuals to set up an interview. These groups and individuals were chosen

based on the specific local and technical expertise that they could provide to assist the auditors better understand the assumptions made by the organization in their methodology;

- 7 phone and in-person interviews were held with key stakeholders between November 2 and November 14 2010. Interviews were held with:
 - Ray Warden, Director, Ktunaxa Lands and Resources Agency
 - Deb MacKillop, Ecosystem Specialist, Ministry of Natural Resources Operations (formerly Ministry of Forests and Range);
 - Al Soobotin, Section Head, Ecosystem Section, Ministry of Natural Resources Operations (formerly Ministry of Environment);
 - Andy Shadrack, Director of Area D and Chair of the Rural Affairs Committee, Regional District of Central Kootenay;
 - Tom Dool, GIS technician, Regional District of Central Kootenay;
 - Laurie Daniels, Associate Professor, University of British Columbia, Faculty of Forestry Sciences;
 - Rainer Muentner, RPF, forest manager with Om Forest, adjacent private land.

2.4 Review of Documents

The following documents were viewed in the field audit:

Ref	Title, Author(s), Version, Date	Electronic Filename
1	Land Title Act State of Title Certificate, The Land Title & Survey Authority of British Columbia, 23 April, 2008	Physical Copy
2	Creston BC Map, Map Production Division, BC Lands, 1973	Physical Map
3	Cadastral Index Map #X74, Lot 2381.G1, Nelson and Fort Sheppard Land Grant, Nov 26, 1915	Physical Map
4	Darkwoods Conservation Area Property Management Plan 2010-2015 (July 2010) DRAFT	Physical Copy
5	Mineral Tenure Act, R.S.B.C. 1996, c. 292	http://www.canlii.org/en/bc/laws/stat/rsbc-1996-c-292/84303/part-1/rsbc-1996-c-292-part-1.html
6	CV, Christian Schadendorf, RPF	Physical Copy
7	Three Point Properties: Purchase of the Shares of Pluto Darkwoods Corp. (the "Company"), Mar 28, 2006	Physical Copy
8	Private Managed Forest Land Council, NCC Darkwoods Forestry Annual Declaration, Mar 18, 2009	Physical Copy
9	Darkwoods Property 2010/2011 Proposed Logging Map	Physical Copy
10	Wildlife Habitat Field Assessment of Proposed 2010-11 Forest Harvest on Nature Conservancy of Canada Darkwoods Property, D. Hamilton (Nanuq Consulting Ltd.), Sept 14, 2010	Physical Copy

11	Summary of Wildlife Habitat Field Sampling on the Nature Conservancy of Canada Darkwoods Property, D. Hamilton (Nanuq Consulting Ltd.), Oct 30, 2010	Physical Copy
12	Darkwoods Forestry "Classification System for Managed Forest #40", May 14, 1991	Physical Copy
13	Darkwoods Forestry 1991 Forest Inventory, Summary of Non-productive Area	Physical Copy
14	Darkwoods Interim Stewardship Plan, Nature Conservancy Canada, March 2009	Physical Copy
15		<u>Darkwoods boundry file.rtf</u> darkwoods_orig_lotbdry_2008
16		<u>Evidence of monitoring cold checks</u> Skinner_Meadows_2008_Monitoring_Report_compressed
17		<u>Fire Recording</u> fires_demo_8x11_nov2010
18		<u>Forest Cover 2010</u> drkwd_fc15k_contours_Ecult2010.pdf drkwd_fc15k_contours_hidden2010.pdf drkwd_fc15k_contours_jersey2010.pdf drkwd_fc15k_contours_newing2010.pdf drkwd_fc15k_contours_seeman2010.pdf drkwd_fc15k_contours_Wcult2010.pdf
19		<u>forest inventory</u> ANNREPOR.XLS BC ASS HARVEST HBS.xls Forest Inventory 1992 001.jpg Forest Inventory 1992 002.jpg Forest Inventory 1992 003.jpg Forest Inventory 1992 004.jpg Forest Inventory 1992 005.jpg Forest Inventory 1992 006.jpg Forest Inventory 1992 007.jpg Forest Inventory 1992.jpg Fw_ Forest Inventory 1992.rtf Road Construction history.xls
20		<u>Interested Buyers</u> Contacts Activities Content of WebSite and Data Room Website copy
21		<u>KML Boundary</u> darkwoods_orig_lotbdry_2008.kml
22		<u>Modelling</u> FORECAST carbon & volume 1-year time step.xls ICH Fd data.xls Kimmins et al EM122.pdf

		PD data appendices.xlsx Seely FEM169.pdf TIPSY Fd 18 output with Standish equations.xls
23		<u>NCC data quality standards</u> Darkwoods Data Standards_30Nov09.doc Data Collection Overview.doc GIS_Standards_2010.doc How to File and Archive Stewardship Documents.docx Land Information System.ppt
24		<u>Org Chart and Contracts</u> 2009-05-12 Pat Field Executed Contract Apr 09 Jun 09 2009-05-12 Pat Field Executed Contract Jul 09 Jun 10 2010-07-15 a Boulder Institute Executed Contract NCC - Darkwoods Carbon Project - Org Chart - For Auditors - 11-02-10 – pptx
25		<u>Other</u> seeman_deactivation_zoom_nov09_fix1.pdf public_access_summer_8x11_2010_v3.pdf general_overview_30x30_SSNA_27apr09.pdf Forest Cover 2004dec23.xls DFN-003_inv_items_2004apr19.xls
26		<u>PD Table 6 Evidence</u> ANNREPOR BC ASS HARVEST HBS Road Construction history
27		<u>Stakeholder Consult</u> Stakeholder listAugust11_bm_pwf (1) Summary of Darkwood open houses October 25, 2010
28	Darkwoods Property: Analysis Units – John was here, Touchstone GIS Services Inc, November 03 2010,	Physical Copy
29	BC Assessment : Harvesting Return for Land Classified as Forest Land, C Schadendorf, April 29 2010.	Physical Copy
30	Fire Control Cost Sharing Agreement, NCC and Ministry of Forest.	Physical Copy
31	Potential Business Opportunities on the Darkwoods Lands, C Schadendorf, 13 October 2006.	Physical Copy
32	Darkwoods Sales Brochure – ‘A Unique Opportunity’, Pluto Darkwoods,	Physical Copy
33	Draft Marketing Plan, Pluto Darkwoods Corp, June 2005.	Physical Copy
34	Real Estate Appraisal Consultation & Arbitration: Appraisal Review: Update Real Estate Assets of Darkwoods Forestry, Kent-Macpherson, July 18 2008	Physical Copy
35	Real Estate Appraisal Consultation	Physical Copy

	& Arbitration: Estimate of Market Value, 30 August 2007	
36	Real Estate Appraisal Consultation & Arbitration: Real Estate Assets of Darkwoods Forestry, October 07 2010	Physical Copy
37	B.C. Reg. 370/2002 Environmental Assessment Act	http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/13_370_2002
38	NCC Board Policy Documentation	NCC board policy 2008.zip
39	NCC Annual Report 2009	NCC Annual Report 09.pdf
40		http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/13_370_2002
41	About the Nature Conservancy Canada	http://www.natureconservancy.ca/site/PageServer?pagename=ncc_about_index
42	Demonstration of Permanence for the Darkwoods Project	Physical Copy

The following documents were submitted in response to the draft report:

Ref	Title, Author(s), Version, Date	Electronic Filename
43	Darkwoods - VCS Project Design Document - 2010 v.1.3, Nature Conservancy of Canada, 3GreenTree Ecosystem Services Ltd., & ERA Ecosystem Restoration Associates Inc., Oct 13, 2010	Darkwoods - VCS Project Design Document - 2010 v.1.3
44	Darkwoods - VCS Project Design Document - 2010 v.1.5, Nature Conservancy of Canada, 3GreenTree Ecosystem Services Ltd., & ERA Ecosystem Restoration Associates Inc., Jan 10, 2011	Darkwoods - VCS Project Design Document - 2010 v.1.5.pdf
45	Mike Vitt, 09/11/1	Darkwoods PDD - Response to Report 1 CAR's 090111.docx
46	FORECAST carbon & volume 1-year time step.xls, Brad Seely, Jan 10, 2011	FORECAST carbon & volume 1-year time step.xls
47	working.docxFORECAST Fd data.xls, Brad Seely, Jan 10, 2011	working.docxFORECAST Fd data.xls
48	IFM-LtPF on Fee Simple Forest Properties -v8.3, 3GreenTree Ecosystem Services Ltd., & ERA Ecosystem Restoration Associates Inc., Nov 26, 2010	IFM-LtPF on Fee Simple Forest Properties - v8.3 Final.pdf
49	KL ESSF v8.4.fds, Brad Seely, Jan 10, 2011	KL ESSF v8.4.fds
50	KL ICH v8.4.fds, Brad Seely, Jan 10, 2011	KL ICH v8.4.fds
51	NCC Financial Model - v8.2.xlsx, Nature Conservancy of Canada, 3GreenTree Ecosystem Services Ltd., & ERA Ecosystem Restoration Associates Inc., Jan 10, 2011	NCC Financial Model - v8.2.xlsx
52	TIPSY Fd 18 output with Standish	TIPSY Fd 18 output with Standish equations.xls

	equations.xls, Brad Seely, Jan 10, 2011	
53	SHP file of operability map	Operability Darkwoods v 3.1.zip

The documents submitted in response to the draft final report, and thus assessed in the CAR Verification Audit are listed in Appendix B.

2.5 Follow-up Interviews

The following is a list of the people interviewed as part of the audit. The interviewees included those people directly, and in some cases indirectly, involved and/or affected by the project activities.

Audit Date	Name	Title
1 Nov, 2010	Thomas K. Swann, AACI, P.APP, RI (BC)	Associate Regional VP & Director of Land Securement, British Columbia Region
1 Nov, 2010	Dr. Christian Schadendorf, R.P.F	General Manager, Darkwoods Forestry
1 Nov, 2010	Mike Vitt, MBA, BScF	Managing Director, 3GreenTree Ecosystem Services Ltd.
1 Nov, 2010	John Kendall, RFP	Director, Forest Carbon Projects, Ecosystem Restoration Associates (ERA)
1 Nov, 2010	Tim Ennis	Director of Land Stewardship, BC Region, The Nature Conservancy Canada
1 Nov, 2010	Brad Seely, PhD	Managing Director, 3GreenTree Ecosystem Services Ltd.
1 Nov, 2010	Ian Giesbrecht, B.Sc., MRM Candidate	Conservation Monitoring Ecologist, The Nature Conservancy Canada
1 Nov, 2010	Pat Field	Project Manager, South Selkirk Natural Area, The Nature Conservancy Canada

2.6 Resolution of any material discrepancy

N/A

3 Validation Overview

3.1 Validation summary

Following three rounds of assessment and reports; the field audit (and associated draft report), the desk based re-assessment (and the associated draft final report) and the CAR verification audit (and associated CVA Appendix B) the Project Design and associated documents have been modified such that the PD now meets the VCS 2007.1 standard for validation. The most significant modifications were related to the final GHG emissions accounting steps, the monitoring plan and the transparent documentation of how the models/spreadsheets used interact to execute the methodology's carbon accounting steps.

3.2 Correct Action Requests

Note: A non-conformance is defined in this report as a deficiency, discrepancy or misrepresentation that in all probability materially affects carbon credit claims. Corrective Action Request (CAR) language uses “shall” to suggest its necessity but is not prescriptive in terms of mechanisms to mitigate the CAR. Each CAR is brief and refers to a more detailed finding in the appendices.

CARs identified during draft validation reports must be successfully closed by the Project Proponents before Rainforest Alliance submits the final validation report and opinion to the VCS. Any open CARs will result in a negative validation statement which lists: (a) all corrective action requests, (b) rationale for each request, and (c) impact of each material finding on GHG assertion. Qualified validation statements are not accepted by VCS.

Please note that the findings related to the closure of CARs 04/10, 06/10, 08/10, 09/10, 11/10, 14/10, 16/10, and 19/10 are presented in Appendix B, in the report titled Darkwoods VCS CVA March11

CAR 01/10	Reference Standard & Requirement: VCS Program Update 21 Jan 2010 (replaces VCS 2007.1; 5.7 Proof of title requirements))
Non-conformance:	Title was not demonstrated for 2 parcels that were included in the PD (Table 1, PID 012-878-545, PID 007-608-390). The proponent clarified that those 2 parcels are distinct from the area to be included in the property management plan, and shall be removed from the project area.
Corrective Action Request: The Nature Conservancy Canada shall only include only lands that comprise project area in the PD’s description of the project area.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	The 2 parcels describing the office location have been removed from Table 1.
CAR Status:	CLOSED.
Follow-up Actions:	N/A

CAR 02/10	Reference Standard & Requirement: VCS 2007.1; 5.7, 5.11
Non-conformance:	It is unclear if the project monitoring program start date is based on the project start date or the project validation date. Further, it is not clear what date the 5 year monitoring interval periods start on. A review of the Nature Conservancy Canada DRAFT Forest Management Plan (Exhibit 4) and Darkwoods Interim Stewardship Plan, Nature Conservancy Canada (Exhibit 14) found no documentation to support the monitoring plan, start dates, or years in which interval monitoring will take place.
Corrective Action Request: The Nature Conservancy Canada shall clearly define the monitoring program start date or the years in which interval monitoring will take place.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	Updates have been made to section 3.3 of the PD to better explain the timing of planned monitoring. The methodology states that since the project start date in 2008, biodiversity monitoring and inventory spatial updating has been conducted and that this will continue. Monitoring plots (“Field Plot Measurement”) for carbon stocks will be established between June 2011 and September 2011. It was clarified via a telephone conversation that the entire plot network will be established in 2011, but over the next five years changes may be made to improve efficiency

	(p65). Page 65 states that monitoring will occur at, “intervals no longer than 5 years (beginning at their date of first measurement”. It is understood that this monitoring will be integrated into NCC’s monitoring plans over 2011.
CAR Status:	CLOSED
Follow-up Actions:	N/A

CAR 03/10	Reference Standard & Requirement: VCS 2007.1 Section 5.11, Purpose of Monitoring
Non-conformance:	The PD does not describe the purpose of monitoring.
Corrective Action Request: The Nature Conservancy Canada shall describe the purpose of monitoring in the PD.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	Section 3 now includes a description of the purpose of monitoring which is, a) <i>“ensuring that non-de minimis unanticipated GHG emissions have not occurred or are accounted for in net GHG calculations,</i> b) <i>ensuring that the net GHG emissions from project activities are accounted for as described in this document,</i> c) <i>to verify that parameter values and simulated carbon pools are consistent with their ex ante estimates,</i> d) <i>Ensuring that the other requirements of the PDD are tracked (i.e. leakage).” (p30)</i>
CAR Status:	CLOSED
Follow-up Actions:	N/A

CAR 04/10	Reference Standard & Requirement: VCS 2007.1 Section 5.3, VCS Tool for AFOLU Methodological Issues; Step 6, VCS Guidance for AFOLU Projects; various sections.
Non-conformance:	The project does not yet have an approved methodology.
Corrective Action Request: The Nature Conservancy Canada shall use a VCS approved methodology	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	The project is using a methodology that is currently undergoing double approval process, and as yet is not approved. The proposed methodology is titled “IFM-LtPF on Fee Simple Forest Properties - v8.3”. CAR 04/10 remains open.
CAR Status:	OPEN
Follow-up Actions:	N/A

CAR 05/10	Reference Standard & Requirement: Methodology, STEP 2c The Common Practice Baseline Scenario – new owner activities:
Non-conformance:	During the field audit, the Proponent's were able to show rough calculations of the IRR under the two scenarios compared in step 2c, the assumptions and analysis that led to the ranges of IRR quoted of the market driven and sustainable yield scenarios were not presented in the PD or appendixes. Given the importance of this step, this lack of defence and explanation was found to warrant corrective action
Corrective Action Request: The Nature Conservancy Canada shall present the IRR analysis (including assumptions) used to compare the market driven and sustainable yield scenarios in the PD or an appendix.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	The PD now references the locations of the analysis, which was seen by the auditors during the audit. Considering the financially sensitive nature of the calculations, combined with the fact that market driven harvesting would naturally generate a higher IRR than the sustainable yield model, it is accepted by the auditors that it is not necessary to present the details in the PD.
CAR Status:	CLOSED
Follow-up Actions:	N/A

CAR 06/10	Reference Standard & Requirement: 4.3.2 Correct application and justification of selected monitoring methodology, 4.1.10,
Non-conformance:	The PD, in section 3.1 and 3.2, lists data and parameters in tables. Some of these tables were found to be incomplete (see page 34) or not include the values applied (see page 32). In addition, the list was not found to include all the parameters that are required to be monitored.
Corrective Action Request: The Nature Conservancy Canada shall include a complete list of data and parameters to be monitored.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	Sections 3.1 and 3.2 now contain complete lists of parameters. However, it is difficult to trace the parameters listed to the model they are used in, as no explanations are provided in the parameters tables. For this reason, CAR 06/10 remains open.
CAR Status:	OPEN
Follow-up Actions:	N/A

CAR 07/10	Reference Standard & Requirement: The geographic position of the project boundary is recorded for all areas of land; (Methodology Section 13.1.1)
Non-conformance:	The PD does not include a stratified map of the project area.
Corrective Action Request: The Nature Conservancy Canada shall provide a stratified map of the project area for the start date.	

