



Document Prepared By Aster Global Environmental Solutions, Inc.

Project Title	Darkwoods Forest Carbon Project
Version	V1.0
Report ID	Identification number of this verification report

Report Title	Darkwoods Forest Carbon Project Verification Report
Client	Nature Conservancy of Canada (NCC)
Pages	101
Date of Issue	30-September-2020
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Summary

Aster Global Environmental Solutions, Inc., was contracted by Nature Conservancy of Canada (NCC) on 01 May 2019 to conduct the verification of the Darkwoods Forest Carbon Project. The Darkwoods Forest Carbon Project is an Improved Forest Management (IFM) project implemented in British Columbia, Canada. The verification period is 01 January 2017 – 31 December 2019. This property totals 54,870 hectares.

Through payments for ecosystem services generated via the sale of Verified Carbon Units (VCUs), the project proponent (NCC) is able to achieve net GHG emissions reductions and removals through the avoidance of emissions due to commercial logging in the baseline scenario. The project activities are categorized as Agriculture, Forestry, and Other Land-Use (AFOLU). Improved Forest Management (IFM), Logged to Protected Forest (LtPF).

The validation assessed compliance with the VCS Version 4 Program Guide, Standard, adherence to the approved VM0012 v1.2 Improved Forest Management in Temperate and Boreal Forests Methodology, all associated updates, and the likelihood that implementation of the planned GHG project will result in the GHG emission removal enhancements as stated by the Project Proponent (ISO 14064-3:2006). The scope of the validation followed Section 4.3.4 of ISO 14064-3:2006, and methods included assessment of the GHG project implementation; physical infrastructure, activities, technologies and processes of the GHG project; GHG sources, sinks and/or reservoirs; types of GHGs; and time periods covered. The criteria followed the validation guidance documents provided by VCS located at <https://verra.org>. Unless otherwise indicated, the assessment was performed against the most recent version of the relevant VCS guidance document as of July 2020.

The verification assessed the Project's compliance with the VCS Version 4 (and all associated updates), the selected methodology (VM0012 v1.2 – Improved Forest Management in Temperate and Boreal Forests (LtPF), and the validated Project Document (PD) (Darkwoods Rural Forest Carbon Project, v2.3, dated 16 September 2020). The scope of the verification included the assessment of the VCS Monitoring Report and the implementation of the GHG project as stated in the validated PD for the first monitoring period (01 January 2017 – 31 December 2019). The verification process employed all items from Aster Global's internal verification process, which included using VCS documents, ISO-14064-3, ISO 14065, Aster Global's Management System and Management System Manual Section V.2., and Aster Global's Strategic Analysis and Risk Assessment (SARA) process.

A summary of all findings is included in Appendix B. After review of all project information, procedures, calculations, supporting documentation and site visits, Aster Global confirms that the monitoring conducted by the Project Proponent, along with the supporting Monitoring Report, are accurate and consistent with all aforementioned VCS criteria, the validated PD, and the selected methodology (VM0012, v1.2). Aster Global confirms The Nature Conservancy of Canada Darkwoods Forest Carbon Project Monitoring Report (v1.6 dated 16 September 2020) has been implemented in accordance with the original validated PD and the limited PD updates following the baseline revalidation.

Aster Global herein confirms all verification activities – including objectives, scope and criteria, level of assurance, monitoring and project documentation – adhere to the selected methodology (VM0003, v1.2) and VCS Version 4 (and all associated updates) and are complete, as documented in this report. Aster Global concludes without any qualifications or limiting conditions that the Darkwoods Forest Carbon Project meets the requirements of VCS Version 4 to a reasonable level of assurance for the reporting/monitoring period (01-January-2017 to 31-December-2019).

The GHG assertion provided by Darkwoods Forest Carbon Project and verified by Aster Global has resulted in the GHG emission reductions or removals of 806,897 tCO₂ equivalents (CO₂e) by the project during the reporting/monitoring period (01-January-2017 to 31-December-2019). A buffer withholding (76,406 t CO₂e total) was allocated based on the VCS AFOLU Non-Permanence Risk Tool and leading to a VCU issuance of 559,429 t CO₂e.

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1 INTRODUCTION

1.1 Objective

Nature Conservancy Canada (NCC) commissioned Aster Global to conduct the verification and of Greenhouse Gas (GHG) emission reductions for the Darkwoods Forest Carbon Project under the Verified Carbon Standard (VCS), Version 4. The verification objectives were to ensure the project is in conformance with the VCS Program Guide, VCS Standard, and the validated Project Description (PD). Aster Global will assess the GHG emission removals for the AFOLU project, specifically IFM.

The verification objective included an assessment of compliance with VCS Version 4 and all associated updates, the selected methodology (VM0012, v1.2), and the validated Project Description (PD). Aster Global (herein referred to as the Validation/Verification Body – VVB/Verification Team – Audit Team) assessed the Greenhouse Gas (GHG) emission removals for the monitoring period/verification period 01 January 2017 – 31 December 2019 through Agriculture, Forestry and Other Land Use (AFOLU) criteria. The project activities are categorized as; “Improved Forest Management, Logged to Protected Forest” (IFM LtPF); specifically, this project utilizes VM0012 v1.2 within project scope 14: Agriculture, Forestry and other Land Use (AFOLU) Requirements. Aster Global assessed whether the Project Proponent adequately addressed project emissions, unplanned reductions in carbon stocks, and any possible leakage outside of the project boundary.

The non-permanence risk analysis was assessed for this verification. Further, following Section 2.1.2 of the VCS Validation & Verification Manual, V3.2, the objectives of the verification exercise were to evaluate the monitoring report (MR) and assess:

- The extent to which methods and procedures, including monitoring procedures, have been implemented in accordance with the validated project description. This includes ensuring conformance with the monitoring plan.
- The extent to which GHG Emission Reductions or Removals reported in the MR are materially accurate.

1.2 Scope and Criteria

The scope of the verification included the GHG project and baseline scenarios; physical infrastructure, activities, technologies and processes of the GHG project; GHG sources, sinks and/or reservoirs; types of GHGs; and time periods covered. The geographic verification scope is defined by the project boundary, the carbon reservoir types, management activities, growth and yield models, inventory program, and contract periods. The scope of the initial monitoring period was outlined by the Project Proponent and is re-defined as follows for the GHG project:

Baseline Scenario	Market driven logging operation; 15-year depletion of mature timber stocks; 100-year uneven age harvest schedule with typical regional practice of clearcut logging
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Activities/Technologies/Processes	Improved Forest Management, Climate, Community and Biodiversity Benefits, and Sustainable Development Impacts/Benefits utilizing VM0012 and CCB
Sources/Sinks/Reservoirs	Above Ground Tree Biomass (live) Below Ground Biomass Pool (live and dead) Dead Wood Pool Wood Products Pool Combustion of Fossil Fuels by Vehicles / Equipment
GHG Type	CO ₂
Time Period (start date, crediting period, verification period)	Start Date: 01 April 2008 Crediting Period: 100 years Monitoring Period: 2017 -2018 Verification Period: 01 January 2017 – 31 December 2019
Project Boundary	54,870 ha Project area near Creston, BC

1.3 Level of Assurance

The level of assurance is used to determine the depth of detail that the verifier places in the Verification and Sampling Plan to determine if there are any errors, omissions, or misrepresentations (ISO 14064-3:2006). For this VCS verification, Aster Global assessed the project (general principles, data, sampling descriptions, documentation, calculations, etc.) to provide reasonable assurance to meet the project level requirements of the VCS Program. Based on the verification findings, a final evaluation statement reasonably assures that the project GHG representations are materially accurate. The evidence used to achieve a reasonable level of assurance is specified in subsequent sections of this report.

1.4 Summary Description of the Project

The project is an improved forest management project with managed logging within the project boundary to protect the forest. Through payments for ecosystem services generated via the sale of Verified Carbon Units (VCUs), the project proponent (NCC) is able to achieve net GHG emissions reductions and removals through the avoidance of emissions due to commercial logging and forest removal for rural residential development expected in the baseline scenario. As stated in Section 3.4 of the PD, the baseline scenario is based on typical market practices in which an accelerated harvest schedule is implemented in which 300,000 m³ per year will be harvested.

The PD states “the project scenario is conservation management activities, wherein NCC undertakes the carbon project and ecosystem protection and enhancement activities. The project scenario periodically involves a low level of timber removal as part of conservation management activities for ecosystem/habitat enhancement, risk management, and other conservation objectives.” The Darkwoods property is managed for conservation and ecological objectives. The project start date is 01 April 2008, when NCC completed the acquisition of the Darkwoods property. As the start date of the project is 01 April 2008 the previous baseline was applied for emission reductions generated through 31 March 2018. The 10-year baseline was therefore re-validated following AFOLU Requirements Section 3.1.10 at this verification period to quantify emission reductions generated from 01 April 2018- 31 March 2028.

2 VERIFICATION PROCESS

The verification and re-validation of the baseline assessed the Project's compliance with the VCS Version 4 (and all associated updates), the selected methodology (VM0012 v1.2), and the validated PD. The methods employed by Aster Global in the validation and verification process were derived from VCS documents and ISO 14064-3 to develop and implement a Verification & Sampling Plan. This verification assessed the GHG emission removals through Agriculture, Forestry and Other Land Use (AFOLU) criteria, specifically, IFM LTPF activities.

According to the ISO 14064-3, the verification criteria are the “policy, procedure or requirement used as a reference against which evidence is compared”. Therefore, the reported Project results and supporting evidence were assessed for compliance against the following criteria:

- VCS Program Guide (v4. 19 September 2019)
- VCS Standard (v4, 19 September 2019)
- VCS Program Definitions (v4, 19 September 2019)
- AFOLU Non-Permanence Risk Tool (v4, 19 September 2019)
- Program Validation and Verification Manual (v3.2, 19 October 2016)
- VM0012, version 1.2 – Improved Forest Management in Temperate and Boreal Forests, v1.2

A project specific Verification and Sampling Plan was developed to guide the verification auditing process to ensure efficiency and effectiveness. The purpose of the Verification and Sampling Plan is to present a risk assessment for determining the nature and extent of verification procedures necessary to ensure the risk of auditing error is reduced to a reasonable level. Modifications to the Verification and Sampling plan were made based upon the conditions observed in order to detect the processes with highest risk of material discrepancy.

The Verification and Sampling Plan was derived from the verification criteria stated above. Specifically, the sampling plan used the VCS guidance documents and ISO 14064-3.

2.1 Audit Team Composition (*Rules 4.3.1*)

For VCS/CCB verifications, Aster Global maintains an experienced internal staff of Lead Verifiers, in addition to Certified Foresters, Registered Professional Foresters, The Wildlife Society Biologists, Forest Biometricians, Remote Sensing/GIS Specialists, and VCS-approved AFOLU Experts in IFM, REDD, and WRC categories. Aster Global's Project Lead Verifier, a certified forester was onsite conducting the field verification activities. Aster Global completed all calculation/modeling reviews in-house with our team of forest biometricians, GIS/remote sensing specialists, and soil scientist. Aster Global has been involved in 68 VCS verifications and 36 CCB verifications, and more than 10 methodology assessments. Aster Global has a specialist on staff with nine years of CCB experience who handles all CCB components for project review. All Aster Global staff involved in the verification audit have ecological, biodiversity, natural resources and forestry background to fulfill these requirements.

2.2 Method and Criteria

The verification assessed the Project's compliance with VCS Standard Version 4, CCB Third Edition, all associated updates, the selected methodology (VM0012 v1.2), and the validated Project Description (PD) dated 2018 v2.1. The Verification Team assessed the Greenhouse Gas (GHG) emission removals for the monitoring period/verification period (01 January 2017 – 31 December 2019) under the Verified Carbon Standard (VCS) sectoral scope of Agriculture, Forestry and Other Land-Use (AFOLU). The Verification Team assessed whether the Project Proponent adequately addressed project emissions, unplanned reductions in carbon stocks, and any possible leakage outside of the project boundary.

The non-permanence risk analysis was assessed for this verification. The objectives of the verification exercise were to evaluate the MR and assess:

- The extent to which methods and procedures, including monitoring procedures, have been implemented in accordance with the validated project description. This includes ensuring conformance with the monitoring plan.
- The extent to which GHG Emission Reductions or Removals reported in the MR are materially accurate.

The criteria followed the verification guidance documents provided by VCS and CCBA. Unless otherwise indicated, the assessment was performed against the most recent version of the relevant VCS or CCBA guidance document. Please also see Section 1.2 of this report.

In the verification process, there is a risk that potential errors, omissions, and misrepresentations will be found; therefore, a risk-based approach was used to guide the collection of appropriate and sufficient evidence to support a reasonable level of assurance. A risk-based approach means the verification team focused on items that might result in a material misstatement of the reported GHG assertion.

A project specific Verification and Sampling Plan was developed to guide the verification auditing process to ensure efficiency and effectiveness. The purpose of the Verification and Sampling Plan was to present a risk assessment for determining the nature and extent of verification procedures necessary to ensure the risk of auditing error was reduced to a reasonable level. The Verification and Sampling Plan methodology was derived from all items in our verification process stated above. Specifically, the sampling plan utilized the VCS and CCBA guidance documents and ISO 14064-3. Any modifications

applied to the Verification and Sampling plan were made based upon the conditions observed for monitoring to detect the processes with highest risk of material discrepancy. A detailed field plan was developed to guide the verification site visit and is embedded within the Verification and Sampling Plan.

For the field sampling effort, direct measurement, observation, interviews, and review of the monitoring period emission reductions were conducted in key areas determined to be the greatest risk, followed by ground-truthing and review of project activities. Field sampling and techniques were based on the project parameters/scope and best professional judgment of the Verification Team to meet a reasonable level of assurance as directed by the professional judgment of the Lead Verifier.

In addition, a risk-based approach was used for the on-the-ground field sampling effort to select key areas for spot-checking stratification, meetings with RDCs, direct re-sampling of biomass plots, and observation of stated project activities. Please see Section 2.4 of this report for more details.

The desktop verification component included a full review of all project documentation and calculations received from the Project Proponent as described throughout this report.

2.3 Document Review

A detailed review of all project documentation was conducted to ensure consistency with and identify any deviation from VCS program requirements and the applied methodology (VM0012 v1.2).

Initial review focused on the PD and the MR, and included an examination of the project details, implementation status, data and parameters, and quantification of GHG emission reductions and removals. Along with a review of the MR, selected documentation was requested, provided, and subsequently reviewed for consistency, accuracy, and appropriateness with regard to VCS program requirements, methodological requirements, and the validated PD. Documents reviewed include, but are not limited to, land ownership documentation, carbon rights contracts, property boundaries, financial analyses, Non-Permanence Risk Analysis (see Section 3.5 below), maps and aerial images, data from monitoring, biomass and carbon calculation spreadsheets, and responses to Clarifications (CLs). The process of verification involved three formal rounds of assessment by the verification team and resulted in a MR that was in conformance with VCS rules.

Please see Appendix A for a complete list of documents received and reviewed by Aster Global.

2.4 Interviews

Interview and informal discussions were conducted via telephone with project staff throughout the verification. Information reported in the MR was supported through the comments from those interviewed. Meetings included discussions with:

Name	Title
Rob Wilson	Director, Conservation Finance
Adrian Leslie	Darkwoods Site Manager

Terry Droessler	Forest Analytics, LLC
Mike Vitt	Rain Cloud Forests Owner

2.5 Site Inspections

The validation site inspection occurred from 24-26 September 2019. The Project Proponent was interviewed, and the property was toured aerially by helicopter. Field work included direct measurement, observation, additional interviews, and review of stated sustainable development goals of the project. The objective of the field work was to determine key areas of greatest risk, followed by ground-truthing and review of project activities. Field sampling techniques were based on the project parameters/scope and best professional judgment of the Validation Team to meet a reasonable level of assurance as directed by the Lead Validator. Two plots were reproduced to confirm measurement approaches were consistent with project SOP's.

In addition, a risk-based approach was used for the on-the-ground field sampling effort to select key areas for spot-checking stratification, direct re-sampling of assertions, and observation of stated project activities.

2.6 Resolution of Findings

During the verification process, there was a risk that potential errors, omissions, and misrepresentations would be found. The actions taken when errors, omissions, and misrepresentations were found included notifying the client of the issues identified and expanding our review/sample to the extent that satisfied the Lead Validator/Verifier's professional judgment.

This verification involved three (3) formal rounds of assessment by the verification team and resulted in both a PD and MR in conformance with VCS rules. Where findings were noted by the verification team, the Project Proponent implemented corrective actions by amending the PD and MR and supporting documentation/calculations and providing written clarification responses. Types of findings were characterized in the following manner:

Non-Conformance Reports (NCRs) were, in general, issued as a response to material discrepancies when:

- PD, MR, calculations, or other supporting documents were out of conformance with documents listed in Section 2.1 above.
- Additional information was required by the verification team in order to confirm reasonable assurance for compliance.

Clarifications (CLs) were, in general, issued when:

- Internal consistency among sections was lacking.
- Mathematical formulae in sections were presented incorrectly.

- Language within a section needed extra clarification to avoid ambiguity.

Opportunities for Improvement (OFIs) were issued when the MR, calculations, or other supporting documents needed enhanced to benefit the general reader or to aid in the review process of the verification team.

During the course of the verification 64 NCRs, CLs and OFIs were identified. All were satisfactorily addressed by the Project Proponent. These findings provided necessary clarity to ensure the project adhered to the requirements of the VCS for GHG projects. For a complete list of all findings and their resolutions, please refer to Appendix B.

2.6.1 Forward Action Requests

No forward action requests were raised as part of the validation and initial monitoring/reporting period verification.

2.7 Eligibility for Validation Activities

3 ASTER GLOBAL ENVIRONMENTAL SOLUTIONS, INC., HOLDS ACCREDITATION FOR VALIDATION FOR THE RELEVANT AFOLU SECTORAL SCOPE. VALIDATION FINDINGS

Per the Section 3.2.7 of the VCS Standard v4.0, the Darkwoods Forest Carbon Project baseline needs to be re-assessed every 10 years. As a result, the audit team assessed the baseline scenario during this verification and determined that the updates were accurate and appropriate.

3.1 Participation under Other GHG Programs

The Darkwoods Forest Carbon Project is not seeking registration under any other approved GHG programs.

3.2 Methodology Deviations

Methodology Deviation	VCS Standard v4.0 – 3.17.1 ¹	VCS Standard v4.0 – 3.17.2 ²
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¹ 3.17.1 - Deviations from the applied methodology are permitted where they represent a deviation from the criteria and procedures relating to monitoring or measurement set out in the methodology (i.e., deviations are permitted where they relate to data and parameters available at validation, data and parameters monitored, or the monitoring plan).

² 3.17.2 - Methodology deviations shall not negatively impact the conservativeness of the quantification of GHG emission reductions or removals, except where they result in increased accuracy of such quantification. Deviations relating to any other part of the methodology shall not be permitted.

