SECOND ASSESSMENT REPORT FOR THE REVISION AND EXTENSION TO VM0007: REDD+ METHODOLOGY FRAMEWORK (REDD+ MF)

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Methodology Title	VM0007 REDD+ Methodology Framework (REDD+ MF)
Version	VM0007 REDD+MF_v1.6_SCS RD2_28JAN2020
	VMD0015 M-REDD, v2.1_RD2 SCS_28JAN2020
	BL-TW_v1.0_SCS RD2_09MAR2020
	M-TW_v1.0_SCS RD2_28FEB2020
	VMD0010 LK-ASU v1.1_RD2 SCS_03JAN2020

	VMD0044 LK-ECO v1.0 RD2 26JUL2018 VMD0013 E-BPB v1.1 03JAN2020 VMD0016 X-STR_v1.2_SCS RD2_02JAN2020 VMD0041 BL-ARR_v1.1_SCS RD2_02JAN2020 VMD0042 BL-PEAT v1.0_SCS RD2_23MAY2019 VMD0046 M-PEAT v1.0_SCS RD2_08NOV2019 VMD0045 M-ARR_v1.1_SCS RD2_02JAN2020 VMD0009 LK-ASP v1.2_RD2 SCS_17APR2019 ADD-AM_v1.0_ESI RD1_27SEP2017_SCS RD1_15DEC2017 VMD0007 BL-PL_v1.2_RD2 SCS_01NOV2019 VMD0007 BL-UP_v3.3_RD2 SCS_01NOV2019 VMD0017 X-UNC_v2.2_ESI RD2_27SEP2017 RD1_15DEC2017
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Work Carried Out By	Lead Assessor: Lawson Henderson, Senior Associate, S&A Carbon Technical Reviewer: Pablo Reed, Senior Associate, S&A Carbon

Summary

S&A Carbon was contracted by Verra to conduct a Methodology Assessment of revisions made to the VM0007 Methodology, REDD+ Methodology Framework that is currently going through the VCS methodology approval process (MAP). Under normal circumstances, the VCS MAP consists of two independent VVB assessments. In the case with this methodology revision, the first VVB successfully completed their assessment, but the second VVB discontinued their assessment with a number of findings still open.

The second VVB prepared an assessment report which was submitted to Verra and included open findings and sections of the methodology that had not yet been assessed as of the time assessment services were discontinued by the Second Assessor. Given this situation, Verra is allowing this methodology revision to be approved via an "alternative" MAP, where a third VVB, S&A Carbon, completed the remainder of the "second" assessment.

The VM0007 Methodology applies a modular approach with procedures established for three AFOLU project activity types eligible under the VCS Program (ARR, REDD and WRC). It covers numerous project activity types including but not limited to peatland rewetting to forest conservation to reforestation. The revision primarily included an expansion of scope to cover project activities on tidal wetlands, but various other modifications to the methodology were made in the revisions.

The objective of the "alternative" MAP was to conduct an assessment of the revisions to the REDD+ Methodology Framework and associated modules and tools. The scope of the methodology assessment was limited to an evaluation of the nonconformities (NCRs) raised by the previous assessor that remained open at the time assessment services were discontinued. In total, there were 18 open findings (NCRs) against the applicable VCS Standards that were assessed.

The methodology revision, and conformance with the open findings from the previous assessor were evaluated against the VCS Version 4.0 and associated standard documents. The VVB assessed conformance with 18 open findings related to nonconformities raised by the previous assessor that had not been fully closed out at the time assessment activities were discontinued.

Based on the VVBs assessment of the revisions made to the VM0007 Methodology, REDD+ Methodology Framework it was determined that the methodology and associated modules meet all of the VCS program requirements. The revisions made to the VM0007 methodology are considered to be aligned with the principles established in the VCS Standard, including relevance, completeness, consistency, accuracy, transparency and conservativeness. The revisions made to the methodology to include wetland restoration and conservation activities were found to address the required methodology components and provide adequate clarity on the linkages between the overall methodology framework and associated modules.

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1 INTRODUCTION

1.1 Objective

The objective of the "alternative" MAP was to conduct an assessment of the revisions to the REDD+ Methodology Framework and associated modules and tools. The scope of the methodology assessment was limited to an evaluation of the nonconformities (NCRs) raised by the previous assessor that remained open at the time assessment services were discontinued. In total, there were 18 open findings (NCRs) against the applicable VCS Standards that were assessed.

1.2 Summary Description of the Methodology

The VM0007 Methodology applies a modular approach with procedures established for three AFOLU project activity types eligible under the VCS Program (ARR, REDD and WRC). It covers numerous project activity types including but not limited to peatland rewetting to forest conservation to reforestation. The revision primarily included an expansion of scope to cover project activities on tidal wetlands, but various other modifications to the methodology were made in the revisions.

2 ASSESSMENT APPROACH

2.1 Method and Criteria

The methodology revision, and conformance with the open findings from the previous assessor were evaluated against the VCS Version 4, including the following relevant standard documents:

- VCS Standard, Version 4.0
- VCS Methodology Requirements, Version 4.0
- Methodology Approval Process, Version 4.0
- Program Definitions, Version 4.0
- Validation and Verification Manual, Version 3.2
- VCS Methodology Template, Version 4.0
- VCS Module/Tool Template, Version 4.0

The methodology assessment was performed through a combination of document review and interviews and communications with relevant personnel from the Methodology Development Team.

The assessment process included several official and documented exchanges between the lead assessor and the methodology developers in order to gather additional information for review and for examination of compliance with all applicable criteria. These exchanges included three rounds of Findings List produced by S&A to which the Methodology Developers were required to respond. This included the 18 open nonconformances raised by the previous assessor, and 2 additional findings to document revisions to the methodology during the reconciliation process with the first assessor. The Lead Assessor confirmed in an email to the project proponents dated 10 March 2020 that all remaining issues were satisfied in the responses provided in the Findings List.

2.2 Document Review

The Methodology Framework and supporting Modules were carefully reviewed for conformance to the verification criteria and consistency with the VCS Program. The Methodology documentation underwent various revisions during the assessment process, listed here as the final versions.

Document Description	Date & Filename
REDD+ Methodology Framework: This REDD+ Methodology Framework document is the basic structure of the modular REDD+ methodology.	VM0007 REDD+MF_v1.6_SCS RD2_28JAN2020
Methods for Monitoring of GHG Emissions and Removals in REDD and CIW Projects: This module also provides methods for monitoring *ex-post* emissions and removals of GHGs due to stand-alone CIW, CIW-REDD and RWE-REDD project activities.	VMD0015 M-REDD, v2.1_RD2 SCS_28JAN2020
Estimation of Baseline Carbon Stock Changes and Greenhouse Gas Emissions in Tidal Wetland Restoration and Conservation Project Activities: This module provides procedures for the establishment of a WRC baseline scenario for tidal wetlands and it provides procedures to estimate soil emission reductions and removals generated by WRC project activities implemented on tidal wetlands, i.e. Restoration of Wetland Ecosystems (RWE) and Conservation of Intact Wetlands (CIW) project activities. It also provides procedures for the accounting of the effect of submergence and erosion on the tidal wetland SOC pool.	BL-TW_v1.0_SCS RD2_09MAR2020

Methods for Monitoring of Carbon Stock Changes and Greenhouse Gas Emissions and Removals in Tidal Wetland Restoration and Conservation Project Activities: This module provides procedures to estimate soil emission reductions and removals generated by WRC project activities implemented on tidal wetlands, i.e. Restoration of Wetland Ecosystems (RWE) and Conservation of Intact Wetlands (CIW) project activities. It also provides procedures for the accounting of the effect of submergence and erosion on the biomass and tidal wetland SOC pool.	M-TW_v1.0_SCS RD2_28FEB2020
Estimation of Emissions from Activity Shifting for Avoiding Unplanned Deforestation and Avoided Unplanned Wetland Degradation: This module provides methods for estimating emissions from displacement of unplanned deforestation and unplanned wetland degradation (leakage due to activity shifting).	VMD0010 LK-ASU v1.1_RD2 SCS_03JAN2020
Estimation of Emissions from Ecological Leakage: This module provides procedures for the estimation of ecological leakage in WRC project activities.	VMD0044 LK-ECO v1.0 RD2 26JUL2018
Estimation of Greenhouse Gas Emissions from Biomass and Peat Burning: This module provides a step-wise approach for estimating GHG emissions from biomass burning ($E_{biomassburn,i,t}$) and peat burning ($GHG_{peatburn,i,t}$).	VMD0013 E-BPB v1.1 03JAN2020
Methods for Stratification of the Project Area: This module provides guidance on stratifying the project area into discrete, relatively homogeneous units to improve accuracy and precision of carbon	VMD0016 X-STR_v1.2_SCS RD2_02JAN2020

stock, carbon stock change and GHG emission estimates.	
Estimation of Baseline Carbon Stock Changes and Greenhouse Gas Emissions in ARR Project Activities: This module provides procedures for the estimation of GHG emissions and removals under the baseline scenario ($\Delta C_{BSL-ARR}$) in ARR and RWE-ARR[1] project activities.	VMD0041 BL-ARR_v1.1_SCS RD2_02JAN2020
Estimation of Baseline Soil Carbon Stock Changes and Greenhouse Gas Emissions in Peatland Rewetting and Conservation Project Activities: This module applies to the baseline scenario of Wetlands Restoration and Conservation (WRC) project activities on peatlands that are expected to be or remain (partly) drained in the absence of the project activity.	VMD0042 BL-PEAT v1.0_SCS RD2_23MAY2019
Methods for Monitoring of Soil Carbon Stock Changes and Greenhouse Gas Emissions and Removals in Peatland Rewetting and Conservation Project Activities: This module provides approaches for monitoring of greenhouse gas (GHG) emissions from undisturbed, degraded and rewetted domed peatland. The module addresses GHG emissions from the soil organic (peat) carbon pool due to drainage, rewetting and fire.	VMD0046 M-PEAT v1.0_SCS RD2_08NOV2019
Methods for Monitoring Greenhouse Gas Emissions and Removals in ARR Project Activities: This module provides procedures for the monitoring of GHG emissions and removals under the project scenario *($\Delta C_{WPS-ARR}$) of ARR and RWE-ARR project activities.*	VMD0045 M-ARR_v1.1_SCS RD2_02JAN2020
Estimation of Emissions from Activity Shifting for Avoiding Planned Deforestation and Planned Forest	VMD0009 LK-ASP v1.2_RD2 SCS_17APR2019

Degradation and Avoiding Planned Wetland Degradation: This module provides procedures for determining the net greenhouse gas emissions due to activity shifting leakage for projects preventing planned deforestation, ($\Delta C_{LK\text{-}AS,planned}$) and or planned wetland degradation ($GHG_{LK\text{-}WRC\text{-}AS,planned}$).	
Demonstration of Additionality of Tidal Wetland Restoration and Conservation Project Activities: This module provides an activity method for the determination of additionality of tidal wetland restoration and conservation.	ADD-AM_v1.0_ESI RD1_27SEP2017_SCS RD1_15DEC2017
Estimation of Baseline Carbon Stock Changes and Greenhouse Gas Emissions from Planned Deforestation and Forest Degradation and Planned Wetland Degradation: This module allows for estimating GHG emissions related to planned deforestation[2], planned degradation and planned wetland degradation in the baseline case. The module assesses GHG emissions within the project area for the baseline period.	VMD0007 BL-PL_v1.2_RD2 SCS_01NOV2019
Estimation of Baseline Carbon Stock Changes and Greenhouse Gas Emissions from Unplanned Deforestation and Unplanned Wetland Degradation: This module allows for estimating carbon stock changes and GHG emissions related to unplanned deforestation and wetland degradation in the baseline scenario (VCS eligible categories AUDD[3] and AUWD, respectively) as well as RWE-AUDD project activities.	VMD0007 BL-UP_v3.3_RD2 SCS_01NOV2019
Estimation of Uncertainty for REDD+ Project Activities: This module allows for estimating uncertainty in the estimation of emissions and removals in REDD and WRC project activities.	VMD0017 X-UNC_v2.2_ESI RD2_27SEP2017 RD1_15DEC2017

2.3 Interviews

The verifier had various communications with the Methodology Developer over the course of the assessment, including phone calls, and email communications. A call was held between the VVB and the methodology developer for general introductions and to discuss next steps on 13 November 2019. A Kickoff call for the methodology assessment was held on 2 December 2019, during which the scope, objectives and criteria were confirmed, and initial verifier questions were discussed. The verifier communicated with the Methodology Developer via email throughout the assessment process to keep them informed of the status, and to seek clarification on aspects of the assessment as needed. The table below outlines the interviews held during the methodology assessment process.