Timeline for conformance:	Prior to validation
Evidence to close CAR:	A detailed map of the analysis unit strata has been included as Figure 9.
CAR Status:	CLOSED
Follow-up Actions:	N/A

CAR 08/10	Reference Standard & Requirement: 4.3.2 Correct application and justification of selected monitoring methodology
Non-conformance:	There was found to be insufficient clarity in how the data parameters monitored would feed back into the equations of the methodology to calculate the number of VCU's to be issued at any monitoring event.
Corrective Action Request: The Nature Conservancy Canada shall describe the process by which the monitoring activities generate data which flow back into the parameters and equations of the methodology (including describing steps that occur within the models).	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	The PDD does not include a comprehensive step by step plan of how monitoring will be conducted. However, significant additions have been made to the monitoring section 3.3. Section 3.3 now explains in more detail how the carbon monitoring will be integrated into current biodiversity monitoring as well as the three main monitoring activities, 1) Annual inventory monitoring, 2) leakage monitoring and 3) field plot monitoring. The section also goes into details about stratification, plot type, number of plots and sample size. Some of the details are not yet finalised, for example the exact number of plots. This however, is acceptable given that the methodology sets limits on the accuracy they must achieve and the exact number required cannot be known until data is gathered. The PD contains detailed guidance on tree, dead organic matter carbon stock determination within plots. Section 3.4, 'Ex-post calculation of carbon stocks' is a new addition in this version of the PD. Here, it is explained how the information gather (spatial inventory data and carbon stock data from plots) will be used to update calculations, and feed in to the calculation of the number of credits to be issued. This was found to be in conformance with section 13.2.2 of the methodology (a new section), 'Use of monitoring data to update carbon stock calculations'. This addresses many of the issues related to CAR 08/10. However, the PD does not include a plan of how leakage will be monitored. For this reason CAR 08/10 remains open.
CAR Status:	OPEN
Follow-up Actions:	N/A

CAR 09/10	Reference Standard & Requirement: VCS 2007.1 Section 5.11, GHG information management systems, including the location and retention of stored data
Non-conformance:	In section 3.3 of the PD there is information on data handling, and QA\QC procedures. Interviews with the team responsible for monitoring confirmed that the good practices listed in the PD were understood by all and were commonly employed in other projects managed by the same people. A number of documents were seen that confirmed best practice was a cultural norm within the implementing organisations. For example, the document, "GIS_Standards_2010" explains the data archiving system for GIS data. However, documentation pertaining specifically to the carbon element of the Darkwoods project was not seen. In addition, the QA\QC section makes reference to 'Standard Operating Procedures' for various practices. However, these are not elaborated or referenced. As such it is not possible to validate that they are fit for purpose.
Corrective Action Request: The Nature Conservancy Canada shall clearly document the GHG information management system specific to the carbon element of the Darkwoods project.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	Additional references have been added to pages 66-67 in response to CAR 09/10 . These are related to measuring tree and dead wood biomass in the field. However, the QA/QC section (p68-69) still refers to a number of plans and processes that are under development. In general, the monitoring plan was not found to be detailed enough to constitute a monitoring plan that could subsequently be verified to have been executed. The monitoring plan must identify the key steps and the QA/QC procedures associates with them such that it is clear what monitoring will involve, even of the operational details are not yet finalised. Therefore CAR 09/10 remains open.
CAR Status:	OPEN
Follow-up Actions:	N/A

CAR 10/10	Reference Standard & Requirement: 4.4.3 Calculation of emissions in the baseline scenario (ex-ante estimate), 4.4.4 Calculation of emissions from project activities (ex-ante estimate).
Non-conformance:	Upon comparison of Figure 6 with GIS data it was noticed that Figure 6 erroneously includes environmental protection areas as inoperable in the baseline.
Corrective Action Request: The Nature Conservancy shall correctly display the operable/non-operable areas in Figure 6.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	Figure 6 has been replaced with a corrected map. Due to the change in pattern of the THLB and the fact that the number has changed, the auditors request either a copy of the shape file. This file was provided, and was found to match the shape and size described in the PD (operable area = 37250 Ha).
CAR Status:	CLOSED
Follow-up Actions:	N/A

CAR 11/10	Reference Standard & Requirement: 4.4.3 Calculation of emissions in the baseline scenario (ex-ante estimate), 4.4.4 Calculation of emissions from project activities (ex-ante estimate).
Non-conformance:	The project uses a combination of models and spreadsheets to execute the steps of the methodology. However, the PD and spreadsheets do not document the steps executed in a way that allows readers to trace the steps back to the methodology.
Corrective Action Request: The Nature Conservancy shall document how each step of the methodology was executed.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	The PD and appendixes/spreadsheets have been added to and amended to provide greater transparency regarding how the models used execute the methodologies steps. However, the tab 'Summary Tables and Figures', in 'NCC Financial Model v8.2' was not found to have any references to the equations in the methodology that it was executing, and in at least one case (calculation of the buffer contribution), did not follow the methodology and made the calculation erroneously. The tab 'HWP Carbon Model, in 'NCC Financial Model v8.2' was found to reference parameters but not equations found in the methodology. It also executed additional equations (rows 43-49) that were not in the methodology or PD and were found not to be conservative. Appendix 2 which lists the equations used from the methodology was found to be of limited value because it did not explain where each one was executed (e.g. in Atlas, in Forecast, in cell XY of Z spreadsheet for example). Therefore CAR 11/10 remains open.
CAR Status:	OPEN
Follow-up Actions:	N/A

CAR 12/10	Reference Standard & Requirement: 4.4.3 Calculation of emissions in the baseline scenario (ex-ante estimate), 4.4.4 Calculation of emissions from project activities (ex-ante estimate).
Non-conformance:	There was found to be a lack of transparency about the model calibration and assumptions that went in to models.
Corrective Action Request: The Nature Conservancy shall document any assumptions used in executing the models and any calibration that was done.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	The data and parameters tables in sections 3.1 and 3.2 are now complete. These tables contain the input data and explanations of any assumptions made. Section 4.1 of the PD explains that Atlas and Forecast are used to determine the carbon stock elements of the baseline emissions, whilst the spreadsheet 'NCC financial model' is used to do HWP and VCU based calculations. Figure 8 shows how data is input into the model and calibrated. Section 4.1 also explains how each of the models was constructed in a manner consistent with the model seen by the auditors and the example data sheets provided.
CAR Status:	CLOSED
Follow-up Actions:	N/A

CAR 13/10	Reference Standard & Requirement: 4.4.3 Calculation of emissions in the baseline scenario (ex-ante estimate), 4.4.4 Calculation of emissions from project activities (ex-ante estimate).
Non-conformance:	It was not clear what data sources were used to generate the model, how they were passed into the models
Corrective Action Request: The Nature Conservancy shall document the data sources used and explain which of the models they were used in.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	The data and parameters tables in sections 3.1 and 3.2 are now complete. Section 4.1 of the PD explains that Atlas and Forecast are used to determine the carbon stock elements of the baseline emissions, whilst the spreadsheet 'NCC financial model' is used to do HWP and VCU based calculations. Figure 8 shows how data is input into the model and calibrated. Section 4.1 also explains how each of the models was constructed in a manner consistent with the model seen by the auditors and the example data sheets provided.
CAR Status:	CLOSED
Follow-up Actions:	N/A

CAR 14/10	Reference Standard & Requirement: 4.4.3 Calculation of emissions in the baseline scenario (ex-ante estimate), 4.4.4 Calculation of emissions from project activities (ex-ante estimate).
Non-conformance:	The methods used to check the relevancy/conservativeness of the data/assumptions was not thoroughly documented
Corrective Action Request: The Nature Conservancy shall document how the data sources were checked for relevancy and conservativeness.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	Additional text has been added to section 4 of the PD and appendix 2 to discuss the selection of data and parameter values in a general way. The now complete tables in sections 3.1 and 3.2, demonstrate accurate and conservative data selections. This was considered suitable for ex-ante estimates, since the network of field plots to be input during monitoring will verify the accuracy of many of the data/parameters. Those parameters set at the validation were found to be accurate and conservative choices. Equations 25-27 were also checked and found to have been executed correctly. The auditors requested justification for the expert opinions given to provide parameter values in Table 3 of Appendix 2. References were provided for the values, but the auditors were unable to locate the values in the papers provided. Until the precise location of the derived value can be provided CAR 14/10 remains open.
CAR Status:	OPEN
Follow-up Actions:	N/A

CAR 15/10	Reference Standard & Requirement: 4.4.3 Calculation of emissions in the baseline scenario (ex-ante estimate), 4.4.4 Calculation of emissions from project activities (ex-ante estimate).
Non-conformance:	It was also not clear how the models interacted. For example, it was explained that the atlas model pulled data from a database generated by the forecast model. However, the exact content, location, file name, version etc of this database are not in the project documentation.
Corrective Action Request: The Nature Conservancy shall document how the models interact.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	Figure 7 and accompanying text has been added to show how the models interact.
CAR Status:	CLOSED
Follow-up Actions:	N/A

CAR 16/10	Reference Standard & Requirement: 4.4.3 Calculation of emissions in the baseline scenario (ex-ante estimate), 4.4.4 Calculation of emissions from project activities (ex-ante estimate).
Non-conformance:	It was understood by the auditors, as explained during interviews, that the baseline estimates of emissions will be liable to change as the results of monitoring feedback in. The fact that this would happen was not found to be clear in the PD. The data that could cause changes and the steps through which it would be processed were also not documented
Corrective Action Request: The Nature Conservancy shall fully explain the process by which baseline emissions estimates may be updated in the future.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	The methodology has been updated and now confirms that the monitoring data will be used to update baseline emissions data in the future. However, it is still not clear if the monitoring data is used with respect to adjusting the baseline (or applying an uncertainty factor against it) for the years which the monitoring covered. Therefore CAR 16/10 remains open.
CAR Status:	OPEN
Follow-up Actions:	N/A

CAR 17/10	Reference Standard & Requirement: 4.4.4 Calculation of emissions from project activities (ex-ante estimate).
Non-conformance:	The Y-axis of Figure 8 is incorrectly labelled. In addition, the source data used to create the graph was not presented clearly
Corrective Action Request: The Nature Conservancy shall present all graphs correctly and provide clear references to the source data used to compile them.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	Figure 8, now Figure 11 (p93) has been corrected. Appendix 3 shows the data used to create the graph, which is an output from the FSP-Atlas model. This data is used in column AF of 'NCC Financial model v8.2', on the 'summary tables and figures tab'.
CAR Status:	CLOSED

Follow-up Actions:	N/A
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CAR 18/10	Reference Standard & Requirement: 4.4.6 Calculation of emissions from leakage (ex ante estimate)
Non-conformance:	The PD attempts to follow section 10.2.3, “Markey Leakage Option 2b – Leakage Assessment Tool” from the methodology. This tool is still under development and as such the details of its implementation were not assessed in depth. There appeared to be calculation errors in the use of the tool. For example, DCfromDOM is 90%, but then when the numbers are put into the equation DCfromDOM is given a value of 0.1.
Corrective Action Request: The Nature Conservancy shall calculate market leakage correctly, according to an approved method.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	The current version of the methodology includes options for calculating market leakage. The PD, on p96 uses option 2, a method derived from the CAR protocol. The method was found to have been executed correctly.
CAR Status:	CLOSED
Follow-up Actions:	N/A

CAR 19/10	Reference Standard & Requirement: 4.4.7 Calculation of net VCUs to be issued (ex-ante estimate)
Non-conformance:	The calculations were found to contain errors. For example, an automatic deduction in the risk buffer percentage by 15% at each validation was made. This is not part of the VCS VCU issuance process. This error is related to ambiguities in the presentation of the calculation steps in the VCS standard itself. When the buffer percentage is increased in the spreadsheet, ‘NCC Financial Model - v7.xls’, the total number of credits issued increases. Logically, this cannot be correct. In addition, the spreadsheet has two components, one where annual values are used, and one where 5 yearly values are used. The way sums were done in the 5 yearly section was found to be mathematically incorrect.
Corrective Action Request: The Nature Conservancy shall calculate VCU issuance correctly and according to the VCS rules	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	Except for the issue regarding the buffer credit calculation described below, all other errors in the spreadsheet had been fixed. Appendix two of the PD now provides greater transparency about the calculations that were intended to be applied. A correction has been made in ‘Summary Tables & Figures’ tab of ‘NCC Financial Model – v8.2.xls’, and there is no longer an automatic 15% deduction in the buffer percentage. A buffer percentage of 10% is applied consistently. However, the parameter BR_y is not calculated correctly because the buffer percentage is not multiplied by the carbon stock benefit, but rather by a value which includes HWP related emissions (see Column N). For this reason, CAR 19/10 remains open.
CAR Status:	OPEN
Follow-up Actions:	N/A

CAR 20/10	Reference Standard & Requirement: 4.4.9 Uncertainties and Methodology Section 11.4.
Non-conformance:	The PD has not demonstrated clearly where conservative selection of data was employed as per the requirement in section 11.4 of the methodology. This is related to the fact that the data sources were not clearly mapped out in the PD.
Corrective Action Request: The Nature Conservancy shall clearly demonstrate where conservative selections of data were made.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	The complete documentation of the data parameters used in PD sections 3.1 and 3.2 demonstrates that accurate and conservative choices were made.
CAR Status:	CLOSED
Follow-up Actions:	N/A

CAR 21/10	Reference Standard & Requirement: 4.4.9 Uncertainties
Non-conformance:	On page 76 of the PD it is explained that an uncertainty deduction of 5% was made. There is no justification provided for this number. It should be noted that the unapproved methodology is ambiguous on how uncertainty needs to be calculated.
Corrective Action Request: The Nature Conservancy shall fully justify the uncertainty deduction made in conformance with the requirements of the methodology.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	The methodology does not contain specific instructions on how to calculate an uncertainty value ex-ante. Section 11.4 of the methodology, where an uncertainty value is calculated uses ex-post measured data from monitoring plots. As this data is not available ex-ante, the project proponents have used another method to determine the uncertainty attached the estimates in section 3.5 of the PD (p74 onwards). Further details are provided in Appendix 4 (p150 onwards). This approach derives E_m via a comparison of the Darkwoods model outputs and adjusted actual values of harvest volume for the period 2008-10. E_i was derived via a comparison of the Darkwoods inventory data and a wider inventory conducted by the Ministry of Forests which covered the Darkwoods area. Since these uncertainty values are only used for ex-ante uncertainty estimation and are superfluous to the methodology, they were not assessed in detail. As no uncertainty deduction is required by the methodology ex-ante CAR 21/10 is closed.
CAR Status:	CLOSED
Follow-up Actions:	N/A

CAR 22/10	Reference Standard & Requirement: <i>VCS Program Update (8 September 2010): Update to the VCS 2007.1: Tool for Non-Permanence Risk Analysis and Buffer Determination</i>
Non-conformance:	The project proponent has used both the 2011 VCS risk assessment and the 2007.1 (which they incorrectly call the 2008 risk assessment tool) risk assessment tools. At the time of this assessment the 2011 VCS risk assessment tool has not been approved for use, and the 2007.1 risk tool has been updated per VCS <i>Program Update (8 September 2010): Update to the VCS 2007.1: Tool for Non-Permanence Risk Analysis and Buffer Determination</i> . As such, the risk analysis completed is incomplete as it does not include the default buffer withholding percentage.
Corrective Action Request: The Nature Conservancy Canada shall, in accordance with VCS <i>Program Update (8 September 2010): Update to the VCS 2007.1: Tool for Non-Permanence Risk Analysis and Buffer Determination</i> , complete the default buffer withholding percentages for IFM (LtPF), identifying the appropriate risk class and buffer amount using the correct version.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	<i>VCS Program Update (13 April 2010): Update to the VCS 2007.1: Tool for Non-Permanence Risk Analysis and Buffer Determination</i> revises the VCS text on the subject of buffer value determinance to the following: <i>“When determining the overall non-permanence risk classification, the risk factor with the highest rating determines the project’s overall risk class and shall be used to determine the required buffer withholding percentage.”</i> <i>“Table [x] below provides the default buffer percentage ranges for [x] projects associated with low, medium and high non-permanence risk classes. The required buffer withholding percentage shall be the maximum percentage in the buffer range for the determined risk class, unless justification for a lower withholding percentage can be demonstrated.”</i> The highest risk rating received by Darkwoods was ‘low’, and the range for low LtPF projects is 10-15% deduction (Table 7 of the VCS Tool). The use of the 2011 draft tool (which is more quantitative) to derive a value of 7.5%, combined with the number of very low risk ratings assigned, allowed the auditors to conclude that a 10% deduction was justified.
CAR Status:	CLOSED
Follow-up Actions:	N/A

Note: Observations are issued for areas that the auditor sees the potential for improvement in implementing standard requirements or in the quality system; observations may lead to direct non-conformances if not addressed

3.3 Observations

OBS 01/10	Reference Standard & Requirement: 4.2.6 Appropriate setting of baseline scenario, VCS Tool for AFOLU Methodological Issues, Step 4.14a, 4.14b and 4.14c
In establishing a project baseline in accordance with the “VCS Tool for AFOLU Methodological Issues”; Step 4, the proponents claim that the minimum acceptable standards (Step 4.14a, 4.14b and 4.14c) are met. The PD does not take a systematic approach to demonstrating conformance with these criteria. However, point (a) is covered because the change of ownership and uncommon previous practices means that no plans are available, but the baseline was shown not to exceed common practice harvest levels (evidenced by observations of neighbouring sites and stakeholder consultation). With regards to point (b), it was found that there are few restrictions placed on logging private land in B.C. and the baseline would be within these rules (evidenced by auditor experience in region and stakeholder consultation). With regards to point (c), the environmental practices modelled in the baseline (for example, leaving riparian buffers) meet or exceed common practice in the region (evidenced by auditor experience in region, observations of neighbouring land and stakeholder consultation). The PD would benefit from a clear explanation of how the project conforms with these requirements.	
Observation: The Nature Conservancy Canada should document in the PD, the evidence for meeting the IFM baseline requirements from the VCS Tool for AFOLU Methodological Issues; Step 4.	