1. Timing of plot remeasurement.	This deviation relates to the monitoring or measurement set out in the methodology.	This deviation does not impact conservativeness because plot remeasurements are still conducted in a timely manner.
2. One plot per AU.	This deviation relates to the monitoring or measurement set out in the methodology.	The audit team confirms that this methodology deviation has no impact on the conservativeness of the quantification of GHG removals because these areas are still represented by forest inventory and tree data.
3. Equation 60b.	This equation has been updated in an errata update to the methodology.	This equation has been updated in an errata update to the methodology.
4. Remeasurement of plots in THLB.	This deviation relates to the monitoring or measurement set out in the methodology.	This deviation has no impact on the conservativeness of the project's quantification of GHG reductions/removals.
5. Harvested wood product calculations.	This methodology deviation is no longer applicable with VM0012 v1.2.	This methodology deviation is no longer applicable with VM0012 v1.2.

3.3 Project Description Deviations (*Rules 3.5.7 – 3.5.10*)

Nine project description deviations are described in the Darkwoods Forest Carbon Project Monitoring report. Of the nine project description deviations, five project description deviations have been assessed and validated in previous verifications. The four new project description deviations were each assessed separately to determine if the deviations impacted:

- The applicability of the methodology.
- Additionality.
- The appropriateness of the baseline/without-project scenario.

The below table identifies each project description deviation that was validated during this verification.

Project Description Deviation as Numbered in Monitoring Report	Applicability of the methodology	Additionality	The appropriateness of the baseline/without-project scenario
1	The switch from the FORECAST and ATLAST models to the FVS-FFE and FPS models has no impact to the applicability of the methodology.	The change in modeling platforms has no impact on additionality.	The change in modeling platforms has no impact on the appropriateness of the baseline scenario.
2	The change in the method for calculating market leakage has no impact on the applicability of the methodology.	This project description has no impact on additionality.	This project description has no impact on the appropriateness of the baseline scenario.
3	The change in the method used to calculate Harvested Wood Products was made to ensure compliance with the new VM0012 v1.2 methodology and has no impact on the applicability of the methodology.	This project description has no impact on additionality.	This project description has no impact on the appropriateness of the baseline scenario.
4	The change in AU regeneration assumptions has no impact on the applicability of the methodology.	This project description has no impact on additionality.	This project description has no impact on the appropriateness of the baseline scenario.

The audit team determined that all new project description deviations are valid. Furthermore, the project remains in compliance with the CCB Version 2 and all VCS rules.

3.4 Minor Changes to Project Description (*Rules 3.5.6*)

There are no minor changes to the project description during this verification period.

3.5 Grouped Project (*G1.13 – G1.15, G4.1*)

This is not a Grouped Project.

4 VERIFICATION FINDINGS

4.1 Public Comments (*Rules 4.6*)

No public comments have been received during this monitoring period..

4.2 Summary of Project Benefits

Section 1 and 1.2 of the MR provide a description of the project benefits. The audit team confirms that project benefits stated in the aforementioned sections were substantiated with verifiable evidence provided by the project proponent.

Outcome or Impact	Achievements during the Monitoring Period	Verification Discussion and Justification
GHG emission reductions & removals	811,110 tCO ₂ e	The Verification Team reviewed the quantification of the GHG removals and reductions and confirms this is accurate.
Improved land management	Net 3,328 ha through avoided harvesting for the project period.	The Verification Team confirms that in comparing the Baseline and Project scenarios 3,328 ha avoided harvesting.
Employment	Total number of people employed in project activities expressed as number of full time employees in 34.	The Verification Team completed meetings and observations during the field visit, which substantiate the total number of employed personnel.
Biodiversity conservation	Number of globally Critically Endangered or Endangered species benefiting from reduced threats as a result of project activities measured against the without-project	The Verification Team reviewed IUCN's RED List of threatened species, in addition to observing several indicators while on-site.

	scenario: 3 IUCN Red-Listed Species and 15 Significant species as risk.	
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4.3 General

4.3.1 Implementation Status (G1.9)

No material discrepancies between the project implementation schedule, the project description, and 10-year baseline revalidation were found.

The MR included an implementation schedule, showing all project activities had begun and are ongoing. During this monitoring period no timber harvesting was undertaken during this period.

A list of methodology deviations was discussed in Section 3.2.

Double counting of emissions credits is avoided through VCS registration.

The project has been implemented as described in the project description.

4.3.2 Risks to the Community and Biodiversity Benefits (G1.10)

The project area was subject to fire, pests, disease and extreme weather during this monitoring period.

Human-induced risks are reduced by controlling access to the site. Natural risks are minimized through regular monitoring by the staff, reports by contractors and others using the property.

The site visit observations confirmed the area affected by fire and that the project area has controlled access. Discussions with NCC staff and BC Forestry Ministry representative satisfied the auditor that mitigation activities are being implemented as described in the validated PDD.

4.3.3 Community and Biodiversity Benefit Permanence (G1.11)

NCC is a well-known conservation organization which purchases important properties and conserves them in perpetuity, which is the project's stated intent in the validated PDD, repeated in the MR.

Conversations with project managers confirmed the intent of conserving the property in perpetuity under the same management.

4.3.4 Stakeholder Access to Information (G3.1- G3.3)

Verifiers reviewed the adaptive management plan, the list of community members and project stakeholders that NCC met with during community meetings, and the Darkwoods Carbon Project website. The verifiers noted that through the Darkwoods Carbon Project website there are links that point stakeholders to the VCS website containing the project documentation. Furthermore, the verifiers confirmed that multiple community meetings were held and that NCC has a large and public presence in Canada making it relatively easy for stakeholders to reach project proponent with concerns.

4.3.5 Stakeholder Consultation (G3.4 – G3.5)

Verifiers reviewed the list of stakeholder meetings that were held during the monitoring period and confirms that substantial effort was undertaken by the project proponent to engage with relevant stakeholders such as local researchers at the West Kootenay Researchers Meeting, local stakeholders at the West Kootenay Researchers Meeting, the general public at the NCC Nature Talk Event, and elected officials at the Regional District of Central Kootenay Rural Affairs Committee.

The MR lists the meetings with stakeholders that took place during the monitoring period. Many of these meetings were with researchers using the property.

Most stakeholders are researchers. Notes and meeting minutes provided to the auditors indicate that these stakeholders have a strong influence on the direction of research on project lands.

The public comment period was publicized on the project proponent's website, with links to the Verra/VCS/CCB. This was confirmed by the auditors.

Most stakeholders are said to have regular, daily internet access, which is very likely the case in southern British Columbia and Alberta. The original plan in the project description was to publicize the comment periods and audits through the internet and this is taking place.

The auditors suggest including additional ways to publicize the comment periods, since a stakeholder would have to peruse the website during the comment period to have the chance to comment in a timely manner.

4.3.6 Stakeholder Participation in Decision-making and Implementation (G3.6)

The monitoring report lists the meetings with stakeholders that took place during the monitoring period. Many of these meetings were with researchers using the property.

Most stakeholders are researchers. Notes and meeting minutes provided to the auditors indicate that these stakeholders have a strong influence on the direction of research on project lands.

The public comment period was publicized on the project proponent's website, with links to the Verra/VCS/CCB. This was confirmed by the auditors.

Most stakeholders are said to have regular, daily internet access, which is very likely the case in southern British Columbia and Alberta. The original plan in the project description was to publicize the comment periods and audits through the internet and this is taking place.

The auditors suggest including additional ways to publicize the comment periods, since a stakeholder would have to peruse the website during the comment period to have the chance to comment in a timely manner.

4.3.7 Anti-discrimination (G3.7)

Training and orientation of NCC employees is governed by the NCC HR policies. The NCC HR handbook was supplied to the auditors, and it includes policies against discrimination for a variety of groups. They

specifically state that they always hire the most qualified candidate and lean on the hiring process to ensure fairness. In light of this policy, the manager of Darkwoods is a local hire.

4.3.8 Stakeholder Feedback and Grievance Redress Procedure (G3.8)

The project proponents reported no conflicts and no grievances during the monitoring period, which was confirmed during conversations and observations during the site visit.

The project area is in a sparsely populated region with few stakeholders. There is little likelihood of conflict with the project activities or objectives, or between stakeholders.

NCC's employment policy is written to accommodate the provincial Employment standards act, outlining employee rights. Employees sign a document indicating they have read and agree with the policy.

Subcontractors also sign an agreement which includes a separate provision requiring compliance with all applicable laws, including employment-related laws. An agreement with a subcontractor was supplied to the auditors as an example.

4.3.9 Worker Relations (G3.9 – G3.12)

Training and orientation of NCC employees is governed by the NCC HR policies. The NCC HR handbook was supplied to the auditors, and it includes policies against discrimination for a variety of groups. They specifically state that they always hire the most qualified candidate and lean on the hiring process to ensure fairness. In light of this policy, the manager of Darkwoods is a local hire.

Specific monitoring training for biomass monitoring takes place before monitoring activities begin, each season, as confirmed by interview with Mike Vitt. Employees are hired for their knowledge and abilities, so extensive training is generally not required. It should be kept in mind that Canada is a highly developed nation, unlike the host nations of many other projects registered with CCBA.

NCC's employment policy is written to accommodate the provincial Employment standards act, outlining employee rights. Employees sign a document indicating they have read and agree with the policy.

Subcontractors also sign an agreement which includes a separate provision requiring compliance with all applicable laws, including employment-related laws. An agreement with a subcontractor was supplied to the auditors as an example.

Risks involved in project activities are no different from the risks of forestry work, in general. NCC contracts mandate a valid "WorkSafe BC" number, which is a program providing training and procedural materials used across the industry.

Researchers and the general public are made aware of risks through a waiver.

Copies of forestry contracts and waivers were provided to the auditors and these claims were confirmed.

4.3.10 Management Capacity (G4.2 – G4.3)

Through interviews with project staff and detailed descriptions of key staff experiences listed in the Non-Permanence Risk Report, the verifiers confirmed that NCC and associated technical experts have the

necessary skills required to implement the project successfully. Specifically, Rob Wilson, Adrian Leslie, and Richard Klafki have significant combined experience in the management of complex natural ecosystems. Furthermore, both Mike Vitt of RainCloud Forests and Terry Droessler of Forest Analytics, LLC have the skills and expertise to provide the necessary quantitative and analytical support for this project.

Verifiers reviewed internal financial statements and associated cash flow analysis that showed the project has secured significant funding to ensure the successful implementation of this project and the audit team notes that the project is cash flow positive at this point.

4.3.11 Commercially Sensitive Information (Rules 3.5.13 – 3.5.14)

No information stated in this report was determined by the project proponent to be commercially sensitive.

4.3.12 Rights Protection and Free, Prior and Informed Consent (G5.1-G5.5)

The project area is owned, fee simple, by NCC and no one lives on it or was living on it at the start of the project. No relocations occurred.

Site visit observations confirm that no one lives on the property. There is no one from whom FPIC must be received.

4.3.13 Legal Status (G5.6)

Identify, discuss and provide conclusions regarding the assurances provided by the project that it is complying with all national and local laws and regulations relevant to project activities and, where relevant, how compliance is achieved.

4.4 Climate

4.4.1 Accuracy of GHG Emission Reduction and Removal Calculations

Aster Global conducted an intensive review of all input data, parameters, formulae, calculations, conversions, statistics and resulting uncertainties and output data to ensure consistency with the VCS Standard, the validated PD, and VM0012 v1.2. Data with associated conversion factors, formulas, and calculations were provided by the project proponent in spreadsheet format to ensure all formulae were accessible for review. The audit team recalculated subsets of the analyses to confirm correctness and assess if data transposition errors occurred to achieve a reasonable level of assurance and to meet the materiality requirements of the project, as required by Section 5.1.3 of the VCS Standard. The project proponent also provided answers to questions on calculations to ensure the verification team understood the approach and could confirm its consistency with VM0012 and the PD.

Aster Global also reviewed a comprehensive assessment of data collection and storage procedures to ensure all opportunities for error in transposition of data between data were minimized.

Uncertainty was assessed as required. The audit team recalculated the statistics independently to confirm the accuracy of the reported precision. The audit team confirmed no confidence deduction was required.

Field data collection utilized appropriate principles of forestry data collection, including appropriate tools and methods. Collected data was handled appropriately, including a structured process for QA/QC. Analysis of collected data used appropriate formulas, conversions, and parameters, supported by scientific literature. Where ranges of parameters exist, or other types of formulaic uncertainty, appropriately conservative values were used in data analysis.

4.4.2 Quality of Evidence to Determine GHG Emission Reductions and Removals

During this verification assessment, the evidence provided by the project proponent was sufficient in both quantity and quality to support the determination of GHG emission removals reported by the project. Throughout the verification, the project proponent demonstrated a commitment toward conservativeness and took all measures appropriate to ensure the reliability of evidence provided.

The threshold for materiality with respect to the aggregate of errors, omissions and misrepresentations relative to the total reported GHG emission reductions and/or removals was met for this project as defined in the Verification Sampling Plan. Materiality is a concept that errors, omissions and misrepresentations could affect the GHG reduction assertion and influence the intended users (ISO 14064-3:2006). As defined by VCS Version 4, the materiality was 5% for this small project.

The evidence provided to determine emission reductions reported in the Monitoring Report included values, notations, units and sources. This evidence has been cross-checked with supplied emission reduction calculation spreadsheets. The procedure for data recording, transfer and final transposition was also verified and found to be in compliance with the monitoring plan outlined in the PD. The verification team confirmed through cross checks that adequate monitoring mechanisms are in place where the required parameters need to be monitored.

Interviews conducted (oral evidence) are outlined in Section 2.3 above, and the final documents received from the Project Proponent supporting the determination of GHG removals can be viewed in Appendix C.

4.4.3 Non-Permanence Risk Analysis

The Monitoring Report utilized the non-permanence risk analysis tool, AFOLU Non-Permanence Risk Tool, to assess risk according to internal risk, external risk, natural risk, and mitigation measures for minimizing risk. The audit team reviewed the Non-Permanence Risk Report following VCS AFOLU Requirements and confirmed that the project adheres to the requirements set out in the VCS AFOLU Non-Permanence Risk Tool. At all levels, the audit team evaluated the rationale, appropriateness, and justifications of risk ratings chosen by the project proponent. Each risk factor was thoroughly assessed for conformance. Any identified NCR and/or CL findings related to the AFOLU Non-Permanence Risk Tool/Report are presented in Appendix B.

The final score was calculated to be 10%. A brief review of each factor is found in the table below:

Risk Factor	Rationale & Quality	Conclusion
Internal Risks		
Project Management	a) 100% native species are used in reforestation. b) Access to the project area is controlled through the use of locked gates at road access points. Additionally, timber harvesting is rare, and no timber theft has occurred in the project area. c) The management team has staff with significant experience in all skills necessary for the successful project implementation d) The management team maintains a presence in Canada and near the project area. e) See C. f) There is an adaptive management plan in place.	A risk rating of -4 is appropriate given the rationale as the management team has demonstrated appropriate qualifications and all statements made are substantiated.
Financial viability	Project proponents provided the verification team appropriate and verifiable documentation to prove that the project's financial resources are available and have been secured. Items presented to the verification team by project proponents give reasonable assurance that the risk rating for financial viability is appropriately set. Values were sourced from reputable sources and calculations were confirmed correct through data checks.	A review of the financial resources has been confirmed so a risk rating of 0 is appropriate.
Opportunity Cost	The project proponent provided a comprehensive NPV analysis. All assumptions and data used in the NPV analysis were verified by the audit team. Confirmation of participating in The Canadian Ecological Gifts Program was verified which was confirmed to be a legally binding commitment to continue management practices that protect the credited carbon stocks. Additionally, the audit team verified that NCC is in a non-profit organization.	The NPV analysis and supporting materials provided were reviewed and appeared appropriate. A risk rating of -12 is appropriate given the rationale provided.
Project Longevity	The verification team reviewed the documentation provided concerning the contracts that have been signed with RDCs and leaseholders, which cover the entire project lifetime of 30 years. As such, the value applied was appropriate.	A risk rating of 0 is appropriate given the rationale provided.

Total Internal Risks		0
External Risks		
Land Tenure	Verifiers confirmed that the entire project area is owned in fee by NCC, no land use disputes exist, and the project area is in a legally binding commitment to continue management practices that protect carbon stocks over the length of the project crediting period. The verifiers reviewed current road use agreements, documentation from the The Canadian Ecological Gifts Program, and title documents.	A risk rating of 0 is appropriate given the rationale provided.
Community Engagement	The verifiers confirmed that there are no communities living within the project area and that there are no communities within 20km who are reliant on the project area.	A risk rating of 0 is appropriate given the rationale provided.
Political Risk	Verification Team confirmed the political risk to be rated correctly for Canada's average governance score from the World Bank of - 1.65	A risk rating of 0 is appropriate given the rationale provided.
Total External Risks		0
Natural Risks		
Natural Risk	The verification team agrees that the a fire rating of "Less than every 10 years" is appropriate as the project is located in the Interior Wet Belt. Furthermore, the project proponent provided scientific support for this assessment using published literature. The verifier agrees with the assessment that potential fire damage is "Insignificant" based on the history of relatively small fires compared to the total project area since the project start date. Additionally, NCC has entered into a fire protection agreement with the B.C. government. Verification Team agrees that the risk of pests and disease in these forests is "insignificant" as the project area is very diverse in terms of species, terrain, and climate. The audit team agrees that "Less than 10 years" is appropriate as there are pests and disease in the area and this is the most conservative	A combined natural risk rating of 1.50 is appropriate given the rationale provided and all statements made are substantiated.

	selection. The project proponent has an adaptive management plan in place that provides tools to manage and prevent pest and disease outbreaks such as harvesting area that are susceptible to outbreaks. The verification team agrees with the ratings of “insignificant” and “less than every 10 years” as the project area is diverse and there is infrequently damage from extreme weather. The project proponent has an adaptive management plan in place that discusses tools for mitigating extreme weather damage such as maintaining road and stream crossing maintenance. The Verification Team agrees with the projects justification for geologic events given the teams experience working in the region.	
Total Natural Risks		1.50
Overall Risk Rating = 1.5% Non-Permanence Risk Rating = 10% (The minimum that a project is allowed to take)		

In summary, project proponents have accounted for risk factors in a reasonable manner and have reached an overall risk rating that encompasses all risks of non-permanence. The project has applied the Non-Permanence Risk Rating of 10% correctly. As required, risk will be reassessed and given risk scores at each verification period.

4.4.4 Dissemination of Monitoring Plan and Results (CL4.2)

The audit team confirmed during the assessment and interviews that the monitoring plan and results were disseminated to the communities and stakeholders as outlined in the validated PD.