Person Interviewed	Role / Affiliation / Institution	Date Interviewed
Igino Emmer	Principle, Carbon Project Development, Silvestrum	13 November 2019 2 December 2019
Steve Emmett-Mattox	Strategic Programs Manager, Restore America's Estuaries	13 November 2019 2 December 2019
Amy Schmid	Manager, Program Development, Verra	1 October 2019

2.4 Assessment Team

Name and Role	Qualifications/Experience
Lawson Henderson - Lead Assessor	Lawson joined S&A Carbon as a Senior Associate in 2016, and expands the existing capacity of the forest carbon offset verification team. He is acts as an ARB Verifier on forest carbon offset projects, and is qualified as a Lead Offset Verifier under the ARB regulation. Lawson currently supports the S&A team with reviews of verification documents, field verifications of ARB forest carbon offset projects, and S&A's actions to become accredited under the American National Standards Institute – ANSI). Lawson brings nearly a decade of experience in forest certification through his prior employment with Rainforest Alliance, where he acted as a project manager and lead auditor of forest carbon offset projects against the major voluntary GHG programs, and FSC Forest Management & Chain of Custody Certifications. Lawson is qualified as a Lead Verifier under the Climate Action Reserve (CAR), and is also qualified as a AFOLU IFM Expert under the Verified Carbon Standard (VCS) program. He has led the validation and verification of IFM, AR & REDD forest carbon offset projects against the major voluntary GHG programs globally. He is a member of the Gold Standard Foundation (GSF) Land Use and Forestry (LUF) Technical Advisory Committee (TAC), and the Verification Committee for The Redd Environmental Excellency Standards (TREES) of the Architecture for REDD+ Transactions (ART). Lawson holds a B.S.F in forest management from the University of New Hampshire (2005).

Pablo Reed Technical Reviewer	Pablo Reed is a Senior Associate at S&A Carbon, and a member of the forestry verification team. He is an ARB approved forestry project specialist and ARB lead verifier, and generally acts as a sector expert supporting internal reviews of verification documents. Prior to joining S&A, Pablo spent five years working at Det Norske Veritas (DNV), an international certification company, leading forestry validations and verifications across all major GHG programs. He is accredited as a lead validator/verifier of forestry projects submitted to the Climate Action Reserve, American Carbon Standard, and Verified Carbon Standard. He has extensive experience in MRVS systems, forestry inventories and logging operations, and with the development of environmental and social safeguards. Pablo also has extensive experience working with conservation and development projects in various countries in Latin America. He served as country director for a joint USAID/Idaho State University community conservation project in the Alta Verapaz region of Guatemala and spent time in Panama working as an environmental and GIS consultant. He also worked with the Peace Corps in Ecuador as a program manager for the posts' natural resource conservation program. Pablo received a Masters of Environmental Management degree from the Yale School of Forestry & Environmental Studies, and holds a Bachelor of Science degree in Forest and Ecological Engineering, and a minor in Latin American Studies from the University of Washington in Seattle. His research centered on the development of REDD (Reducing Emissions from Deforestation and Degradation) policy frameworks, especially as they pertain to the inclusion of communal Indigenous territories and lands under tropical forestry conservation projects.
Alexa Kandaris, Approver	Alexa Kandaris has 4 years' experience in carbon auditing and climate change mitigation policy and is accredited by ARB as a verifier under their US Forests protocol. In this time, she has participated in over 60 verifications of carbon offset projects and corporate inventories under a variety of GHG programs, including the Air Resources Board, Climate Action Reserve, American Carbon Registry, Verified Carbon Standard and Carbon Disclosure Project. Alexa developed tracking systems for a program registered under the Clean Development Mechanism and registered with the Gold Standard. Alexa is currently responsible for implementation of S&A's corporate management system to ensure ongoing improvement and compliance with ISO requirements. In addition to this, she has field experience with Forestry, Ozone Depleting Substances, and Livestock verification projects. She holds a Bachelor of Arts in Economics with a focus on natural resource and environmental Economics.

Kyle Silon, Project Manager	Kyle Silon holds an M.S. in Energy and Environmental Economics. He has ten years' experience in climate change mitigation strategies and carbon reduction projects. Prior to founding S&A, he worked for a leading international certification company, specializing in validation and verification of small-scale household energy demand projects (such as cook stove and water filter projects), primarily located in South America, Asia, and Africa. He has participated in numerous verifications of forestry, landfill, and livestock projects, and has worked across all major GHG programs, including the Air Resources Board, Verified Carbon Standard, Climate Action Reserve, American Carbon Registry, Gold Standard, and Clean Development Mechanism (CDM).

2.5 Resolution of Findings

Verra provided the VVB with the methodology and supporting module documents, and previous assessor's assessment report on 26 August 2019. These materials served as the starting point for the evaluation performed by S&A. The verifiers began to review these materials in order to become familiar with the applicability and scope of the methodology framework, and to gain an understanding of where things had been left by the previous assessor. From this initial review, the VVB confirmed the status of 18 open findings related to nonconformities raised by the previous assessor that had not been fully closed out at the time assessment activities were discontinued.

S&A Carbon formally executed an agreement to conduct the methodology assessment on 1 November 2019. A call was held between the VVB and the methodology developer for general introductions and to discuss next steps on 13 November 2019. The developer provided the VVB with the most current version of the methodology and associated modules on 25 November 2019. A Kickoff call for the methodology assessment was held on 2 December 2019. The VVB subsequently provided an excel file containing details on the open NCRs to be reviewed and their status, taken from the latest version of the previous assessors' assessment report.

On 3 December 2019, the methodology developer provided the VVB an updated copy of the excel document with a status update on each of the open NCRs, outlining the action taken to address the previous assessors' latest round of findings, including details on the most current methodology framework documentation with highlights on where the most recent edits and revisions could be found.

On 20 December 2019, the VVB provided the methodology developer with the first round of findings based on their assessment of the open NCRs and most recent action taken by the developer to address them. Some NCRs were found to be closed based on the VVBs initial review, while others required additional clarifications, explanations, additional information or otherwise corrections to be made. The developer responded to the VVBs Round 1 findings on 3 January 2020, with additional

information provided in the excel file and updated versions of the methodology framework documentation where needed.

In the following weeks, the VVB continued with their review based on the responses provided to the round 1 findings, assessing if the requested clarifications, explanations, information requests and necessary corrections had been adequately addressed. The majority of the remaining issues were found to be closed out during the VVB's second round of review, but some items had not been fully addressed. A second round of findings outlining the remaining elements of the NCRs that had not been closed was provided to the methodology developer on 27 January 2020.

The methodology developer provided responses to the VVB's second round of findings on 28 January 2020. Revisions to the methodology and supporting module documents made in response to the round 2 findings were limited to a few minor corrections that were needed, and some further clarifications that were requested. On 7 February 2020, the VVB found all remaining NCRs to be fully closed, and that full conformance with the standard criteria had been demonstrated. The findings for the NCRs that remained open as of the second review were updated with the VVBs final determination of conformance, and all NCRs within the scope of the assessment were formally closed.

Following the closure of all open NCRs assessed within the scope of the assessment, the findings contained within the excel document were reformatted into Microsoft word file for improved clarity, and a summary description of the methodology assessment performed by the VVB was developed. The final VVB methodology assessment files were provided to the methodology developer on 19 February 2020.

Following the submission of the final assessment files to the methodology developer, two additional revisions were made to the BL-TW and M-TW modules to address some issues identified by the methodology developer when compiling the updated methodology documents following the second assessment for review by the first assessor as part of the formal VCS reconciliation process. Two additional findings were added to the Findings List to transparently document these revisions to the methodology documents.

In summary, the open findings of nonconformities raised by the previous assessor were related to discrepancies found in quantification procedures, incorrect application of data and parameters in the calculations, erroneous references to data and parameters, lack of clarity or inconsistency in provided quantification guidance and incorrect or unclear linkages between various module documents. The nonconformities were addressed by the methodology developer through updates and revisions made to the methodology documents to correct quantification errors, data or parameter reference issues, incorrect module linkages, and the development of improved or enhanced quantification guidance. All corrections, clarifications and updated instructional guidance made to the updated methodology documents were assessed by the VVB. Some elements of the open findings required additional corrections or further clarification by the methodology developer which resulted in multiple rounds of

review by the VVB. However, all remaining issues and findings of nonconformity were addressed in the final versions of the methodology documents assessed by the VVB.

3 ASSESSMENT FINDINGS

The scope of the methodology assessment was limited to an evaluation of the nonconformities (NCRs) raised by the previous assessor that remained upon at the time assessment services were discontinued. In total, there were 18 open findings (NCRs) against the applicable VCS Standards that were assessed.

The methodology assessment was performed through a combination of document review and interviews and communications with relevant personnel from the Methodology Development Team. Relevant academic and institutional literature was also consulted as part of the assessment process. The assessment process included several official and documented exchanges between the lead assessor and the methodology developers in order to gather additional information for review and for examination of compliance with all applicable criteria. These exchanges included three rounds of a Findings List produced by S&A to which the Methodology Developers were required to respond.

To help facilitate the assessment, the methodology developer outlined the actions taken to address the previous assessors' latest round of findings, including details on the most current methodology framework documentation with highlights on where the most recent edits could be found. Some NCRs were found to be closed based on the VVBs initial review, while others required additional clarifications, explanations, additional information or otherwise corrections to be made.

Revisions to the methodology and supporting module documents made in response to the round 2 findings were limited to a few minor corrections that were needed, and some further clarifications that were requested.

All remaining nonconformities raised by the previous assessor as of the time assessment services were discontinued and included in the scope of the VVBs assessment were found to be sufficiently addressed through satisfactory clarifications, explanations and corrections made in response to the findings raised in the VVB's assessment. A detailed list of findings is included as Appendix A of this report.

4 ASSESSMENT CONCLUSION

Based on the VVBs assessment of the revisions made to the VM0007 Methodology, REDD+ Methodology Framework it was determined that the methodology and associated modules, as shown in the table below, meets all of the VCS program requirements.