OBS 02/10	Reference Standard & Requirement: Appropriate setting of baseline scenario, STEP 2c The Common Practice Baseline Scenario – new owner activities:
It was noted by the auditors that <i>Step 2, Option II and/or Option III from the Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities</i> was not followed completely. For example, no sensitivity analysis was done. This was found to be acceptable, because the tool was not being used to assess the scenarios against the non-VCS-registered project scenario. It was also noted that the tools steps were not well documented in the PD.	
Observation: The Nature Conservancy Canada should clearly document the steps conducted in Step 2, Option II and/or Option III from the Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities, as part of the PD's Section 2.4 Step 2c.	

OBS 03/10	Reference Standard & Requirement: VCS 2007.1; 5.8, VCS Program Update 21 Jan 20010 (Update to Regulatory Surplus Test)
The PD documents that the Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities (Voluntary Carbon Standard, 2010a) was followed. It has been used correctly and followed step by step. However, supporting financial analysis was not supplied in the PD or as an appendix; rather it was only reviewed with the auditors on site.	
Observation: The Nature Conservancy Canada should include (either directly in the PD or as appendixes) all relevant data and/or documents to support the rationale and financial analysis completed in the baseline scenario selection.	

OBS 04/10	Reference Standard & Requirement: Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities
The proponent conducted a Barrier Analysis, which is not required when the project has demonstrated additionality using the investment analysis and common practice analysis.	
Observation: The Nature Conservancy Canada should remove the Barrier Analysis from their PD as it is not required to demonstrate additionality.	

OBS 05/10	Reference Standard & Requirement: 4.4.3 Conformance with VCS specific criterion relating to monitoring (VCS 2007.1 section 5.11 and Tool for AFOLU Methodological Issues Step 6)
The roles and responsibilities for monitoring are found in section 3.3 of the PD. A brief overview is provided which was found to be sufficient. In interviews with the Project Manager, it was apparent that there was a more complex structure that alluded to in the PD. The chain of command for this and the division of specific responsibilities was not provided	
Observation: The Nature Conservancy Canada should provide details of the organisational structure and specific responsibilities of those involved in monitoring	

OBS 06/10	Reference Standard & Requirement: 4.4.1 The appropriateness of the source, sink and reservoir (pools)
It should be noted that the PD states the below ground biomass pool is required by the VCS (Table 4), whereas the <i>VCS Program Update (24 May 2010) Updates to the Tool for AFOLU Methodological Issues and Guidance for AFOLU Projects: Insignificant Emissions Sources and Pools, Carbon Pools, Avoided Planned Deforestation, Definition of Mosaic and Frontier Deforestation, Market Leakage</i> deems this an optional pool.	
Further, in the PD, the proponent justifies the exclusion of N ₂ O fertilizer as an emission source because “the extensive use of fertilizer is not common practice in properties with extensive natural and/or mature forest” (Table 5). Even though N ₂ O may not be extensive, it’s unclear how much may be used and/or whether if those amounts are insignificant.	
Lastly, in Table 4 of the PD, reference is made to carbon being “shifted to other carbon pools”. It is assumed that this means it decays and enters another pool, but this would benefit from clarification.	
Observation: The Nature Conservancy Canada should ensure that the rationale/justification for all sources and sinks are fully documented and explained in line with VCS rules.	

OBS 07/10	Reference Standard & Requirement: Calculation of emissions in the baseline scenario (ex-ante estimate)
Table 10 which shows the regeneration assumptions was found to contain appropriate data, however the headings of the columns were difficult to interpret.	
Observation: The Nature Conservancy should clearly label all headings in tables	

OBS 08/10	Reference Standard & Requirement: 4.4.8 The assumptions made for estimating GHG emission reductions
In the description of baseline scenario (p.59) the proponents state that in the baseline scenario the mature pine-leading stands were harvested as priority until 2010, thereafter priority was determined based on the maximum difference between current age and minimum harvest age. However, simulated harvest priority from 2011 onward for the project scenario was random. It is not clear what the underlying assumption is to make this differentiation	
The Nature Conservancy Canada should clearly demonstrate all assumptions used to justify differences in baseline and project scenarios.	

OBS 09/11	Reference Standard & Requirement:
The PD does not include a clear description of how the starting inventory requirements of the methodology were met.	

The Nature Conservancy Canada should include a clear description of how the starting inventory requirements of the methodology were met in the PD.
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3.4 Actions taken by the Project Proponent Prior to Report Finalisation

Since the Draft Report was produced there have been two additional rounds of assessment; the desk based re-assessment (and the associated draft final report) and the CAR verification audit (and associated CVA Appendix). In order to meet the open corrective action requests from the draft report, and draft final report the Project Design and associated documents were updated. Full details of the changes can be found in the findings below and CAR boxes above. The most significant modifications were related to the final GHG emissions accounting steps in the, “Darkwoods Carbon Model” spreadsheet (to align the calculation steps with the methodology and correct formula errors), the monitoring plan (to align with the methodology) and the transparent documentation of how the models/spreadsheets used interact to execute the methodology’s carbon accounting steps.

Validation Findings

3.5 Project Design

The conclusions regarding (as required by VCS 2007.1, Section 5.7 PD requirements):

- *project title, purpose(s) and objective(s);*
- *Type of GHG project;*
- *project location, including geographic and physical information allowing for the unique identification and delineation of the specific extent of the project;*

The conclusions regarding (as required by VCS 2007 Validation Template, Section 3.1):

- *the technology used*
- *project duration, crediting time and project start date*
- *Ownership*
 - *Proof of title*
 - *Double counting and whether the project participated in another emission trading programme*
- *Project applicability to the VCS for projects rejected under other GHG programme (if applicable)*
- *Whether the project is eligible under the VCS*
- *Any relevant findings relating to the project should be summarised in this section.*

3.5.1 Project title, Purposes and Objectives

Findings from Assessment on 25 NOVEMBER 2010			
The purpose of the Darkwoods Forest Carbon Project is to manage the 54,792 fee simple land package known as "Darkwoods" for ecological conservation purposes. The land was purchased by the Nature Conservancy of Canada in 2008. As a result of avoided emissions from reduced/avoided logging, that have would be logged in the absence of carbon financing, the proponents seek to undertake conservation management activities for ecosystem/habitat enhancement and risk management (PD Sections 1.1, 1.2).			
The project title "Darkwoods Forest Carbon Project" accurately reflects the project activities. All project documentation submitted is correctly labelled, and dated. The PD version being assessed is v.1.3, Oct 13, 2010.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

Findings from Assessment on 02 Feb 2011			
No change from the previous findings.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.5.2 Type of GHG project

Findings from Assessment on 25 NOVEMBER 2010			
The proponent has defined the project as VCS IFM-LtPF (PD Section 1.1, 1.2) stating it's eligibility by protecting unlogged forests that would be logged in the absence of carbon finance. This is an eligible project type under the VCS 2007.1 standard.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

Findings from Assessment on 02 Feb 2011			
No change from the previous findings.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.5.3 Project Location

Findings from Assessment on 25 NOVEMBER 2010			
The proponent has defined the project location (PD Section 1.8) as a 54,792 ha (135,394 acre) contiguous parcel of fee simple private property in south eastern British Columbia just north east of the municipality of Creston. The Darkwoods property is bounded by Kootenay Lake on the east and various crown and private land on the other property boundaries. There is a significant in-holding in the center of the property which is owned and managed by the Wyndell Box Company, with access rights through the Darkwoods property. The boundaries of this property are surveyed and described in the PD (Table 1). However, 2 parcels in Table 1 (PID 012-878-545, PID 007-608-390) are not actually included in the project. The proponent clarified that those 2 parcels are distinct from the area to be included in the property management plan, and shall be removed from the project area. The proponent provided numerous maps showing project location, from copies of original land title maps (Exhibit #3), to up-to-date digital and hard copy maps of various resource layers such as forest cover (Exhibit 18), mountain caribou habitat (Exhibit 25), past harvesting (Exhibit 18) and existing and deactivated roads (Exhibit 19). The project location is very well described. These digital map layers, created and stored using industry-standard ESRI Arc Info software, were reviewed by the audit team as the proponent's GIS technician demonstrated the scope of data available. The Arc Info software allows the proponent to calibrate (georeference) all data layers from wildlife to forest cover to orthophotos to satellite imagery. All appropriate coordinates and mapping conventions are indicated on these maps including lat / long, scale, property boundaries, date of production, data source, GIS technician, and other relevant information. Property boundaries were verified in the field during the fly-over, and these were captured with a hand-held GPS machine and plotted on a hard copy map by the proponent.			
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	CAR 01/10: The Nature Conservancy Canada shall only include only lands that comprise project area in the PD's description of the project area		

Findings from Assessment on 02 Feb 2011			
The 2 parcels describing the office location have been removed from Table 1, the table now only includes the parcels that comprise the project area. This closes CAR 01/10 .			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.5.4 Technology used

Findings from Assessment on 25 NOVEMBER 2010			
The project is designated as VCS IFM-LtPF and as a conservation project; the proponent has deemed there are no specific technologies, products or services involved in the implementation of the project. Project activities will be primarily focused on property supervision and monitoring, conservation research and other conservation based land management activities.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

Findings from Assessment on 02 Feb 2011			
No change from the previous findings.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.5.5 Project duration, crediting time and project start date

Findings from Assessment on 25 NOVEMBER 2010			
The proponents clearly state the project start date as 01 April, 2008 (PD Section 1.5), the crediting period start date as 01 April, 2008, which is consistent with the purchase/acquisition (Exhibit 1) and the crediting period as 100 years. The project start date conforms to the requirements of VCS 2007.1 in that it is after 01 January, 2002. Table 20 in the PD outlines saleable VCU's for the project for years 1-20 individually, and then 20-100 in 5 year increments. The project start date conforms to the date on which the project began reducing or removing GHG emissions given that the start date is the property acquisition date (and the date which avoided logging began). The crediting period start date is the same as the project start date.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

Findings from Assessment on 02 Feb 2011			
No change from the previous findings.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.5.6 Ownership/Proof of Title/Right of Use

Findings from Review on Nov 1, 2011			
The Nature Conservancy of Canada holds clear title on the Darkwoods property (PD Section 7.1). Proof of title was shown to the audit team (Exhibit 1) and land package descriptions matched those outlined in the PD (Table 1). However, title was not demonstrated for 2 parcels that were included in the PD (Table 1, PID 012-878-545, PID 007-608-390). The proponent clarified that those 2 parcels are distinct from the area to be included in the property management plan, and shall be removed from the project area.			
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	CAR 01/10		

Findings from Assessment on 02 Feb 2011			
The two parcels mentioned above have been removed from Table 1. This closes CAR 01/10 .			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.5.7 Double counting and whether the project participated in another emission trading programme

Findings from Assessment on 25 NOVEMBER 2010	
The proponent states (PD Section 1.11) that the project has not participated in any other GHG program, and that Canada has not included forest management accounting in their Kyoto selections. Thus, Darkwoods has	

no risk of double counting in national Kyoto accounting. Potential VCU sales will be voluntary under the Pacific Carbon Trust in British Columbia. They do not intend to participate in any other form of GHG-related environmental credit for GHG emissions claimed under this VCS project.			
This claim is consistent with Policy Announcement from the VCS Association (23 July 2009), Applicability of Section 5.2.2 of the VCS 2007.1 to Projects Hosted in Canada.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

Findings from Assessment on 02 Feb 2011			
No change from the previous findings.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.5.8 *Project applicability to the VCS for projects rejected under other GHG programme (if applicable)*

Findings from Assessment on 25 NOVEMBER 2010			
There is no evidence to suggest that this project has been rejected by any other standard. The project is not listed as rejected on the CCB website.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

Findings from Assessment on 02 Feb 2011			
No change from the previous findings.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.5.9 *Whether the project is eligible under the VCS*

Findings from Assessment on 25 NOVEMBER 2010			
The proponent has defined the project as VCS IFM-LtPF (PD Section 1.1, 1.2) stating it's eligibility by protecting unlogged forests that would be logged in the absence of carbon finance.			
IFM-LtPF practices qualifying as eligible activities under the VCS are defined as conversion of low-productive forests to high productive forests.			
From 1967 to 2008 the Darkwoods property was being moderately harvested (average of 57,000 m ³ y ⁻¹) under sustainable forest management plans. This land was privately owned and thus the owners could harvest as much as they wanted some minimal legal requirements do exist for private lands in BC. The owners still retained an additional 1/3 of the merchantable timber areas on the property beyond crown land regulations. Upon sale of the Darkwoods property, the land was eligible to be harvested without restriction and liquidation logging with little regard for basic environmental protections or sustainable timber production is legal and not uncommon in BC.			
The proponent assumes that in the absence of the project, the most plausible baseline scenario is a market driven acquirer who implements a 15 year depletion of current mature timber stocks to provide a reasonable rate of return on investment, and a 100 year harvest schedule implemented with the typical regional practice of clearcut logging with minimum legal requirements for private forestlands in BC and comparable regional practices.			

Instead, Darkwoods will be managed for conservation management activities anticipating a low level of timber removal as part of conservation management activities for ecosystem/habitat enhancement and risk management.

It appears that as such, high productive forests will result as a change in management practices from sustainable forest management to conservation, and quality as VCS IFM-LtPF, according to the definition in the *Voluntary Carbon Standard Tool for AFOLU Methodological Issues* and *Voluntary Carbon Standard Guidance for Agriculture, Forestry and Other Land Use Projects*. The proponent notes this in PD Section 1.13.

Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

Findings from Assessment on 02 Feb 2011

No change from the previous findings.

Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.5.10 Chronological plan for project initiation and monitoring

Findings from Assessment on 25 NOVEMBER 2010

The organization has included some details pertaining to their monitoring plan. Ongoing monitoring is described as the primary operational task for the project. The purpose of monitoring however, is not clearly defined (**CAR 03/10**).

The types of data to be monitored are listed in two categories; those available at the time of validation, and those to be monitored in the monitoring plan. They include units of measurement. However, the tables were found to be incomplete. (**CAR 06/10**)

The origin of the data is listed and each data parameter includes a description of measurement methods and procedures to be applied. Monitoring times (where applicable) are recorded as 5 year intervals. Plots will be sampled at 5 year intervals.

It is unclear if the monitoring program start date is based on the project start date or the project validation date. Further, it is not clear what date the 5 year monitoring interval periods start on (**CAR 02/10**). A review of the Nature Conservancy Canada DRAFT Forest Management Plan (Exhibit 4) and Darkwoods Interim Stewardship Plan, Nature Conservancy Canada (Exhibit 14) found no documentation to support the monitoring plan, start dates, or years in which interval monitoring will take place (**CAR 02/10**).

Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	CAR 02/10: The Nature Conservancy Canada shall clearly define the monitoring program start date or the years in which interval monitoring will take place. CAR 03/10 :The Nature Conservancy Canada shall describe the purpose of monitoring in the PD.		

Findings from Assessment on 02 Feb 2011

Section 3 now includes a description of the purpose of monitoring which is,

- e) *“ensuring that non-de minimis unanticipated GHG emissions have not occurred or are accounted for in net GHG calculations,*
- f) *ensuring that the net GHG emissions from project activities are accounted for as described in this document,*
- g) *to verify that parameter values and simulated carbon pools are consistent with their ex ante estimates,*
- h) *Ensuring that the other requirements of the PDD are tracked (i.e. leakage).” (p30)*

This closes **CAR 03/10**.