4.4.5 Optional Gold Level: Climate Change Adaptation Measures (GL1.3)

N/A

4.4.6 Optional Gold Level: Climate Change Adaptation Benefits (GL1.4)

N/A

4.5 Community

4.5.1 Community Impacts (CM2.1)

It was confirmed during the site visit that the Darkwoods project area is gated private property and no one lives in its vicinity on a year-round basis. Twenty-seven recreational dwellings exist on leased land in an

area called Ty. These leases are not renewed when they expire. No one in this area was affected by project activities during the monitoring period.

A limited number of stakeholders exist who are impacted by project activities, but these impacts are positive or neutral to the stakeholders (road and logging contractors, consultants for inventory and monitoring, backcountry recreational users, researchers and 2 NCC staff members).

As described in the MR, the project zone and general area was found to have a diversified economy and little reliance on the forestry industry. The local people value the natural beauty of the area.

4.5.2 Negative Community Impact Mitigation (CM2.2)

The only foreseeable negative impacts would be to stakeholders outside the project area, who might make money by harvesting more trees. The local people, however, value the natural beauty of the forests and do not depend on timber harvesting for livelihoods.

4.5.3 Net Positive Community Well-being (CM2.3)

As mentioned above, there are almost no local stakeholders. Those that exist have been benefited by project activities which provide opportunities to recreational and scientific users and income opportunities to contractors.

The general area has a diverse economy and the reduction in timber harvesting is considered a benefit by many.

4.5.4 Protection of High Conservation Values (CM2.4)

The only community-related HCV claimed by the project developers is 1.8.4, which is the provision of ecosystem services, including hydrological services for water quantity and quality for watersheds feeding into the Columbia River and Kootenay Lake.

No project activity occurred during the monitoring period that could have harmed these ecosystem services.

4.5.5 Other Stakeholder Impacts (CM3.2-CM3.3)

The only possible negative impact to other stakeholders is the reduction in timber harvesting. Project activities, however, provided some direct economic benefit, in addition to recreational and research opportunities, ecosystem services and climate benefits.

Regional values favor maintaining the area as it is now being managed and the diversified economy of the area is not dependent on timber harvesting operations. On balance, the net impacts of the project on other stakeholders is positive.

4.5.6 Community Monitoring Plan (CM4.1, CM4.2, GL2.2, GL2.3, GL2.5)

Community monitoring amounts to a comparison of economic, social and ecosystem services benefits of the baseline scenario to that of the project scenario for the monitoring period.

The wages of the labor that would have been employed during various parts of timber harvest and processing are compared to wages earned in the project scenario. The projected baseline wages are reasonable in light of current costs.

The value of ecosystem services is mostly not monetized, except for the carbon benefit, which is considerable, using the price of carbon on various markets. As expected, more ecosystem services are derived from the project scenario than the baseline scenario.

Use of the project area is monitoring by counts of research and recreational permits. Use is increasing with time.

Ecosystem services are maintained and protected by the project activities themselves: the drastic reduction in timber harvesting. Desktop review and the site visit indicated no harvesting occurred during the monitoring period and no reduction in ecosystem services occurred, since these services depend on an intact forest.

The community monitoring plan was carried out as described in the validated project description.

4.5.7 Community Monitoring Plan Dissemination (CM4.3)

Monitoring plan dissemination is done via postings on the internet. The monitoring report was posted on the CCB website and both the existence of the monitoring report and comment period was reported on the NCC website.

Various aspects of the items in the monitoring report were discussed at meetings during the monitoring period, which are listed in the report.

The monitoring report was distributed in accordance with the validated project design document.

4.5.8 Optional Gold Level: Short-term and Long-term Community Benefits (GL2.2)

N/A

4.5.9 Optional Gold Level: Smallholder/community member Risks (GL2.3)

N/A

4.5.10 Optional Gold Level: Marginalized and/or Vulnerable Community Groups (GL2.4)

N/A

4.5.11 Optional Gold Level: Net Impacts on Women (GL2.5)

N/A

4.5.12 Optional Gold Level: Benefit Sharing Mechanisms (GL2.6)

N/A

4.5.13 Optional Gold Level: Governance and Implementation Structures (GL2.8)

N/A

4.5.14 Optional Gold Level: Smallholders/Community Members Capacity Development (GL2.9)

N/A

4.6 Biodiversity**4.6.1 Biodiversity Changes (B2.1)**

Biodiversity monitoring occurs every 5 years, in order to see meaningful change. No biodiversity monitoring took place during this monitoring period, which is as scheduled.

Data from the previous monitoring period is provided.

4.6.2 Mitigation Actions (B2.3)

The site visit and discussions with project management indicated that no timber harvests occurred during the monitoring period. Timber harvest is the only project activity that could damage biodiversity-related HCVs, so those values were protected.

4.6.3 Net Positive Biodiversity Impacts (B2.2)

It is not reasonable to expect negative offsite biodiversity impacts from a project that drastically reduces the rate timber cutting, No negative impacts were identified, so no mitigation was needed.

4.6.4 High Conservation Values Protected (B2.4)

The site visit and discussions with project management indicated that no timber harvests occurred during the monitoring period. Timber harvest is the only project activity that could damage biodiversity-related HCVs, so those values were protected.

4.6.5 Invasive Species (B2.5)

Some invasive species were in the project area before the project started. None were introduced by the project.

Invasive species are monitored and sometimes undergo control operations, but no monitoring occurred during this monitoring period. Management noticed no increase in invasive species, according to conversations during the site visit.

4.6.6 Impacts of Non-native Species (B2.6)

N/A

4.6.7 GMO Exclusion (B2.7)

All seeds and seedlings were sourced from the BC Ministry of Forests, Lands and Natural Resources, according to project management. The Ministry's website states that seeds available are not products of genetic engineering or any process that results in a genetically modified organism.

4.6.8 Inputs Justification (B2.8)

No inputs were noted by the project proponent nor identified by the verifier.

4.6.9 Negative Offsite Biodiversity Impacts (B3.1) and Mitigation Actions (B3.2)

It is not reasonable to expect negative offsite biodiversity impacts from a project that drastically reduces the rate of timber harvesting. No negative impacts were identified, so no mitigation was needed.

4.6.10 Net Offsite Biodiversity Benefits (B3.3)

Several IUCN red-list species have been confirmed on the project area in the past and evidence of some of these species was identified while onsite. The project property has considerable importance because of its adjacency to, and connectivity with, three provincial protected areas. It serves as a critical habitat for species which ranges both on and offsite. Additionally, the water quality benefits from reduced soil disturbance improve habitat for offsite aquatic species.

4.6.11 Biodiversity Monitoring Plan (B4.1, B4.2, GL3.4)

Timing of biodiversity monitoring was changed in the NCC property management plan to 5-year intervals, in order to have enough time for meaningful measured changes. There was no formal biodiversity monitoring during this monitoring period.

Informal observations indicate there was no material change in biodiversity from the previous monitoring event.

4.6.12 Biodiversity Monitoring Plan Dissemination (B4.3)

Monitoring plan dissemination is done via postings on the internet. The monitoring report was posted on the CCB website and both the existence of the monitoring report and comment period was reported on the NCC website.

Various aspects of the items in the monitoring report were discussed at meetings during the monitoring period, which are listed in the report.

The monitoring report was distributed in accordance with the validated project design document.

4.6.13 Optional Gold Level: Trigger Species Population Trends (GL3.3)

N/A

4.6.14 Optional Gold Level: Effectiveness of Threat Reduction Actions (GL3.4)

N/A

4.7 Additional Project Implementation Information

N/A

4.8 Additional Project Impact Information

N/A

5 VERIFICATION CONCLUSION

After review of all project information, procedures, calculations, supporting documentation, and the site visit, Aster Global Environmental Solutions, Inc., confirms that the monitoring conducted by The Nature Conservancy of Canada, along with the supporting Monitoring Report, are accurate and consistent with all aforementioned VCS Version 4 and CCB Third Edition criteria, and the selected methodology (VM0012). Aster Global confirms that The Nature Conservancy of Canada Darkwoods Forest Carbon Project Monitoring Report (v1.6 dated 16 September 2020) has been implemented in accordance with the validated PD and updates following the 10-year baseline revalidation. Additionally, as required the baseline was reassessed and was found to be in conformance with all requirements.

Aster Global confirms all verification activities, including objectives, scope and criteria, level of assurance, validated Project Description implementation, and project monitoring report adherence to VCS Version 4 (and all associated updates), and CCB Project Design Standards (Third Edition), as documented in this report are complete. Aster Global concludes without any qualifications or limiting conditions. The Nature Conservancy of Canada Darkwoods Forest Carbon Project Monitoring Report (v1.6 dated 16 September 2020) meets the requirements of VCS Version 4 (and all associated updates) and CCB Project Design Standards (Third Edition) for the verification period/reporting period (VCS/CCB: 01 January 2017 – 31 December 2019; 2 years). In addition, Aster Global asserts that the Project complies with the verification criteria for projects set out in the Third Edition of the CCB Standards to achieve Gold Level Distinction for Climate adaptation and Biodiversity.

The GHG assertion provided by Darkwoods Forest Carbon Project and verified by Aster Global has resulted in the GHG emission reductions or removals of 806,897 tCO₂ equivalents (CO₂e) by the project during the reporting/monitoring period (01-January-2017 to 31-December-2019). A buffer withholding (76,406 t CO₂e total) was allocated based on the VCS AFOLU Non-Permanence Risk Tool and leading to a VCU issuance of 559,429 t CO₂e.

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)	Buffer pool allocation	VCUs eligible for issuance
2017	(21,925)	239,829	(52,351)	261,754	(24,788)	181,419
2018	(50,054)	180,561	(46,123)	230,615	(21,652)	160,024
2019	(72,907)	241,621	(62,906)	314,528	(29,966)	217,816
Total	(144,886)	662,011	(161,380)	806,897	(76,406)	559,259

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APPENDIX A: LIST OF DOCUMENTS RECEIVED AND REVIEWED

Documents	Date Received
Darkwoods Carbon PSP Plot Remeasurement SOP 2016 v1.0.pdf	6/8/2016
Darkwoods Carbon PSP Plot Remeasurement SOP 2016 v1.0.pdf	6/8/2016
Equivalent Clearcut Area as an Indicator of Hydrologic Change in Snow-dominated Watersheds of Southern British Columbia BMMOF 2017.pdf	9/13/2019
2019_Darkwoods_Plot_Remeasurement_12 PLOTS.xls	9/19/2019
2019_Darkwoods_Plot_Remeasurement_12 PLOTS.xls	9/19/2019
Darkwoods Plot Location Data.cpg	9/19/2019
Darkwoods Plot Location Data.dbf	9/19/2019
Darkwoods Plot Location Data.prj	9/19/2019
Darkwoods Plot Location Data.qpj	9/19/2019
Darkwoods Plot Location Data.shp	9/19/2019
Darkwoods Plot Location Data.shx	9/19/2019
Darkwoods Plot Location Data.cpg	9/19/2019
Darkwoods Plot Location Data.dbf	9/19/2019
Darkwoods Plot Location Data.prj	9/19/2019
Darkwoods Plot Location Data.qpj	9/19/2019
Darkwoods Plot Location Data.shp	9/19/2019
Darkwoods Plot Location Data.shx	9/19/2019
Darkwoods Property Boundary.cpg	9/19/2019
Darkwoods Property Boundary.dbf	9/19/2019
Darkwoods Property Boundary.prj	9/19/2019
Darkwoods Property Boundary.qpj	9/19/2019
Darkwoods Property Boundary.shp	9/19/2019
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Darkwoods Property Boundary.prj	9/19/2019
Darkwoods Property Boundary.qpj	9/19/2019
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Darkwoods Property Boundary.shx	9/19/2019
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Darkwoods Roads.qpj	9/19/2019
Darkwoods Roads.cpg	9/19/2019
Darkwoods Roads.prj	9/19/2019
Darkwoods Roads.qpj	9/19/2019
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Darkwoods Waterbodies.dbf	9/19/2019
Darkwoods Waterbodies.prj	9/19/2019
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Darkwoods Waterbodies.shx	9/19/2019
Darkwoods 2018 Burn Severity.cpg	9/19/2019
Darkwoods 2018 Burn Severity.prj	9/19/2019
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Darkwoods 2018 Burn Severity.cpg	9/19/2019
Darkwoods 2018 Burn Severity.prj	9/19/2019
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Darkwoods 2018 Burn Severity.dbf	9/19/2019
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Darkwoods AU Mapping.qpj	9/19/2019

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2019 Remeasured Plots (unverified).shx	9/19/2019
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Darkwoods 20m Contours.qpj	9/19/2019
Darkwoods 20m Contours.cpg	9/19/2019
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Darkwoods 20m Contours.dbf	9/19/2019
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Darkwoods 20m Contours.shx	9/19/2019
Darkwoods 20m Contours.dbf	9/19/2019
Darkwoods 20m Contours.shp	9/19/2019
Darkwoods 20m Contours.shx	9/19/2019
Darkwoods_CCB_VCS_Monitoring_Report_2017-2018.pdf	9/20/2019
Auditor Shared Files - 2017-18 VCS_CCB.zip	9/20/2019
2019_Darkwoods_Plot_Remeasurement_12 PLOTS.xls	1/9/2020
Darkwoods Carbon PSP Plot Remeasurement SOP 2016 v1.0.pdf	1/9/2020
Darkwoods_CCB_VCS_Monitoring_Report_2017-2018.pdf	1/9/2020
Darkwoods 20m Contours.cpg	1/9/2020
Darkwoods 20m Contours.dbf	1/9/2020
Darkwoods 20m Contours.qpj	1/9/2020
Darkwoods 20m Contours.shx	1/9/2020
Darkwoods 2018 Burn Severity.cpg	1/9/2020
Darkwoods 20m Contours.prj	1/9/2020
Darkwoods 20m Contours.shp	1/9/2020

Darkwoods 2018 Burn Severity.prj	1/9/2020
Darkwoods 2018 Burn Severity.qpj	1/9/2020
Darkwoods 2018 Burn Severity.shx	1/9/2020
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Darkwoods AU Mapping.dbf	1/9/2020
Darkwoods AU Mapping.prj	1/9/2020
Darkwoods 2018 Burn Severity.shp	1/9/2020
Darkwoods AU Mapping.qpj	1/9/2020
Darkwoods AU Mapping.shx	1/9/2020
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Darkwoods Property Boundary.dbf	1/9/2020
Darkwoods Property Boundary.prj	1/9/2020
Darkwoods 2018 Burn Severity.dbf	1/9/2020
Darkwoods Property Boundary.qpj	1/9/2020
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Darkwoods Property Boundary.shx	1/9/2020
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Darkwoods Streams.prj	1/9/2020
Darkwoods Streams.dbf	1/9/2020
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Darkwoods Streams.qpj	1/9/2020
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Darkwoods Roads.qpj	1/9/2020
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Darkwoods Plot Location Data.prj	1/9/2020
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2019 Remeasured Plots (unverified).shx	1/9/2020
Darkwoods SD-VISa-PDD-v1.0.docx	1/13/2020
SDV_MON_REP_ENG_DRAFT_607_01JAN2017_31DEC2018.pdf	1/13/2020
2017-18 MR Risk Assessment.zip	1/20/2020
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APPENDIX B: CL/NCR/OFI REQUESTS

Item Number	1
VCS AFOLU Non-Permanence Risk Tool, Version 4.0 19 September 2019 (Description)	b) Ongoing enforcement to prevent encroachment by outside actors is required to protect more than 50% of stocks on which GHG credits have previously been issued.
Evidence Used to Assess	Darkwoods_2017-2018_VCS-Risk-Report-Calculation-Tool-v4.0
Findings - Round 1	Property encroachment and timber theft is very rare regionally. Project area is controlled with locked gates on road access points; however, there is no guidance on how traffic through the inholding is managed.
Round 1 NCR/CL/OFI	CL: Given the inholding in the property that is actively being harvested, how is line clearly demarcated from the protected forest area? Is there a publication showing levels of timber theft in this area?
Round 1 Response from Project Proponent	The inholding property was previously owned by Wyndell Box Company, a reputable local company with no risk of timber theft. NCC has had an excellent working relationship with this company during the entire project period. Further, BC utilizes a set of registered timber marks that track logs and strongly reduce the risk of commercial timber theft; and finally, NCC controls the access roads into the inholding property, which further reduces the risk of timber theft. More pointedly, no harvesting was undertaken in this 2017-2019 monitoring period.. In 2018 NCC acquired this property, but it is not yet included in the Darkwoods carbon project area.
Findings - Round 2	The audit team reviewed the project proponents response and understands that NCC controls the access roads to the inholdings in the property and confirms that this satisfies this risk criteria.

Item Number	2
VCS AFOLU Non-Permanence Risk Tool, Version 4.0 19 September 2019 (Description)	c) Management team does not include individuals with significant experience in all skills necessary to successfully undertake all project activities (ie, any area of required experience is not covered by at least one individual with at least 5 years experience in the area).
Evidence Used to Assess	Darkwoods_2017-2018_VCS-Risk-Report-Calculation-Tool-v4.0 Darkwoods Monitoring Report CCB Version 2, VCS Version 3

Findings Round 1	- Risk report states management team has the significant experience in all skills necessary to successfully undertake all project activities. Greater detail is needed so that a reader with less knowledge of the project staff can confirm they have the appropriate skills to achieve this score.
Round 1 NCR/CL/OFI	CL: The risk report provides background for forestry and carbon project development skills but states "Other team members exceed this level of experience in biology, forestry, and conservation". Please provide specific details demonstrating the experience for persons fulfilling these skillsets.
Round 1 Response from Project Proponent	Adrian Leslie is the on-site Project Manager, and is a Registered Professional Biologist with the College of Applied Biology in BC, has a Diploma in Forestry, a Degree in Natural Resource Science and a Master's Degree in Natural Resource Management. He has over 15 years of experience in the natural resource sector in Forestry, Research, Restoration and Conservation. Richard Klafki is the Canadian Rockies Program Director and is responsible for directing and managing conservation projects in the expansive Canadian Rockies Eco-Region, including Darkwoods. Richard is a Registered Professional Biologist with the College of Applied Biology in BC and has a BS in Wildlife Biology from the University of Northern British Columbia and has completed his MS in Environmental Science at Thompson Rivers University. He has 20 years of experience providing services for a variety of wildlife and habitat projects across western Canada, including habitat enhancement, ecosystem restoration, and species-at-risk assessments. Mike Vlitt is the Principle at RainCloud Forests, and has BSc in Forestry from the University of Alberta and an MBA from Washington University in St. Louis. He has over 25 years experience in forest planning and operations, and over 10 years of carbon project development experience. He has led the development of the VCS VM0012 Methodology, along with 6 project validations in VCS, CCB, and SDVista, 10 project verifications under VCS, CCB, and SDVista. Terry Droessler is the Principle at Forest Analytics, LLC, and has a Ph.D in Forest Biometrics. He has over 30 years of experience in quantitative natural resource analysis, including the extensive use of forest models such as FPS and FVS. This same information has been added to the Risk Report - now v1.2.
Findings Round 2	- The audit team confirms that the management team has significant experience and all skills necessary to undertake all project activities but notes that the project proponent has not added this additional clarifying language to the Non-permanence risk report. (08012020)
Round 2 NCR /CL/OFI	CL :Please add the clarifying statements from this finding to the Non-Permanence Risk Report.
Round 2 Response from Project Proponent	The previously provided Non-Permanence Risk Report v1.2 includes this staff experience description on page 3. This is maintained in the new version 1.3 of document due to other findings.