Document	Filename (with Version Number and Date)
REDD+ MF	VM0007 REDD+MF_v1.6_SCS RD2_28JAN2020
M-REDD	VMD0015 M-REDD, v2.1_RD2 SCS_28JAN2020
BL-TW	BL-TW_v1.0_SCS RD2_09MAR2020
M-TW	M-TW_v1.0_SCS RD2_28FEB2020
LK-ASU	VMD0010 LK-ASU v1.1_RD2 SCS_03JAN2020
LK-ECO	VMD0044 LK-ECO v1.0 RD2 26JUL2018
E-BPB	VMD0013 E-BPB v1.1 03JAN2020
X-STR	VMD0016 X-STR_v1.2_SCS RD2_02JAN2020
BL-ARR	VMD0041 BL-ARR_v1.1_SCS RD2_02JAN2020
BL-PEAT	VMD0042 BL-PEAT v1.0_SCS RD2_23MAY2019
M-PEAT	VMD0046 M-PEAT v1.0_SCS RD2_08NOV2019
M-ARR	VMD0045 M-ARR_v1.1_SCS RD2_02JAN2020
LK-ASP	VMD0009 LK-ASP v1.2_RD2 SCS_17APR2019
ADD-AM	ADD-AM_v1.0_ESI RD1_27SEP2017_SCS RD1_15DEC2017
BL-PL	VMD0007 BL-PL_v1.2_RD2 SCS_01NOV2019
BL-UP	VMD0007 BL-UP_v3.3_RD2 SCS_01NOV2019
X-UNC	VMD0017 X-UNC_v2.2_ESI RD2_27SEP2017 RD1_15DEC2017

The revisions made to the VM0007 methodology are considered to be aligned with the principles established in the VCS Standard, including relevance, completeness, consistency, accuracy, transparency and conservativeness. The revisions made to the methodology to include wetland restoration and conservation activities were found to address the required methodology components and provide adequate clarity on the linkages between the overall methodology framework and associated modules.

The required VCS methodology templates have been utilized. The terminology and definitions throughout are aligned with that of the VCS program. The applicability of the methodology framework and related modules was found to be clear for all eligible project activities covered by the methodology. Monitoring procedures established by the methodology and the related data and parameters to be reported are considered to be comprehensive and meet conformance with the VCS rules.

All remaining nonconformities raised by the previous assessor as of the time assessment services were discontinued and included in the scope of the VVB's assessment were found to be sufficiently addressed through satisfactory clarifications, explanations and corrections made in response to the findings raised in the VVB's assessment.

5 EVIDENCE OF FULFILMENT OF VVB ELIGIBILITY REQUIREMENTS

S&A Carbon holds accreditation for validation and verification for the relevant sectoral scope 14 under which the project activities covered in this methodology are applicable through the American National Standards Institute (ANSI). Given the situation of assessment services being discontinued by the Second Assessor, Verra approved S&A to complete the remainder of the second assessment via an "alternative" Methodology Approval Process. Verra allowed for an exemption related to the need for the VVB to use an AFOLU expert in the assessment as well as the requirement for the VVB to have completed at least ten project validations in any sectoral scope given the unique circumstances of this methodology assessment.

6 SIGNATURE

Signed for and on behalf of:

Name of entity: S&A Carbon_____

Signature:  _____

Name of signatory: KYLE SILON_____

Date: MAY 15, 2020 _____

APPENDIX A: DETAILED FINDINGS LIST

Open Issue from Previous Assessor	Issue ID:	NCR 102	Status: Closed	Checked by: LH	Date Closed	27-Jan-20

VCS/ Rule ref	Module	Significance	Original NCR Description from Previous Assessor	Comments
VCS Standard V4.0	BL-UP	Non conformance.	Section 4.7.1 of the VCS Standard requires that "The methodology shall establish criteria and procedures for quantifying GHG emissions and/or removals, and/or carbon stocks, for the selected GHG sources, sinks and/or reservoirs, separately for the project (including leakage) and baseline scenarios." Procedures for quantifying GHG emissions in the baseline scenario are provided in BL-UP. However, the following discrepancies are present in those procedures: 1. In Equation 8 in Part 2, Step 2.3, the index of summation and lower limit of summation are given as "t - 1" instead of "t = 1", as is the case in the currently prevailing version of BL-UP. 2. Parameter C(BSL,PD-BSL,i) is referred to as "Post-deforestation carbon stock in (non-wetland) soil organic carbon in stratum i", suggesting that this parameter is only quantified for non-wetland strata. However, guidance is lacking regarding how to implement Equation 21 for wetland strata. 3. In the second term of Equations 23 and 24 in Part 4, Step 4.3, the upper limit of the summation of parameter A(unplanned,i,t) is given as "t*", whereas it should be simply "t" (as is indicated in the currently prevailing version of BL-UP). 4. In the prevailing version of BL-UP, the parameter C(TOT) is calculated in Step 4.3 and this same parameter is used in the calculation of total baseline emissions in the project area and leakage belt in Step 4.5. It is	

			understood that the same is intended in the version of BL-UP submitted for review, but critical linkages has been degraded or lost. For project activities not carried out on wetlands, Equations 28 and 29 reference Equation 23 for the calculation of C(TOT). This is erroneous, as parameter C(TOT) is quantified in Equation 22. Furthermore, the text immediately above Equation 22 indicates that it is calculated only "For REDD project activities (non-wetland)". For project activities carried out on wetlands, there is, therefore, no linkage with parameter C(TOT). Equations 31 and 32 appear to reference Equation 24 for the calculation of C(TOT), but this reference has no meaning, as Equation 24 calculates the parameter C(BSL,i,t), which is substantively different from C(TOT) in that it is quantified uniquely for each stratum-year combination, whereas C(TOT) is the result of the summation across all years and strata.	
			Second Round Findings from Original Assessor: The assessment team reviewed the revised version of BL-UP, entitled "VMD0007 BL-UP_v3.3_RD2 SCS_15FEB2019", to see whether the finding could be closed. The assessment team's feedback regarding the responses to each item raised in the finding is as follows. 1. As Equation 8 has been corrected as indicated, the discrepancy has been resolved. 2. As BL-UP currently contains guidance in Step 4.3 of Section 5 for quantification of baseline emissions from the SOC pool for wetland strata, the discrepancy has been resolved. 3. Through review of Equations 23 and 24, the assessment team can confirm that the issue with the upper limit of summation has been corrected. However, an additional (minor) discrepancy has been introduced. These equations reference the parameter C(WP,i,i) but no such parameter exists. It appears likely that the intent was to reference the parameter C(WP,i) from CP-W. In this case, it should also be noted that parameter C(WP,i) is not listed below Equations 23 and 24, nor is it included in the parameter tables in Section 6. 4. Strides have been made in the effort to introduce clarity to the procedures, but additional effort is needed to resolve the issues. At least some of the remaining issues are: 4a. The module states that "For AUWD-REDD or RWE-REDD project activities, Equation 23 and Module CP-S must not be used. Instead, use Equation 24 for carbon stock change in all pools except soil, and Equations 25 or 26 for the quantification of GHG emissions from the SOC pool. For AUWD-REDD, stand-alone AUWD or RWE-REDD project activities, use Module BL-TW or BL-PEAT (whichever is relevant) to estimate soil GHG emissions following wetland degradation and apply Equation 25 or 26, respectively." It appears that the intent is to substitute the written word (which is prone to misinterpretation and confusion) for mathematical equations (which are, when correctly composed, completely clear) in respect of the quantification procedures. This opens	

			a number of avenues for confusion. For example, one could infer, for stand-alone AUWD project activities, that the result of either Equation 25 or 26 should be made equal to C(TOT) in Equation 22. However, this is not clearly stated. For AUWD-REDD project activities, one could presume that the result of either Equation 25 or 26 should be added to the result of Equation 24. However, this would cause an incorrect result, as Equations 25 and 26 perform quantification on a "cumulative basis" (summing across years from the project start date) while Equation 24 performs quantification on an "annual basis" (being quantified uniquely for each stratum-year combination). 4b. Equations 25 and 26 in BL-UP are duplicative of Equation 1 in modules BL-PEAT and BL-TW, respectively. 4c. Equations 34-37 do not seem to connect with any of the equations in REDD+ MF. For example, Equation 34 quantifies the parameter GHG(BSL-PEAT,PA,unplanned), which seems similar, but identical, to the parameter GHG(BSL-PEAT,unplanned) in Equation 8 of REDD+ MF. Due to the remaining issues regarding items 3 and 4, the discrepancy has not been fully resolved.	
			S&A Round 1 Findings 20 December 2019: 3) In Equations 22 & 23, the VVB confirmed that the "double i" in the suffix has been corrected and is now shown as the parameter C(WP,i). This parameter is now listed below equations 22 & 23 where the following description is given; "Carbon stock entering the wood products pool from stratum i, t CO2e ha-1". This parameter (C(WP,i) is also now included in Section 6 of the module and described as; "Mean carbon stock entering the wood products pool from stratum i" and is noted as being sourced and originating in the Module CP-W. The updates made to module were found to address the remaining concerns with item 3 of this finding. Re item 3, the last SCS finding referenced equations 23 & 24 in regards to the parameter C(WP,i). These parameters are now found in equations 22 & 23. What caused the equation numbers to change, and why did this happen? 4a) In step 4.2 of the module (4.2.1 Forest Carbon Stocks), it now indicates that; "Each forest stratum will be represented by a carbon stock estimated within 2 years before the project start date, for simplicity referred to here as stocks at t=0 (see Module CP-AB). Use the methods described in the carbon modules (CP-AB, CP-D, CP-L and CP-S) to determine the carbon stock of each forest stratum. When applying Module BL-UP for AUWD-REDD, stand-alone AUWD or RWE-REDD project activities, disregard the above reference to Module CP-S and use Module BL-TW or BL-PEAT (whichever is relevant) instead for soil GHG accounting." Under step 4.2.3	*VMD0007 BL-UP_v3.3_RD2 SCS_23May2019 plus recent edits.doc* *VM0007 REDD+MF_v1.6_SCS RD2_30AUG2019.doc.*

			(Estimation of carbon stock changes per stratum), clarification is now given that "For terrestrial carbon pools, stock changes in each pool are calculated by subtracting post-deforestation carbon stocks from forest carbon stocks." In Step 4.3 (Estimation of the sum of baseline carbon stock changes (terrestrial carbon stocks)), it indicates that; "For AUWD-REDD or RWE-REDD project activities, Equation 22 and Module CP-S must not be used. Instead, use Equation 23 for carbon stock change in all pools except soil." For the parameter ΔCBSL,i,t, clarification is given in Equation 22 that the equation is to be used; "For terrestrial carbon pools in REDD project activities (non-wetland)" and in Equation 23, that the equation is to be used; "For AUWD-REDD and RWE-REDD project activities, use equation 23 for the terrestrial carbon pools." The parameter ΔCBSL,i,t, is describes as the "Sum of the baseline carbon stock change in all terrestrial pools in stratum i in year t, t CO2e." Potential confusion regarding the parameter ΔCTOT in equation 22 has been addressed through its removal, along with the clarification that parameter ΔCBSL,i,t only apply to terrestrial carbon pools. Steps 4.2 & 4.3 (equations 22 & 23) which result in the parameter ΔCBSL,i,t are to be applied for both the project area (PA) and leakage belt (LB), as covered in step 4.6 which clearly shows that ΔCBSL,i,t for REDD project activities (non-wetland) comes from equation 22, while for AUWD-REDD and RWE-REDD project activities (terrestrial carbon pools), ΔCBSL,i,t comes from equation 23. Step 4.6 results in ΔCBSL,unplanned (PA & LB) for used in REDD+ MF. Step 4.4 has been added into the module to address the estimation of baseline GHG emissions from wetlands SOC pool, indicating that "For wetlands SOC pool in AUWD-REDD and stand-alone AUWD or SRW-REDD project activities, use Module BL-PEAT or BL-TW (whichever is relevant) to estimate soil GHG emissions following wetland degradation (GHGbsl-peat or GHGbsl-tw). In summary, the removal of ΔCTOT from equation 22, the clarifications on the applicability of steps 4.2 & 4.3 (equations 22 & 23) to terrestrial carbon stocks, and addition of step 4.4 for estimations of baseline GHG emissions from the wetlands SOC pool are considered to reasonably address the concerns over interpretation confusions raised in this finding. Re item 4a, the parameter ΔCBSL,i,t is not included in the parameters table of section. Should it be? 4c) The VB finds the connections of steps 4.2 - 4.6 in the BL-UP module to REDD+ MF to be reasonably clear based on the updates made. Step 4.6 of the module clearly indicates to insert results for ΔCBSL,unplanned, GHGBSL-PEAT,unplanned and GHGBSL-TW,unplanned below (whichever is relevant) into Equations 3, 8 and 9 in	