The data and parameters tables in sections 3.1 and 3.2 have been updated to reflect changes in the methodology (now version 8.3). They were found to be correct and complete. However, it is difficult to trace the parameters listed to the model they are used in, as no explanations are provided in the parameters tables. For this reason, **CAR 06/10** remains open.

Updates have been made to section 3.3 of the PD to better explain the timing of planned monitoring. The methodology states that since the project start date in 2008, biodiversity monitoring and inventory spatial updating has been conducted and that this will continue. Monitoring plots (“Field Plot Measurement”) for carbon stocks will be established between June 2011 and September 2011. It was clarified via a telephone conversation that the entire plot network will be established in 2011, but over the next five years changes may be made to improve efficiency (p65). Page 65 states that monitoring will occur at, “intervals no longer than 5 years (beginning at their date of first measurement”. It is understood that this monitoring will be integrated into NCC’s monitoring plans over 2011. This closes **CAR 02/10**.

Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	CAR 06/10		

3.5.11 Roles and responsibilities

Findings from Assessment on 25 NOVEMBER 2010			
The PD clearly defines project proponents in section 1.3, including the organization name, role, contact information/address.			
All personnel/proponents are well-trained and experienced. Copies of contracts and resumes were reviewed by the audit team in order to support these findings.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

Findings from Assessment on 02 Feb 2011			
No change from the previous findings.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.5.12 Observation of local laws and regulations

Findings from Assessment on 25 NOVEMBER 2010			
The proponent has provided a comprehensive list of relevant laws and regulations (PD Section 1.10) and has designed the project to be compliant with all provincial and federal laws. Proponents involved have extensive experience with municipal, provincial and federal laws and regulations. Private land regulations in B.C. are quite strong compared to many other jurisdictions and the land is expected to be managed in compliance with			

all laws, under the direction of experienced land managers and Registered Forest Professionals.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.6 Baseline

The conclusions regarding (as required by VCS 2007.1, Section 5.7 PD requirements):

- *Conditions prior to project initiation*

The conclusions regarding (as required by VCS 2007 Validation Template, Section 3.2):

- *Correct application and justification of selected baseline methodology,*
- *Approval of the baseline methodology,*
- *Application of methodology deviations or revisions (if applicable),*
- *Conformance with methodology applicability conditions (added by Rainforest Alliance to aid reporting clarity)*
- *Appropriate setting of baseline scenario, and*
- *Assessment and demonstration of additionality should be summarised in this section.*

3.6.1 Conditions prior to project initiation

Findings from Assessment on 25 NOVEMBER 2010

The conditions prior to use, including land ownership and land cover, are described in the PD Section 1.9. Prior to acquisition by the proponent, the property was owned and managed since 1967 by the Pluto Darkwoods Corporation on behalf of a His Royal Highness Duke Carl Herzog von Wurttemberg (a German aristocrat). The previous management has been focused on sustainable forest management with a moderate harvest level (averaging approximately 57,000 m³ year) and strong ecological and conservation management principles. The property was offered for a sealed bid sale, first to a selected group of bidders, of which the proponent was one. The proponent viewed the property as under immediate threat of liquidation logging and other industrial logging practices and/or extensive real estate development. Recent liquidation logging activities on a large adjacent property and other regional evidence of private forestland liquidation reinforced this threat assessment. Private rural residential land has little government oversight other than local land use zoning, when applicable. Private timberland in B.C. can be voluntarily registered as Private Managed Forest Land under the Private Managed Forest Land Act in B.C., which provides a lower land tax rates in exchange for maintaining the forest land as forested. The act requires only very basic riparian and minimal reforestation (significantly lower than what is required on adjacent crown/public lands); however there are no other constraints on harvest levels or other minimum practices. Liquidation logging with little regard for basic environmental protections or sustainable timber production is legal and not uncommon in B.C. on private land.

The property has a diverse mix of forest types, topography, age class, and forest conditions well distributed across the landbase. Approximately 68% of the property (37,250 ha) is considered operable for timber harvesting. Within this operable area, approximately 9,012 ha are in managed/reforested stands <40 years old, which reasonably reflects the total area harvested and reforested during modern silvicultural practices. The balance of the operable area reflects natural and older harvesting (>40 years ago) which are reasonably assumed to have been regenerated naturally, and for all intensive purposes will behave similar to natural forest conditions. The property is well roaded, with main haul routes located into each drainage area. The last harvest was undertaken in 2010, primarily in remaining mature pine-leading stands which have been attacked by or are at high risk for mountain pine beetle.

The land cover information has been gathered from a variety of sources including existing provincial and federal resource data as well as information collected by the proponent and previous owner over the past 40 years of management. Carbon stocks are described and calculated in the Methodology, section 8. Prior land

use has been demonstrated in several ways: the audit team did a fly-over of the property to observe actual past and current harvesting and road building; GIS digital and hard copy maps include past harvesting, road building, and large natural disturbances such as wildfires and insect infestations (mountain pine beetle); interviews with project proponent staff with long-term connection to the property documented a long history of structured management under the previous owner.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

Findings from Assessment on 02 Feb 2011			
No change from previous findings.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.6.2 Approval of the baseline methodology

Findings from Assessment on 25 NOVEMBER 2010			
The project is using a methodology that is currently undergoing double approval process, and as yet is not approved. The proposed methodology is titled "IFM-LtPF on Fee Simple Forest Properties - v7.2 Final".			
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	CAR 04/10: The Nature Conservancy Canada shall use a VCS approved methodology.		

Findings from Assessment on 02 Feb 2011			
The project is using a methodology that is currently undergoing double approval process, and as yet is not approved. The proposed methodology is titled "IFM-LtPF on Fee Simple Forest Properties - v8.3". CAR 04/10 remains open.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	CAR 04/10: The Nature Conservancy Canada shall use a VCS approved methodology.		

3.6.3 Application of methodology deviations or revisions (if applicable)

Findings from Assessment on 25 NOVEMBER 2010			
In the PD two deviations from the methodology were described, both pertaining to the leakage assessment tool, but that the deviations do not materially affect the GHG emissions reductions calculations in a non-conservative manner.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

Findings from Assessment on 02 Feb 2011			
In section 2.6 of the PD it is stated that there are now no deviations from the methodology. No deviations were found by the auditors.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.6.4 Conformance with methodology applicability conditions

Findings from Assessment on 25 NOVEMBER 2010	
The PD (Section 2.2) outlines that all methodology conditions have been met.	
Applicability Condition	Finding

Projects which meet either of the criteria for VCS Improved Forest Management – Logged to Protected Forest (IFM-LtPF) eligible projects as defined in the VCS Guidance for AFOLU Projects (Voluntary Carbon Standard, 2008a): 1.1. Protecting currently logged or degraded forests from further logging; and, 1.2. Protecting unlogged forests that would be logged in the absence of carbon finance;	The project does meet the VCS IFM-LtPF criteria in that the property acquisition/purchase will result in protecting currently logged forests from further logging and protecting unlogged forests that would be logged in the absence of carbon finance. The mission of the Nature Conservancy Canada is land securement as the primary focus of conservation activity (Exhibit 38). The purchase of the property will result in significant harvest reductions over historical levels as well as preventing future logging that would have occurred in the absence of the purchase by Nature Conservancy Canada, as concluded by their baseline selection and demonstration of additionality. The PD states these criteria have been met (PD Section 2.2).
Projects located in Temperate and Boreal Domain Global Ecological Zones (as defined by FAO (FAO, 2001)) which are forest lands remaining forest lands (as defined by IPCC (IPCC, 2003)); and which can meet IPCC GPG LULUCF Tier III inventory and data requirements (IPCC, 2003); and,	The PD states these criteria have been met (PD Section 2.2). The project is located in the Temperate Ecological Zone and utilizes detailed site level inventory meeting Tier III criteria.
Projects on fee simple or freehold private ownership properties where the project proponent has clear legal representation of estate title rights without legal title encumbrances which prevent the project from proceeding². Term leases, concessions, or equivalent; public ownership lands; and unknown or legally disputed ownerships are excluded; and,	The project is on fee simple property, evidenced by proof of title documentation (Exhibit 1).

Projects on properties where average annual illegal, unplanned, and fuelwood removals are less than 5% of total annual harvest levels in CO_{2e} terms in the baseline scenario, and as per: Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination - Proposed (Voluntary Carbon Standard, 2010a) have a low rating for: a. Technical Complexity – a) Number of project activities; and, b. Technical Complexity – b) Ongoing enforcement; and,		The Nature Conservancy Canada has no illegal or unplanned harvesting, and expects de minimis fuelwood removals (PD Section 2.2). Illegal logging is uncommon in the province of British Columbia as laws are strictly enforced and, because the Crown receives royalties from logs, all logs are marked with a timber stamp. Planned harvests will focus on removal of pine beetle damaged and blow-down (Exhibit 14). The Nature Conservancy Canada has 1-4 project activities required for ongoing protection of carbon stocks (PD Section 2.2). This includes active forest management planning and conservation management activities outlined in Exhibits 4 and 14. Darkwoods property generally requires no ongoing active enforcement to prevent encroachment (PD Section 2.2). Much of the adjacent land is crown property and wildlife management areas. Flyover of the area perimeter allowed for a visual inspection of property boundaries and no encroachment was evident. Access permits are required by anyone entering the property at any time, including Nature Conservancy Canada staff and contractors. Wildfires, active forest harvesting, deactivated roads, pulled bridges, washouts, wind thrown trees or any other number of obstacles may preclude access to portions of the property or the entire property at any given time, as noted in Exhibit 14. Many of these obstacles were visually observed during the onsite visit flyover and on the ground field visit.	
Projects which do not encompass managed peatland forests (peatland as defined by IPCC GPG LULUCF); and,		The project does not encompass managed peatland forests, as confirmed by local experts, in a review of area maps and forest cover maps (Exhibits 2, 3, 18) and flyover visual inspection.	
Projects where the total percentage of wetlands in the project area is not expected to change as part of project activities; and,		The project activity will not alter the percentage of wetlands on the project area. The purpose of the project is conservation of the existing property. The auditors confirmed through observation that the project activities (minimal harvesting and conservation) would not impact wetlands.	
Projects which can demonstrate there will be no leakage through activity shifting to other lands owned or managed by project participants outside the project boundary.		This applicability condition is known to be under discussion in the methodology assessment. As such judgement will be reserved on this issue until the methodology is finalised.	
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

Findings from Assessment on 02 Feb 2011
Within version 8.3 of the methodology a change was made to one of the applicability conditions, and one new

condition was added. New information was added to the PD to account for this. This information is assessed below. The other conditions did not change (other than a change in the VCS references made).			
Projects which can demonstrate there will be no leakage through activity shifting to other lands owned or managed by project participants outside the project boundary at the start of the project (within the first year of the project start date) ¹ ;		The project has stated in table 16 that NCC has not harvest its holding between 2008 and 2010. It was confirmed through interviews and internet research that it is not NCC's policy to commercially harvest areas.	
Projects which do not include non-de minimis application of organic or inorganic fertilizer in the project scenario.		No fertiliser has been applied on the Darkwoods property. This was confirmed via interview and knowledge of common practice in the area.	
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.6.5 Correct application and justification of selected baseline methodology

Findings from Assessment on 25 NOVEMBER 2010	
The Methodology provides a process for the identification of plausible baseline scenarios in Part 6, Step 1. This is reported in section 2.4 of the PD.	
Baseline Identification Step	Findings
STEP 1 – Identify Plausible Alternative Baseline Scenarios to the VCS Project Activity	The PD identifies five possible scenarios inline with the methodologies requirements: Continuation of the previous owners practices The harvest volumes were confirmed through past annual declarations and interviews with staff and local stakeholders. Acquisition by a market driven acquirer baseline logging scenario Three Land and Timber Valuations were carried out by Thrower (documents 34-36). These included the three market driven scenarios (10, 15 and 20 year mature standing stock depletion rate harvesting regimes) would be necessary to earn a return on an investment. Acquisition for a sustained yield harvesting regime This scenario was found to be plausible, although less profitable in the short term than (2). Acquisition for conversion to real estate development lands A letter of interest from a developer was received, which indicates that real estate development could have been an option. Lakeside developments along

¹ This methodology does not provide specific equations and methods for calculating net emissions related to activity shifting leakage. VCS requires “IFM project developers must demonstrate that there is no leakage within their operations – i.e., on other lands they manage/operate outside the bounds of the VCS carbon project” (Voluntary Carbon Standard, 2008b); and the methodology requires monitoring and reporting on evidence demonstrating no activity shifting is occurring in order to demonstrate compliance with VCS. If, during the project duration, monitoring finds activity shifting leakage is occurring, projects will not become ineligible for this methodology, but rather must demonstrate mitigative activities are implemented to come into compliance with the latest VCS guidance documentation within 24 months, while new net emissions related to activity shifting activities are accounted for in the project scenario prior to the next verification, in a manner equivalent to the calculations for net emissions from harvesting in the project scenario, as described in section 9.3. These additional equations and methods will constitute a methodology revision, subject to the VCS double approval process.

	lake Kooteney confirm that there is potential demand for lakeside property. The higher altitude areas would not be suitable for development. As such this scenario would likely involve division of the property. Those areas not developed would follow one of the other scenarios. As such it was reasonable to exclude this scenario. 5. Acquisition for conversion to conservation lands This scenario is possible as the land has great conservation value due to its historical low intensity of management, diverse ecosystems and wildlife habitat. Although as demonstrated in the additionality section, conservation faces obvious funding difficulties due to the investment cost of purchasing the land. This list was considered by the auditors to be exhaustive after consultation with local stakeholders including a local Registered Professional Forester, who has a strong understanding of local log markets and regulatory constraints. All of these five potential scenarios are possible given current economic conditions and technological capabilities.		
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

Findings from Assessment on 02 Feb 2011			
No change from previous findings. The baseline scenarios identified in step 1 are in conformance with the requirements of the methodology.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.6.6 Appropriate setting of baseline scenario

Findings from Assessment on 25 NOVEMBER 2010			
The Methodology provides a process for the identification of plausible baseline scenarios in Part 6, Step 2. This is reported in section 2.4 of the PD. In establishing a project baseline in accordance with the “VCS Tool for AFOLU Methodological Issues”; Step 4, the proponents claim that the minimum acceptable standards (Step 4.14a, 4.14b and 4.14c) are met. These requirements are copied below; <i>“In the case of IFM project activities, project developers using a project-based approach (rather than a performance/benchmark standard)¹² for establishing a baseline shall provide the following information to prove that they meet minimum acceptable standards:</i> <i>a. A documented history of the operator (e.g., operator shall have 5 to 10 years of management records to show normal historical practices). Common records would include data on timber cruise volumes, inventory levels, harvest levels, etc. on the property¹³;</i> <i>b. The legal requirements for forest management and land use in the area, unless verifiable evidence can be provided demonstrating that common practice in the area does not adhere to such requirements; and</i> <i>c. Proof that their environmental practices equal or exceed those commonly considered a minimum standard among similar landowners in the area.</i> <i>The baseline for the IFM project is then the management practices projected through the life of the project, satisfying at a minimum the three requirements mentioned above.”</i>			

“12: See Additionality section of VCS 2007.1 for description of how a Performance Test versus Project Test may be applied under the VCS.

13: For new management entities with no history of logging practices in the project region, the baseline should reflect just the common practices and legal requirements. However, if the common practice is unsustainable and unsustainable practices contravene the mission of the implementing entity then a sustainable baseline is the minimum that can be adopted. For projects focused on stopping logging or reducing the impact of logging, where the implementing entity takes over ownership of a property specifically to reduce forest management emissions, then the project baseline may be based on the projected management plans of the previous property owners (i.e., the baseline shall represent what would have most likely occurred in the absence of the carbon project.)”

The PD does not take a systematic approach to demonstrating conformance with these criteria. However, point (a) is covered because the change of ownership and uncommon previous practices means that no plans are available, but the baseline was shown not to exceed common practice harvest levels (evidenced by observations of neighbouring sites and stakeholder consultation). With regards to point (b), it was found that there are few restrictions placed on logging private land in B.C. and the baseline would be within these rules (evidenced by auditor experience in region and stakeholder consultation). With regards to point (c), the environmental practices modelled in the baseline (for example, leaving riparian buffers) meet or exceed common practice in the region (evidenced by auditor experience in region, observations of neighbouring land and stakeholder consultation). The PD would benefit from a clear explanation of how the project conforms with these requirements (**OBS 01/10**).

Baseline Determination Step	Findings
STEP 2a The Historical Baseline Scenario based on actual property harvest history must be selected if.....	The property which comprises the project area was sold by Pluto Darkwoods to NCC in 2008 as evidenced by a review of the Nature Conservancy of Canada’s March 29, 2006 offer to purchase Darkwoods, and the resulting proof of title (Exhibit 1). Thus as per step 2a.1, the historical baseline scenario based on past management does not apply.
STEP 2b The Common Practice Baseline Scenario – based on previous owner activities:	The Proponents demonstrated through a simple analysis that the continuation of previous harvesting levels would generate insufficient funding to cover management and debt servicing costs. Therefore the previous management regime need not be considered as common practice. The unique characteristics of the previous owner (foreign owner without a need to make money on the investment and with conservation interests) further support the fact that past management is not common practice in the area. This was evidenced through stakeholder consultation which indicated that local and regional log markets could absorb considerably higher volumes of logs and there are enough logging contractors available to complete the work. During a flyover, neighbouring lands were seen to have been subject to higher harvesting rates.