Final Findings	The audit team confirms that the appropriate language has been added to the Non-permanence risk report. This criteria is satisfied. No further action is needed (09042020)
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Item Number	3
VCS AFOLU Non-Permanence Risk Tool, Version 4.0 19 September 2019 (Description)	f) Mitigation: Adaptive management plan in place.
Evidence Used to Assess	Darkwoods_2017-2018_VCS-Risk-Report-Calculation-Tool-v4.0
Findings - Round 1	The risk report states that NCC has an adaptive management plan in place called Darkwoods Conservation Area Property Management Plan. A copy of the Darkwoods Conservation Area Property Management Plan could not be located in the project files provided to date.
Round 1 NCR/CL/OFI	CL: Please provide a copy of the Darkwoods Conservation Area Property Management Plan so that the verifier can confirm the adaptive elements are still in place. CL: Is there documentation that shows how often management plans are updated as the previously mentioned management plan expires in 2020.
Round 1 Response from Project Proponent	The latest PMP plan has previously been provided. in the VCS_CCB Round 1 Findings Responses & Support folder - "Darkwoods Property Management Plan 2016-2020.pdf". The 5 year renewal is NCC internal policy, and is stated in the PD and MR documents.
Findings - Round 2	The audit team reviewed the PMP, PD, and MR and confirms 1:an adaptive management plan is in place, 2:both the PD and MR confirm that the PMP is updated every 5 years. This criteria is satisfied. No further action is needed(08012020).

Item Number	4
VCS AFOLU Non-Permanence Risk Tool, Version 4.0 19 September 2019 (Description)	a) NPV from the most profitable alternative land use activity is expected to be at least 100% more than that associated with project activities; or where baseline activities are subsistence-driven, net positive community impacts are not demonstrated

Evidence Used to Assess	Darkwoods_2017-2018_VCS-Risk-Report-Calculation-Tool-v4.0
Findings Round 1	The audit team reviewed the NPV analysis and noted that cells L24, M24, and N24 are blank. The audit team backed out the number of VCUs based on the Carbon Revenue and Carbon Price and found that based on the revenue and price numbers over 800,000 VCUs were sold in 2017, 180,000 VCUS in 2018, and 380,000 VCUs in 2019. These numbers differ from the VCU values reported for the respective years in the Monitoring Report. Additionally, the audit team was unable to locate verifiable evidence that demonstrates how many VCUs were sold for the current verification period.
Round 1 NCR/CL/OFI	CL: Please correct the NPV analysis to include the number of VCUs sold for years 2017-2019. CL: Please provide verifiable evidence of credit sales.
Round 1 Response from Project Proponent	#1 - The NPV analysis has been updated. #2 - Evidence of credit sales has already been provided (a complete list of buyers and VCU's; NCC internal confidential document): VCS_CCB Round 1 Findings Response & Support folder. Subfolder G.11 (Confidential).
Findings Round 2	The audit team confirms that a NPV analysis has been provided that contains the number of credits sold for years 2017,2018, and 2019. However, the number of credits sold as stated in the Darkwoods Carbon Financial Modeling 2019 v1.1 spreadsheet do not match the yearly totals of credits sold in the Carbon Sales Update - Completed To Date - as of January 25, 2020 spreadsheet that was previously provided to the audit team. Based on the credit sales provided there were 101,190 VCUs sold in 2017, 163,203 in 2018, and 563,593 in 2019. (08012020)
Round 2 NCR /CL/OFI	CL: Please update the NPV analysis to accurately reflect the number of actual VCUs that were sold for 2017,2018,2019.
Round 2 Response from Project Proponent	Previously the NPV analysis utilized the issued VCU's as a proxy for actual sales. However, the 2017-19 volumes have been updated to actual sales volumes as requested in v1.2
Final Findings	The audit team confirms that the appropriate number of VCUs actually sold is used in the NPV analysis. A risk score of 0 is conservative and appropriate This criteria is satisfied. No further action is needed. (09042020)

Item Number	5
VCS AFOLU Non-Permanence Risk Tool, Version 4.0 19 September 2019	g) Mitigation: Project proponent is a non-profit organization

(Description)	
Evidence Used to Assess	Darkwoods_2017-2018_VCS-Risk-Report-Calculation-Tool-v4.0
Findings - Round 1	The risk report states "NCC is a non-profit organization. Evidence of non-profit status must continually be provided to ensure it is still accurate."
Round 1 NCR/CL/OFI	CL: Please provide documentation of NCC's non-profit status.
Round 1 Response from Project Proponent	NCC is listed as a Registered Charity on the Canada Revenue Agency ("CRA") website: https://apps.cra-arc.gc.ca/ebci/hacc/srch/pub/dsplyBscSrch?request_locale=en . Search for "Nature Conservancy of Canada" on the Charity Name line, and information on NCC's non-profit charitable status will be confirmed.
Findings - Round 2	The audit team confirmed that NCC is indeed a registered non-profit (08012020). This criteria has been satisfied. No further action is needed.

Item Number	6
VCS AFOLU Non-Permanence Risk Tool, Version 4.0 19 September 2019 (Description)	h) Mitigation: Project is protected by legally binding commitment (see Section 2.2.4) to continue management practices that protect the credited carbon stocks over the length of the project crediting period
Evidence Used to Assess	Darkwoods_2017-2018_VCS-Risk-Report-Calculation-Tool-v4.0
Findings - Round 1	The Darkwoods Risk Assessment states that the Darkwoods project is part of the Canadian Ecological Gifts Program which is a legally binding agreement to continue conservation management on the property in perpetuity.
Round 1 NCR/CL/OFI	CL: Please provide a copy of the this agreement.
Round 1 Response from Project Proponent	The Darkwoods Ecogift Certification has been provided.
Findings - Round 2	The audit team review the Darkwoods Ecogift Certification and confirms that the Darkwoods project is enrolled in the Canadian Ecological Gifts Program. This criteria is satisfied. No further action is needed.(08012020).

Item Number	7
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VCS AFOLU Non-Permanence Risk Tool, Version 4.0 19 September 2019 (Description)	b) With legal agreement or requirement to continue the management practice = 30 - (project longevity/2)
Evidence Used to Assess	Darkwoods_2017-2018_VCS-Risk-Report-Calculation-Tool-v4.0
Findings - Round 1	Risk report states "Project longevity is 100 years". No evidence of the legally binding agreements/conservation easements for each parcel have been provided as evidence which is required by the risk tool.
Round 1 NCR/CL/OFI	CL: Please provide the conservation easements or other formal legally binding agreements for the currently enrolled parcels.
Round 1 Response from Project Proponent	All fee-simple parcels in the project were partially donated to NCC via the the Canadian Ecological Gifts Program. This program is referenced in section 207.31 of The Government of Canada Income Tax Act (https://laws-lois.justice.gc.ca/eng/acts/I-3.3/page-233.html?txthl=ecological#s-207.31) which describes that if the property is sold or there is a change in use of the property (such as not being used for conservation), NCC would be required to pay a tax equal to 50% of the fair market value of the property. In the case of Darkwoods, it was valued at over \$100 million dollars in 2008, indicating a penalty of at least \$50 million dollars if the property was no longer used for conservation. Additionally, the Nature Conservancy of Canada is the leading land conservation organization in Canada with over 50 years of proven history of land conservation with a mandate to conserve fee-simple properties in perpetuity.
Findings - Round 2	The audit team review the Darkwoods Ecogift Certification and confirms that the Darkwoods project is enrolled in the Canadian Ecological Gifts Program. This criteria is satisfied. No further action is needed.(08012020).

Item Number	8
VCS AFOLU Non-Permanence Risk Tool, Version 4.0 19 September 2019 (Description)	a) Ownership and resource access/use rights are held by same entity(s)
Evidence Used to Assess	Darkwoods_2017-2018_VCS-Risk-Report-Calculation-Tool-v4.0

Findings Round 1	-	The Darkwoods Risk Assessment states that the entire Darkwoods project area is held in Fee simple by NCC, a single entity. Evidence supporting this statement must be provided at each verification.
Round 1 NCR/CL/OFI		CL: Please provide a title demonstrating the ownership of the Darkwoods Project Area.
Round 1 Response from Project Proponent		The title documentation has been provided:
Findings Round 2	-	The audit team reviewed the titling documents and confirms that the ownership and access/resource rights are held by NCC. This criteria is satisfied. No further action is needed (08012020).

Item Number	9	
VCS AFOLU Non-Permanence Risk Tool, Version 4.0 19 September 2019 (Description)	d) There exist disputes over access/use rights (or overlapping rights)	
Evidence Used to Assess	Darkwoods_2017-2018_VCS-Risk-Report-Calculation-Tool-v4.0	
Findings Round 1	-	The Darkwoods Risk Assessment states that that NCC holds various mutual road use agreements with adjacent landowners and that no disputes exist.
Round 1 NCR/CL/OFI		CL: Please provide mutual use road agreements that pertain to the Darkwoods Project Area.
Round 1 Response from Project Proponent		Two example road use agreements are provided: Porcupine Creek Road use permit from MOF and Huscroft_Topaz road use agreement.
Findings Round 2	-	The audit team reviewed the road use agreements provided by the project implementation team and noted that only two mutual road use agreements are provided. Furthermore, the Huscroft_Topaz road agreement appears to be expired as of November 23,2014 (08012020).
Round 2 NCR/CL/OFI		CL:Please provide all road use agreements that pertain to the project area. Additionally ensure that all provided road-use agreements are current as it appears it is necessary to update the Huscroft_Topaz road agreement.
Round 2 Response from Project Proponent		All road use agreements have been provided, as have the eaements allowing access through private property to Darkwoods, and the permits from the Ministry of forests to use the Forest Service Roads. The agreement with Huscroft that covers the more recent time period has been provided.

Final Findings	The audit team reviewed the submitted RUAs and confirms that these additional agreements provide enough information for the audit team to reach a reasonable level assurance that there are no existing disputes over land use or access rights. This criteria is satisfied. No further action is needed (09042020)
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Item Number	10
VCS AFOLU Non-Permanence Risk Tool, Version 4.0 19 September 2019 (Description)	a) Fire (F)
Evidence Used to Assess	Darkwoods_2017-2018_VCS-Risk-Report-Calculation-Tool-v4.0
Findings - Round 1	There is no conversion of hectares burned to estimated loss of carbon stocks. The Darkwoods Risk Analysis states that within the last ten years (2008-2018) 2630ha burned which is <10% of the total property area. The Risk Analysis states and supports with scientific evidence that the diverse set of site conditions reduces the risk of catastrophic fires. The primary forest types within the project area have fire return intervals longer than 100 years. With regards to mitigation, NCC has a fire protection agreement with the B.C. government and cites that harvesting activities in the management plan that are undertaken to reduce fire hazard.
Round 1 NCR/CL/OFI	CL: Please provide a conversion of the number of acres burned to total carbon loss. CL: Please provide a copy of the property's management plan and highlight the activities that are laid out to reduce fire hazard. CL: Please provide a copy of the fire protection agreement with the BC government.
Round 1 Response from Project Proponent	1. The impact of fire on carbon stocks is modeled by the fire functions in FVS-FFE on a polygon basis, using fire severity mapping from the BC MOF. Therefore the emissions are variable based on burn area, severity, and stand carbon content (and also time - FVS-FFE models mortality and other stand changes from fire, so some emissions impacts are immediate, some delayed). That said, in 2018, in the project scenario, the actual immediate fire emissions were 18,101 tC on 2,447 ha = 7.4 tC/ha. In total these emissions were 0.337% of the total ecosystem C in that year. 2. The Property Management Plan has been provided. Conservation Action 1.2.1 on page 27 is to: Maintain Fire Management Agreement with Province to ensure conservation values are protected from catastrophic forest fire while promoting low severity fires where appropriate. 3. The Wildfire Response Agreement with the BC Wildfire Service has been provided.

Findings Round 2	- The audit team confirms that only 2,630 ha of land were burned from 2008-2018 and understands that FVS-FFE is used to model carbon losses due to fire. Using these values, the audit team confirms that a risk score of 2 for Losses is appropriate. The audit reviewed the PMP and the Wildfire Response Agreement with BC and confirms that this agreement is in place and current and that it is the intention of the project proponent to continuously renew this agreement. No further action is needed 08012020.
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Item Number	11
VCS AFOLU Non-Permanence Risk Tool, Version 4.0 19 September 2019 (Description)	b) Pest and Disease Outbreaks (PD)
Evidence Used to Assess	Darkwoods_2017-2018_VCS-Risk-Report-Calculation-Tool-v4.0
Findings Round 1	- The Risk Report cites high level of biodiversity within the Darkwood Project area as a mitigating factor against large pest outbreaks. The report also cites that during the MPB outbreak <0.07% of the Darkwoods property suffered > 50% mortality.
Round 1 NCR/CL/OFI	CL: Please provide scientific evidence related to the first two paragraphs in the Darkwoods Risk Report section 3.1.4.

Round 1 Response from Project Proponent	The risk report references several documents within this section, with a primary source being the publication of Wong, 2003. Online here: https://www.for.gov.bc.ca/hfd/pubs/docs/lmh/Lmh53.pdf The BC MOF maintains an annual forest health monitoring program, the reports of which can be found here: https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/forest-health/aerial-overview-surveys/summary-reports The 2019 report is here (Darkwoods sits within the Kootenay Lake TSA area): https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/forest-health/forest-health-docs/2019_south_area_forest_health_conditions_report.pdf Darkwoods annually monitors the property by helicopter overflight in addition to on the ground work. To date, other than the mountain pine beetle outlined in prior MR's in detail, no pest/disease outbreak over 4 ha has been recorded in the forest inventory layer, although individual tree/groups have been noted from various pest/disease sources. These individual tree impacts are included in VRI inventory development (from 2011), and also modeled as endemic mortality in FVS-FFE. In sum, the species and terrain diversity in Darkwoods, along with various ecological conditions, provides a highly diversified ecosystem which mitigates pest and disease risk, which can be seen in these various data sources.
Findings Round 2	- The audit team reviewed the reference materials provided by the project proponent and confirms that this risk score is appropriate. This risk score is appropriate. No further action is needed. (08012020)

Item Number	12
VCS AFOLU Non-Permanence Risk Tool, Version 4.0 19 September 2019 (Description)	c) Extreme Weather (W)
Evidence Used to Assess	Darkwoods_2017-2018_VCS-Risk-Report-Calculation-Tool-v4.0
Findings Round 1	- There have been no carbon stock effects due to extreme weather within the last 10 years and there has not been significant damage to the property due to extreme weather events.
Round 1 NCR/CL/OFI	CL: Please provide evidence demonstrating proven history of effectively containing natural risk.

Round 1 Response from Project Proponent	The DW property is visually surveyed by helicopter annually, along with ongoing staff and researcher presence across the property periodically. Any extreme weather related events are noted and the GIS data layers updated if >4ha (<4ha being de minimis and below the forest inventory target minimum polygon size). There have been no extreme weather or other natural risks noted during the project duration. See also Finding 10, 11. There is no further evidence available, as no events have been recorded.
Findings Round 2	- The audit team notes that there have been no carbon losses due to extreme weather within the last 10 which confirms an appropriate risk score of "Insignificant" losses occurring "Less than every 10 years". The audit team notes that a tracking system is in place to track losses due to extreme weather; however, the project proponent has provided no evidence that actual mitigation measures to protect from extreme weather are in place (08012020).
Round 2 NCR /CL/OFI	CL: Please provide evidence that mitigation measures are in place or change the mitigation risk score.
Round 2 Response from Project Proponent	Additional explanatory text on extreme weather mitigation has been added to the non-permanence risk report, section 3.1.9.; now v1.3. No change to the risk score has been made.
Final Findings	The audit team confirms that additional support of this risk score has been provided. This item is closed. No further action is needed. (09042020)

Item Number	13
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	7. Projects that can demonstrate there will be no activity shifting to other lands owned or managed by project proponents outside the project boundary at the beginning of the project (within the first year of the project start date)2; and,
Evidence Used to Assess	PD Section 3.2
Findings Round 1	- Although the PD states that "NCC can demonstrate baseline activities are not being shifted to other conservation land holdings." The audit team was unable to locate verifiable evidence that demonstrates that the Darkwoods Project meets this criteria.

Round 1 NCR/CL/OFI	CL: Please provide verifiable evidence that the Darkwoods project meets this criteria.
Round 1 Response from Project Proponent	See Findings 33 and 34.
Findings Round 2	- After review of Findings 33 and 34, the audit team understands that NCC does not allow commercial timber harvesting to be conducted on land that are owned in fee (08012020). This criteria is satisfied. No further action is needed.

Item Number	14
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	The project boundary is to be defined by the project proponent with maps and legal land descriptions. Such properties may be contiguous or separate properties if they are located within a similar region and forest condition.
Evidence Used to Assess	PD, GIS Files, MR
Findings Round 1	- The audit team reviewed the project boundary and AU boundary shapefiles and noted that these boundaries do not align. More specifically, the boundaries of these two different shapefiles are not "snapped" together. It is the expectation of the audit team that the VCS principle of conservativeness will be employed where there are boundary discrepancies. Both the PD and MR state that the project area is 54,870 ha; however, upon review of the GIS files, the audit team noted a different value, specifically the property area is 54,569 ha. The audit team noted substantial discrepancies between the size of each AU between the DWI_Carbon_VRI_BSL_Re-join_4ALL worksheet, the GIS shapefiles provided, and Table 13 in the PD.