			REDD+ MF. In REDD+ MF, equation 3 makes it clear that the parameter ΔCBSL,unplanned comes from BL-UP, equations 8 & 9 make it clear that GHGBSL-PEAT,unplanned and GHGBSL-TW,unplanned come from BL-UP. The VVB finds the updates to step 4.2 - 4.6 of the Module to address the concerns raised in this finding.	
			S&A Round 2 Findings 27 January 2020: The VB is satisfied with the response and clarification given. The removal of previous equation 22 resulted in the shifting of the equation numbering that was noted. The summation of ΔC_(BSL,PA,i,t) & ΔC_(BSL,LB,i,t), from Equation 22 as performed in equations 26 & 27, are now used to calculate 〖ΔC〗_(BSL,PA,unplanned) and 〖ΔC〗_(BSL,LB,unplanned) respectively. The VB accepts the response and explanation as to why the parameter ΔCBSL,i,t is not included in the parameters table section of the module. Those parameters that need direct quantification are to be represented in the parameter tables, but since ΔCBSL,i,t is calculated using equations (e.g. Equations 22 & 23) with parameters that are represented in the parameters, this parameter itself does not need to be included in the parameters table.	*VMD0007 BL-UP_v3.3_RD2 SCS_23MAY2019 plus recent edits.doc* *VMD0007 BL-UP_v3.3_RD2 SCS_23MAY2019 plus recent edits.doc*
Developer Response				
Date				***Additional evidence submitted for review by Developer***
			Developers Response to Original Findings from the Previous Assessor: Re 1: Corrected Re 2: In section 4.2.3, we added language to distinguish between terrestrial and wetlands and refer to step 4.3 where GHG emissions from the SOC pool in the baseline scenario are calculated in equation 25 and 26. Re 3: The asterixes have been removed from equation 23 and 24. Re 4: The text preceding eq 22 now contains the following guidance: "For AUWD-REDD or RWE-REDD project activities, Equation 23 and Module CP-S must not be used. Instead, use Equation 24 for carbon stock change in all pools except soil, and Equation 25 or 26 for the quantification of GHG emissions from the SOC pool". The link to eq 23 provided in eqs 29 and 30 now reads "Equations 22 and 23". In eqs 32 and 33 this is "Equations 22 and 24". We think this makes clear enough how C_TOT must be calculated.	

	Developers Response to Round 2 Findings from the Previous Assessor: A further response to this finding had not been received by the assessment team prior to the discontinuation of assessment services. Please note that it was not feasible to budget time to review findings responses after 3 May 2019 and before discontinuation of assessment services was requested. It is possible that a response was sent to the assessment team regarding this finding during the period after 3 May 2019 and prior to the discontinuation of assessment services but, in such case, this response will not have been reviewed or saved to the assessment team's internal records.	
3-Dec-19	**Developers Status Update for S&A Carbon:** "Re 3: The double i in the suffix has been corrected. The correct parameter for wood products is C-WP,i with the description as provided in CP-W and the table in chapter 6. Re 4a: That may not be a correct inference. ΔCTOT and ΔCBSL,i,t only apply to terrestrial carbon pools as is clarified in the text and in the parameter descriptions. Terrestrial pools and wetland pools have different accounting methods, captured with C-TOT and GHGBSL-PEAT or GHGBSL-TW, respectively. Close reading is as good as equations; moreover, all calculations are captured in equations. We do believe there is confusion caused by the use of a redundant term C-TOT in the original version of the module. Hence we amended the equations to remove it. In the captions of steps 4.2 and 4.3 we clarify these steps are dedicated to terrestrial carbon stocks. These steps produce ΔCBSL,i,t for the PA and the LB which is in step 4.6 converted to ΔCBSL,unplanned for insertion into REDD+ MF. Step 4.4 for wetlands SOC pool has been added. Re 4b: These duplications have been removed and procedures have been adjusted. Step 4.4 in BL-UP now refers to modules BL-PEAT and BL-TW for the quantification of emission from wetland soil. In addition, guidance is provided regarding the stratification of the area, which should follow the stratification coming from BL-UP, which should be thus applied in BL-PEAT and BL-TW. For PA and LB we have not added separate equations as is the case for ΔCBSL,unplanned, as this seems quite obvious from the relevant language added ("for both the project area [PA] and the leakage belt [LB]"). Guidance has been added for the use of the outcomes of step 4.6 in REDD+ MF. Re 4c: We do not see an error here. We used the same systematics with distinguishing PA and LB as was already used in BL-PL in equation 29 and 30. When removing 'PA' and 'LB' from the parameters they are the same as the one in REDD+ MF. The edits to steps 4.2-4.6 are done to clarify the connection with REDD+ MF."	*VMD0007 BL-UP_v3.3_RD2 SCS_23May2019 plus recent edits.doc* *VM0007 REDD+MF_v1.6_SCS RD2_30AUG2019.doc.*
3-Jan-20	**Developers Response to S&A Round 1 Findings:**	*SCS_23MAY2019 plus recent edits.doc*

	ΔC_TOT (in previous equation 22 as summation of ΔCBSL,i,t over i and t) was removed because to was a redundant parameter. In Section 4.5 it was used to calculate ΔC_BSL,PA,unplanned and ΔC_BSL,LK,unplanned. Instead we inserted the summation of ΔCBSL,i,t in current equations 26 and 27. The removal of former eq. 22 caused the shift in numbering. The systematic approach is that parameters that need direct quantification are represented in the parameter tables. ΔC_BSL,i,t is calculated using equations in which parameters are represented in the tables and does not need to be in the tables itself.	*VMD0007 BL-UP_v3.3_RD2 SCS_23MAY2019 plus recent edits.doc*

Open Issue from Previous Assessor	**Issue ID:** **NCR 104**	**Status:** **Closed**	**Checked by:** **LH**	**Date Closed** **7-Feb-20**
VCS/ Rule ref	**Module**	**Significance**	**Original NCR Description from Previous Assessor**	**Comments**
VCS Standard V4.0	REDD+MF	Non conformance.	Section 4.7.2 of the VCS Standard requires that "The methodology shall establish criteria and procedures for quantifying net GHG emission reductions and removals generated by the project, which shall be quantified as the difference between the GHG emissions and/or removals, and/or as the difference between carbon stocks, from GHG sources, sinks and reservoirs relevant for the project and those relevant for the baseline scenario." Quantification procedures are provided in Section 8 of REDD+ MF. However, the following discrepancies have been identified in respect of these procedures: 1. In Section 8.1.4, the parameter "GHGBSL-SOC,i, in Module BL-TW" is referenced in two instances. There is no such parameter. 2. The assessment team understands that parameters BL-TW and M-TW no longer contain procedures for quantification of emissions from fossil fuels. These procedures are now, it seems, included in BL-UP, BL-PL, M-REDD, BL-ARR and M-ARR. The problem with this, in terms of the quantification procedures in Section 8.4 of REDD+ MF, is that those emissions are "tracked" as being associated with REDD or ARR project activities (i.e., they are included in the calculation in Equations 2 or 5 in REDD+ MF) even when at least some of the	

			emissions may be associated with the WRC project activities. This is an issue with stand-alone RWE project activities in terms of the baseline, since such projects do not use any baseline modules other than BL-TW for quantification of baseline emissions. It is also an issue with stand-alone CIW project activities in terms of the project scenario, because M-REDD and M-ARR are not used for such activities. Furthermore, it would be qute logical to conclude that Sections 8.4.2 and 8.4.3 of REDD+ MF do not apply to stand-alone WRC project activities, but failure to apply these sections in respect of stand-alone WRC project activities would lead to omission of fossil fuel emissions from baseline- and project-scenario quantification. In appears an attempt to partly mitigate the issues described above has been made in Section 8.2 of REDD+ MF, which references use of M-REDD for "stand-alone CIW project activities and CIW-REDD project activities" in two locations, but note that Table 4 of REDD+ MF indicates that M-REDD is not used for CIW project activities, and that a blanket reference to M-REDD for stand-alone CIW project activities is likely to cause widespread confusion (see also NCR 105). 3. Section 8.4.5 of REDD+ MF indicates the following: "For WRC project activities on peatland – where carbon stock changes are not estimated – the proxy for the net change in carbon stocks applied in this methodology is NERWRC. As this proxy includes all net GHG emissions reductions, it provides a conservative (larger) estimate of the buffer." This does not take into account projects on tidal wetlands. 4. Section 8.4.6 of REDD+ MF indicates the following: "This adjusted Adjusted_NERREDD+ must be the basis of calculations at each point in time in Equation 13." The equation reference appears to be incorrect. 5. The equation below the line "The adjusted value for NERREDD+ to account for uncertainty must be calculated as..." in Section 8.4.7 of REDD+ MF appears incorrect, in that 15% is added multiple times to the second term.	
			<u>Second Round Findings from Original Assessor:</u> The finding response had not been reviewed by the assessment team prior to the discontinuation of assessment services. Given that the finding response had not been reviewed prior to the time of discontinuation of assessment services, this finding remained open as of that time.	
			S&A Round 1 Findings 20 December 2019: 1): The VB doesn't see the said corrected reference "GHGBSL-TW,i,t" or added reference "GHGBSL-PEAT,i,t" in section 8.1.4. The parameters GHGbsl-tw and GHGbsl-peat are included in section 8.4.4, but do not have the "i" or "t" components as indicated in the developer's response (presumably the "i" and "t" signify stratum	*VM0007 REDD+MF_v1.6_SCS RD2_30AUG2019.doc.*

			and time/year respectively). References to the parameters GHGbsl-tw and GHGbsl-peat as coming from Module BL-PL and BL-UP are given in section 8.4.4 below equation 9. Please confirm the said updates are actually applicable to section 8.4.4 of REDD+ MF, not 8.1.4. 2) Stand-alone RWE: The VB confirmed that equation 10 has been added into section 8.4.4, indicating that for RWE-ARR or stand alone RWE project activities, any significant baseline fossil fuel combustion may be added to equation 9... (using equation 10). Equation 10 calculates GHG(BSL-WRC) by summing the net GHG emissions in the WRC baseline scenario, net GHG emissions on peatland, net GHG emissions on tidal wetlands, and net CO2e emissions from fossil fuel use in the baseline. It isn't clear to the VB how what was done fully addresses element 2 of this finding, and they request a detailed explanation and/or discussion. 3) In section 8.4.5, it now indicates that; "For WRC project activities, the proxy for the net change in carbon stocks applied in this methodology is NERwrc. As this proxy includes all net GHG emissions reductions, it provides a conservative (larger) estimate of the buffer." By removing the language specific to WRC project activities on peatlands "For WRC project activities on peatland..." to more broadly consider WRC project activities as a whole, the concerns for the lack of projects on tidal wetlands being taken into account have been addressed. The language now broadly covering WRC activities isn't considered to encompass projects on either peatland and tidal wetlands. 4) The response indicates that this has been corrected, but Equation 13 is still referenced in the text of section 8.4.6 of REDD+ MF. It looks like equation 19 may be the correct equation reference to include in section 8.4.6? 5) The response to this item indicates the equation (20) has been corrected and is now the same as in X-UNC. A reference to X-UNC is given below equation 20 ("For details see Module X-UNC"). Checks by the VB of the X-UNC module confirmed that the equation for the calculation of the ADJUSTED_NERredd+ parameter in equation 20 of REDD+ MF is the same as that in X-UNC. This correction has addressed item 5 in this finding.	
			S&A Round 2 Findings 27 January 2020	*VM0007 REDD+MF_v1.6_SC*