STEP 2c The Common Practice Baseline Scenario – new owner activities:	Through financial modelling supported by independent land and timber appraisals the market driven scenarios were found to be the most profitable. This leads to the selection of baseline number (2). During the field audit, the Proponent's were able to show rough calculations of the IRR under the two scenarios compared in step 2c, the assumptions and analysis that led to the ranges of IRR quoted of the market driven and sustainable yield scenarios were not presented in the PD or appendixes. Given the importance of this step, this lack of defence and explanation was found to warrant corrective action (CAR 05/10). It was noted by the auditors that <i>Step 2, Option II and/or Option III from the Tool for the Demonstration and Assessment of Additionally in VCS AFOLU Project Activities</i> was not followed completely. For example, no sensitivity analysis was done. This was found to be acceptable, because the tool was not being used to assess the scenarios against the non-VCS-registered project scenario. It was also noted that the tools steps were not well documented in the PD (OBS 02/10). Demonstration that the scenario was locally implementable was evidenced by; a. sound knowledge of B.C. laws and regulations for private land forestry, b. The neighbouring Porcupine Creek property which was seen via a flyover to be implementing similar harvest rates, c. interviews with a local, Registered Professional Forester who confirmed that there was milling capacity to handle the timber, d. the equipment required being used in Porcupine Creek, and e. the appraisal report and field observations of adequate infrastructure existing. The selection of a 15 year (as opposed to 10 or 20) depletion harvest was found to be reasonable, given that it was the middle scenario of three depletion rates, all of which are possible. The local Registered Professional Forester, who has a strong understanding of local log markets and regulatory constraints, confirmed that a logs harvested under this scenario could be absorbed by local and regional mills. In addition, there is sufficient logging contractor
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			capacity to complete this work.
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	CAR 05/10: The Nature Conservancy Canada shall present the IRR analysis (including assumptions) used to compare the market driven and sustainable yield scenarios in the PD or an appendix. OBS 01/10: The Nature Conservancy Canada should document in the PD, the evidence for meeting the IFM baseline requirements from the VCS Tool for AFOLU Methodological Issues; Step 4. OBS 02/10: The Nature Conservancy Canada should clearly document the steps conducted in <i>Step 2, Option II and/or Option III from the Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities</i>, as part of the PD's Section 2.4 Step 2c.		

Findings from Assessment on 02 Feb 2011			
<u>STEP 2c The Common Practice Baseline Scenario – new owner activities:</u> The PD now references the locations of the analysis, which was seen by the auditors during the audit. Considering the financially sensitive nature of the calculations, combined with the fact that market driven harvesting would naturally generate a higher IRR than the sustainable yield model, it is accepted by the auditors that it is not necessary to present the details in the PD. This closes CAR 05/10.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.6.7 Assessment and demonstration of additionality should be summarised in this section.

Findings from Assessment on 25 NOVEMBER 2010	
The PD documents that the Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities (Voluntary Carbon Standard, 2010a) was followed. It has been used correctly and followed step by step. The PD meets eligibility requirements of the tool in that projects activities are not in violation of any applicable law and; and employs a step-wise method to determine the most plausible baseline scenario. The project proponent(s) first identified 5 credible alternative land use scenarios (PD Section 2.4) to the AFOLU project activity; and demonstrated that all plausible baseline scenarios could be undertaken within the legal requirements of private forestland in B.C.; as required by Step 1 of the VCS Tool. The proponent then selected the most plausible baseline scenario "Acquisition by a market driven acquirer logging scenario, with a 15 year depletion rate harvesting regime" (see report section 4.2.6 demonstrating appropriateness of the baseline scenario). The proponent then conducted (Step 2) a Simple Cost Analysis (Sub-step 2b. – Option I of the VCS Tool) to determine whether the proposed project activity, without the revenue from the sale of GHG credits is economically or financially less attractive than at least one of the other land use scenarios (PD Section 2.5). The project scenario is not the most economically or financially attractive of the identified land use scenarios; both financially and realistically. The objective of the Nature Conservancy Canada is to acquire land for conservation purposes, and in the absence of NCC's purchase of Darkwoods, it is almost entirely certain that sale of the land to another buyer would result in continued logging and/or degradation of the property. A detailed review of potential purchasers was provided, and a competing (and fair) offer to purchase Darkwoods by a real estate developer was reviewed by the auditors. There were no other potential buyers	

of the land whose interest was conservation and that would result in reduced logging and protection of existing forestlands. Further, a walk through of an investment analysis prepared by the proponent clearly demonstrated that the project scenario is a financially inferior option to the baseline scenario that was selected. (**OBS 03/10**)

In further demonstrating additionality, the auditors were given access to financial information that supported the claim that primary costs associated with the project scenario were the acquisition costs (approximately \$50M) and that operating costs specific to the carbon project itself are approximated \$380K per year, and non-carbon operating costs are at a minimum \$>0.5M per year. While donor funding typically serves as a major source of covering ongoing project operating costs (Exhibit 39), the proponent was able to demonstrate using it's financial analysis, that the revenue from the sale of VCU's associated with the carbon project are essential to the viability of covering all ongoing costs.

Lastly, the proponents then conducted (Step 4) a common practice analysis; stating there are no other comparable activities which could be considered common practice which achieve similar scale or employ similar project activities. Further, smaller scale conservation acquisition is only achieved with non-commercial funding and capital sources.

The proponent also conducted a Barrier Analysis (Step 3), which is not required when the project has demonstrated additionality using the investment analysis (Step 2) and common practice analysis (Step 4 (**OBS 04/10**).

	Yes ☒	No ☐	N/A ☐
CAR/OBS	OBS 03/10: The Nature Conservancy Canada should include (either directly in the PD or as appendixes) all relevant data and/or documents to support the rationale and financial analysis completed in the baseline scenario selection. OBS 04/10: The Nature Conservancy Canada should remove the Barrier Analysis from their PD as it is not required to demonstrate additionality.		

Findings from Assessment on 02 Feb 2011			
No change from previous findings.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.7 Monitoring Plan

The conclusions regarding (as required by VCS 2007 Validation Template, Section 3.3):

- *Approval of the monitoring methodology,*
- *Correct application and justification of selected monitoring methodology, and*
- *Whether the monitoring plan provides detailed information related to the collection and archiving of all relevant data needed to:*
 - *Estimate or measure emissions occurring from GHG sources, sinks and reservoirs*
 - *Determine the baseline emissions*
 - *Estimate changes in emissions from the site should be summarised in this section.*

The conclusions regarding conformance with VCS specific criterion relating to monitoring (VCS 2007.1 section 5.11 and Tool for AFOLU Methodological Issues).

3.7.1 Approval of the monitoring methodology

Findings from Assessment on 25 NOVEMBER 2010			
The project is using a monitoring methodology that is currently undergoing double approval process and has not yet been approved. The proposed methodology is titled "IFM-LtPF on Fee Simple Forest Properties - v7.2 Final".			
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	CAR 04/10		

Findings from Assessment on 02 Feb 2011			
The project is using a monitoring methodology that is currently undergoing double approval process and has not yet been approved. The proposed methodology is titled "IFM-LtPF on Fee Simple Forest Properties – v8.3".			
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	CAR 04/10		

3.7.2 Correct application and justification of selected monitoring methodology

Findings from Assessment on 25 NOVEMBER 2010	
The methodology, in section 13.1 'Monitoring Description', states that the items listed in the sub-divided table below shall be provided and recorded in the PD. A group interview was conducted with those responsible for monitoring, and demonstrations of the GIS system were performed by the GIS specialist for the project. The PD, in section 3.1 and 3.2, lists data and parameters in tables. Some of these tables were found to be incomplete (see page 34) or not include the values applied (see page 32). In addition, the list was not found to include all the parameters that are required to be monitored (CAR 06/10)	
Step in Monitoring Methodology	Findings
The geographic position of the project boundary is recorded for all areas of land; (Methodology Section 13.1.1)	The geographic boundary is presented in the PD in numerous places including Figure 1 and Figure 2. The methodology further requires that any strata defined are presented. No stratified map of the project area for the project start date has been provided in the PD (CAR 07/10). Data files seen indicate that such data does exist. The methods used to create these were described and exceed regional best practices.
Commonly accepted principles of forest inventory and management are implemented; (Methodology Section 13.1.2)	The PD, in section 3.3 describes standard procedures for the measurement of tree biomass and dead organic matter. The Proponents explained during interviews that through the standard process for legally required 'Annual Declarations' that burn areas, planted areas, harvest areas and volumes etc would be recorded. It is understood by the auditor that these are also audited. As part of this there is a bi-annual fly-over, which forms a part of the data gathering process. Field data forms that show harvest areas, roads, deactivated roads etc were seen. Examples, of how this data is transferred to the GIS system were also seen. However, these processes are not described in the PD, and it is not clear how the data derived from these activities flows back in to the parameters of the methodology (and through the models as necessary). More broadly, the PD does not specifically describe or illustrate how the monitoring activities will

	lead to data that flows back into the parameters, equations and models of the methodology (CAR 08/10).
Project participants must present in the VCS-PD an ex-ante stratification of the project area or justify the lack of it. The number and boundaries of the strata defined ex-ante may change during the crediting period (ex-post). (Methodology Section 13.2)	See first row of this sub-table.
To determine the sample size and allocation among strata, this methodology uses the latest version of the tool for the "Calculation of the number of sample plots for measurements within A/R CDM project activities" (CDM, 2007b). The targeted precision level for biomass estimation across the project is $\pm 10\%$ of the mean at a 90% confidence level. In contrast to the CDM tool note that temporary plots are permissible under this methodology. The "Sourcebook for Land Use, Land-Use Change and Forestry Projects" (Pearson, Walker, & Brown, 2005) can provide additional guidance for methods and procedures to produce accurate and precise estimates of changes in carbon stocks. (Pearson, Brown, & Birdsey, 2007) can provide additional guidance on field measurement techniques for carbon.	The PD, in section 3.3 describes the process for sampling biomass amongst the strata of the project area. Standards procedures for plot number determination, plot layout, plot shape and size are explained.
Conformance	Yes ☐ No ☒ N/A ☐
CAR/OBS	CAR 06/10: The Nature Conservancy Canada shall include a complete list of data and parameters to be monitored. CAR 07/10: The Nature Conservancy Canada shall provide a stratified map of the project area for the start date. CAR 08/10: The Nature Conservancy Canada shall describe the process by which the monitoring activities generate data which flow back into the parameters and equations of the methodology (including describing steps that occur within the models).

Findings from Assessment on 02 Feb 2011	
The PD, in section 3.1 and 3.2, lists data and parameters in tables, these were found to be complete. However, it is difficult to trace the parameters listed to the model they are used in, as no explanations are provided in the parameters tables. For this reason, CAR 06/10 remains open.	
Step in Monitoring Methodology	Findings
The geographic position of the project boundary is recorded for all areas of land; (Methodology Section 13.1.1)	The geographic position of the project boundary is recorded for all areas of land; (Methodology Section 13.1.1) A detailed map of the analysis unit strata has been

	included as Figure 9. This closes CAR 07/10 .
Commonly accepted principles of forest inventory and management are implemented; (Methodology Section 13.1.2)	The PDD does not include a comprehensive step by step plan of how monitoring will be conducted. However, significant additions have been made to the monitoring section 3.3. Section 3.3 now explains in more detail how the carbon monitoring will be integrated into current biodiversity monitoring as well as the three main monitoring activities, 1) annual inventory monitoring, 2) leakage monitoring and 3) field plot monitoring. The section also goes into details about stratification, plot type, number of plots and sample size. Some of the details are not yet finalised, for example the exact number of plots. This however, is acceptable given that the methodology sets limits on the accuracy they must achieve and the exact number required cannot be known until data is gathered. The PD contains detailed guidance on tree, dead organic matter carbon stock determination within plots. Section 3.4, 'Ex-post calculation of carbon stocks' is a new addition in this version of the PD. Here, it is explained how the information gather (spatial inventory data and carbon stock data from plots) will be used to update calculations, and feed in to the calculation of the number of credits to be issued. This was found to be in conformance with section 13.2.2 of the methodology (a new section), 'Use of monitoring data to update carbon stock calculations'. This addresses many of the issues related to CAR 08/10. However, the PD does not include a plan of how activity shifting leakage will be monitored. For this reason CAR 08/10 remains open. The plan includes commonly accepted principles of forest inventory and management.
Project participants must present in the VCS-PD an ex-ante stratification of the project area or justify the lack of it. The number and boundaries of the strata defined ex-ante may change during the crediting period (ex-post). (Methodology Section 13.2)	See first row of this sub-table.
The "Sourcebook for Land Use, Land-Use Change and Forestry Projects" (Pearson, Walker, & Brown, 2005) can provide additional guidance for methods and procedures to produce accurate and precise	Text was deleted in the methodology, but this had no impact on the PD because it was specifying details that the PD had not gone into.

estimates of changes in carbon stocks. (Pearson, Brown, & Birdsey, 2007) can provide additional guidance on field measurement techniques for carbon.			
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	CAR 06/10 CAR 08/10		

3.7.3 Conformance with VCS specific criterion relating to monitoring (VCS 2007.1 section 5.11 and Tool for AFOLU Methodological Issues Step 6)

Findings from Assessment on 25 NOVEMBER 2010	
In VCS 2007.1 Section 5.11, it is stated,	
<i>“The project proponent shall establish and maintain criteria and procedures for obtaining, recording, compiling and analysing data and information important for quantifying and reporting GHG emissions and/or removals relevant for the project and baseline scenario (i.e. GHG information system). Monitoring procedures should include the following:”</i>	
VCS Required Monitoring Procedures	Findings
Purpose of monitoring	The organization has included some details pertaining to their monitoring plan. Ongoing monitoring is described as the primary operational task for the project. The purpose of monitoring, however, is not clearly defined in the PD (CAR 03/10).
Types of data and information to be reported - including units of measurement	The types of data to be monitored are listed in two categories; those available at the time of validation, and those to be monitored in the monitoring plan. They include units of measurement. However, the tables were found to be incomplete (CAR 06/10).
Monitoring methodologies, including estimation, modelling, measurement or calculation approaches	Please see findings related to CAR 08/10 .
Monitoring times and periods, considering the needs of intended users	Information on the frequency of monitoring is found in section 3.3 of the PD. It is unclear if the monitoring program start date is based on the project start date or the project validation date. Further, it is not clear what date the 5 year monitoring interval periods start on. The methodology states, <i>“Given the dynamics of forest processes, plots will be re-measured at intervals of 5 years. Inventory Data will be update [sic] annually”</i> . It is clear what is meant by “plots”, as this is described in the PD. However, it is not clear what is meant by “inventory data”, as this could comprise of a number of parameters (CAR 03/10).
Monitoring roles and responsibilities	The roles and responsibilities for monitoring are found in section 3.3 of the PD. A brief overview is provided which was found to be sufficient. In interviews with the Project Manager, it was apparent that there was a more complex structure that alluded to in the PD. The chain of command for this and the division of specific responsibilities was not provided (OBS 05/10).
GHG information management systems, including the location and retention of stored data	In section 3.3 of the PD there is information in data handling, and QA/QC procedures. Interviews with the team responsible for monitoring confirmed that the good practices listed in the PD were understood by all and were commonly employed in other projects

	managed by the same people. A number of documents were seen that confirmed best practice was a cultural norm within the implementing organisations. For example, the document, "GIS_Standards_2010" explains the data archiving system for GIS data. However, documentation pertaining specifically to the carbon element of the Darkwoods project was not seen. In addition, the QA/QC section makes reference to 'Standard Operating Procedures' for various practices. However, these are not elaborated or referenced. As such it is not possible to validate that they are fit for purpose. (CAR 09/10)		
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	CAR 03/10: The Nature Conservancy Canada shall describe the purpose of monitoring in the PD. CAR 06/10 CAR 08/10 CAR 09/10: The Nature Conservancy Canada shall clearly document the GHG information management system specific to the carbon element of the Darkwoods project. OBS 05/10: The Nature Conservancy Canada should provide details of the organisational structure and specific responsibilities of those involved in monitoring.		