Round 1 NCR/CL/OFI	CL: Please ensure that the property boundary and boundaries of the AUs are the same to ensure the calculation of the area of AU's and the total project area are correct. NCR: Please update the PD and MR to reflect the true project area totals. Additionally update downstream calculations where the project area is used. If the PD and MR reflect the true project area size then please provide an updated set of GIS files that demonstrates the true size of the project area. NCR: Please clarify the true size of each AU and ensure that the size of each AU is accurately reflected in the PD, MR, relevant worksheets, and shapefiles.
Round 1 Response from Project Proponent	The boundary file area totals 54869.145 ha. This is the boundary file provided in KML form to Verra as part of project documentation and has been retained as the project boundary. The Baseline Scenario polygons "DW_Carbon_VRI_Baseline_Re-Join4_Final.xls" total 54870.4 ha The Project Scenario polygons "DW_Carbon_VRI_Project_2018...Join4w2018Firew/Plots.xls" total 54870.4 ha The 2 carbon datasets are exact. The boundary polygon is different by 1.255 ha or 0.0023%, which is immaterial and de minimis. In reality is likely related to small slivers and GIS inaccuracies that have built up over the years in the databases. Because this is an immaterial amount and difficult to locate and modify without substantial effort, area has been retained as reported in the documentation as 54,870 ha, and no changes to the carbon modeling or polygon areas has been undertaken. The project intends to update the forest inventory (likely to LiDAR based inventory) in ~2020-2021, and be likely updating stand polygons across the landbase, and will endeavor to clean up any small slivers and minor polygon inaccuracies in the database and boundary line (if applicable) during that process, as part of the verification of those periods. The AU tables in the PD and MR have been confirmed to match the PRJ and BSL datasets by area.
Findings - Round 2	The audit team notes that the GIS files are allowable at this time as the minor shapefile topological issues can be addressed in the future and do not materially affect quantification. The audit team reviewed the Access Databases and confirmed the correct area of each AU. The audit team also reviewed the updated PD and MR and confirms that the AUs are correct. This item is closed. No further action is needed (08062020).

Item Number	14
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VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	Realistic and credible baseline scenarios must be based on verifiable information sources such as local or regional land, harvest, or inventory records, observable comparable regional property evidence, formal property appraisals, financial modeling compared against typical published regional industry market return rate targets, regional stakeholder feedback, accredited or certified professionals (i.e. registered professional foresters, etc.) within the regional relevant industry, and other reasonable information sources provided in a manner consistent with typical regional considerations and practices.
Evidence Used to Assess	PD Section 3.4
Findings - Round 1	Although there was some information provided in Section 3.4, the audit team would like to verify other additional information relevant to the establishment of the baseline scenarios.
Round 1 NCR/CL/OFI	CL: Please provide evidence that supports that the baselines scenarios used in the PD are "realistic and credible". This evidence could include "local or regional land, harvest, or inventory records, observable comparable regional property evidence, formal property appraisals, financial modeling compared against typical published regional industry market return rate targets, regional stakeholder feedback, accredited or certified professionals (i.e. registered professional foresters, etc.) within the regional relevant industry, and other reasonable information sources provided in a manner consistent with typical regional considerations and practices."

Round 1 Response from Project Proponent	There have been no material changes to the BC Private Managed Lands Act and related practices as seen across the region for private land logging. The practice of "liquidation" logging is still realistic and credible based on observable evidence in adjacent forested properties and supported by recent reporting from regional media. A newspaper report from Fernie (a nearby community in the East Kootenay) from Feb 27, 2019 describes the lack of regulations around logging on private land and the resulting practice of large scale clearcut logging (https://www.e-know.ca/regions/elk-valley/fernie/city-seeks-change-to-private-land-logging-regulations/). A newspaper article from the Nelson Star from June 18, 2018 describes private land logging around Nelson by a well known investor with a long history of buying large tracts of private land, logging it completely, and then selling it (https://www.nelsonstar.com/news/unregulated-private-land-logging-continues-near-nelson-at-cottonwood-lake/). We have also provided two screenshots from Google Earth (Hidden Creek 2009 and 2020) showing a piece of private property in 2009 before it was sold to the Nelson Land Corporation and another after it was logged in 2019; along with satellite imagery of the adjacent Porcupine Creek property showing the near total clearcut on several thousand acres over the past few years. The baseline harvest of 800-1200 ha per year is scatter across the property and is visually comparable to harvesting on nearby crown lands on Google Earth as well in terms of annual impacts.
Findings Round 2	- The audit team reviewed the provided articles, links and the report by Thrower and Orr-Ewing 2007. In totality these documents support the assertion that that the selected baseline consistent regional considerations and practices (08032020)

Item Number	15
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	2c.1 Generates the most financial attractive return on investment from forest product returns using the assessment process outlined in Step 2 Option II and/or Option III in the most recent version of the VCS Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities; and,
Evidence Used to Assess	PD Section 3.4

Findings Round 1	-	The audit team reviewed the intuitive explanation of the differences in financial returns between the "market driven acquire" and "sustainable yield harvesting regime". In Section 3.4 the PD states "Further analysis details available within the file "Darkwoods Carbon Model - Baseline Valuations" which is available to the auditors".
Round 1 NCR/CL/OFI		CL: Please provide the "Darkwoods Carbon Model - Baseline Valuations" for review by the audit team.
Round 1 Response from Project Proponent		The file has been provided.
Findings Round 2	-	The audit team reviewed the Baseline valuation file and confirms that the selected baseline is the most likely scenario. This criteria is satisfied. No further action is needed (08032020).

Item Number	16
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	2c.2 Can be demonstrated to be regionally common practice and locally operationally implementable, including:
Evidence Used to Assess	PD Section 3.4
Findings Round 1	- The PD states "The baseline scenario is consistent with regional operational practices, which is observable in comparable properties. Details of baseline scenario practices assumptions are detailed in Section 4.1 and in the original appraisal report (Thrower & Orr-Ewing, 2007). There are regional (and adjacent) examples of similar and higher harvest levels during timberland acquisitions"
Round 1 NCR/CL/OFI	CL: Please provide the report by Thrower and Orr-Ewing 2007.
Round 1 Response from Project Proponent	The document has been provided.

Findings Round 2	- The audit team reviewed the Baseline valuation file and confirms that the selected baseline is the most likely scenario. This criteria is satisfied. No further action is needed (08032020).
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Item Number	17
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	b. Consistent with local market capacity for the baseline scenario activities and products (i.e. log markets, contractor capacity, etc.);
Evidence Used to Assess	PD Section 3.4
Findings Round 1	- The PD states "There is mill and contractor capacity for the selected scenario in the local hauling area." The audit team notes that no verifiable evidence was provided to support this statement.
Round 1 NCR/CL/OFI	CL: Please provide verifiable evidence to support the statement that there exists enough mill and contractor capacity statement in the PD.
Round 1 Response from Project Proponent	A 2018 report from the BC Ministry of Forest, Lands and Natural Resource Operations on Major Primary Timber Processing Facilities in BC has been provided that shows that there are 5 mills within a 100 km hauling distance from the centre point of Darkwoods with a combined estimated capacity of 451 million board feet of wood including mills in Wynndel (62km), Erickson (62km), Thrums (92km), Castlegar (86km) and Salmo (38km). Additionally, there is a very large pulp mill (estimated capacity of 485 thousand tonnes of pulp) in Castlegar (86 km) and a veneer wood products in Fruitvale (70km)(estimated a capacity of 130 million square feet of plywood). The significant local milling capacity indicates sufficient contractor capacity to deliver logs to these mills (and further, these mills all have substantial further capacity flexibility using additional shifts, etc.). Note as well that timber supply chains are interconnected and "cascade" outward to distribute volume based on price advantages and other factors. Similarly, BC has a very large, diverse and highly mobile forest industry workforce, and contractors shift capacity frequently based on supply/work availability.

Findings Round 2	- The audit team notes the evidence specified in the project proponents Round 1 response. The audit verified a sample of the mills provided as evidence that there is sufficient mill capacity in the region. Furthermore, the audit team reviewed a list of mills in the region and reviewed a 2018 report by the BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development titled "Major Primary Timber Processing Facilities in British Columbia" and believes there is sufficient mill capacity. This item is closed. No further action is needed (08032020).
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Item Number	18
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	If the project activity area is not homogeneous, stratification should be carried out to improve the accuracy and precision of biomass estimates¹³. Different stratifications may be required for the baseline and project scenarios in order to improve accuracy in the estimates of net GHG removal by sinks. For estimation of the baseline net GHG removals by sinks, or calculation of actual net GHG removals, homogeneous polygons¹⁴ should be defined on the basis of parameters that will be used as key entry variables in the methods used to estimate changes in biomass stocks (for example, growth models or yield curves/tables). These include: 1. Management regime. For example, types of harvesting (clear cutting, patch retention), and land conversions for roads and landings. 2. Site index / anticipated growth rates 3. Forest species 4. Age class Useful tools for defining polygons include ground-truthing maps from satellite imagery, aerial photos, and maps of vegetation, soils, and topography.
Evidence Used to Assess	Darkwoods_2018_VCS-Project-Description v2.0 - Section 4.1
Findings Round 1	The 2011 VRI inventory was stratified based on land cover, species, height, and other stand characteristics. The project proponent stratified the project area into 17 analysis units (AU) based on similarities in stand conditions and biomass production. Table 11 of the PD shows the different analysis units and demonstrates that the stratification is a product of 5 stand characteristics: Lead Species, Other Species, Production Class, Site Index Range, and Age. The audit team noted that while the PD states there are 17 AUs, Table 11 shows more than 17 AUs. Upon review of the GIS files provided by the project proponent, the size of the individual AUs is not accurately represented by Table 13 in the PD.
Round 1 NCR/CL/OFI	CI: Please clarify the PD to accurately reflect the actual number of AUs and ensure that Table 11 accurately reflects the AUs that are currently being used. CL: Please update the size of the AUs to accurately reflect the correct size of each AU as shown in the GIS files provided by the project proponent.

Round 1 Response from Project Proponent	There were some errors in inserting Table 11 and 13 into the PD documents which have now been corrected. Table 13 is now consistent with Table 11 AUs and the area, actual number of plots and expected number of plots revised. The AU areas are in DW_Project_Working.accdb, table Lkp_Recalc_AU_ha. See the query: make Lkp_Recalc_AU_ha. Note that the GIS databases provided contain older analysis data (apologies - these data were not clearly identified to the audit team as out of date due to data heading/naming limitations in our GIS software...). The GIS data provides polygons and inventory and spatial polygon data, which is then analyzed in the Access Database files. These data are correct and up to date for spatial polygons, areas, etc. But the results of any further or new data analysis in the Access databases have not been re-inputted back into the GIS database. So, for example, the AU designations in the the GIS databases are from previous work and are potentially not consistent with the database files. Therefore, the database data should be considered the final data and these should be the focus of any assessment of data or results - please reference the AU areas as shown in the databases, not in the GIS outputs.
Findings - Round 2	The audit team reviewed the Lkp_Recalc_AU_ha query and resulting table and notes that the total area of the AUs is correct. However, it appears that Table 8 in the Monitoring Report and Table 11 in the PD have different acreage sizes for each AU. Furthermore, each AU appears to have at least some "Non-productive Forest" which seems to be included in the THLB. This does not seem appropriate to the audit team. The audit team could not find the GIS file for the Operable land base Map in Figure 6.
Round 2 NCR /CL/OFI	CIL Please ensure that all AU tables from both the PD and MR are the same. CL: Please exclude any non-productive forest from the THLB as the THLB is defined as not including non-productive forests. CL: Please provide the GIS file that shows the operable land base which is the basis for figure 6.

Round 2 Response from Project Proponent	1. The AU tables have been updated in both the PD and MR, and now match both the database and each document. 2. The THLB and stratification sections of the MR and PD have been updated to better clarify how the THLB is defined and applied, and how carbon is modeled. For clarity, carbon is modeled across all forested productive land in both scenarios (i.e. so all AU's except 888 (non-forest and road buffers). The THLB is a further limited space which designates the operable area where the Baseline and project scenario harvesting can take place. These harvests are then further restricted by AU111 and stream buffers within the THLB. The AU area tables, however, have been modified to just show the area by AU, but note that these areas include non-THLB lands if available in each AU. 3. Upon further review, Figure 6 was an older version which has now been updated to the current data. The related GIS file has been provided - the "Operable" data field is used to generate the map. This is the same project dataset provided earlier, just filtered to this data field for clarity.
Final Findings	1. The audit team confirms that the AU Tables in both the PD and MR are accurate. 2. The audit confirms that the additional clarifying language in the PD is clear. This CL is closed. 3. Thank you for providing the updated map and GIS files. 4. The audit team notes that with the current stratification shown in Table 8 of the MR, there are multiple AUs that have no plot representing them. Although we understand that there is currently a methodology deviation that states that AU110 does not need plot representation because it is small. However, the additional AUs all need to be represented by a plot per the VM0012 Methodology. It is possible that this is an error in the table generation because previous versions showed that one plot was in each AU.

Item Number	19
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VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	To assure the project includes only eligible management activities, proponents must identify areas within the project boundary that would be subject to timber harvesting and other management activities under the baseline scenario. A timber harvesting land base (THLB) should be identified based upon harvesting plans that reflect the historical and future anticipated location and rates of timber extraction. Specific information used to define the THLB should include: 1. The spatial location and extent of forested versus non-forested areas 2. Merchantable and operable forest areas suited to economic timber extraction 3. The spatial location and extent of legal land use restrictions and legally required protected areas. The THLB is essentially used to refine and focus baseline and project forest management activity projections and modeling, in a manner consistent with the selected scenarios and related common practice.
Evidence Used to Assess	Darkwoods_2018_VCS-Project-Description v2.0 - Section 4.1
Findings - Round 1	The project proponent first identified the "productive landbase" which excluded: areas that were unable to support tree growth, non-forested areas, creeks with a 3 meter buffer, roads with a 5 meter buffer, and other areas that were determined to be "unreachable or uneconomic timber" based on BC Ministry of Forest and Rance Timber Supply Analysis methods. This initial delineation resulted in about 68% of the area or 37,250 ha classified as operable or productive forest. Second, the project proponent identified stands that were originally classified as operable or productive forest but were either 1) too old to be harvested 2) stands with low volumes that made them too low to economically harvested. These final exclusions resulted in a subset area termed Carbon Timber Harvesting Landbase (THLB). The audit team notes that the THLB area (Ha) is about 37250; however, upon review of the GIS files the operable and productive land base appears to be substantially smaller.
Round 1 NCR/CL/OFI	NCR: Please update the PD and calculations (any calculations that use the THLB) to accurately reflect the true size of the THLB.

Round 1 Response from Project Proponent	The THLB is the sum of polygon area that is not AU 111 or 888. AU 111 polygons are very low productivity. AU 888 polygons are Forested = "N" or "NSR" or RoadBuf5 = "Y". The THLB area is 42,831.2 ha. As per Finding 18, the GIS provides output data only, and the Access databases are where all analysis is undertaken. Therefore the data within the summarizing databases should be considered more up to date and correct. The GIS data is spatially correct as output into the PRJ and BSL spreadsheets, which are then imported into the databases as described in the modeling process documentation. All analysis from that import step are conducted within the database and should be considered the source of all data results for assessment (although these results can be connected back to unique polygons in the GIS layers for polygon identification and visual representations, no data was output back from the databases into the GIS - so any other data in the GIS databases is archival or otherwise not up to date).
Findings - Round 2	Pending Review of finding 18.
Round 2 NCR /CL/OFI	
Round 2 Response from Project Proponent	
Final Findings	Following the review of the higher level finding, the audit team confirms that item is satisfied. (09042020)

Item Number	20
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	1. Well established (i.e., have been under continuous use and development for 10 years, or longer);
Evidence Used to Assess	Darkwoods_2018_VCS-Project-Description v2.0 - Section 4.1
Findings - Round 1	The PD states that FVS-FFE has been in use and under development for >10 years. However, the audit team notes that the PD makes no reference to the FPS model and how it meets this suitability condition.

Round 1 NCR/CL/OFI	CL: Please indicate in the PD how the FPS model meets this suitability condition and provide verifiable evidence to support this statement.
Round 1 Response from Project Proponent	The PD has been updated to also reference FPS. Evidence of FPS history can be found here: https://fbrinstitute.org/category/resources/fps-help-documents/fps-version-history
Findings Round 2	- The audit team reviewed the additional wording the PD noting the changed language and confirms that this suitability condition is met. No further action is need (08032020).

Item Number	21
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	2. Generate values on an annual basis (preferably), or at intervals not exceeding 10 years.
Evidence Used to Assess	Darkwoods_2018_VCS-Project-Description v2.0 - Section 4.1
Findings Round 1	- The PD states that the FVS-FFE model can generate values at smaller than 10 year increments. However, the audit team notes that the PD makes no reference to the FPS model and how it meets this suitability condition.
Round 1 NCR/CL/OFI	CL: Please indicate in the PD how the FPS model meets this suitability condition and provide verifiable evidence to support this statement.
Round 1 Response from Project Proponent	The PD has been updated to also reference FPS. FPS model documentation can be found here: www.fbrinstitute.org
Findings Round 2	- The audit team reviewed the additional wording the PD noting the changed language and confirms that this suitability condition is met. No further action is need (08032020).

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VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	5. Well documented and expert reviewed. In order of preference, these include (a) ongoing publications in peer-reviewed scientific journals, (b) documented reviews by expert practitioners in forestry/biology/ecology, and/or (c) approved by government for use in forest management activities;
Evidence Used to Assess	Darkwoods_2018_VCS-Project-Description v2.0 - Section 4.1
Findings - Round 1	FVS-FFE was developed by the USFS and has been well documented and scientifically peer-reviewed. FVS-FFE meets this suitability requirement. The audit team notes that no evidence is provided that the FPS model meets this suitability requirement.
Round 1 NCR/CL/OFI	CL: Please indicate in the PD how the FPS model meets this suitability condition and provide verifiable evidence to support this statement.
Round 1 Response from Project Proponent	The PD has been updated to also reference FPS. FPS has an extensive documentation library, and for example is in use by organizations that manage more than 12 million acres. More information can be found here: www.fbrinstitute.org
Findings - Round 2	The audit team reviewed the additional wording the PD noting the changed language and confirms that this suitability condition is met. No further action is need (08032020).

Item Number	23
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	2. A listing and explanation of all input data, output data, and model parameters/assumptions.

Evidence Used to Assess	Darkwoods Carbon Methods_2019
Findings Round 1	The FVS key files provided by the project proponent indicate that the Keyword MCDefect is used in the FVS modeling but no mention of this keyword is made in the Darkwoods Carbon Methods_2019 document. It is unclear how/why the MCDefect keyword is used. Throughout the VM0012 Methodology the Root-Shoot ratio is used in numerous equations. It is unclear to the audit team how FVS-FFE utilizes a root-shoot ratio.
Round 1 NCR/CL/OFI	CL: Please included specific language in the Carbon Modeling Document how and why the Jenkins Method is used to estimate below ground biomass instead of a root:shoot ratio and how this is in line with the VM0012 methodology.
Round 1 Response from Project Proponent	The" Jenkins Method" incorporates/includes a "root:shoot ratio". Jenkins compiled regression equations that predict all biomass components from dbh and species groupings, including quation functions for root biomass which are effectively root:shoot ratios. FVS uses these equations for the belowground biomass estimates. Jenkins (2003) is available here: https://www.fs.fed.us/ne/newtown_square/publications/other_publishers/OCR/ne_2003jenkins01.pdf Regression based biomass funtions are more accurate than default or average BEF or R factors (see, fora generic example: https://cbmjournals.biomedcentral.com/articles/10.1186/1750-0680-6-6) Text has been added to the Model Process Document to clarify this.
Findings Round 2	The audit team reviewed the provided evidence and confirms that this method is appropriate (08032020).