			1: The response given provides an acceptable explanation as to why the references to GHGBSL-TW,i,t and GHGBSL-PEAT,i,t aren't found in section 8.1.4. Edits made to this section in earlier versions of the module were intended to provide clarity that these parameters at to be expressed in units of t CO2e ha-1. This was however determined to be redundant since the units for these parameters expressed in t CO2e ha-1, are given in the parameter tables of the BL-UP and BL-PL modules. Clarification on the parameters GHGBSL-PEAT and GHGBSL-TW for stand alone RWE project activities was confirmed to be included in Section 8.4.4 where it states. "For RWE-ARR or stand-alone RWE project activities on peatland (including organic soils in tidal wetlands) GHGBSL-PEAT is taken from Module BL-PEAT." and "For RWE-ARR or stand-alone RWE on tidal wetland (excluding organic soils) GHGBSL-TW is taken from Module BL-TW." 2: The response confirms that there was a typo in the previous response, and that it should have correctly indicated that "For RWE-ARR or stand-alone RWE project activities, any significant baseline fossil fuel combustion may be added to Equation 7" It appears however that the text in REDD+MF, section 8.4.4 still refers to Equation 9 ("may be added to Equation 9"). Regarding the concern that emissions from fossil fuel burning in RWE projects is not addressed, since BL=PL and BL-PL are modules used for conservation project activities while RWE is specific to restoration activities, the BL-PL and BL-UP modules do not connect with RWE project activities. The developer has however has added in Equation 10, which serves to extend Equation 7 for RWE to include emissions from fossil fuel burning. This is considered to address the concerns raised by the pervious assessor. 4: The response acknowledges that the correct equation reference in section 8.4.6 of REDD+MF should be equation 19 not equation 13. This was confirmed to be addressed in the updated version of REDD+MF provided, and section 8.4.6 now appropriately references equation 19.	*S RD2_02JAN2020.doc*
			S&A Round 3 Findings 7 February 2020: The VVB confirmed that the intended edits said to have been made to footnote 6 in M-REDD has now been made addressing the remaining aspect of this finding. Footnote 6 now states:	*VMD0015 M-REDD, v2.1_RD2 SCS_28JAN2020.doc*

			"For conservation of seagrass project activities, due to the under-water presence of these ecosystems, remotes sensing techniques may not be always sufficient to obtain the required mapping accuracy of 90%. In such cases, project proponents must use ground-based mapping techniques, when possible in combination with remote sensing."	
Developer Response				
Date	***Comment***			***Additional evidence submitted for review by Developer***
	Developers Response to Original Findings from the Previous Assessor: Re 1: This has been corrected to read "GHGBSL-TW,i,t. Moreover, "GHGBSL-PEAT,i,t" has been added. Note that the table was removed from REDD+ MF and only occurs in modules BL-PL and BL-UP, to remove redundancy. Re 2: Stand-alone RWE Section 8.4.4 has been revised to provided clearer instructions for stand-alone RWE projects. An equation (10) adding fuel burning has been included. BL-ARR covers biomass burning in RWE-ARR projects. Redundant language has been removed. Definitions of GHG_BSL-PEAT and GHG_BSL-TW have been made consistent across modules. The chapeau of 8.1 has also been removed as it was redundant. In table 3, RWE is now clearly defined as being without vegetation establishment. RWE with a biomass component is treated as RWE-ARR. In table 5, some adjustments have been made to better deal with trees, shrubs and herbaceous vegetation. In table 6, herbaceous biomass now reads "excluded" as it is covered under ARR. There is some tension between the ARR accounting mores that excludes herbaceous vegetation from the biomass pools, and the reality of certain wetland restoration projects that see the establishment of herbaceous vegetation and even use prescribed burning. In this methodology, herbaceous vegetation is part of ARR. For the project scenario, module M-REDD has been modified to include procedures for SOC in wetlands (in lign with the modifications in BL-UP and BL-PL). The scope of BL-ARR and M-ARR was explicitly extended to include RWE-ARR. In table 3 of REDD+ MF and in footnotes 1 in BL-ARR and M-ARR, the relevance of herbaceous vegetation in RWE-ARR has been clarified. Stand-alone CIW The lack of M's in table 4 was an omission since 8.2.4 already indicated that CIW must use M-REDD. M-REDD has been updated to cater for CIW.			

	Equations is sections 8.4.2 and 8.4.3 summarize the results from the modules. These sections do not provide guidance on when to use which module. That guidance is given in previous sections, e.g. 8.1.4 and 8.2.4 for WRC. Re 3: The addition "on peatland" as well as "– where carbon stock changes are not estimated –" have been removed. Re 4: This has been corrected. Re 5: This has been corrected and is now the same as in X-UNC	
3-Dec-19	**Developers Status Update for S&A Carbon:** Re 1: This has been corrected to read "GHGBSL-TW,i,t. Moreover, "GHGBSL-PEAT,i,t" has been added. Note that the table was removed from REDD+ MF and only occurs in modules BL-PL and BL-UP, to remove redundancy. Re 2: Stand-alone RWE Section 8.4.4 has been revised to provided clearer instructions for stand-alone RWE projects. An equation (10) adding fuel burning has been included. BL-ARR covers biomass burning in RWE-ARR projects. Redundant language has been removed. Definitions of GHG_BSL-PEAT and GHG_BSL-TW have been made consistent across modules. The chapeau of 8.1 has also been removed as it was redundant. In table 3, RWE is now clearly defined as being without vegetation establishment. RWE with a biomass component is treated as RWE-ARR. In table 5, some adjustments have been made to better deal with trees, shrubs and herbaceous vegetation. In table 6, herbaceous biomass now reads "excluded" as it is covered under ARR. There is some tension between the ARR accounting mores that excludes herbaceous vegetation from the biomass pools, and the reality of certain wetland restoration projects that see the establishment of herbaceous vegetation and even use prescribed burning. In this methodology, herbaceous vegetation is part of ARR. For the project scenario, module M-REDD has been modified to include procedures for SOC in wetlands (in line with the modifications in BL-UP and BL-PL). The scope of BL-ARR and M	
3-Jan-20	**Developers Response to S&A Round 1 Findings:** 1: The edits to section 8.1.4 (first bullet point) occurred in a previous version to clarify that parameters GHG_BSL-TW,i,t and GHG_BSL-PEAT,i,t must be expressed in t CO2e ha-1. However, this was redundant information as the units are already provided in the parameter descriptions. Therefore the specific language was removed from 8.1.4. The clarifications on stand-alone RWE are indeed added to section 8.4.4.	

	2: Please note that in our response there was a typo: "may be added to equation 9" should read: "may be added to equation 7". The critique of the previous assessor was essentially that when using the TW or PEAT modules in combination with BL-UP or BL-PL, RWE is not covered and the burning of fossil fuel in RWE projects is not addressed. This is because BL-PL and BL-UP are modules used for conservation projects, and RWE is restoration. See also table 4 in REDD+ MF, indicating that these modules do no connect with RWE. To close this gap we added equation 10, which is an extension of equation 7 specifically for RWE, to include fuel burning. 4: Now corrected: must refer to equation 19.	
28-Jan-20	**Developers Response to S&A Round 2 Findings:** 2: Now corrected	

Open Issue from Previous Assessor	**Issue ID:** **NCR 105**		**Status:** **Closed**	**Checked by:** **LH**	**Date Closed** **20-Dec-19**
VCS/ Rule ref	**Module**	**Significance**	**Original NCR Description from Previous Assessor**		**Comments**
Methodology Approval Process V4.0	REDD+MF	Non conformance.	Section 6.1.4 of the Methodology Approval Process states the following: "Where the proposed methodology references tools or modules approved under the VCS or an approved GHG program, the validation/verification body shall determine whether the tool or module is used appropriately within the methodology." In Section 8.2, REDD+ MF references use of M-REDD for "stand-alone CIW project activities and CIW-REDD project activities" in two locations. From review of M-REDD, it appears that the only aspect of this module that has any bearing on stand-alone CIW project activities is the section "Monitoring project emissions" in Part 5 or, perhaps, monitoring of deforestation in the leakage belt (for use in LK-ASU and LK-ASP). A blanket requirement to use M-REDD, for such project activities, is likely to result in a high level of confusion and, as such, is not appropriate.		
			Second Round Findings from Original Assessor:		

			Through review of the revised version of REDD+ MF, entitled "VM0007 REDD+MF_v1.6_SCS RD2_19MAR2019", the assessment team can confirm that the text of Section 8.2.4 has been re-written. However, the revised text is also very confusing. For example: 1. There is a reference to the use of "Module M-PEAT or M-TW (whichever is relevant) for baseline net GHG emissions from the SOC pool", which is confusing because M-PEAT and M-TW do not quantify baseline emissions. 2. It is stated that "RWE-ARR project activities must also use Module M-ARR for the accounting of biomass and biomass burning (if relevant)", which is confusing because (1) E-BPB is referenced for quantification of emissions from biomass burning in Section 5.4.4 of REDD+ MF and (2) M-ARR does not contain procedures to account for emissions from biomass burning. Therefore, the discrepancy has not been fully resolved.	
			S&A Round 1 Findings 20 December 2019: 1) The text in question found in section 8.2.4 of REDD+ MF has been corrected to state that; "Stand-alone RWE and RWE-ARR project activities must use Module M-Peat or M-TW (whichever is relevant) for project net GHG emissions from the SOC pool. The correction to this statement was found to be appropriate and clears up the confusion in previous versions of the REDD+MF that resulted in this finding. 2) The text in section 8.2.4 of REDD+ MF related to this finding appears to remain the same and states; "RWE-ARR project activities must also use Module M-ARR for the accounting of biomass and biomass burning (if relevant)." The VB agrees with the response provided to this item in that both BL-ARR and M-ARR do refer to ACM0003 for the accounting of non-soil pools and biomass burning. BL-ARR & M-ARR were found to clearly link to ACM0003 in the procedures given in section 5 where it states "RWE-ARR project activities must estimate the GHG emissions and removals under the project scenario using: -For the non-soil pools and biomass burning: AR-ACM0003 and associated tools..." Under the Prescribed Burning heading of this section it also indicates that; in the case of prescribed burning in the project scenario, project proponents may use "Emissions of non-CO2 GHGs resulting from fire in site preparation" GHGspf,t in CDM Tool AR-Tool08." AR-Tool08 for the Estimation of non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity, is clearly linked/connected in the ACM0003 methodology (normative references). While M-ARR and BL-ARR do not in themselves contain procedures to account for emissions from biomass	*VM0007 REDD+MF_v1.6_SCS RD2_30AUG2019.doc.* *VMD0041 BL-ARR_v1.1_SCS RD2_19MAR2019.doc* *VMD0045 M-ARR_v1.1_SCS RD2_19MAR2019.doc*

			burning, these modules are clearly linked and connected to AR-ACM0003 and AR-Tool08 which do. Section 5.4.2 of REDD+ MF indeed includes a reference to the allowance of prescribed burning of herbaceous and shrub aboveground biomass for RWE-ARR project activities, with procedures for accounting of emissions from biomass burning for RWE-ARR project activities (e.g. ACM0003 and AR-Tool08) in section 8.2.4. The reference to C-BPB for the quantification of emissions from biomass burning in section 5.4.4 appears to have been removed. This section of REDD+ MF (5.4.4, table 9), is clear in regard to the inclusion of both baseline and project level biomass burning, with procedures established, again as covered in section 8.2.4 where ACM0003 and AR-Tool08 are linked. The updated versions of REDD+ MF and M-ARR and BL-ARR were found to address the confusion concerns raised in this finding. S&A review of this NCR and the responses provided by the developer were found to address all elements of this NCR.	
			S&A Round 2 Findings 27 January 2020	
			S&A Round 3 Findings 7 February 2020:	
Developer Response				
Date			***Comment***	***Additional evidence submitted for review by Developer***
			Developers Response to Original Findings from the Previous Assessor: The chapeau of section 8.2 has been deleted as it was fully redundant given the content of the following sub-sections. Sub-section 8.2.4 has been amended to provide better guidance on use of modules M-TW and M-PEAT versus M-REDD. M-REDD has been edited to better cover CIW. *** PENDING REVIEW OF M-REDD ***	
3-Dec-19			**Developers Status Update for S&A Carbon:** Re 1: Error corrected by replacing 'baseline' with 'project'.	