Findings from Assessment on 02 Feb 2011	
VCS Required Monitoring Procedures	Findings
Purpose of monitoring	Section 3 now includes a description of the purpose of monitoring. This closes CAR 03/10 .
Types of data and information to be reported - including units of measurement	The types of data to be monitored are listed in two categories; those available at the time of validation, and those to be monitored in the monitoring plan. They include units of measurement. The tables were now found to be complete. However, it is difficult to trace the parameters listed to the model they are used in, as no explanations are provided in the parameters tables. For this reason, CAR 06/10 remains open..
Monitoring methodologies, including estimation, modelling, measurement or calculation approaches	Please see response to CAR 08/10 , in section 4.3.2 above. This CAR was addressed.
Monitoring times and periods, considering the needs of intended users	The PD is now clearer, stating that monitoring must be conducted at least every 5 years.
Monitoring roles and responsibilities	Same as previous finding.
GHG information management systems, including the location and retention of stored data	Additional references have been added to pages 66-67 in response to CAR 09/10 . These are related to measuring tree and dead wood biomass in the field. However, the QA/QC section (p68-69) still refers to a number of plans and processes that are under development. In general, the monitoring plan was not found to be detailed enough to constitute a monitoring plan that could subsequently be verified to have been executed. The monitoring plan must identify the key steps and the QA/QC procedures

		associates with them such that it is clear what monitoring will involve, even of the operational details are not yet finalised. Therefore CAR 09/10 remains open.	
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	CAR 06/10 CAR 09/10		

3.7.4 Whether the monitoring plan provides detailed information related to the collection and archiving of all relevant data

Findings from Assessment on 25 NOVEMBER 2010			
The PD, in section 3.3, outlines a quality assurance/quality control (QA/QC) plan; including QA/QC for field measurements, laboratory measurements, data entry and data archiving. However, the specifics, as they apply to the Darkwoods Carbon project were often not included or referenced. (CAR 09/10)			
The common practice employed by the Project Proponents on other lands were discussed through interview and found to match those described in the PD. Evidence was provided to support the QA/QC procedures that were employed. These included a document called, 'Darkwoods Data Warehouse: Standards for Receiving, Creating, Distributing, and Managing Data.' Which describes practices related to GIS data and a document called 'How to File and Archive Stewardship Documents', which explains good practice handling of data sheets.			
As monitoring has not yet been conducted, it was not possible to assess the actual processes being executed for this project beyond the GIS component.			
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	CAR 09/10		

Findings from Assessment on 02 Feb 2011			
No change from previous findings.			
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	CAR 09/10		

3.8 Calculation of GHG Emissions

The conclusions regarding (as required by VCS 2007 Validation Template, Section 3.4):

- *The appropriateness of the source, sink and reservoir (pools),*
- *The correctness and transparency of formulas and factors used,*
- *The assumptions made for estimating GHG emission reductions, and*
- *Uncertainties should be summarised in this section.*

3.8.1 The appropriateness of the source, sink and reservoir (pools)

Findings from Assessment on 25 NOVEMBER 2010	
The PD follows the methodology in selecting the source, sinks and reservoirs of carbon (PD Section 2.3).	
It should be noted that the PD states the below ground biomass pool is required by the VCS (Table 4), whereas the <i>VCS Program Update (24 May 2010) Updates to the Tool for AFOLU Methodological Issues and Guidance for AFOLU Projects: Insignificant Emissions Sources and Pools, Carbon Pools, Avoided Planned Deforestation, Definition of Mosaic and Frontier Deforestation, Market Leakage</i> deems this an optional pool. (OBS 06/10)	
Further, in the PD, the proponent justifies the exclusion of N ₂ O fertilizer as an emission source because "the	

extensive use of fertilizer is not common practice in properties with extensive natural and/or mature forest” (Table 5). Even though N ₂ O may not be extensive, it’s unclear how much may be used and/or whether if those amounts are insignificant. (OBS 06/10)			
Lastly, in Table 4 of the PD, reference is made to carbon being “shifted to other carbon pools”. It is assumed that this means it decays and enters another pool, but this would benefit from clarification. (OBS 06/10)			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	OBS 06/10: The Nature Conservancy Canada should ensure that the rationale/justification for all sources and sinks are fully documented and explained in line with VCS rules.		

Findings from Assessment on 02 Feb 2011			
The methodology has a new applicability condition that requires projects not to apply fertiliser that would lead to non-de minimus emissions. There was not evidence that fertiliser was being applied on the Darkwoods property. It should be noted that the methodology now requires the inclusion of belowground dead wood in the carbon accounting. This increases the project area carbon stock significantly (c.25%), but has little impact on the net change between the baseline and project scenario because there is little difference in what happens to that pool.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	OBS 06/10		

3.8.2 The correctness and transparency of formulas and factors used

Findings from Assessment on 25 NOVEMBER 2010			
There are a number of issues related to the correctness of formulas used, which related to the calculations carried out in the spreadsheets.			
The overall transparency of the formulas and factors used was found to be inadequate. This is primarily due to the PDs failure to document how the equations in the PD were executed and how data was gathered/calibrated for input into the model.			
These issues are addressed in more detail in the following sections.			
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	Please see CARs raised in sections 4.4.3 to 4.4.9.		

Findings from Assessment on 02 Feb 2011			
Issues still remain in the VCU calculations and also in the transparency of data and parameters used.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	CAR 06/10 CAR 14/10 CAR 19/10		

3.8.3 Calculation of emissions in the baseline scenario (ex-ante estimate)

Findings from Assessment on 25 NOVEMBER 2010			
The methodology’s section 8, ‘Baseline Emissions’, provides the steps to calculate the baseline emissions. Section 4.1, ‘Baseline Emissions’ in the PD describes how the baseline emissions were calculated in accordance with the methodology.			

Baseline Area Determination

The description of how the baseline area was stratified was found to correspond to the steps conducted by the proponents. This was assessed via a walk through of the maps involved. The assumptions made in defining the operable areas and timber harvesting land base were found to be appropriate. Upon comparison of Figure 6 with GIS data it was noticed that Figure 6 erroneously includes environmental protection areas as inoperable in the baseline (**CAR 10/10**). Page 52 of the PD explains how the existing inventory data was stratified into a series of analysis units. The code used to assign the inventory polygons in the GIS database to analysis units as per Table 9 was interrogated by the auditors and found to be correct. Samples of polygons in the GIS data base were selected, all were found to be correctly assigned to analysis units. Within each analysis unit, a given polygon can be at any age, and as such have a different volume/carbon stock according to the stand attribute curve for that analysis unit. Examples of the data that drives these curves were presented to the auditors (FORECAST carbon & volume 1-year time step.xls). Table 10 which shows the regeneration assumptions was found to contain appropriate data, however the headings of the columns were difficult to interpret (**OBS 07/10**).

The most significant project specific data input into the model is the GIS database of polygons representing the project area's stands. The audit team were able to trace the 2010 inventory data back through its updates to the first inventory or 1992. This first inventory in 1992 was generated using 1922 photo calls and 244 ground calls and calculated volume to $\pm 10\%$ at the 95% confidence interval according to the report written at the time. The inventory was updated in 2003 and 2005 based on orthophotos. The process for updating the spatial database following harvests, silvicultural treatments, natural disturbance etc was demonstrated to the auditors by the GIS specialist who has managed the database since 2008. The system was found to be sophisticated and exceeded the standard of spatial information found on crown lands in B.C. A sample of points were compared from the 1992 inventory to the 2010 database and were all found to correspond. During a flyover and ground visit a number of stands identified and compared to the GIS map using either sight or GPS points (when in the air). All points were found to be accurately reflected in the stratified map. Various sorting was done in the GIS database and this did not reveal any abnormalities.

Calculation of Baseline Carbon Balance

The PD begins section 4.1 by quoting three equations that align with the methodology, from this point on the numbering does not align so it is difficult to trace how the methodology has been followed. In general, there is not a good explanation of how the models and spreadsheets combine to execute the methodology's calculation steps (**CAR 11/10**). There was found to be a lack of transparency about the model calibration and assumptions that went in to models (**CAR 12/10**). For example, the Proponent's explained that ATLAS was configured to achieve an objective equal to that defined in the baseline scenario (15 year depletion), but the operational efficiency aspect of harvest planning was not considered, whilst this simplification was found to be acceptable, it is not documented in the PD. In addition, it was not clear what data sources were used to generate the model, how they were passed into the models (**CAR 13/10**). For example, it was explained that provincial growth and yield data was used in building the model, but this was not documented in the PD. Likewise it was not clear which allometric equations and root:shoot ratios were used. Spreadsheets with data calculations were provided, but were not comprehensible without significant guidance from the proponent. The methods used to check the relevancy/conservativeness of the data/assumptions was not thoroughly documented (**CAR 14/10**). It was also not clear how the models interacted (**CAR 15/10**). For example, it was explained that the atlas model pulled data from a database generated by the forecast model. However, the exact content, location, file name, version etc of this database are not in the project documentation.

Through interviews and demonstrations, the Project Team Members responsible for the modelling were able to demonstrate competence. Their history of publications using the model and work on developing the model provide confidence that the modelling exercise was carried out according to best practices.

Section 4.1 of the PD provides an overview of the models. The basic structure of the modelling system is that the ATLAS model is based on the spatially defined (and aged) analysis units derived from the inventory data. The FORECAST model outputs stand attribute curves which show the carbon stocks of the analysis unit at any given age. The ATLAS model grows and harvests the stand according to the baseline scenario assumptions and the stand transition assumptions from Figure 6.

It was understood by the auditors, as explained during interviews, that the baseline estimates of emissions will be liable to change as the results of monitoring feedback in. The fact that this would happen was not found to be clear in the PD. The data that could cause changes and the steps through which it would be processed were also not documented (**CAR 16/10**).

The model includes specific assumptions based on the deaths related to mountain pine beetle which has been affecting stands in the project area. The assumptions were found to be reasonable.

Net Storage in Harvested Wood Products

The models outputs were used as an input to the spreadsheet, "NCC Financial Model - v7". The PD appears to use equations that do not align with the methodologies for calculating the net storage in HWP. The audit team and proponents walked through the calculations performed in the spreadsheet and found them to be internally consistent and correct, however links to the equations in the methodology and PD were difficult to trace **CAR 11/10** because the spreadsheet does not reference any of the equations. The references for the various constants in the spreadsheet were checked and all found to be correct.

Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	CAR 10/10: The Nature Conservancy shall correctly display the operable/non-operable areas in Figure 6. CAR 11/10: The Nature Conservancy shall document how each step of the methodology was executed. CAR 12/10: The Nature Conservancy shall document any assumptions used in executing the models and any calibration that was done. CAR 13/10: The Nature Conservancy shall document the data sources used and explain which of the models they were used in. CAR 14/10: The Nature Conservancy shall document how the data sources were checked for relevancy and conservativeness. CAR 15/10: The Nature Conservancy shall document how the models interact. CAR 16/10: The Nature Conservancy shall fully explain the process by which baseline emissions estimates may be updated in the future. OBS 07/10: The Nature Conservancy should clearly label all headings in tables		

Findings from Assessment on 02 Feb 2011

The methodology has been updated (from version 7.2 during the field visit, to 8.3 at the date of this report), and changes have occurred to section 8 which require assessment. The PD and spreadsheets have also been updated.

Valid Starting Inventory Requirements (New Methodology Section)

The methodology requires that, "Project proponents must provide a valid starting forest inventory meeting the following requirements: 1. Pertaining directly to the entire project area; and, 2. Created, updated, or

validated <10 years ago; and, 4. Documentation available describing the methods used to create, update, or otherwise validate the starting inventory, including statistical analysis, field data, and/or other evidence.”

The PD does not attempt to justify how their starting inventory meets these requirements. However, the information gathered during the field audit validated that since the base inventory was conducted in 1992, there have been updates in 2004, 2008, 2009 and 2010 to the spatial elements of the inventory and stand age. The starting inventory was found to exceed common practice in British Colombia, this was based on the expert opinion of the local forester on the audit team (**OBS 09/11**).

Baseline Area Determination

Figure 6 has been replaced with a corrected map. Due to the change in pattern of the THLB and the fact that the number has changed, the auditors request either a copy of the shape file. This file was provided, and was found to match the shape and size described in the PD (operable area = 37250 Ha). This closes **CAR 10/10**.

Calculation of Baseline Carbon Balance

The PD and appendixes/spreadsheets have been added to and amended to provide greater transparency regarding how the models used execute the methodologies steps. However, the tab ‘Summary Tables and Figures’, in ‘NCC Financial Model v8.2’ was not found to have any references to the equations in the methodology that it was executing, and in at least one case (calculation of the buffer contribution), did not follow the methodology and made the calculation erroneously. The tab ‘HWP Carbon Model, in ‘NCC Financial Model v8.2’ was found to reference parameters but not equations found in the methodology. It also executed additional equations (rows 43-49) that were not in the methodology or PD and were found not to be conservative. Appendix 2 which lists the equations used from the methodology was found to be of limited value because it did not explain where each one was executed (e.g. in Atlas, in Forecast, in cell XY of Z spreadsheet for example). Therefore **CAR 11/10** remains open.

The data and parameters tables in sections 3.1 and 3.2 are now complete. Section 4.1 of the PD explains that Atlas and Forecast are used to determine the carbon stock elements of the baseline emissions, whilst the spreadsheet ‘NCC financial model’ is used to do HWP and VCU based calculations. Figure 8 shows how data is input into the model and calibrated. Section 4.1 also explains how each of the models was constructed in a manner consistent with the model seen by the auditors and the example data sheets provided. This closes **CAR 12/10 and CAR 13/10**. Figure 7 and accompanying text has been added to show how the models interact. This closes **CAR 15/10**.

Additional text has been added to section 4 of the PD and appendix 2 to discuss the selection of data and parameter values in a general way. The now complete tables in sections 3.1 and 3.2, demonstrate accurate and conservative data selections. This was considered suitable for ex-ante estimates, since the network of field plots to be input during monitoring will verify the accuracy of many of the data/parameters. Those parameters set at the validation were found to be accurate and conservative choices. This addresses much of **CAR 14/10**. However, please see the final remaining issue related to the derivation of HWP parameters below.

The methodology has been updated and now confirms that the monitoring data will be used to update baseline emissions data in the future. However, it is still not clear if the monitoring data is used with respect to adjusting the baseline (or applying an uncertainty factor against it) for the years which the monitoring covered. Therefore **CAR 16/10** remains open.

Net Storage in Harvested Wood Products

The updated methodology (v8.3) has a revised set of equations for calculation the carbon balance of HWPs (section 8.3 and Eqn 18 onwards). This has resulted in changes to the tab 'HWP Carbon Model, in 'NCC Financial Model v8.2'. The spreadsheet does not clearly document which equations are being conducted in which row/cell. As a result there is one element, carbon elements from burnt manufacturing waste, is included in the spreadsheet calculations (input into equation 18) but is not in the PD or Methodology. It should be noted that the PD (see p128) that the equation 18 are cross referenced to the spreadsheet (although the references are incorrect), but the other HWP equations are not referenced.

Equations 19-24 in the PD were compared the spreadsheet provided. The spreadsheet was found to execute the calculations correctly.

Equations 25-27 were also checked and found to have been executed correctly. The auditors requested justification for the expert opinions given to provide parameter values in Table 3 of Appendix 2. References were provided for the values, but the auditors were unable to locate the values in the papers provided. Until the precise location of the derived value can be provided CAR **14/10** remains open.

Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	OBS 09/11: The Nature Conservancy Canada should include a clear description of how the starting inventory requirements of the methodology were met in the PD. CAR 10/10 CAR 11/10 CAR 14/10 CAR 16/10		

3.8.4 Calculation of emissions from project activities (ex-ante estimate)

Findings from Assessment on 25 NOVEMBER 2010			
The approach to making ex-ante estimates of project scenario emissions is done using the same methods as the baseline scenario. Therefore, all the CARs raised in section 4.4.3 above apply. The project scenario assumes that 10,000m³ of wood will be harvested each year for conservation purposes. However, the harvest for years 2008, 2009 and 2010 were based on actual harvest data. Harvesting during these years was over the anticipated 10,000m³ due to salvage operations carried out on mountain pine beetle affected areas (see section 4.2 of the PD). The project scenario is also modelled on the assumption of planting rather than natural regeneration. The local forester on the audit team found to be a likely scenario through interviews with project staff. The ex-ante modelling also includes a growth component, since with reduced harvesting the forest will increase its stocks of biomass in the selected pools. Figure 8 shows this growth. The Y-axis of Figure 8 is incorrectly labelled. In addition, the source data used to create the graph was not presented clearly (CAR 17/10).			
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	Please see all CARs raised in section 4.4.3 above. CAR 17/10: The Nature Conservancy shall present all graphs correctly and provide clear references to the source data used to compile them.		

Findings from Assessment on 02 Feb 2011
The approach to making ex-ante estimates of project scenario emissions is done using the same methods as

the baseline scenario. Therefore, all the CARs raised in section 4.4.3 above apply.

Figure 8, now Figure 11 (p93) has been corrected. Appendix 3 shows the data used to create the graph, which is an output from the FSP-Atlas model. This data is used in column AF of 'NCC Financial model v8.2', on the 'summary tables and figures tab'. This closes **CAR 17/10**.

Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.8.5 Calculation of emissions reductions or avoided emissions due to the project (ex-ante estimate)

Findings from Assessment on 25 NOVEMBER 2010			
The netting of project and baseline scenarios was presented transparently in the spreadsheet, "NCC Financial Model - v7".			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

Findings from Assessment on 02 Feb 2011			
The netting of project and baseline scenarios was presented transparently in the spreadsheet, "NCC Financial Model – v8.2".			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.8.6 Calculation of emissions from leakage (ex-ante estimate)

Findings from Assessment on 25 NOVEMBER 2010			
Leakage is presented in section 4.3 of the PD.			
Activity shifting leakage was determined to be as being 0 ex-ante. This was because NCC, in line with its operating objectives, does not conduct significant harvesting. There is no reason to suggest that other NCC lands may be harvested to compensate for the lost opportunity at Darkwoods. This is evidence by the organisations missions which is publicly available on its website.			
The PD attempts to follow section 10.2.3, "Markey Leakage Option 2b – Leakage Assessment Tool" from the methodology. This tool is still under development and as such the details of its implementation were not assessed in depth. There appeared to be calculation errors in the use of the tool. For example, DCfromDOM is 90%, but then when the numbers are put into the equation DCfromDOM is given a value of 0.1.			
It should be noted that whilst the market leakage buffer percentage may have been calculated incorrectly, the number derived was then applied correctly in subsequent calculations.			
Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	CAR 18/10: The Nature Conservancy shall calculate market leakage correctly, according to an approved method.		

Findings from Assessment on 02 Feb 2011			
The current version of the methodology includes options for calculating market leakage. The PD, on p96 uses option 2, a method derived from the CAR protocol. The method was found to have been executed correctly. This closes CAR 18/10 .			
Conformance	Yes ☒	No ☐	N/A ☐

CAR/OBS	No CARs or OBS raised.
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3.8.7 Calculation of net VCUs to be issued (ex-ante estimate)

Findings from Assessment on 25 NOVEMBER 2010	
The calculations for determining the number of VCUs are presented in section 4.4 of the PD. This section of the PD does not reference the equations from the methodology correctly. For example, equation 51 in the methodology, is labelled 11 in the PD. The calculations to support this are carried out in the 'Summary Tables & Figures' tab of 'NCC Financial Model - v7.xls'. The spreadsheet contains steps such as a 15% automatic deduction in the risk buffer percentage that are not mentioned in the PD. The calculations in the spreadsheet are not referenced back to the PD or methodology. (CAR 19/10) The calculations were found to contain errors. For example, an automatic deduction in the risk buffer percentage by 15% at each validation was made. This is not part of the VCS VCU issuance process. This error is related to ambiguities in the presentation of the calculation steps in the VCS standard itself. (CAR 19/10) When the buffer percentage is increased in the spreadsheet, 'NCC Financial Model - v7.xls', the total number of credits issued increases. Logically this cannot be correct. In addition, the spreadsheet has two components, one where annual values are used, and one where 5 yearly values are used. The way sums were done in the 5 yearly section was found to be mathematically incorrect (CAR 19/10).	
Conformance	Yes ☐ No ☒ N/A ☐
CAR/OBS	CAR 19/10: The Nature Conservancy shall calculate VCU issuance correctly and according to the VCS rules.

Findings from Assessment on 02 Feb 2011	
Except for the issue regarding the buffer credit calculation described below, all other errors in the spreadsheet had been fixed. Appendix two of the PD now provides greater transparency about the calculations that were intended to be applied. A correction has been made in 'Summary Tables & Figures' tab of 'NCC Financial Model – v8.2.xls', and there is no longer an automatic 15% deduction in the buffer percentage. A buffer percentage of 10% is applied consistently. However, the parameter BR_y is not calculated correctly because the buffer percentage is not multiplied by the carbon stock benefit, but rather by a value which includes HWP related emissions (see Column N). For this reason, CAR 19/10 remains open. The spreadsheet does not contain references to which equations are being calculated in which cells and the parameters used are not linked to those in the methodology or PD. This makes tracking what has been done more difficult.	
Conformance	Yes ☐ No ☒ N/A ☐
CAR/OBS	CAR 19/10

3.8.8 The assumptions made for estimating GHG emission reductions

Findings from Assessment on 25 NOVEMBER 2010	
In the description of baseline scenario (p.59) the proponents state that in the baseline scenario the mature pine-leading stands were harvested as priority until 2010, thereafter priority was determined based on the maximum difference between current age and minimum harvest age. However, simulated harvest priority from 2011 onward for the project scenario was random. It is not clear what the underlying assumption is to make this differentiation.	

The assumption of natural regeneration being employed rather than planting in the baseline scenario where profit maximisation is the aim was found to be reasonable. . This is backed up by actual practices of similar operations in British Columbia, such as one adjacent property visited during the site fly-over, as well as through interviews with a local Registered Professional Forester, who has considerable silviculture experience. The assumption that those areas currently classed as environmentally protected areas in the project scenario would also be available for logging was found to be acceptable. There designation goes beyond legal requirements and reflects the personal conservation-minded approach of the previous owner. This is backed up by actual practices of similar operations in British Columbia, such as one adjacent property visited during the site fly-over, where little if any economically viable forest was protected or reserved from logging.

Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	OBS 08/10: The Nature Conservancy Canada should clearly demonstrate all assumptions used to justify differences in baseline and project scenarios.		

Findings from Assessment on 02 Feb 2011

No change from previous findings.

Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.8.9 Uncertainties

Findings from Assessment on 25 NOVEMBER 2010

The PD has not demonstrated clearly where conservative selection of data was employed as per the requirement in section 11.4 of the methodology (**CAR 20/10**). This is related to the fact that the data sources were not clearly mapped out in the PD.

On page 76 of the PD it is explained that an uncertainty deduction of 5% was made. There is no justification provided for this number. It should be noted that the unapproved methodology is ambiguous on how uncertainty needs to be calculated (**CAR 21/10**).

Conformance	Yes ☐	No ☒	N/A ☐
CAR/OBS	CAR 20/10: The Nature Conservancy shall clearly demonstrate where conservative selections of data were made. CAR 21/10; The Nature Conservancy shall fully justify the uncertainty deduction made in conformance with the requirements of the methodology.		

Findings from Assessment on 02 Feb 2011

The complete documentation of the data parameters used in PD sections 3.1 and 3.2 demonstrates that accurate and conservative choices were made. This closes **CAR 20/10**.

The methodology does not contain specific instructions on how to calculate an uncertainty value ex-ante. Section 11.4 of the methodology, where an uncertainty value is calculated uses ex-post measured data from monitoring plots. As this data is not available ex-ante, the project proponents have used another method to determine the uncertainty attached the estimates in section 3.5 of the PD (p74 onwards). Further details are provided in Appendix 4 (p150 onwards). This approach derives E_m via a comparison of the Darkwoods model outputs and adjusted actual values of harvest volume for the period 2008-10. E_i was derived via a comparison of the Darkwoods inventory data and a wider inventory conducted by the Ministry of Forests which covered

the Darkwoods area. Since these uncertainty values are only used for ex-ante uncertainty estimation and are superfluous to the methodology, they were not assessed in detail. As no uncertainty deduction is required by the methodology ex-ante **CAR 21/10** is closed.

Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.9 Environmental Impact

The conclusions regarding (as required by VCS 2007 Validation Template, Section 3.5):

- *Requirements for and approval of an Environmental Impact Assessment (if applicable)*
- *The sufficient documentation of environmental impact should be summarised in this section.*

3.9.1 Requirements for and approval of an Environmental Impact Assessment (if applicable)

Findings from Assessment on 25 NOVEMBER 2010			
Project activities are primarily focused on conservation and significantly reduced harvesting which are not activities that would typically require an Environmental Impact Assessment (EIA). Details around the type of activities that would require an EIA were reviewed by the auditor (Exhibit 40).			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No OBS or CARs issued.		

Findings from Assessment on 02 Feb 2011			
No change from previous findings.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.9.2 Comments by stakeholders

The conclusions regarding (as required by VCS 2007 Validation Template, Section 3.6):

Findings from Assessment on 25 NOVEMBER 2010			
The proponent reports that there have been extensive stakeholder engagement during and after the acquisition of the project area, and list all stakeholders and dates of meetings. The meetings did not focus on discussions about using the area as a carbon project but did explicitly outline the proponent's intention to prioritize conservation management objectives. No negative or dissenting stakeholder comments/concerns were noted in the PD.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No OBS or CARs issued.		

Findings from Assessment on 02 Feb 2011			
No change from previous findings.			
Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.9.3 Negative environmental and socio-economic impacts of the project.

The conclusions regarding (as required by VCS 2007.1 section 3.4):

- *AFOLU projects potential negative environmental and socio-economic impacts and mitigation steps prior to generating Voluntary Carbon Units (VCUs).*

Findings from Assessment on 25 NOVEMBER 2010			
The proponents state in the PD (Section 5) that there are no known environmental impacts to assess for the retention of natural forest. They claim the carbon project enhances all aspects of biodiversity, water and other			

environmental attributes by retaining and protecting the existing forest in an intact, fully functioning ecosystem. It is reasonable that the goal of conserving/protecting the existing forest would result in minimal negative environmental impacts.

The Nature Conservancy Canada had extensive stakeholder meetings to hear and address any issues associated with the potential project, and made it known in a 2008 open house with forest contractors that there would be a permanent reduction in timber supply. In Sept 2010 public community meetings were held again, with the intention of showcasing baseline data that had been collected and providing a summary of the draft property management plan. Overall, feedback received was positive (Exhibit 27). Having been transparent with forest contractors about the impact to forest timber supply, it does not appear that concerns over negative socio-economic impacts have been raised.

Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No OBS or CARs issued.		

Findings from Assessment on 02 Feb 2011

No change from previous findings.

Conformance	Yes ☒	No ☐	N/A ☐
CAR/OBS	No CARs or OBS raised.		

3.10 Risk factors applicable to all project types

Note: Risk factors are determined through a qualitative analysis conducted, following the guidance of the VCS Tool for Non-Permanence Risk Analysis and Buffer Determination, combined with the 13 April 2010 VCS Program Update. Evidence supporting the qualitative assessment must be provided by the project proponent.

Risk Factor	Self Assessment Risk Rating	Findings	OBS/CAR
Risk of unclear land tenure and potential for disputes	Very Low	Fee simple land with clear title in possession. Low risk of land tenure or disputes. See Exhibit 1.	No CARs or OBS raised.
Risk of financial failure	Low	Thorough analysis of risk rating and rationale supports low risk rating. The Nature Conservancy of Canada financial statements demonstrate the organization has significant assets that would prevent the likelihood of the project failing. See Exhibit 39.	No CARs or OBS raised.
Risk of technical failure	Very Low	Findings accurately reflect level of risk given land is being managed for conservation.	No CARs or OBS raised.
Risk of management failure	Low	Findings demonstrate management The Nature Conservancy Canada is an	No CARs or OBS raised.

		established, large conservation organization with extensive land management experience. Since inception in 1962, the organization has protected more than 800,000 hectares of land across the country (Exhibit 41). The management plan itself demonstrates the level of expertise and experienced personnel involved in ongoing management of Darkwoods (Exhibit 14). Further, The Nature Conservancy Canada also has very experienced personnel (See Exhibit 24) and contracts in place with project proponents and personnel qualified to manage the project.	
Risk of rising land opp. costs causing reversal of sequestration/protection	Low	Rationale demonstrates clearly that acquisition of land by The Nature Conservancy Canada purchases land for conservation purposes only and has never divested of its land for any reason. NCC developed it's own "Demonstration of Permanence for the Darkwoods Project." See Exhibit 42.	No CARs or OBS raised.
Risk of political instability	Low	Findings clearly justify risk rating. Project area is in area of low political instability. Land tenure secure.	No CARs or OBS raised.
Risk of social instability	Low	Findings clearly justify risk rating. Project area is in area of low social instability. Land tenure is secure.	No CARs or OBS raised.
Risk of devastating fire	Low	Findings demonstrate good rationale for risk rating. Low fire interval (150-300 years). Wong et al (2003) was referenced by auditors as a reliable report that supports the rationale that while stand level fires are part of the natural disturbance regime, devastating fire is unlikely. Further, the Nature Conservancy Canada employs forestry staff and resources near the site, stand fire hazard management is one of the activities to be undertaken with harvesting operations in the carbon project scenario, and significant fire mitigation steps have been undertaken; most importantly a fire protection agreement has been entered with the BC government who have initial fire attack fire fighting resources permanently stationed in nearby Creston BC. The agreement was viewed by the auditors. Lastly, the .project accounts for a 4% loss every 20 years to reflect natural disturbance loss.	No CARs or OBS raised.
Risk of pest and disease attacks	Low	Rationale is clearly presented and demonstrates risk rating is reasonable.	No CARs or OBS raised.

		Due to the diversity of the forest that is comprised of more than 10 commercial species of trees, the potential for a catastrophic pest or disease outbreak is low. The project will have ongoing monitoring which would identify future outbreaks early and thus allow for the best possible mitigation strategy to be deployed in a timely manner. Modelling for pine beetle death due to the current outbreak is modelled in the baseline and project scenario and assumed mortality is accounted for. The project scenario also includes modelling for background pest and disease outbreaks. Removal of beetle affected trees was observed by the auditors during the site visit.	
Risk of extreme weather events (e.g. floods, drought, winds)	Low	Rationale is clearly presented and demonstrates risk rating is reasonable.	No CARs or OBS raised.
Geological risk (e.g. volcanoes, earthquakes, landslides)	Very Low	Rationale is clearly presented and demonstrates risk rating is reasonable.	No CARs or OBS raised.
<i>Summary of findings and assessment of risk rating</i>			
Overall, the organization appears to have classified risks in a reasonable and well defended manner. See PD Appendix 1.2.			
CAR/OBS:	No CARs or OBS raised.		

3.11 Risk factors applicable to IFM projects

Risk Factor	Self Assessment Risk Rating	Findings	OBS/CAR
Devastating fire potential	Low	Findings demonstrate good rationale for risk rating. Low fire interval (150-300 years). Wong <i>et al</i> (2003) was referenced by auditors as a reliable report that supports the rationale that while stand level fires are part of the natural disturbance regime, devastating fire is unlikely. Further, the Nature Conservancy Canada employs forestry staff and resources near the site, stand fire hazard management is one of the activities to be undertaken with harvesting operations in the carbon project scenario, and significant fire mitigation steps have been undertaken; most importantly a fire protection agreement has been entered with the BC government who have initial fire attack fire fighting resources permanently stationed in nearby Creston BC. The agreement was viewed by the auditors.	No CARs or OBS raised.
High timber value	Low	The Nature Conservancy Canada's objective for land acquisition is conservation. It is an established, reputable conservation organization which has never divested of its land for any reason. NCC developed it's own "Demonstration of Permanence for the Darkwoods Project." See	No CARs or OBS raised.

		Exhibit 42.	
Illegal logging potential	Very Low	BC has excellent timber tracking regulations and strong illegal harvesting enforcement. Risk of illegal logging in region very low. Property users will be required to have access permits and roads are or will be gated.	No CARs or OBS raised.
Unemployment potential	Very Low	Project area in region with well developed markets, good law enforcement and low dependence on forest industry.	No CARs or OBS raised.
CAR/OBS:	No CARs or OBS raised.		

3.11.1 Default buffer withholding percentages for IFM projects

Findings from Assessment on 25 NOVEMBER 2010		
IFM Activity Type : LtPF		
	Rating/Amount	Findings
Self Assessment Risk Class	Low	The project proponent has used both the 2011 VCS risk assessment and the 2007.1 (which they incorrectly call the 2008 risk assessment tool) risk assessment tools. The 2011 VCS risk assessment tool has not been approved for use, and the 2007.1 risk tool has been updated per VCS Program Update (8 September 2010): Update to the VCS 2007.1: Tool for Non-Permanence Risk Analysis and Buffer Determination. As such, the 2007.1. As such, the risk analysis completed is incomplete as it does not include the default buffer withholding percentage.
Self Assessment Buffer Withholding Percentage	Not Completed	The proponent did not complete the self-assessment buffer withholding percentage. They did however, verbally state they would be at 10%.
OBS/CAR:	CAR 22/10: The Nature Conservancy Canada shall, in accordance with VCS Program Update (8 September 2010): Update to the VCS 2007.1: Tool for Non-Permanence Risk Analysis and Buffer Determination, complete the default buffer withholding percentages for IFM (LtPF), identifying the appropriate risk class and buffer amount using the correct version.	