Item Number	24
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	Live biomass gain in year, t, polygon, i ($\Delta\text{CBSL}_G(i,t)$) is calculated as:
Evidence Used to Assess	Darkwoods Carbon Method_2019, Carb_Plot_FVS_Compile_With_Bark_Adj.accdb,

Findings Round 1	- The audit team reviewed the bark biomass calculations and noted that there were incorrect specific gravity values and percent bark of total biomass values used. Furthermore, it is unclear to the audit team why bark biomass is converted to lbs. to calculate the percentage of bark biomass to total biomass. The audit team noted that in the calculation of bark % of total biomass calculations the species group OH was excluded from the calculation.
Round 1 NCR/CL/OFI	CL: Please review the specific gravity values used for species CO and LL as these values appear to be incorrect. CL: It is unclear where the specific gravity for the "Other Softwoods" group are derived from, please provide verifiable evidence that supports this value. CL: Please review the bark % of total biomass values that were used for the species CO and OS, the current value appears to be incorrect or please provide verifiable evidence that supports the use of this value. CL: The OH species group appears to be excluded from the calculations of bark % of total biomass, please include this species group in this calculation.
Round 1 Response from Project Proponent	Table 1A from Miles and Smith was used for specific gravity values. Where specific species were not available in this table, we used the next best fit species. #1: CO used the black cottonwood (BC) values (there is no CO available) and LL used the Western larch (WL) values (LL is not available).. #2: OS used the ES values (ES was not available) #3: See #1 for CO and #2 for OS. #4: OH is not in the FVS_TreeInit table which was used to generate the species list. All hardwood species from the VRI inventory were available in FVS without the use of OH.
Findings Round 2	- The audit team reviewed table 1A from Miles and Smith. The BC Specific Gravity of Bark is listed as .4, Specific Gravity -Green volume basis as .31, and bark volume as 16.3; whereas the project has them listed as , .46, .35, .184. The OS and ES values do not appear to match. Please set the OS values to ES values. The audit team confirms that using lbs. instead of cuft. is appropriate to calculate the bark % of total biomass. However, the calculated bark % of total biomass is only correct if the relative volumes of each species of wood is similar from year to year.

Round NCR /CL/OFI	2	CL: Please correct the BC Specific Gravity and recalculate the bark percentage. CL: Please provide a demonstration that the relative species volumes have not changed year over year or apply the bark % of total biomass at the species level in the calculation of Aboveground Total Biomass.
Round Response from Project Proponent	2	#1: The Lkp_Species table in the DW_Bark_Project_Working.accdb and DW_Bark_Baseline_Working.accdb use the Miles and Smith BC values for CO so no recalculation is needed. #2: The bark % is based on a representative condition from the 2011 VRI inventory as calculated, and the small changes in forest composition across the entire project area will not materially affect the bark % which have been left as is for consistency across the scenarios. For example, in the Project scenario, there is very little harvest from 2011 to 2016 and no harvest for 2017-2019, so the relative species volumes do not materially change. For the Baseline scenario, the top 4 species by volume in 2011 are AF, ES, WH and DF with bark volume percents of .108, .112, .158 and .173 respectively. The Baseline harvests impact a moderate area of forest each year (700-1500 ha across 55,000 ha in total) after which natural regeneration of FVS predicted species occurs (which will be relatively similar to original stand conditions over time). So although the baseline harvest is affecting an increasing area of the project, it is still relatively small across the whole annually, and being replaced by similar species mixes over time. For context, the maximum potential bark volume is 17.3% if the entire volume is replaced by DF (which is not happening, just represents the upper extreme). The minimum potential bark volume is 10.8% if the entire volume changed to AF (which is not happening, just the lower extreme). So the absolute maximum change in average bark volume percent would be less than 5, and overall would be de minimis across the mix of species and minor change in species composition hectares.
Final Findings		1. The audit team confirms that the appropriate values from Miles and Smith are used in the access database. 2. The audit team understands the reasoning discussed in the project proponents response to this finding. Additionally, because the changes in species mix may change in the baseline and project scenarios, some of the changes in species mix may offset. This item is addressed. No further action is needed.

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VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	See Eq. 26
Evidence Used to Assess	Darkwoods Carbon Model 2017-19_Final_v1.0
Findings Round 1	The audit team notes that the equation is applied correctly; however, the audit team could not find verifiable evidence that 50km is an appropriate value for the distance to mill.
Round 1 NCR/CL/OFI	CL:Please provide verifiable evidence that 50 km is an appropriate value.
Round 1 Response from Project Proponent	There are five mills within 100 km of the centre point of Darkwoods including Canadian Forest Products Ltd in Wynndel (62km), J H Huscroft Ltd. in Erickson (62km), Kalesnikoff Lumber in Thrums (92km), International Forest Products Ltd in Castlegar (86km) and Porcupine Wood Products in Salmo (38km). The major regional pulp mill Mercer Celgar Limited Partnership is in Castlegar (86 km) and a veneer wood products Atco Wood Products in Fruitvale (70km). We chose 50 km as an appropriately conservative value for average haul distance as the location of harvest within Darkwoods could potentially mean that some of the hauling distances are shorter (e.g. Fruitvale is 70 km from the centre of Darkwoods, but only 50 km from the nearest Darkwoods boundary). See the 2018 BC Mill Capacities Report. The selection of 50 km results in lower equipment emissions in the baseline scenario, which is conservative and results in less ER's claimed by the project. No changes have been made to the project modeling.
Findings Round 2	The audit team reviewed the justification provided in the finding log and reviewed mill capacity and location within the region. The audit team confirms that 50 km is an appropriate conservative estimate. This item is closed. No further action is needed (08042020).

Item Number	26
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VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	See Eq. 27
Evidence Used to Assess	Darkwoods Carbon Model 2017-19_Final_v1.0
Findings - Round 1	The audit team reviewed the calculations for carbon stored in the different product pools and noted that the calculation for the product pool "Non-structural panels" is different than the equations used for the other product pools, it is unclear why this occurs. Furthermore the audit team was unable to find verifiable evidence of the product mix for the Darkwoods property.
Round 1 NCR/CL/OFI	CL: Please clarify why there is a different equation used to estimate the carbon stored in the "Non-structural panels" product pool and that it is the correct equation or use the correct equation. CL: Please provide verifiable documentation the current "Proportion of Product Mix" used in the HWP Carbon Model tab of the Darkwoods Carbon Model 2017-2019_Final_v1.0 workbook is accurate.
Round 1 Response from Project Proponent	1. There was an error in the non-structural panel cells in the 2017-2019 columns. This has been corrected and a new model provided (v1.2). Related MR and PD documentation has been updated. 2. The Woods Products Variables are from Appendix 4 - Operable Volume in Throver 2008 (provided as part of Finding). Darkwoods operational staff confirm this is a reasonable representation of the long run product splits on the property.
Findings - Round 2	Pending receipt of the Darkwoods carbon model v1.2
Round 2 NCR/CL/OFI	
Round 2 Response from Project Proponent	The Darkwoods Carbon Model v1.2 has been provided (apologies, an oversight in the previous materials submitted...)
Final Findings	The audit team confirms that new Carbon Model calculation workbook has been updated and the correct equation is applied. This criteria is satisfied. No further action is needed. (09042020)

Item Number	27
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	Net project emissions are calculated by repeating the procedures in Section 8.1 (Baseline Emissions), using the project scenario polygons, data, and modeling. Unless otherwise noted and justified by the project proponent, all modeling methods, calculations, assumptions, and data sources should be consistent in both the baseline and project scenarios, with the exception of ex-post monitoring data as outlined below. For purposes of efficacy, it may be advantageous to re-stratify the landbase for the project scenario, as compared to the baseline.
Evidence Used to Assess	Darkwoods_2018_VCS-Project-Description v2.0. Baseline_Combine_Grow_HS_F18, Project_Combine_Grow_HF
Findings - Round 1	The audit team sampled stands that are not in the THLB and compared the carbon in different pools from the baseline and project scenarios. The audit team noted that multiple stands not included in the THLB have different values in the carbon pools between the baseline and project scenarios. Based on the audit team's understanding there should be no difference between the project and baseline scenarios for stands in the THLB.
Round 1 NCR/CL/OFI	NCR: Please explain why stands outside of the THLB have different amounts of carbon stored in each pool or remodel the project area to ensure that stands outside the THLB have the same amount of carbon stored in all project pools.

Round 1 Response from Project Proponent	For some stands outside the THLB, there are different amounts of carbon stored in each pool because of size differences between baseline and project stands, primarily from baseline "harvests" modelled for 2008-2010. Note that within the GIS datasets and outputs the set of object ID's are similar, but different in the PRJ ("OBJ_ID2018" field) and BSL ("OBJ_IDBSL" field) data, so a visual confirmation of polygon comparability is required to test. It is unclear how to generate a cross-walk table between the BSL and PRJ object id's because we have different numbers of polygons after the 2008-2010 baseline harvests were applied. We tested several polygons outside the THLB and found the inventory and polygon area data are exact, except when impacted by baseline harvesting polygon changes from 2008-2010. Examples: (BSL ID 23542 = PRJ 23542, AU 111; BSL 24153 = PRJ 24472; BSL 43844 = 16474 (although 43844 was a 2008-2010 BSL harvest polygon, it did not affect the polygon shape); BSL 17947 <> PRJ 18230 (BSL 17947 changed due to harvest, now 6.57 ha vs. PRJ 18230 is 7.14 ha). The spatial data is behaving as expected and correct. However, in the databases, small variations in carbon pools are still visible between the confirmed same polygon and VRI inventory input data. Upon further investigation, the FVS model includes a stochastic feature related to stand BA growth/development that is applied to each stand of tree information as it is input into FVS. This random seed is applied at the tree level and is intended to improve the realism and modeling results. The result is FVS generates slightly different carbon/biomass results by pool for the same entered inventory data due to the random seed. However, this impact is de minimis and <1% on a stand level. For examplej (2011), BSL ID 12 AGTL = 338.18 tC vs. PRJ ID 12 AGTL = 336.798 tC. Difference is 0.40866%. The random seed is applied the same in the BSL and PRJ scenario, and is on a normal distribution around 0, and we the difference across all polygons in the project area will be even less. No changes to the modeling have been made, and the model is functioning as expected.
Findings Round 2	- The audit team understands that with the implementation of baseline harvesting that stands will be split-up and this is reasonable. Further, it is understood that the stochastic nature of FVS can be expected to generate slightly different results from identically modeled stands. For these reasons, it can reasonable be expected that stands inside and outside the THLB will have different carbon estimates. This item is addressed. No further action is needed.

Item Number	28
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management	1. Incorporating any new forest inventory data (including data from new or re-measured sampling plots and other monitored data, as outlined in Section 9.2 and 9.3) obtained during the previous year into the inventory estimate.

t in Temperate and Boreal Forests (LtPF) (Description)	
Evidence Used to Assess	
Findings - Round 1	The audit team was unable to find verifiable evidence that check plot data was incorporated into the original 2011 inventory.
Round 1 NCR/CL/OFI	CL:Which accbb, query, and output table in the accdb does the check plot data get incorporated into the original 2011 inventory.
Round 1 Response from Project Proponent	It is unclear what plots/inventory update the finding is referring to: - The original 2011 VRI incorporated field checks as part of its development - see Darkwoods_VRIEM_Ecora2012-50068.pdf, specifically section 5.1 on page 10. - In VM0012, the carbon plots are not used to update forest inventory, but rather as a sampling procedure to calculate the Uncertainty Factor. Therefore no updates to the inventory are made from the monitoring plot data or from the QA/QC plots that are used to check the plot quality. - However, note that polygon level forest inventory updates are made to include harvests, fires, and any other inventory updates as referenced in the methodology each year. For example, the 2018 fire polygons were updated in both the BSL and PRJ in this monitoring period. .
Findings - Round 2	The audit reviewed the checkplot data and determined that there have not been significant differences between the checkplot height measurements and original data sets. However, the audit team notes that there were significant differences in the DBH measurements even taking into account that these measurements were taken at different points in time. However, using the original data is conservative and does not lead to an overestimation of the carbon estimates. This item is closed. No further action is needed (08062020).

Item Number	29
VCS Methodolog y VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Managemen t in Temperate and Boreal Forests (LtPF)	Actual (ex post) annual net carbon stocks are calculated using the equations in this section.

(Description)	
Evidence Used to Assess	Darkwoods Carbon Model 2017-19 Final_v1.0, Darkwoods_CCB_VCS_Monitoring_Report_2017-2018, Darkwoods_2018_VCS-Project-Description v2.0
Findings - Round 1	The audit team was unable to verify how the 57,183.56 tCO ₂ e in emissions from forest fires was incorporated into the calculations of biomass losses.
Round 1 NCR/CL/OFI	CL: Please clarify how the emissions from the forest fires in 2018 were accounted for or if they have not been accounted for please incorporate them into the emission reduction calculations for the project scenario.
Round 1 Response from Project Proponent	The 2018 fires were modelled using FVS-FFE Simfire and all impacts and emissions/changes in carbon pools are automatically incorporated into the Baseline and Project carbon output at a polygon level. The referenced 57,183.56 tCO ₂ e is not used further directly - it was generated out of general interest, as per the comment in cell S6.
Findings - Round 2	With the clarification from the project proponent and further review of the Darkwood Carbon Model and PD the audit team confirms that this is appropriate. However, the audit team would like to clarify that in the Darkwoods Carbon Model spreadsheet on the Summary Table & Figures, Cell P23, the amount of carbon emitted from fires is not subtracted from this cell, The Baseline TOTAL Ecosystem C (tc) for year 2018 (08042020).
Round 2 NCR /CL/OFI	CL: It appears that the carbon emitted from fires should be subtract from Cell P23. Please subtract the emitted carbon from this value or provide evidence that this emitted carbon from fires has been accounted for.
Round 2 Response from Project Proponent	FVS-FFE automatically tracks the carbon emitted from fire in a separate 'pool', which is shown on the tab FVS Carbon and HWP Tables, cell N8 and N16 for the PRJ and BSL respectively. So these emissions are not included in the total ecosystem C numbers (i.e. they are emitted...) shown in Cells S23 and P23 respectively. This calculation is being made correctly, and the emissions due to fire are inherently included in the changes in total Ecosystem C.
Final Findings	The audit team reviewed the project proponent's response and confirms that this approach is appropriate and emissions from fire have been appropriately included. This item is closed. No further action is needed. (09042020).

Item Number	30
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VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	Equations 32 and 33 can be used directly to calculate $\Delta CPRJ, G, t$ when all tree cover within a polygon is removed by harvesting (i.e., clearfelling) and no residual structure is retained. In cases of partial harvesting and/or multiple entries into a polygon, these equations must be applied separately to each of the resulting sub-polygons (the different age classes that are created). This ensures that growth rates reflect the difference in forest age between the sub-polygons.
Evidence Used to Assess	Darkwoods_2018_VCS-Project-Description v2.0
Findings - Round 1	The audit team notes that on page 83 of the PD there seems to be a sentence addressing this criteria but the sentence is incomplete.
Round 1 NCR/CL/OFI	CL: Please clarify the statement at the bottom of page 83 of the PD that addresses this criteria.
Round 1 Response from Project Proponent	We are uncertain what this finding is requiring. There is a partial sentence remaining under formula 33b from copying in the formulas from VM0012, which has now been removed. The sentence referenced in the finding relates to a simplified modeling step allowed within VM0012. Using FVS-FFE, the project calculates live biomass gain (and loss) at the polygon level. In the event of project harvesting, FVS can simulate the required biomass gains and losses for clearcuts. Partial cuts could be either modeled as changes to stand inventory or by sub-polygons treated as clearcuts as the noted text speaks to - both would comply with the calculation formulas, to our understanding. It does not seem required for the PD to reiterate this text from VM0012, only be in compliance with it when applicable.. For this monitoring period the project does not utilize this aspect,, as there are no harvested polygons. Please let us know if we have mis-interpreted the finding.
Findings - Round 2	The audit team notes that this partial sentence has been removed. This item is closed. No further action is needed (08042020)

Item Number	31
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate	The annual decrease in aboveground tree carbon from live biomass loss ($\Delta CPRJ, L, t; t C \text{ yr}^{-1}$) is the sum of losses from: 1. Natural mortality (i.e. insects, disease, competition, wind, etc.) 2. Commercial round wood felling 3. Incidental sources. Losses must be specific to a given polygon; each polygon must be summed in order to calculate total annual loss across the project activity area. The live biomass losses are not emitted directly, but rather are transferred to dead organic matter pools.

and Boreal Forests (LtPF) (Description)	
Evidence Used to Assess	Darkwoods Carbon Model 2017-19 Final_v1.0, Darkwoods_CCB_VCS_Monitoring_Report_2017-2018, Darkwoods_2018_VCS-Project-Description v2.0
Findings - Round 1	The audit team was unable to verify how the 57,183.56 tCO ₂ e in emissions from forest fires was incorporated into the calculations of biomass losses.
Round 1 NCR/CL/OFI	CL: Please clarify how the emissions from the forest fires in 2018 were accounted for or if they have not been accounted for please incorporate them into the emission reduction calculations for the project scenario.
Round 1 Response from Project Proponent	See finding 29.
Findings - Round 2	Pending a higher level finding, finding 29.
Round 2 NCR /CL/OFI	
Round 2 Response from Project Proponent	See response for finding 29.
Final Findings	This item was pending finding response 29; however, with the closing of finding 29 this finding is closed. No further action is needed (09042020).

Item Number	32
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	Dead organic matter (DOM) included in this methodology comprises three components: standing dead wood (minimum > 5 cm DBH and 1.3 m height; termed snags), lying dead wood (minimum > 5 cm DBH; LDW), and belowground dead wood (i.e., dead roots). Standing dead wood is < 45° of vertical, while lying dead wood is > 45° of vertical.