	Re 2: Both BL-ARR and M-ARR refer to ACM0003 for accounting of non-soil pools and biomass burning (the latter was specifically added to the text to highlight that ACM0003 does cover these emissions, when working on NCR 112). ACM0003 itself connects with AR-Tool08 dedicated to biomass burning. M-ARR now specifically refers to procedures for prescribed biomass burning relevant for RWE-ARR projects, just to emphasize that there is a procedure for it (prescribed burning is mentioned in the applicability conditions for RWE in REDD+ MF 4.5.2).	
3-Jan-20	**Developers Response to S&A Round 1 Findings:**	
28-Jan-20	**Developers Response to S&A Round 2 Findings:**	

Open Issue from Previous Assessor	**Issue ID:** **NCR 106**		**Status:** **Closed**	**Checked by:** **LH**	**Date Closed** **7-Feb-20**
VCS/ Rule ref	**Module**	**Significance**	**Original NCR Description from Previous Assessor**		**Comments**
VCS Standard V4.0	LK-ASP	Non conformance.	Section 4.7.1 of the VCS Standard requires that "The methodology shall establish criteria and procedures for quantifying GHG emissions and/or removals, and/or carbon stocks, for the selected GHG sources, sinks and/or reservoirs, separately for the project (including leakage) and baseline scenarios." Procedures for quantifying leakage emissions are provided in LK-ASP. However, the following discrepancies have been identified in respect of these procedures: 1. The parameter LKA (planned,i,t), which exists in the currently prevailing version of LK-ASU (Version 1.2), is inconsistently represented. In Equation 6 it is correctly represented as LKA(planned,i,t), while elsewhere (e.g., in Equation 15) it is represented as LKA(planned).		

			2. It is not clear where the values for parameter Rate(Closs,t) in Equation 12 should come from. While the parameters Rate(Closs-BSL,t) and Rate(Closs-WPS,t) are included in X-STR, parameter Rate(Closs,t) is not present. 3. The heading of Section 5.3.1 refers to "the Peat Carbon" and is, thus, confusing when this section is applied to project activities on tidal wetlands. 4. The parameter LKA(planned,i,t) is calculated in Equation 6, but the guidance for quantification of this parameter does not, in some cases, have meaning for project activities other than REDD project activities. For example, the parameter A(defLK,i,t) in Equation 6 is specific to deforestation within the leakage belt. Furthermore, the guidance for monitoring this parameter in M-REDD is specific to monitoring of deforestation and may not be appropriate for monitoring of wetland degradation (e.g., standardized remote sensing methodologies exist for monitoring deforestation, as described in M-REDD, but these methodologies may not apply fully to remote monitoring of wetland degradation). 5. Equations 15 and 16 would be appropriate if the quantification procedures in the methodology were calculated out on the basis of a given monitoring period (or "year"). However, these procedures are carried out on a cumulative basis. As such, Equations 15 and 16 are only correct if they provide output on a cumulative basis, as does Equation 1. These equations do not currently provide output on a cumulative basis. 6. In Equations 17 and 18, the parameter D%(planned,i,t) should be inside the double-summation (i.e., it should be inside the summation across all strata), as it is potentially calculated uniquely for every year and stratum.	
			Second Round Findings from Original Assessor: Through review of the revised module, entitled "VMD0009 LK-ASP v1.2_RD2 SCS_15FEB2019", the assessment team has determined the following: - Regarding item 1, the assessment team can confirm that the parameter in question is now consistently represented as LKA(planned,i,t). However, a small discrepancy remains. It is indicated in Section 5.3.3 that this parameter is "from Equation 5" when, in fact, it is calculated in Equation 6. - Regarding item 2, the parameter Rate(CLoss,t) is no longer used in LK-ASP. Therefore, this item is no longer relevant. - Regarding item 3, the heading of Section 5.3.1 is no longer specific to peat. Therefore, the discrepancy has been resolved.	

			- Regarding item 4, the revised version of M-REDD has not been reviewed by the assessment team. Therefore, the response to this item cannot be reviewed. - Regarding items 5 and 6, Equations 15-17 have been corrected to reflect a "cumulative" quantification basis and correctly position the parameter D%(planned,i,t). However, there is one remaining discrepancy in respect of Equation 17. The clarification that variable t represents "1, 2, 3, … t* years elapsed since the start of the project activity", which is so critical to an understanding of the "cumulative" nature of the quantification approach, is missing from below Equation 17. Because items 1, 4 and 5-6 have not been completely addressed, the finding must remain open.	
			S&A Round 1 Findings 20 December 2019: 1) The VB can confirm that the incorrect reference to equation 5 in regard to LKAplanned,i,t in section 5.3.3 has now been corrected to reflect equation 6, where this parameter is actually calculated. 2) This element of NCR 106 was found to be resolved by the previous assessor. The VB agrees, that since the parameter Rate (Closs,t) is no longer used in the LK-ASP module, the concerns related to this item are no longer relevant. 3) This element of NCR 106 was found to be resolved by the previous assessor. The VB agrees, the heading of section 5.3.1 ("Step 1: Estimate the Soil Organic Carbon Loss in All of the Agent's Concessions") is no longer specific to peat, so the confusion identified in the original findings has been resolved. 4) As indicated in the developers original response to this item, M-REDD was updated to cover CIW activities. VB review found that the M-REDD document now appears to fully incorporate CIW-REDD, RWE-REDD and stand-alone CIW project activities, including references to M-PEAT and M-TW as appropriate for the quantification of net GHG emissions in the project area and leakage belt for CIW-REDD, RWE-REDD and stand-alone CIW project activities. The developer asserts that based on their interactions with Blue Carbon experts, remote sensing methods for detecting wetland degradation are similar to that applied for the detection of deforestation. The VB understands this to be correct, and the remote sensing methods reasonably aligned. It is also noted that with respect to monitoring of land-use and land-cover change data in step 1, and the use of remotely sensed spatial data and related resolution requirements a foot note (6) has been added indicating that "For conservation of seagrass project activities, due to the under-water presence	*VMD0009 LK-ASP v1.2_RD2 SCS_17APR2019 with highlights.doc* *VM0007 REDD+MF_v1.6_SCS RD2_30AUG2019.doc* *VMD0009 LK-ASP v1.2_RD2 SCS_17APR2019 with highlights.doc* *VMD0015 M-REDD, v2.1_RD2 SCS_23MAY2019 with highlights.doc*

			of these ecosystems, remote sensing techniques may not be always sufficient to obtain the required mapping accuracy of 90%. In such cases, project proponents may use ground-based mapping techniques, when possible with remote sensing." The VB requests a more thorough explanation as to why the additions made to M-REDD indeed serve to make the document comprehensively incorporate CIW-REDD, RWE-REDD and stand-alone CIW project activities to help give them a clearer understanding? While the VB finds this added footnote (6) as appropriate for the allowance to use ground-based mapping techniques, when possible in combination with remote sensing in order to obtain the required 90% mapping accuracy, they question whether such allowance should be considered for all WRC project activities in other wetland ecosystem types in order to ensure the minimum mapping accuracy requirements are met, if limitations with remote sensing techniques are encountered in other wetland ecosystems. It is also noted that the VB is in the process of making contact with some remote sensing specialist with experience in wetland ecosystems to get their general input on using RS to adequately deduct wetland degradation. 5) 6) This element of NCR 106 was found to be resolved by the previous assessor. The last remaining concern with this item, regarding the lack of clarification on the variable t in equation 17 was found to be addressed. The description given for variable t clearly indicates that t represents years elapsed since the start of the project activity ("1, 23, t* years elapsed since the start of the project activity"). It is noted that this description is also given in equations 15 & 16. While the clarification on variable t was found to be given to equations 15-17 in M-REDD, the latest response to the item given, kind of implies the actual changes made were to 15 - 17 in LK-ASP. Equations 17 - 18 in LK-ASP indeed show the calculation as being cumulative, and include the same description for variable t. The VB doesn't fully understand the link between these 2 modules, and if this item was addressed just through the updates to M-REDD or also LK-ASP? A description offering clarification in this regard is requested.	
			S&A Round 2 Findings 27 January 2020	*VMD0015 M-REDD, v2.1_RD2*

			4: The response is found to provide helpful contextual background on why the additions made to M-REDD were considered necessary to provide clarity that the document is intended to comprehensively incorporate CIW-REDD, RWE-REDD and stand-alone CIW project activities. In previous versions, applicability for CIW project activities was considered to be implicit from the transition guidance given in Table 1. Clarity was however lacking on how procedures for CIW project activities would work however, so the developer attempted to explicitly make a clear link with the wetland modules (TW & PEAT). VB review found that the M-REDD document does fully incorporate CIW-REDD, RWE-REDD and stand-alone CIW project activities, including references to M-PEAT and M-TW as appropriate for the quantification of net GHG emissions in the project area and leakage belt for CIW-REDD, RWE-REDD and stand-alone CIW project activities. Total net GHG emission reductions from REDD project activities are covered by equation 2, while net GHG emission reductions for wRC (wetland) project activities are covered in equation 11. The said revision to footnote #6 in M-REDD (e.g. change of the term "may" to "must") does not appear to have actually been made in the updated version of M-REDD provided. 5 & 6: The VB acknowledges the incorrect reference to M-REDD regarding equations 16 and 17 in the previous findings, when the responses were indeed referring to equations 16 - 17 in LK-ASP. I am just not seeing the clear link between M-REDD and LK-ASP as is said to be made explicit under equation 2 of M-REDD?	*SCS_02JAN2020.doc* *VMD0015 M-REDD, v2.1_RD2* *SCS_02JAN2020.doc* *VMD0010 LK-ASU v1.1_RD2* *SCS_03JAN2020.doc*
			S&A Round 3 Findings 7 February 2020: 4: The VVB confirmed that the intended edits said to have been made to footnote 6 in M-REDD has now been made addressing the remaining aspect of this finding. Footnote 6 now states: "For conservation of seagrass project activities, due to the under-water presence of these ecosystems, remotes sensing techniques may not be always sufficient to obtain the required mapping accuracy of 90%. In such cases, project proponents must use ground-based mapping techniques, when possible in combination with remote sensing." 5: It was clarified to the VB that the text below equation 2 in M-REDD was specifically intended to clarify the link between M-REDD and LK-ASU only. M-REDD doesn't refer to the LK-ASP module, and the LK-ASP module	*VMD0015 M-REDD, v2.1_RD2* *SCS_28JAN2020.doc* *VMD0015 M-REDD, v2.1_RD2* *SCS_02JAN2020.doc* *VMD0010 LK-ASU v1.1_RD2* *SCS_03JAN2020.doc*

			doesn't involve procedures covered in M-REDD, with the exception of the reference made to the frequency of monitoring/recording as outlined in the parameter tables. The VB has been given sufficient clarification on the linkages between M-REDD and LK-ASU and LK-ASP.	