Findings from Assessment on 02 Feb 2010			
IFM Activity Type : LtPF			
	Rating/Amount	Findings	
Self Assessment Risk Class	Low	The project proponent has used both the 2007.1 risk assessment tool, and supported their findings by using the draft 2011 version. The proponents conclude that the risk analysis is low. The auditors, based on the individual risk ratings agree with this conclusion.	
Self Assessment Buffer Withholding Percentage	10%	VCS Program Update (13 April 2010): Update to the VCS 2007.1: Tool for Non-Permanence Risk Analysis and Buffer Determination revises the VCS text on the subject of buffer value calculation to the following: <i>“When determining the overall non-permanence risk classification, the risk factor with the highest rating determines the project’s overall risk class and shall be used to determine the required buffer withholding percentage.”</i> <i>“Table [x] below provides the default buffer percentage ranges for [x] projects associated with low, medium and high non-permanence risk classes. The required buffer withholding percentage shall be the maximum percentage in the buffer range for the determined risk class, unless justification for a lower withholding percentage can be demonstrated.”</i> The highest risk rating received by Darkwoods was ‘low’, and the	

		range for low LtPF projects is 10-15% deduction (Table 7 of the VCS Tool). The use of the 2011 draft tool (which is more quantitative) to derive a value of 7.5%, combined with the number of very low risk ratings assigned, allowed the auditors to conclude that a 10% deduction was justified, This closes CAR 22/10 .
OBS/CAR:	No CARs or OSB raised.	

4 Validation Conclusion

Based on Project's conformance with VCS requirements, the auditor makes the following recommendation:		
Draft Report Conclusions		
☐	Validation approved: <i>No CARs issued</i>	The Project Proponent has 30 days from the date of this report to revise documentation and provide any additional evidence necessary to close the open corrective action request. If new material is submitted the auditor will review the material and add updated findings to this report and close CARs appropriately. If no new material is received before the 30 day deadline, or the new material was insufficient to close all open CARs the report will be finalised with the CARs open, and validation will not be achieved. If all CARs are successfully addressed, the report will be finalised and proceed towards issuance of a validation statement.
☒	Validation not approved: <i>Conformance with CAR(s) required</i>	
Draft Final Report Conclusions		
☐	Validation approved: <i>No CARs issued</i>	The Project proponent has 7 days from the date of this report to submit any comments related to the factual accuracy of the report or the correctness of decisions reached. The auditors will not review any new material. Further assessments can be arranged with the Task Manager.
☒	Validation not approved: <i>Conformance with CAR(s) required</i>	
2nd Draft Final Report Conclusions based on CVA (see Appendix B)		
☒	Validation approved: <i>No CARs issued</i>	The Project proponent has 7 days from the date of this report to submit any comments related to the factual accuracy of the report or the correctness of decisions reached. The auditors will not review any new material.
☐	Validation not approved: <i>Conformance with CAR(s) required</i>	
Final Report Conclusions		
☒	Validation approved: <i>No CARs issued</i>	
☐	Validation not approved: <i>Conformance with CAR(s) required</i>	

Appendix A: Company Details

4.1 Contacts

Primary Contact for Coordination with SmartWood

Primary Contact, Position:	Mike Vitt, Managing Director, 3GreenTree Ecosystem Services Ltd.
Address:	3960 Marine Ave., Belcarra, BC, V3H 4R9
Tel/Fax/Email:	778 998 5478/mike.vitt@3greentree.com

Billing Contact

Contact, Position:	Dave Rokoss, ERA Ecosystem Restoration Associates Inc.
Address:	Suite 116B - 980 West 1st Street, North Vancouver, BC V7P 3N4
Tel/Fax/Email:	604 646-0400 x 107/604 980-0422/david.rokoss@eraecosystems.com

4.2 On-line Certification Contact

Note: upon Validation, the SmartWood web site posts and maintains Customer Fact Sheets for companies with the information in the table below at http://www.rainforest-alliance.org/climate.cfm?id=international_standards

Field	Text for Customer Fact Sheet	Has this Info Changed?
Contact, Title:	Tom Swann	Yes ☐ No ☒
Address:	825 Broughton Street, Suite 200, Victoria, BC, Canada V8W 1E5	Yes ☐ No ☒
Tel/Fax/Email/Website:	250-479-3191	Yes ☐ No ☒
Products/Descriptions:	Darkwoods Forest Carbon Project	Yes ☐ No ☒

Appendix B: CAR Verification Audit

Organization Name:	The Nature Conservancy Canada
Validation Code:	N/A
Location:	British Columbia, Canada
Report Date:	20 April 2011

I. AUDIT PROCESS

Auditor, qualifications:	Adam Gibbon, Adam's role as Technical Specialist in Rainforest Alliance's Climate Program involves being a lead auditor for REDD+ projects and methodologies in the voluntary carbon market, providing training on REDD+ and climate change to a broad range of groups worldwide, and providing technical input into on adaptation and mitigation for agriculture and forestry projects. Adam has led the technical climate change related of over ten CCBA validations. He has also led five VCS methodology assessments, three VCS validations and one Plan Vivo verification. Adam is a qualified lead auditor for the Climate Action Reserve, has been appointed to the Plan Vivo Technical Advisory panel and is a VCS AFOLU expert in REDD. Adam has trained over 150 people in Indonesia, Nicaragua, Rwanda, Spain, UK, Vietnam in REDD+ project auditing and project development. Recipients of the training included Rainforest Alliance auditors, government officials, private consultants and NGO representatives. Adam has been the lead author of recent Rainforest Alliance publications such as, "Guidance on coffee carbon project development using the (CDM) simplified agroforestry methodology", and "Forest Carbon Project Feasibility Study in Quang Tri Province, Vietnam". He has also had published work peer reviewed scientific journals, for example; Gibbon et al., 2010; Ecosystem Carbon Storage Across the Grassland–Forest Transition in the High Andes of Manu National Park, Peru. Before joining Rainforest Alliance Adam worked at Oxford University as a researcher. His research emphasized the potential of carbon markets to finance sustainable management of forest resources. Adam earned a distinction on the Environmental Change and Management MSc. Program at Oxford University. He was awarded the Sir Walter Raleigh Scholarship at Oriel College, Oxford. He graduated with a first class degree from Durham University, with a BSc in Natural Sciences, specializing in Geology, Chemistry & Geography.
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Audit date:	06 March to 20 April 2011
Review process: (Documents reviewed, persons interviewed, etc.)	The following documents were submitted for desk review: 1. Darkwoods - VCS Project Design Document - 2010 v.1.8d 2. Darkwoods - VCS Project Design Document - 2010 v 1 7 (track changes from v 1 5).docx 3. Darkwoods - VCS Project Design Document - 2010 v.1.7.pdf 4. Darkwoods Carbon Model - v8.6a.xlsx 5. Darkwoods PDD - Response to Report 2 CAR's 032811.docx 6. VM0012 Improved Forest Management on Privately Owned Properties in Temperate and Boreal Forests (LtPF) v1.0
Audit overview:	A desk based assessment of the revised documentation was conducted in order to assess evidence to address the corrective action requests that were open in the Rainforest Alliance VCS validation audit report of The Nature Conservancy Canada's Darkwoods Carbon Forest Project dated 02 February 2011.
Changes to procedures since last audit:	The project is now using an updated version of the methodology (V9.2). The changes made to the PD in order to address the corrective action requests are documented in section II below.

II. CAR REVIEW

CAR 04/10	Reference Standard & Requirement: VCS 2007.1 Section 5.3, VCS Tool for AFOLU Methodological Issues; Step 6, VCS Guidance for AFOLU Projects; various sections.
Non-conformance:	The project does not yet have an approved methodology.
Corrective Action Request: The Nature Conservancy Canada shall use a VCS approved methodology	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	The project is now using an approved methodology, "VM0012 Improved Forest Management on Privately Owned Properties in Temperate and Boreal Forests (LtPF) v1.0" (dated 19 April 2011).
CAR Status:	CLOSED
Follow-up Actions:	

CAR 06/10	Reference Standard & Requirement: 4.3.2 Correct application and justification of selected monitoring methodology, 4.1.10,
Non-conformance:	The PD, in section 3.1 and 3.2, lists data and parameters in tables. Some of these tables were found to be incomplete (see page 34) or not include the values applied (see page 32). In addition, the list was not found to include all the parameters that are required to be monitored.
Corrective Action Request: The Nature Conservancy Canada shall include a complete list of data and parameters to be monitored.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	Sections 3.1 and 3.2 now contain complete lists of data and parameters to be monitored.

CAR Status:	CLOSED
Follow-up Actions:	N/A

CAR 08/10	Reference Standard & Requirement: 4.3.2 Correct application and justification of selected monitoring methodology
Non-conformance:	There was found to be insufficient clarity in how the data parameters monitored would feed back into the equations of the methodology to calculate the number of VCUs to be issued at any monitoring event.
Corrective Action Request: The Nature Conservancy Canada shall describe the process by which the monitoring activities generate data which flow back into the parameters and equations of the methodology (including describing steps that occur within the models).	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	The PD does not include a comprehensive step by step plan of how monitoring will be conducted. However, significant additions have been made to the monitoring section 3.3. Section 3.3 now explains in more detail how the carbon monitoring will be integrated into current biodiversity monitoring as well as the three main monitoring activities, 1) Annual inventory change monitoring, 2) leakage monitoring and 3) field plot monitoring. The section also goes into details about stratification, plot type, number of plots and sample size. Some of the details are not yet finalised, for example the exact number of plots. This however, is acceptable given that the methodology sets limits on the accuracy they must achieve and the exact number required cannot be known until data is gathered. This section includes details of how both activity shifting leakage (see table 15 in the PD) and market leakage will be monitored in accordance with the methodology. The PD contains detailed guidance on tree, dead organic matter carbon stock determination within plots. Section 3.4, 'Ex-post calculation of carbon stocks' is a new addition in this version of the PD. Here, it is explained how the information gathered (spatial inventory data and carbon stock data from plots) will be used to update calculations, and feed in to the calculation of the number of credits to be issued. This was found to be in conformance with section 13.2.2 of the methodology (a new section), 'Use of monitoring data to update carbon stock calculations'.
CAR Status:	CLOSED
Follow-up Actions:	N/A

CAR 09/10	Reference Standard & Requirement: VCS 2007.1 Section 5.11, GHG information management systems, including the location and retention of stored data
Non-conformance:	In section 3.3 of the PD there is information on data handling, and QA\QC procedures. Interviews with the team responsible for monitoring confirmed that the good practices listed in the PD were understood by all and were commonly employed in other projects managed by the same people. A number of documents were seen that confirmed best practice was a cultural norm within the implementing organizations. For example, the document , “GIS_Standards_2010” explains the data archiving system for GIS data. However, documentation pertaining specifically to the carbon element of the Darkwoods project was not seen. In addition, the QA\QC section makes reference to ‘Standard Operating Procedures’ for various practices. However, these are not elaborated or referenced. As such it is not possible to validate that they are fit for purpose.
Corrective Action Request: The Nature Conservancy Canada shall clearly document the GHG information management system specific to the carbon element of the Darkwoods project.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	Section 3.3 of the methodology now contains a more detailed monitoring plan. Some elements of the plan such as some standard operating procedures have yet to be written. This was found to be acceptable, given that the minimum requirements for these procedures are clearly defined in section 3.3 of the PD.
CAR Status:	CLOSED
Follow-up Actions:	N/A

CAR 11/10	Reference Standard & Requirement: 4.4.3 Calculation of emissions in the baseline scenario (ex-ante estimate),4.4.4 Calculation of emissions from project activities (ex-ante estimate).
Non-conformance:	The project uses a combination of models and spreadsheets to execute the steps of the methodology. However, the PD and spreadsheets do not document the steps executed in a way that allows readers to trace the steps back to the methodology.
Corrective Action Request: The Nature Conservancy shall document how each step of the methodology was executed.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	The PD and appendixes/spreadsheets have been added to and amended to provide greater transparency regarding how the models used execute the methodologies steps. Appendix 2, ‘Methodology Equations Usage’ has been improved such that there is now an explanation of where all the equations are executed. Within the ‘Darkwoods Carbon Model - v8.6a spreadsheet the formulas were found to execute the calculations in accordance with the PD and Methodology. ’
CAR Status:	CLOSED
Follow-up Actions:	N/A

CAR 14/10	Reference Standard & Requirement: 4.4.3 Calculation of emissions in the baseline scenario (ex-ante estimate), 4.4.4 Calculation of emissions from project activities (ex-ante estimate).
Non-conformance:	The methods used to check the relevancy/conservativeness of the data/assumptions was not thoroughly documented
Corrective Action Request: The Nature Conservancy shall document how the data sources were checked for relevancy and conservativeness.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	The PD contains clearly referenced defenses of the data and parameters chosen. These can be found specifically in tables 1 and 2 in Appendix 2, in section 3.1 of the PD and in comments boxes within the calculations spreadsheet. Those parameters set at the validation were found to be accurate and conservative choices. The processing efficiencies in column D of the 'HWP Carbon Model' tab within 'Darkwoods Carbon Model - v8.6' have been updated and were found to have been accurately sourced from the scientific literature.
CAR Status:	CLOSED
Follow-up Actions:	N/A

CAR 16/10	Reference Standard & Requirement: 4.4.3 Calculation of emissions in the baseline scenario (ex-ante estimate), 4.4.4 Calculation of emissions from project activities (ex-ante estimate).
Non-conformance:	It was understood by the auditors, as explained during interviews, that the baseline estimates of emissions will be liable to change as the results of monitoring feedback in. The fact that this would happen was not found to be clear in the PD. The data that could cause changes and the steps through which it would be processed were also not documented
Corrective Action Request: The Nature Conservancy shall fully explain the process by which baseline emissions estimates may be updated in the future.	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	The methodology has been updated and now confirms that the monitoring data will be used to update baseline emissions data in the future (see section 3.4). It is clear that the monitoring data will be used to update the baseline data for the period which the monitoring covers. The monitoring data as well as being used to calibrate the model will be used to generate an uncertainty factor (see section 4.5)
CAR Status:	CLOSED
Follow-up Actions:	N/A

CAR 19/10	Reference Standard & Requirement: 4.4.7 Calculation of net VCUs to be issued (ex-ante estimate)
Non-conformance:	The calculations were found to contain errors. For example, an automatic deduction in the risk buffer percentage by 15% at each validation was made. This is not part of the VCS VCU issuance process. This error is related to ambiguities in the presentation of the calculation steps in the VCS standard itself. When the buffer percentage is increased in the spreadsheet, 'NCC Financial Model - v7.xls', the total number of credits issued increases. Logically, this cannot be correct. In addition, the spreadsheet has two components, one where annual values are used, and one where 5 yearly values are used. The way sums were done in the 5 yearly section was found to be mathematically incorrect.
Corrective Action Request: The Nature Conservancy shall calculate VCU issuance correctly and according to the VCS rules	
Timeline for conformance:	Prior to validation
Evidence to close CAR:	All calculations in the new spreadsheet called, "Darkwoods Carbon Model - v8.6" were found to have been executed correctly and in accordance with the PDD/Methodology and VCS credit issuance rules.
CAR Status:	CLOSED
Follow-up Actions:	N/A

III. CONCLUSIONS

Audit Conclusions:	☒ CAR(s) closed ☒ No follow-up required ☐ New CAR issued (document new noncompliance in CAR table below)
	☐ CAR(s) open ☐ Company shall be suspended (Major CAR is not met) ☐ Minor non-conformance has become a major non-conformance (see CAR tables below) ☐ Validation/Verification not approved (Conformance with NCR(s) required)
Comments/ Follow-up actions at next audit:	N/A

Report Approved by: Jared Nunery

Date: 20 April 2011

NOTE: Report approval is required when auditor is not an authorized to approve SW reports or when the audit conclusion is suspension of the certificate.

IV. Documents Reviewed

Ref	Title, Author(s), Version, Date	Electronic Filename
1	Darkwoods - VCS Project Design Document - 2010 v 1.8	Darkwoods - VCS Project Design Document - 2010 v 1 8d.pdf
2	Darkwoods - VCS Project Design Document - 2010 v 1.7	Darkwoods - VCS Project Design Document - 2010 v 1 7 (track changes from v 1 5).docx
3	Darkwoods - VCS Project Design Document - 2010 v 1.7	Darkwoods - VCS Project Design Document - 2010 v.1.7.pdf
4	Darkwoods Carbon Model	Darkwoods Carbon Model - v8.6a.xlsx
5	Darkwoods PDD - Response to Report 2 CAR's 032811	Darkwoods PDD - Response to Report 2 CAR's 032811.docx
6	VM0012 Improved Forest Management on Privately Owned Properties in Temperate and Boreal Forests (LtPF) v1.0 (dated 19 April 2011)	VM0012 Improved Forest Management on Privately Owned Properties in Temperate and Boreal Forests (LtPF) v1.0
7	Output of ATLAS run, NCC, Mar 2011	ATLAS Runs updated Mar 2011.xlsx
8	Area by AU file, NCC, Mar 2011	Area by AU_by_Period_Mar_2011.xlsx
9	KML Shape File of Project Boundary NCC, Mar 2011	darkwoods_orig_lotbdndry_2008.kml
10	Forest Cover Database, NCC, v3.2	forest_cover 2010_v3.2.mdb.zip
11	FORECAST File, NCC, V8.4	KL ESSF v8.4.fds
12	FORECAST File, NCC, v8.4	KL ICH v8.4.fds

-End-