Evidence Used to Assess	Darkwoods Carbon Model 2017-19 Final_v1.0, The Fire and Fuels Extension to the Forest Vegetation Simulator: Updated Model Documentation
Findings - Round 1	The audit team assessed the size cutoffs for in the FFE document and noted that there appear to be two pools of standing dead wood, "Standing Dead, 0-3 in; Standing Dead, >3". The VM0012 methodology states a clear definition of standing dead wood "standing dead wood (minimum > 5 cm DBH and 1.3 m height; termed snags)" Similarly, the audit team noted that the Forest, DDW category in the FFE has two size categories: 0-3 inches and >3"; however the VM0012 methodology states lying dead wood (minimum > 5 cm DBH; LDW". It is unclear how the project proponent addressed the discrepancy between the definition of standing dead wood in the VM0012 methodology and the FFE documentation.
Round 1 NCR/CL/OFI	NCR: Please clarify how the size category discrepancies between the VM0012 methodology and FVS-FEE documentation/ modeling was addressed.
Round 1 Response from Project Proponent	As the finding notes, FVS uses somewhat different diameter limits for small pieces in standing dead and downed dead. These are the best available settings in FVS and cannot be manually changed. That said, the inventory data being input into FVS does not include data on small standing deadwood (no individual tree diameter data are used - only BA and TPH), so FVS does not utilize these small stem categories (there is no data for it). That said, it is possible that over longer time periods, FVS modeled stands could grow and create smaller standing dead stems via modeled mortality below 5 cm dbh. This would be a very small amount of carbon and clearly de minimis at a project level. Further, the project modeling error factor is currently -2.0%, so the model is underpredicting carbon in comparison to the carbon plots, so there is no indication the model could be adding significant carbon even if these small stems occasionally occur in modeled outputs over time. The inventory will be updated periodically which would then replace the modeled FVS stand data with actual, so any minor amount of <5cm dbh standing dead would be removed. With respect to CWD, FVS would potentially model the expected occurrence of smaller CWD pieces than the plots are measuring. These small pieces would be de minimis, but also the EM factor is -2.0%, meaning the project is not over estimating total stand volume (including the comparison of modeled Downed and Dead against plot measured CWD). CWD does not make up a substantial volume of the stand carbon, and hence these very small stems are de minimis. Also note that FVS-FFE calculates these very small stems the same way in the baseline and project, so in addition to be de minimis at a stand carbon level, these small stem stand dead developments and downed and dead very small pieces would be occurring in both scenarios, further cementing the point that these differences are immaterial.

Findings Round 2	- The audit team understands while the cutoffs between the VM0012 methodology and FVS are not exact, they are close. Further, the audit team believes these differences to be de minimis. As a result, this item is addressed. No further action is needed (08062020).
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Item Number	33
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	STEP 1 - The project proponent must annually provide to the validator and/or verifier the locations and descriptions of all forestlands within the project country over which the project proponent has ownership, management, or legally sanctioned rights of use.
Evidence Used to Assess	Darkwoods_CCB_VCS_Monitoring_Report_2017-2019_v1.2
Findings Round 1	- The audit team was unable to locate a file that contained the locations and descriptions of all forestlands within the project country and owned by NCC.
Round 1 NCR/CL/OFI	CL: Please provide a list that contains the locations and descriptions of all forestlands within the project country that are owned by NCC.
Round 1 Response from Project Proponent	A list of all properties with forest owned by NCC across Canada has been provided.
Findings Round 2	- The audit team confirms that a list of all properties with forest owned by NCC has been provided. This criteria is satisfied. No further action is needed. (08012020).

Item Number	34
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal	1. Historical records showing trends in harvest volumes paired with records from the project time period showing no deviation from historical trends, or

Forests (LtPF) (Description)	
Evidence Used to Assess	Darkwoods_2018_VCS-Project-Description v2.0.pdf
Findings Round 1	- The project's monitoring report provides a recent summary of the harvesting on NCC properties outside of the project. These records suggest that there has not been any harvesting on NCC properties from 2013-2016 and as a result there has been no activity shifting leakage.
Round 1 NCR/CL/OFI	CL: Please provide access to the NCC database that tracks harvesting on NCC properties so the audit team can verify the reported results in the MR. Other materials that could be this requirement are the forest management plans from all NCC properties,
Round 1 Response from Project Proponent	NCC has not undertaken any commercial timber harvesting on properties owned or controlled by NCC. Because of this, there is currently no data tracking of no activities. The PD (Table 19) and MR (Table 7) report on this. For further evidence, NCC has provided a signed attestation to this affect.
Findings Round 2	- The audit team reviewed the signed attestation and understands that if no commercial harvesting is allowed on properties owned by NCC. This criteria is satisfied. No further action is needed. (08012020).

Item Number	35
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	The outcome of the VCS Leakage Discount Factor determination = the value for MLFy (56a)
Evidence Used to Assess	Darkwoods_2018_VCS-Project-Description v2.0.pdf, Lkp_Project_Baseline_C_Pools_mmt_x_Year_With_Bark_Leakage_r

Findings Round 1	- The audit team reviewed the description in the PD of how the ratio of merchantable carbon:total carbon was estimated for the Montane Cordillera zone and the methods to determine the ratio of merchantable carbon:total carbon within the project area. The audit team noted that Standing Dead Wood was included in the calculation of merchantable carbon. It is unclear if this is appropriate. Furthermore, the audit team noted that the ratio of merchantable carbon:total carbon for the project area was calculated using the baseline carbon stocks. Considering there is substantial harvesting of merchantable biomass in the baseline scenario it is unclear if this is appropriate. Furthermore it is unclear to the audit team whether the definition of merchantable biomass estimates from NFI are the same as the merchantable biomass definitions used to calculate merchantable biomass in the project/baseline scenarios. The auditors were unable to identify the original data set that feeds the leakage calculations.
Round 1 NCR/CL/OFI	CL: Please exclude Standing Dead Wood from the calculation of merchantable carbon or provide verifiable evidence that the inclusion of standing deadwood is appropriate. CL: Please use the project scenario carbon estimates to estimate the Market Leakage Factor. CL: Please provide verifiable evidence that the merchantable biomass definitions from NFI and the project/baseline estimates are the same. CL: Please provide the original dataset for which the leakage calculations are based on. The Carbon Modeling Document points to the Baseline_Combine_Grow_HS_F18 and similar Project accdb but it is unclear which table within these databases is used as the basis for the calculations.

Round 1 Response from Project Proponent	#1: Typically in forest inventories merchantable wood is based on size, not on dead/live, as most logging operations will harvest and salvage dead stems of suitable quality. For example, the Darkwoods VRI inventory includes data on live vs. dead TPA (particularly relevant in regions of BC with cedar, which remains highly valuable even when dead, etc.). The inventory input is the key data in regard to this finding. In the longer run, to our understanding FVS calculates merch volume from live and dead by size, and as it grows stands out it uses some modeling assumptions to determine the condition of standing dead to determine whether standing dead stems remain merchantable or not (this doesn't affect what we are doing here, just a indicator that standing dead is considered as merch). #2: The baseline data was used in error. The Market Leakage Factor has been recalculated using Project and changes from 0.65 to 0.67 (see Lkp_Project_Baseline_C_Pools_mmt_x_Year_With_Bark_Leakage_r1.xlsx). This has no impact on the leakage conclusion, but the factor has been updated in the PD and MR documents. #3: We have requested specific merchantability specs from the NFI, but they have been unresponsive. The NFI website does refer to using BC VRI data and inventory method (as does Darkwoods), and therefore it is expected the NFI data uses very similar VRI total/merch volume specs. #4: <table border="0"> <tr> <td>table:</td> <td>Baseline_Combine_Grow_HS_F18.accdb</td> </tr> <tr> <td>query:</td> <td>Lkp_Baseline_C_Pools_mmt_x_Year</td> </tr> <tr> <td>table:</td> <td>make_Lkp_Baseline_C_Pools_mmt_x_Year</td> </tr> <tr> <td>query:</td> <td>Lkp_Baseline_Hrv_C_Pools_mmt_x_Year</td> </tr> <tr> <td>table:</td> <td>make_Lkp_Baseline_Hrv_C_Pools_mmt_x_Year</td> </tr> <tr> <td>query:</td> <td>Project_Combine_Grow_HF.accdb</td> </tr> <tr> <td>table:</td> <td>Lkp_Project_C_Pools_mmt_x_Year</td> </tr> <tr> <td>query:</td> <td>make_Lkp_Project_C_Pools_mmt_x_Year</td> </tr> </table>	table:	Baseline_Combine_Grow_HS_F18.accdb	query:	Lkp_Baseline_C_Pools_mmt_x_Year	table:	make_Lkp_Baseline_C_Pools_mmt_x_Year	query:	Lkp_Baseline_Hrv_C_Pools_mmt_x_Year	table:	make_Lkp_Baseline_Hrv_C_Pools_mmt_x_Year	query:	Project_Combine_Grow_HF.accdb	table:	Lkp_Project_C_Pools_mmt_x_Year	query:	make_Lkp_Project_C_Pools_mmt_x_Year
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query:	Project_Combine_Grow_HF.accdb																
table:	Lkp_Project_C_Pools_mmt_x_Year																
query:	make_Lkp_Project_C_Pools_mmt_x_Year																
Findings Round 2	- The audit team reviewed the updated market leakage calculations and confirms that they are correct. However, the audit team was able to locate NFI - BC merchantable volume cutoffs in this document :https://nfi.nfis.org/resources/photo_plot/Pp_data_dictionary_5.2.pdf on page 31 which states Gross Merchantable Volume (GMV) is "Volume to 7.5 cm dbh, excluding stump, fallen live, and fallen dead". The FVS IE documentation says merchantable volume is minimum 6 inches to 4.5 inches for LP and minimum 7 inches to 4.5 inches for all other species. Given the significant discrepancies in the merchantable size cutoffs it is not appropriate to use the two different definitions to compare merchantable timber stocking.																
Round 2 NCR /CL/OFI	CL: Please update the merchantable volume cutoffs in FVS in order to provide an adequate comparison of merchantable volume between the project area and the region.																

Round 2 Response from Project Proponent	The carbon plot data were compiled in FVS using the NFI merch spec of 7.5 cm (3 inches) dbh for all species using the VOLUME keyword. This resulted in a 14.3% increase in merch carbon which was then applied in the Lkp_Project_Baseline_C_Pools_mmt_x_Year_With_Bark_Leakage_r2.xlsx, cells B31, B32 and B33, resulting in a Merch//Total ratio of 0.75 for 2017, 2018 and 2019. This has no impact on the leakage conclusion, but the PD (now v2.1), MR (now v1.4), and Modeling Process (now v1.3) documents have been updated.
Final Findings	The audit team reviewed the updated leakage calculations and confirms that this method is appropriate. Furthermore, the audit team confirms that the previous market leakage discount factor is correct. No further action is needed. This item is closed. (09042020).

Item Number	36
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	See Eq. 57.
Evidence Used to Assess	Darkwoods Carbon Model 2017-19_Final_v1.0
Findings - Round 1	The audit team notes that the conversion factor 44/12 was not used. Otherwise this equation is applied correctly.
Round 1 NCR/CL/OFI	CL: Please provide verifiable evidence that shows where this conversion factor is used.
Round 1 Response from Project Proponent	In the Darkwoods Carbon Model 2017-19 the 44/12 calculation is made on the "HWP Carbon Model" tab, in cells R59-T59 and R105-T105. The formula uses the exact term "44/12" in the calculation.
Findings - Round 2	The audit team confirms that the appropriate conversion factor is applied. This item is closed. No further action is needed (08062020).

Item Number	37
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VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	Step 1 – Calculate the average percent model error (EM) for the project based on the average area-weighted difference between measured values in monitored plot observations and model-predicted values using Equations 60a,b. In the case where analysis units have been used for stratification, the difference between the plot observation and model-predicted value (both expressed on a per hectare basis) for a given analysis unit (yd,h,i) is weighted by the area of its associated analysis unit (APRJ,h) (Eq. 60a). The use of an area-weighting factor places more emphasis on analysis units that represent a relatively larger proportion of the total project area. In the case where only polygons are used in the stratification, the area weighting term (see equations 60a-c) would change to the area of the polygon (APRJ,i), and the subscript, h, is dropped from the yd,h,i term in equations 60a-e.
Evidence Used to Assess	Darkwoods_2018_VCS-Project-Description v2.0.pdf, UF_Recalc_AU_Calcs_Bark_Adjusted_AG_Check
Findings Round 1	The audit team reviewed the uncertainty calculations in the appropriate workbook and determined that the Step 1 calculations are correct. However, the audit team was unable to locate the original dataset used in this calculation
Round 1 NCR/CL/OFI	CL: Please specify the database, table, and queries used to generate the dataset used in this calculation.
Round 1 Response from Project Proponent	Model: Project_Combine_Grow_HF.accdb table Lkp_Project_AU_WT_AVG_C_tha_x_Year_Bark_Adj (see query make_Lkp_Project_AU_WT_AVG_C_tha_x_Year_Bark_Adj) CP: Carb_Plot_FVS_Compiled_With_Bark_Adj.accdb, query Calc_Lkp_CP_UF
Findings Round 2	The audit team reviewed the provided access database, no errors were found. This item is closed. No further action is needed (08062020).

Item Number	38
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	See Eq. 60b.

Evidence Used to Assess	Darkwoods_2018_VCS-Project-Description v2.0.pdf, UF_Recalc_AU_Calcs_Bark_Adjusted_AG_Check
Findings Round 1	The audit team reviewed this calculation and noted that the deviation between measure and predicted carbon storage is not correct.
Round 1 NCR/CL/OFI	CL: Please correct this calculation. Specifically the calculation should be the area-weighted difference between measured and predicted carbon storage, not the area weighted difference between predicted and measured carbon storage.
Round 1 Response from Project Proponent	There is an VM0012 Errata published (see VM0012 webpage on Verra website) that corrected this formula. We have used the updated formula, and hence the calculations are correct. No further changes were made.
Findings Round 2	The audit team reviewed the VM0012 Errata publication and confirms that the a methodology error was corrected. As a result, the audit team confirms that the project proponent has correctly calculated the uncertainty factor. This item is closed. No further action is needed (08062020).

Item Number	39
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	See Eq. 60c.
Evidence Used to Assess	Darkwoods_2018_VCS-Project-Description v2.0.pdf, UF_Recalc_AU_Calcs_Bark_Adjusted_AG_Check
Findings Round 1	The audit reviewed this calculation and although it understands that using the "Confidence" function in excel is correct, the methodology explicitly states that "1.645= the 90% confidence interval t-value".
Round 1 NCR/CL/OFI	CL:The verification teams requests that 1.645 as the t-value be used instead of the using the "Confidence" function in excel as specified in the VM0012 Methodology.
Round 1 Response from Project Proponent	Changed in UF_Recalc_AU_Calcs_Bark_Adjusted_rev.xlsx, column J
Findings Round 2	The audit team reviewed the updated calculations and confirms that they are correct. This item is closed. No further action is needed. (08062020).

Item Number	40
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	The parameter ABSL,I
Evidence Used to Assess	PD, MR
Findings - Round 1	The parameter ABSL,I has the parameter APRJ,I in the same box. APRJ, I is not a parameter set at validation and needs to be removed. Further the parameter incorporates the wrong unit.
Round 1 NCR/CL/OFI	CL: Please update the parameter ABSL, I to only include the relevant parameter and its information, as APRJ, I is not set at validation. Further, please ensure that the correct unit is applied, in line with the methodology.
Round 1 Response from Project Proponent	The parameter ABSL,I is included in the first table of the parameters available at time of validation. A bracketed clarifying note around APRJ,i has been removed in the PD and MR. The units are already correctly shown as Hectares in both the PD and MR.
Findings - Round 2	The audit team confirms that this parameter is correctly stated in the PD and MR. This item is closed. No further action is needed. (08062020).

Item Number	41
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	The parameter fBRANCH,i,t

Evidence Used to Assess	PD, MR
Findings Round 1	- The audit team confirmed that the parameter fBRANCH,i,t has been appropriately incorporated; however, the incorrect unit is applied.
Round 1 NCR/CL/OFI	CL: Please provide verifiable evidence that supports this opinion or demonstrate how this is a conservative estimate.
Round 1 Response from Project Proponent	It is not clear why the unit is incorrect - branch biomass is calculated within FVS-FFE using biomass expansion factor formulas, which would be applied as a unitless factor (i.e. %, but regression equation format), as stated in the parameter table. No change has been made.
Findings Round 2	- The audit team confirms that this parameter is correctly stated in the PD and MR. This item is closed. No further action is needed. (08062020).

Item Number	42
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	The parameter fTransportk
Evidence Used to Assess	PD, MR
Findings Round 1	- The audit team confirmed that the parameter fTransportk has been appropriately incorporated; however, the incorrect unit is applied.
Round 1 NCR/CL/OFI	CL: Please provide verifiable evidence that supports this opinion or demonstrate how this is a conservative estimate.
Round 1 Response from Project Proponent	fTransportk is applied as a multiplier applied against carbon volume in HWP, and hence is unitless. This is shown in the parameter table and also in the Darkwoods Carbon Model where it is applied. No change has been made.
Findings Round 2	- The audit team confirms that this parameter is correctly stated in the PD and MR. This item is closed. No further action is needed. (08062020).

Item Number	43
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VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	The parameter dTRANSPORTk
Evidence Used to Assess	PD, MR
Findings Round 1	The audit team confirmed that the parameter dTRANSPORTk has been appropriately incorporated. The audit team understand that this was based on professional opinion but is there verifiable evidence that can support this opinion?
Round 1 NCR/CL/OFI	CL: Please provide verifiable evidence that supports this opinion or demonstrate how this is a conservative estimate.
Round 1 Response from Project Proponent	All logs are transported by truck off of the Darkwoods property,, there are no other modes of transport available. The term "professional opinion" is simply referring to the fact that the source of that information on transport options is Darkwoods management staff. No change has been made.
Findings Round 2	The audit team confirms that this parameter is correctly stated in the PD and MR. This item is closed. No further action is needed. (08062020).

Item Number	44
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	The parameter MLFy
Evidence Used to Assess	PD, MR

Findings Round 1	-	The audit team confirmed that the parameter MLFy has been appropriately incorporated; however, the incorrect unit is applied.
Round 1 NCR/CL/OFI	1	CI:Please ensure that the correct unit is included in the parameter.
Round 1 Response from Project Proponent	1	The MLF is applied as a %, as already shown in the parameter tables of the PD and MR. The VCS market leakage discount factors are also shown as % in the VCS Standard v4, Table 2. No change has been made.
Findings Round 2	-	The audit team confirms that this parameter is correctly stated in the PD and MR. This item is closed. No further action is needed. (08062020).

Item Number	45	
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	The parameter Ery,ERR	
Evidence Used to Assess	PD, MR	
Findings Round 1	-	The audit team confirmed that the parameter Ery,ERR has been appropriately incorporated; however, the incorrect unit is applied.
Round 1 NCR/CL/OFI	1	CI:Please ensure that the correct unit is included in the parameter.
Round 1 Response from Project Proponent	1	The Ery,ERR term is shown in %, this is correct and matches the output of the uncertainty calculations. No change has been made.
Findings Round 2	-	The VM0012 Methodology states that Ery,ERR term is "unitless", however the audit team understands that this is given as a percentage. This item is closed, no further action is needed. (08062020).

Item Number	46	
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VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	The parameter Ap,i,t
Evidence Used to Assess	PD, MR
Findings - Round 1	The parameter Ap,i,t has not been included in the documentation under data and parameters monitored.
Round 1 NCR/CL/OFI	CL: Please include the parameter Ap,i,t in the documentation in line with the required parameters as specified in the methodology.
Round 1 Response from Project Proponent	Term Ap,i,t was mistakenly labeled as Apmp,i - this has been corrected in the PD and MR.
Findings - Round 2	The audit team confirms that this parameter is correctly stated in the PD and MR. This item is closed. No further action is needed. (08062020).