Developer Response		
Date	***Comment***	***Additional evidence submitted for review by Developer***
	Developers Response to Original Findings from the Previous Assessor: Re 1: Corrected to LKA(planned,i,t Re 2: Procedure has been overhauled/simplified and aligned with LK-ASU Re 3: Amended to read Soil Organic Carbon Loss Re 4: M-REDD has been updated to cater for CIW. Blue carbon RS experts have advised that RS methods for wetlands are quite similar. Re 5: Procedure has been overhauled/simplified and aligned with LK-ASU Re 6: Corrected While updating the module, procedures for PDT and SDT in X-STR have been improved as well. In 5.5 and 6.1 adding that for the purpose of determining the PDT peat depth may be determined as the depth of the peat layer down to a level where no further oxidation or other losses occur (e.g., the average water table depth). This is in line with the VCS requirements and was omitted in the previous version.	
	Developers Response to Round 2 Findings from Previous Assessor: Re 1: Corrected Re 4: *** PENDING REVIEW OF M-REDD *** Re 5 and 6: Descriptions of i and t have been added	
3-Dec-19	**Developers Status Update for S&A Carbon:** Re 2: Amendments to LK-ASP with respect to soil carbon loss have been highlighted yellow. The issue was resolved. Re 4: Addition to M-REDD with respect to procedures for CIW project activities have been highlighted yellow. Please note the previous response regarding the application of RS in wetlands. Re6: Amendments to equations 16 and 17 and to the description of equation 16 and 17 in LK-ASP have been highlighted in yellow.	
3-Jan-20	**Developers Response to S&A Round 1 Findings:**	

	4: In previous versions the applicability of the procedures to CIW projects was implicit from the translation in table 1. Implicitly, the procedures did cover (were intended to cover) comprehensively CIW, CIW-REDD and RWE-REDD project activities. But it was insufficiently clear how that would work in practice. The recent additions were meant to make this more explicit, in particular where establishing a clear link with wetland modules TW and PEAT, and further elaboration of these results, was warranted. In essence, the results for the REDD component are inserted in eq 2 of REDD+ MF, the results for the wetlands component in eq 11. As to the second point, we agree that this also applies in a more general context. The footnote was intended as additional guidance and not as a requirement explicitly for seagrass systems. We now changed the "may" to "must" and this explicitly applies to seagrass systems. For other systems, the first line of STEP 1 outlines that RS is required ("...shall be used"...). 5: The comments by the previous assessor and our responses referred to equations 16 and 17 (previously 15 and 16) in LK-ASP, not M-REDD. In addition we referred to amendments to align procedures in LK-ASP with those in LK-ASU, i.e. in particular regarding the separation of procedures for peat and tidal wetlands. M-REDD is mostly concerned with monitoring in the project area and the leakage belt and therefore there is a close connection with LK-ASU. The link between LK-ASU and M-REDD is made explicit in the language following equation 2 in M-REDD. The comments regarding M-REDD by the previous assessor may have cause confusion regarding the link between M-REDD and LK-ASP.	
28-Jan-20	**Developers Response to S&A Round 2 Findings:** 4: Now corrected Footnote 6: "For conservation of seagrass project activities, due to the under-water presence of these ecosystems, remotes sensing techniques may not be always sufficient to obtain the required mapping accuracy of 90%. In such cases, project proponents may use ground-based mapping techniques, when possible in combination with remote sensing." 5: The text below equation 2 intends to clarify the link between M-REDD and LK-ASU alone, not LK-ASP. In fact there is no link that needs clarification between M-REDD and LK-ASP, because M-REDD is not referring to LK-ASP and LK-ASP is not using procedures in M-REDD except for the reference to "Frequency of monitoring/recording".	

Open Issue from Previous Assessor	**Issue ID: NCR 111**	**Status: Closed**	**Checked by: LH**	**Date Closed 27-Jan-20**

VCS/ Rule ref	Module	Significance	Original NCR Description from Previous Assessor	Comments
AFOLU Requirements V3.6	X-STR	Non conformance.	Section 4.5.29 of the AFOLU Requirements states the following: "With respect to the soil carbon pool, the maximum quantity of GHG emission reductions that may be claimed by the project shall not exceed the net GHG benefit generated by the project 100 years after its start date… To determine this long-term net GHG benefit, methodologies shall establish criteria and procedures to estimate the remaining soil carbon stock adjusted for any project emissions and leakage emissions in both the baseline and project scenarios for 100 years, taking into account uncertainties in modeling and using verifiable assumptions. Projects unable to establish and demonstrate a significant difference in the net GHG benefit between the baseline and project for at least 100 years are not eligible." The module X-STR contains procedures for carrying out the required accounting. However, the following discrepancies regarding the accounting guidance have been identified by the assessment team: 1. Equations 1, 2, 3, 5, 14 and 15 have been modified such that the parameters representing the number of hectares in a given project and baseline stratum are represented as A(WPS,i,t) and A(BSL,i,t), instead of A(WPS,i) and A(BSL,i), respectively. This clarifies that the area of strata may vary depending on the year, which is generally a helpful clarification to make. However, the aforementioned equations specifically make use of the area of the strata in question at t=100. The representation of the parameters in question as A(WPS,i,t) and A(BSL,i,t) cause it to be unclear which value is to be used for t in quantification. An inconsistency is also introduced relative to other parameters in the aforementioned equations, in which "t100" is substituted for t to make clear that t=100 for quantification purposes. The assessment team is aware of the language in Sections 6.1 and 6.2 for these parameters indicating that "In Equations 1, 2, 5, 15 and 16, the area for AWPS,i,t100 must be used", for example. However, this point is sufficiently important that it seems inadequate to tuck clarification away in the parameter tables. (In addition, please note that the numbering in the parameter tables seems off--Equation 14 is not represented and Equation 16, which does not include these parameters, appears to be incorrectly represented).	

			2. Similarly, the parameters pertaining to "Volumetric carbon content of the peat below the water table in the project scenario" and "Volumetric carbon content of the peat below the water table in the project scenario" are represented as C(vol_lower,WPS,i,t) and C(vol_lower,BSL,i,t), instead of C(vol_lower,WPS) and C(vol_lower,BSL), respectively. The comments made in item 1 above also apply to this situation. 3. Equation 3 is comprised of three distinct lines. It appears that the third line, to the immediate left of the "(3)", is a duplication of the term in the second line. 4. In Equations 3 and 5, the parameter C(BSL,t0) is not multiplied by an area value. Since C(BSL,t0) is in units of tC per ha, this results in incorrect dimensional analysis. 5. For the total stock approach in Section 5.4.1 of X-STR, Equations 2 and 5 are provided in order to determine whether "the difference between carbon stock in the project scenario and baseline scenario at t = 100 (CWPS-BSL,t100) is significant". No parallel equations exist for the stock loss approach in Section 5.4.2 of X-STR. Formally speaking, Section 5.4.2 of X-STR lacks a test for "significance" as required by Section 4.5.29 of the AFOLU Requirements.	
			<u>Second Round Findings from Original Assessor:</u> The finding response had not been reviewed by the assessment team prior to the discontinuation of assessment services. Given that the finding response had not been reviewed prior to the time of discontinuation of assessment services, this finding remained open as of that time.	
			S&A Round 1 Findings 20 December 2019: 1: The parameters A(WPS,i,t and A(BSL,i,t) were confirmed to have been changed to A(WPS,i,t100) and A(BSL,i,t100). Where these parameters are defined below the equations where they are used, it now clearly indicates that "t100" represents the Area of the stratum (project and baseline) _ i at t = 100, making it clear that t=100 for quantification purposes. These parameters shown in the tables of sections 6.1 A(BSL,i,t) and 6.2 A(WPS,i,t) correctly references equations 1, 2, 3, 5, 15, 16, 17, 18, 14 where they are used. (with equation 14 using A(i,t)). These revisions were found to address the concerns raised in this item. 2) The parameters C(vol_lower,WPS,i,t) and C(vol_lower,BSL,i,t) in equations 6 & 7 are now identified as C(vol_lower,WPS,i,t100) and C(vol_lower,BSL,i,t100). Where these parameters are defined below equation 12, it is now made clear that they represent volumetric carbon content of the peat below the water table (project and baseline) in stratum i at t = 100.	*VMD0016 X-STR_v1.2_SCS RD2_24NOV2019 with highlights.doc*

			These revisions were not made however where these parameters are used and described in equations 14, 19 & 20 (they are still shown as C(vol_lower,WPS,i,t) and C(vol_lower,BSL,i,t)). Should the changes be made here too? (e.g. revising them to reflect "t100"? It isn't clear to the VB why in equations 6 & 7 these parameters use "t100" while in equations 14, 19 & 20, it just uses "t"? Can an explanation for the reasoning behind this to give the VB a clear understanding be offered? 3) The VB found that the question over the equation being comprised with 3 distinct "lines" was related to formatting of the document. If the margin width is adjusted in the word file, equation 3 show as just 2 lines. There is a term/parameter that is used twice in the equation however, and it is not clear if this is the intent and should be, or if this is an error? 4) The VB found this issue to have been addressed in equations 3 & 5. The parameter C(BSL, i,t0) is now being multiplied by A(BSL,1,t100) to give results in tC/ha. 5) Equations 16 & 18 were confirmed to be added into the module to test the significance of carbon stock losses between the difference between carbon stock in the project scenario and baseline scenario when the carbon stock loss approach is used. Equation 16 appears to be consistent with the structure of equation 2. Equation 18 is however different from that of equation 5 (when it appears 16 is the same as 2), and it is not clear why this would be different when testing for the significance in the difference between carbon stock in the project scenario and the baseline scenario when the carbon stock loss approach is used?	
			S&A Round 2 Findings 27 January 2020 3: While Equation 3 was not revised and was found to be correct, the developer did find an error in the calculation of the parameter "LKF" calculated in equation 4. This fraction of baseline emissions (LKF) is quantified as the ratio between ex-ante leakage and baseline emissions (from GHG_BSL-WRC and GHG_LK-WRC). This ratio is multiplied with the ex-ante baseline soil organic carbon stock at t=100 to obtain the amount of leakage deduction. This amount is subtracted from the ex-ante project soil organic carbon stock at	*VMD0016 X-STR_v1.2_SCS RD2_02JAN2020.doc*

			t=100. To address this, the term (C_(BSL,i,t0)×A_(BSL,i,t100)) has been removed from the second line of equation 4 & 5. Additional guidance indicating "LKF is then multiplied with the soil organic carbon stock in the baseline scenario at the 100-year mark, to obtain the amount of leakage to be subtracted from soil organic carbon stocks in the project scenario at the 100-year mark." has been added in below equation 2, which is considered appropriate. 5: The VB agrees, with the corrections made to equation 4 & 5, the structure of 18 is now consistent with that of equation 5, and the VB's question has been addressed.	