Item Number	47
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	The parameter DBH,t
Evidence Used to Assess	PD, MR
Findings - Round 1	The parameter DBH,t has been incorrectly included in the documentation as DBH,i,t under data and parameters monitored.

Round 1 NCR/CL/OFI	CL: Please ensure the parameter DBH,t in the documentation in line with the required parameters as specified in the methodology.
Round 1 Response from Project Proponent	The DBH term has been corrected to DBHt in the MR and PD
Findings Round 2	- The audit team confirms that this parameter is correctly stated in the PD and MR. This item is closed. No further action is needed. (08062020).

Item Number	48
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	The parameter Height, t
Evidence Used to Assess	PD, MR
Findings Round 1	- The parameter Height,t has been incorrectly included in the documentation as Height,i,t under data and parameters monitored.
Round 1 NCR/CL/OFI	CL: Please ensure the parameter Height,t in the documentation in line with the required parameters as specified in the methodology.
Round 1 Response from Project Proponent	The Height term has been corrected to Heightt in the MR and PD
Findings Round 2	- The audit team confirms that this parameter is correctly stated in the PD and MR. This item is closed. No further action is needed. (08062020).

Item Number	49
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate	The parameter DOMSNAG,i,t

and Boreal Forests (LtPF) (Description)	
Evidence Used to Assess	PD, MR
Findings Round 1	- The audit team confirmed that the parameter DOMSNAG,i,t has been appropriately incorporated; however, the audit team noted that the PD under the description of the parameter "Total mass of dead organic matter contained in standing dead wood in polygon, l, year, t in the project case"; however, the methodology states the parameter should be "average mass of dead organic matter contained in lying dead wood in polygon, i, year, t". It is unclear to the audit team why this parameter deviates from the methodology.
Round 1 NCR/CL/OFI	CL: Please clarify why the use of total rather than average mass of dead organic matter is appropriate or change the description and implementation of this parameter.
Round 1 Response from Project Proponent	The DOMsnag (and DOMldw, which is the same) have been changed to Average mass iin the MR and PD parameter tables.
Findings Round 2	- The audit team confirms that this parameter is correctly stated in the PD and MR. This item is closed. No further action is needed. (08062020).

Item Number	50
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	For forestry activities, both permanent and temporary sampling plots have been used to estimate changes in carbon pools (Pearson, Brown, & Birdsey, 2007). Permanent sample plots are regarded as statistically more efficient for estimating changes in forest-carbon stocks over time than temporary plots because there is high covariance between observations in successive sampling events (Pearson, Brown, & Birdsey, 2007). Moreover, the use of permanent plots allow for efficient verification. Hence, the majority of plots used in the monitoring program should be geo-referenced, permanently re-measurable plots with all trees marked. Geo-referenced temporary plots may also be used for efficient supplemental data collection.
Evidence Used to Assess	PD,MR,Darkwoods Carbon PSP Plot Remeasurement SOP 2016 v1.0

Findings Round 1	- The MR states that permanent plots are used. Furthermore, the Remeasurement SOPs indicate that these plots of geo-referenced and are remeasured. The audit team notes that it has not received the SOP for Carbon Plot establishment.
Round 1 NCR/CL/OFI	CL: Please provide the SOP for carbon plot establishment not just remeasurement.
Round 1 Response from Project Proponent	The original installation document has been provided.
Findings Round 2	- The audit team reviewed this document and confirms that this criteria is satisfied. This item is closed. No further action is needed (08062020).

Item Number	51
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	The proponent will develop a plot network with representation in every polygon or analysis unit ³⁹ (based on the primary stratification method identified in Section 8.1 and used throughout the project calculations) and a design target of establishing enough plots such that the estimate of carbon stocks across all polygon or analysis units will lie within 10 percent of the true value of the mean at the 90-percent confidence level ⁴⁰ .
Evidence Used to Assess	PD, MR
Findings Round 1	- The MR and PD state that AU 110 is not represented by a permanent inventory plot. The auditors recognize that the this AU is very small; the VM0012 Methodology states that "each analysis unit shall have field plot representation". However, the PD includes a previously validated and verified methodology deviation that allows AU110 to not be represented with a permanent plot. Furthermore the audit team cannot find evidence that the permanent plot system was developed in a way that the carbon stock estimates will lie within 10 percent of the true value of the mean at the 90-percent confidence interval.
Round 1 NCR/CL/OFI	CL: Please provide verifiable evidence of to show that the inventory was developed in a manner "that across all polygon or analysis units will lie within 10 percent of the true value of the mean at the 90-percent confidence interval".

Round 1 Response from Project Proponent	VM0012 states that this is a design "target" of 10 percent of the true value of the mean. The plot network was originally designed and validated based on staff experience during the project design phases, and plots added to fill in AU target representation and to increase the total number of plots to increase precision over time, following the generally described process in VM0012. The Uncertainty Factor calculations show the project achieving a inventory error of 11.4% and a project error of 9.4% - which the project believes is representative of the project being close to the target plot network objective of 10%. The project will continue to evaluate it's inventory, plot network and modeling precision over time to continue to improve these results in a cost effective manner. .
Findings Round 2	- The audit team confirms that a plot network was established targeting a10% target which can be seen by the inventory error of 11.4%. This item is addressed. No further action is needed (08062020).

Item Number	52
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	Each piece of dead wood will be assigned to one of three density classes, sound (1), intermediate (2), and rotten (3) (details below). The volume per unit area is calculated for each density class, c, as:
Evidence Used to Assess	PD, MR
Findings Round 1	- The PD and MR reflect the correct implementation of formula 60a; however, the audit team notes that the actual calculations could not be found in the documentation provided.
Round 1 NCR/CL/OFI	CL: Please provide the workbook where this calculation was carried out.
Round 1 Response from Project Proponent	This has already been provided in UF_Recalc_AU_Calcs_Bark_Adjusted_rev.xlsx, cell O16
Findings Round 2	- The UF_Recalc_AU_Calcs_Bark_Adjusted_rev.xlsx does not appear to be the correct workbook. There are not CDW/LDW calculations in this workbook.
Round 2 NCR /CL/OFI	CL: Please provide the correct workbook or explain how this workbook shows the implementation of the referenced equations.

Round 2 Response from Project Proponent	The calculations are done in the Carbon_Plots_Use.accdb. See the macro for the list of queries that do the calculations. Open each query in the order in the macro to follow the calculations and table generation. The table Lkp_CWD_Density shows the density for the CWD decay classes.
Final Findings	The audit team reviewed the Carbon_Plots_Use.accdb and confirms that LDW is placed into three classes. No further action is needed.

Item Number	53
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	The mass of LDW in density class, c (t ha-1), is:
Evidence Used to Assess	PD, MR
Findings - Round 1	The PD and MR reflect the correct implementation of formula 60b; however, the audit team notes that the actual calculations could not be found in the documentation provided.
Round 1 NCR/CL/OFI	CL: Please provide the workbook where this calculation was carried out.
Round 1 Response from Project Proponent	This has already been provided in UF_Recalc_AU_Calcs_Bark_Adjusted_rev.xlsx, cell O16
Findings - Round 2	The UF_Recalc_AU_Calcs_Bark_Adjusted_rev.xlsx does not appear to be the correct workbook. There are not CDW/LDW calculations in this workbook.
Round 2 NCR /CL/OFI	CL: Please provide the correct workbook or explain how this workbook shows the implementation of the referenced equations.
Round 2 Response from Project Proponent	see response for finding 52.
Final Findings	The audit team confirms that appropriate decay class densities are used. This item is addressed. No further action is needed (09042020).

Item Number	54
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VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	The total mass of LDW in each plot summed over all density classes (t ha-1) is:
Evidence Used to Assess	PD, MR
Findings - Round 1	The PD and MR reflect the correct implementation of formula 60c; however, the audit team notes that the actual calculations could not be found in the documentation provided.
Round 1 NCR/CL/OFI	CL: Please provide the workbook where this calculation was carried out.
Round 1 Response from Project Proponent	This has already been provided in UF_Recalc_AU_Calcs_Bark_Adjusted_rev.xlsx, cell O15
Findings - Round 2	The UF_Recalc_AU_Calcs_Bark_Adjusted_rev.xlsx does not appear to be the correct workbook. There are not CDW/LDW calculations in this workbook.
Round 2 NCR/CL/OFI	CL: Please provide the correct workbook or explain how this workbook shows the implementation of the referenced equations.
Round 2 Response from Project Proponent	see the response for finding 52.
Final Findings	The audit team confirms that criteria is satisfied. No further action is needed (09042020).

Item Number	55
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate	The monitoring plan or associated SOPs should include QA/QC procedures for: (1) collecting reliable field measurements; (2) verifying laboratory procedures; (3) verifying data entry; and (4) data archiving.

and Boreal Forests (LtPF) (Description)	
Evidence Used to Assess	PD, MR
Findings Round 1	- The auditors note that QA/QC SOPs are laid out in the PD; however, the auditors note that the reference "Darkwoods Data Standards" document has not been provided to the auditors.
Round 1 NCR/CL/OFI	CL: Please provide the Darkwoods Data Standards document for the audit teams review.
Round 1 Response from Project Proponent	This document was previously provided in the "VCS_CCB Round 1 Findings..." folder, but has been provided again for this finding.
Findings Round 2	- The audit team reviewed the Darkwoods Data standards documents and confirms that this criteria has been satisfied. No further action is needed. This item is closed (08062020).

Item Number	56
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	A set of Standard Operating Procedures (SOP) must be developed for field carbon measurements. The SOPs will detail all phases of the field measurements so that the measurements can be repeated reliably. A document will be produced and filed with the project documents verifying that all QA/QC steps have been taken.
Evidence Used to Assess	PD, MR
Findings Round 1	- The Darkwoods Plot SOP has not been provided to the auditors.
Round 1 NCR/CL/OFI	CL: Please provide the Darkwoods Plot SOP document for the audit teams review.
Round 1 Response from Project Proponent	SOP has been provided. See Finding 50.

Findings Round 2	- The audit team reviewed the Darkwoods Plot SOP document and confirms that this criteria has been satisfied. No further action is needed. This item is closed (08062020).
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Item Number	57
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	Field crews must be trained in all field data collection SOPs and records of training kept by the project proponent.
Evidence Used to Assess	PD, MR
Findings Round 1	- The PD states " Field crews are trained in field data collection as per the SOP's, and records are kept of training for each field crew." However, no training records have been provided.
Round 1 NCR/CL/OFI	CL: Please provide the Field Crew training records for the audit teams review.
Round 1 Response from Project Proponent	Timberland Consultants were hired in 2019 to re-measure the plots in that they initially installed in 2014. On July 11, 2019 a project orientation meeting was held where all 7 field crew reviewed data collection methodologies and safety requirements. The contract with Timberland has been provided where specific reference to the plot SOP is referenced in the Schedule "A", and the signed orientation sheet from July 11, 2019 has been provided.
Findings Round 2	- The audit team reviewed the documents provided and confirms that verifiable evidence that field crews were trained in SOPs related to plot measurements were completed. This item is closed. No further action is needed (08062020).

Item Number	58
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management	At a minimum, 10% of the measured field plots will be check-cruised using blind checks with 100% re-measurement of all variables. Minimum thresholds in measurement error are as follows:

t in Temperate and Boreal Forests (LtPF) (Description)	
Evidence Used to Assess	PD, MR
Findings - Round 1	The audit team confirms was only able to confirm that 7 plots were blind checked using the DW Plot QAQC 2017_60 plots Document. However, it is unclear where the recheck data for the 8th blind check is.
Round 1 NCR/CL/OFI	CL: Please provide verifiable evidence that at least 10% of the inventory plots were check cruised.
Round 1 Response from Project Proponent	The previously provided data already includes 2 files: "DW Plot QAQC 2017_60 plots" and "DW Plot QAQC 2019_12 plots". The second file is the '8th' check plot.
Findings - Round 2	The audit team found the referenced file but it is unclear where the 8th check plot is. The DW Plot QAQC 2017_60 plots workbook on the Tree data check results tab shows QAQC checks on 7 plots, but there is no reference made to an 8th plot
Round 2 NCR /CL/OFI	CL: Please clarify where the 8th check plot data is, specifically which plot is checked.
Round 2 Response from Project Proponent	The check plot excel files have been provided. The 8th plot was 105-3.
Final Findings	The audit team reviewed uncertainty calculations for all 8 check plots and confirms that this criteria is satisfied. No further action is needed. (09082020)

Item Number	59
VCS Methodolog y VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Managemen t in Temperate and Boreal Forests (LtPF) (Description)	Projects must develop procedures to ensure proper entry of data and conversion between paper and electronic formats. Data anomalies will be resolved using the original field data, or re-measurement of data if feasible. If there are anomalies that cannot be resolved, the plot will be omitted from the analysis.

Evidence Used to Assess	PD,MR
Findings Round 1	- Although the PD and MR state that data entry SOPs are in place, the audit team was unable to find verifiable evidence that these SOPs exists.
Round 1 NCR/CL/OFI	CL: Please provide verifiable evidence that the data entry QA/QC SOPs are in place.
Round 1 Response from Project Proponent	The file "Darkwoods Data Standards_28Aug17.doc" was provided in the VCS_CCB Round 1 Findings... folder under folder G-4_HR Policy. It has been re-provided in this response documentation.
Findings Round 2	- The audit team reviewed the Darkwoods Data Standards_28Aug17.doc and found that SOPs are in place to for QA/QC of data. This item is closed. No further action is needed (08062020).

Item Number	60
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	The project will provide data archiving SOPs which provide procedures for securely retaining and maintaining the following records for each monitoring period for 2 years past the duration of the project:
Evidence Used to Assess	PD,MR
Findings Round 1	- Although the PD and MR state that data archiving SOPs are in place, the audit team was unable to find verifiable evidence that these SOPs exists.
Round 1 NCR/CL/OFI	CL: Please provide verifiable evidence that the data archiving SOPs are in place.
Round 1 Response from Project Proponent	The file "Darkwoods Data Standards_28Aug17.doc" was provided in the VCS_CCB Round 1 Findings... folder under folder G-4_HR Policy. It has been re-provided in this response documentation.
Findings Round 2	- The audit team reviewed the Darkwoods Data Standards_28Aug17.doc and found that SOPs are in place to for data archiving. This item is closed. No further action is needed (08062020).

Item Number	61
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VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	1. Original copies of the field measurement, check plots, laboratory data, and related data summaries will be maintained in their original and electronic form
Evidence Used to Assess	PD, MR
Findings - Round 1	The audit team was unable to locate evidence to satisfy this requirement.
Round 1 NCR/CL/OFI	CL: Please provide verifiable evidence to satisfy this requirement.
Round 1 Response from Project Proponent	Field measurements were digitally recorded in the field using data recorders, as per the Carbon Field Plot SOP, and transferred into an MS Excel spreadsheet containig all of the columns of data required. The consultants then emailed the excel spreadsheet where it was added to the carbon files for analysis. An archived email (2019 Darkwoods Carbon Plot Data.msg) has been provided demonstrating that the data is maintained in its original electronic form. Copies of those files are retained in the Dropbox project folders and in archived emails from service providers. A set of checkplots/remeasurements were conducted with physical field cards, which are retained at the Darkwoods office, and this data has been transferred to electronic form and stored similar to the data recorder data.
Findings - Round 2	The audit team reviewed the provided evidence and confirms that this criteria is satisfied. No further action is needed (08062020).

Item Number	62
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF)	2. Copies of all monitoring data analyses, models, model input and output files, carbon calculations required for this methodology, GIS inventory dated by year, and copies of the monitoring reports.

(Description)	
Evidence Used to Assess	PD, MR
Findings Round 1	- The audit team was unable to locate evidence to satisfy this requirement.
Round 1 NCR/CL/OFI	CL: Please provide verifiable evidence to satisfy this requirement.
Round 1 Response from Project Proponent	All carbon project related documentation is retained and archived by validation/verification in Dropbox, which automatically archives and backs up documentation. A screenshot of the file folders has been provided. If the auditor wants to sample any of these files, please request something specific.
Findings Round 2	- The audit team reviewed the provided evidence and confirms that this criteria is satisfied. No further action is needed (08062020).

Item Number	63
VCS Methodology VM0012 Version 1.2, Sectoral Scope 14 Improved Forest Management in Temperate and Boreal Forests (LtPF) (Description)	3. Records of the version and relevant change history of software or data storage media changed between monitoring periods.
Evidence Used to Assess	PD, MR
Findings Round 1	- The audit team was unable to locate evidence to satisfy this requirement.
Round 1 NCR/CL/OFI	CL: Please provide verifiable evidence to satisfy this requirement.

Round 1 Response from Project Proponent	The software and models are undertaken primarily on common commercial software - for example, GIS is undertaken in ArcInfo, data analysis in MS Excel and MS Access, other documentation in MS Word. Versions are not tracked specifically because this software is automatically updated and backward compatible. Forest/carbon models can be more version specific, and the versions used are documented in each PD and MR document (for example, previously used ATLAS, FORECAST models, and newer FVS and FPS models).
Findings Round 2	- The audit team reviewed the provided evidence and confirms that this criteria is satisfied. No further action is needed (08062020).

Item Number	64
VCS Standard VCS Version 4.0 Requirements Document 19 September 2019, v4.0 (Description)	3.6.1 The project description shall be accompanied by one or more of the following types of evidence establishing project ownership accorded to the project proponent(s), or program ownership accorded to the jurisdictional proponent(s), as the case may be (see the VCS Program document <i>Program Definitions</i> for definitions of project ownership and program ownership). To aid the readability of this section, the term project ownership is used below, but should be substituted by the term program ownership, as appropriate:
Evidence Used to Assess	PD/MR
Findings Round 1	- Nature Conservancy of Canada (NCC) owns the Darkwoods property (the entire project area) on a fee simple basis. Title documentation is registered with the British Columbia Land Title Office (www.ltsa.ca). Refer to Section 1.7 Ownership of the PD. However, Table 1. Legal Descriptions and Parcel Identifiers of Darkwoods Parcels of the MR provides four PID # but PID 026-235-927 cannot be searched in < https://www.bcassessment.ca/ > website.
Round 1 NCR/CL/OFI	NCR: Table 1. Legal Descriptions and Parcel Identifiers of Darkwoods Parcels of the MR provides four PID # but PID 026-235-927 cannot be searched in < https://www.bcassessment.ca/ > website. Please address the findings.
Round 1 Response from Project Proponent	The title documents have been provided. See Finding 8. PID 026-235--927 is found in file "title 026235927-4966.pdf".
Findings Round 2	- The audit team confirms that the title for PID 026-235-927 has been provided as 'title 026235927-4966.pdf.' The item is addressed.