Developer Response		
Date	***Comment***	***Additional evidence submitted for review by Developer***
	Developers Response to Original Findings from the Previous Assessor: Re 1: In equations 1-5 and 15-16 AWPS,i,t and ABSL,i,t have been changed to AWPS,i,t100 and ABSL,i,t100, respectively, and their descriptions have been amended accordingly. Refs to equation number have been checked and edited where necessary. Re 2: Similar corrections made Re 3: In our document the equation consists of 2 lines with no duplications. This may be an issue with Word. PDF file to be provided. Re 4: The unit for CWPS-BSL,i,t100 was correct to tC. The dimensional issue has been corrected by multiplying C(BSL,t0) with the area at t=100. Re 5: New equations 16 and 18 have been added.	
3-Dec-19	**Developers Status Update for S&A Carbon:** Re 1, 4 and 5: Amendments to equations 1-5 and 15-18 in X-STR have been yellow highlighted. Re 2: Amendments to equations 19-20 in X-STR have been yellow highlighted.	
3-Jan-20	**Developers Response to S&A Round 1 Findings:**	

	2: This is because of the different approaches (Total Stock in 5.4.1 and Stock Loss in 5.4.2). In the former the situation at t=100 is assessed and for this the volumetric carbon content of the peat at t=100 is needed (eqs 6 and 7). In the latter the change in stock over 100 years in assessed and for this the volumetric carbon content of the peat at each time step is needed (eqs 19 and 20). In eq 14, an alternative method for the rate of peat loss is provided, to be inserted in eqs 8 and 9, which sum the loss over a period of 100 years. Therefore, the parameters must not be quantified for t=100 alone. 3: There is indeed an error in the second line of the equation. Leakage is approximated as a fraction of baseline emissions. This fraction (i.e. LKF) is quantified as the ratio between ex-ante leakage and baseline emissions (from GHG_BSL-WRC and GHG_LK-WRC). This ratio is multiplied with the ex-ante baseline soil organic carbon stock at t=100 to obtain the amount of leakage deduction. This amount is subtracted from the ex-ante project soil organic carbon stock at t=100, as required by the VCS standard. Therefore, the term (C_(BSL,i,t0)×A_(BSL,i,t100)) has been removed from the second line of equation 4 and from equation 5. To the explanatory text above the equation we added: "LKF is then multiplied with the soil organic carbon stock in the baseline scenario at the 100-year mark, to obtain the amount of leakage to be subtracted from soil organic carbon stocks in the project scenario at the 100-year mark." 5: With the current corrections to equations 4 and 5, equation 18 has the same structure as equation 5.	

Open Issue from Previous Assessor	**Issue ID:** **NCR 112**		**Status:** **Closed**	**Checked by:** **LH**	**Date Closed** **27-Jan-20**
VCS/ Rule ref	**Module**	**Significance**	**Original NCR Description from Previous Assessor**		**Comments**

VCS Standard V4.0	E-BPB	Non conformance.	Section 4.7.1 of the VCS Standard requires that "The methodology shall establish criteria and procedures for quantifying GHG emissions and/or removals, and/or carbon stocks, for the selected GHG sources, sinks and/or reservoirs, separately for the project (including leakage) and baseline scenarios." Procedures for quantifying emissions from biomass and peat burning are provided in E-BPB. However, the following discrepancies have been identified in respect of these procedures: 1. In Section 4, the scope of the module has been expanded to include WRC project activities. The module uses CP-AB, CP-D and CP-L to quantify variables that are inputs to the calculation of carbon stock prior to burning, per Equation 2 of E-BPB. This is appropriate for REDD and REDD-WRC project activities, as the aforementioned modules are applicable to such activities, per Table 4 of REDD+ MF. However, for ARR-WRC project activities and stand-alone WRC project activities, this is not appropriate, as the aforementioned modules are not used by said project activities according to the framework set out in Table 4 of REDD+ MF. Project activities in the ARR-WRC and stand-alone WRC categories have their own frameworks (as set out in BL-ARR and M-ARR, and BL-TW and M-TW, respectively) for quantifying variables corresponding to those used as inputs to Equation 2 of E-BPB. Even if Table 4 of REDD+ MF were to be modified so as to indicate that CP-AB, CP-D and CP-L are used for ARR-WRC and stand-alone WRC project activities, the use of different modules to calculate closely related variables would result in unnecessary and inappropriate confusion for the user of the methodology. 2. Equation 2 of E-BPB includes herbaceous biomass, as represented through the parameter C(AB_herb,i,t). While the inclusion of herbaceous biomass is appropriate for ARR-WRC project activities, it is not appropriate for stand-alone WRC project activities, as the methodology currently stands, because herbaceous biomass has been excluded from the scope of such activities per Table 6 of REDD+ MF (note, however, that this exclusion does not appear to be conservative when burning is taking place under the project scenario, as addressed in NIR 113). 3. The parameter E(peatburn,i,t) has apparently been renamed GHG(peatburn,i,t). However Equation 3 has not been revised accordingly. In addition, the change in name has resulted in other inconsistencies. For example, M-PEAT (a module that is specifically excluded from the scope of this assessment) references a variable entitled E(peatburn-WPS,i,t). The linkage between this variable and E(peatburn,i,t) is self-evident, but the linkage with respect to GHG(peatburn,i,t) is not evident. This "broken link" is likely to cause confusion on the part of users of the methodology.	

			4. It is indicated that the parameter A(burn,i,t) is quantified in M-REDD. (Procedures in M-PEAT were referenced for quantification of this parameter in the previous version of E-BPB.) The module M-REDD is only applicable to REDD project activities, per Table 4 of REDD+ MF. Therefore, it is inappropriate, as it stands, to reference M-REDD for quantification of this parameter in respect of ARR-WRC or stand-alone WRC project activities. Furthermore, M-REDD is not listed as a referenced module in Section 1 of E-BPB.	
			Second Round Findings from Original Assessor: The assessment team reviewed the updated version of E-BPB, entitled "VMD0013 E-BPB v1.1 18APR2019", to see whether all of the noted issues had been addressed. The assessment team's conclusions are as follows: 1. The assessment team agrees that the particular identified discrepancy has been addressed through exclusion of stand-alone WRC project activities from the scope of the module, as the modules CP-AB, CP-D and CP-L are all applicable to REDD-WRC project activities. 2. The assessment team agrees that the particular identified discrepancy has been addressed through exclusion of WRC-ARR project activities from the scope of the module, as herbaceous biomass is not within the project boundary for REDD projects or WRC projects. In addition, the parameters C(AB_non tree,i,t) and C(AB_herb,i,t) have been removed from Equation 2, reverting Equation 2 to its appearance in the prevailing version of E-BPB. 3. The variable GHG(peatburn,i,t) is now correctly referenced in Equation 3. The other identified naming discrepancies have been corrected as well. The modules BL-PEAT and M-PEAT have been revised to use the updated nomenclature. 4. Since the issuance of the finding, M-REDD has been revised to contain procedures for CIW project activities in addition to REDD project activities, and this module is now listed in Section 1 of E-BPB. However, the issue has not wholly been addressed, because E-BPB is, per Section 4, applicable to "...REDD-WRC project activities". Therefore, E-BPB is applicable to ARR-RWE project activities but M-REDD is not applicable to such activities, creating a gap in coverage for such activities. Because of the issues described under #4 above, the discrepancy has not been fully resolved.	
			S&A Round 1 Findings 20 December 2019: 1-2) The applicability conditions in section 4 of the module, clearly indicate that the module is applicable to REDD and REDD-WRC project activities. This stated applicability does not include ARR-WRC and stand-alone	*VMD0013 E-BPB v1.1 23MAY2019 plus recent edits.doc*

			WRC project activities. The parameters C(AB_non tree,i,t) and C(AB_herb,i,t) have been removed from Equation 2. 3) In section 1, Sources, a reference to M-PEAT is given to link the E-BPB module ("VMD0046 Methods for monitoring soil carbon stock changes and greenhouse gas emissions and removals in peatland rewetting and conservation project activities (M-PEAT)." The BL-PEAT module is also included here ("VMD0042 Estimation of baseline soil carbon stock changes and greenhouse gas emissions in peatland rewetting and conservation project activities (BL-PEAT)." E-BPB is also linked in M-PEAT, section 5.4 ("Procedures for assessing GHG emissions from burning of biomass and peat are provided in Module E-BPB."), and in BL-PEAT, section 5.5 ("Procedures for quantification of GHG emissions from peat fires are provided in Module E-BPB."). E-BPB is also properly referenced in the Data and Parameter Tables of M-PEAT and BL-PEAT. In E-BPB, the variable E(peatburn,i,t), revised as GHG(peatburn,i,t) is used in equation 3. This terminology/nomenclature (e.g. GHGpeatburn) was confirmed to be used throughout M-PEAT and BL-PEAT. These updates were found to address the original concerns over the confusion with the terms of these parameters within the related modules. 4) The M-REDD module was confirmed to now be referenced in section 1, sources of E-BPB ("VMD0015 Methods for monitoring of greenhouse gas emissions and removals in REDD project activities (M-REDD."). Section 4 of E-BPB, in regard to applicability was confirmed to now read; "This module is applicable to REDD project activities with emissions from biomass burning and REDD-WRC project activities with emissions from biomass and/or peat burning. This module is also applicable to RWE and ARR-RWE project activities with emissions from peat burning." M-REDD was also confirmed to reference E-BPB in section 1, sources ("Module E-BPB VMD0013 Estimation of greenhouse gas emissions from biomass and peat burning." In REDD+ MF, table 9 was confirmed to contain similar language in regard to GHG sources from peat or biomass combustion in both the project and baseline scenarios, indicating; "Procedures are provided for REDD project activities with emissions from biomass burning and REDD-WRC project activities with emissions from biomass and/or peat burning, as well as for RWE and ARR-RWE project activities with emissions from peat burning." The connection/link between M-REDD and E-BPB for ARR-RWE project activities is still not clear to the VB?	*VMD0046 M-PEAT v1.0_SCS RD2_23MAY2019 plus recent edit.doc* *VMD0042 BL-PEAT v1.0_SCS RD2_23MAY2019.doc* *VMD0015 M-REDD, v2.1_RD2 SCS_23MAY2019 with highlights.doc* *VM0007 REDD+MF_v1.6_SCS RD2_30AUG2019.doc*

			In section 4.5.2, it is made clear that prescribed burning in ARR-RWE project activities may occur ("In RWE-ARR project activities, the prescribed burning of herbaceous and shrub aboveground biomass (cover burns) may occur." It is not made clear here however, that the procedures for biomass burning in ARR-RWE are provided through ACM0003 which implicitly uses AR-CDM Tool08 for biomass burning. Should this be made clear in the applicability language under section 4.5.2 of REDD+ MF?	
			S&A Round 2 Findings 27 January 2020 The response has sufficiently clarified the link between M-REDD and E-BPB. ARR-RWE projects rely on existing CDM tools for many of the calculations (given the application of ACM0003), including the tool for burning of biomass. However, E-BPB must be used to quantify the GHG emissions from peat burning, as this emission source isn't provided in the ACM0003 CDM methodology. This finding did however lead the developer to determine that further clarification in table 9 of REDD+ MF was needed. This table has been updated to indicate that the methodology provides procedures for biomass burning in ARR-RWE projects (via E-BPB). ("Procedure are provided for REDD project activities with emissions from biomass burning and REDD-WRC and ARR-RWE project activities with emissions from biomass and/or peat burning, as well as for RWE project activities with emissions from peat burning.") This addition to table 9 in REDD+ MF is considered to be appropriate.	*VM0007 REDD+MF_v1.6_SCSRD2_02JAN2020.doc*

Developer Response		
Date	***Comment***	***Additional evidence submitted for review by Developer***
	Developers Response to Original Findings from the Previous Assessor: Re 1 and 2: The procedures that extended the scope have all been removed as for ARR and RWE-ARR activities CDM-Tool 08 must be used via module M-ARR. This was an oversight. Re 3: Equation 3 has been revised. These links between the PEAT modules will be made correct. Re 4: See above. We added M-REDD to the referenced modules.	
3-Dec-19	**Developers Status Update for S&A Carbon:**	

	Re 4. Section 4 in E-BPB now reads: "This module is applicable to REDD project activities with emissions from biomass burning and REDD-WRC project activities with emissions from biomass and/or peat burning. This module is also applicable to RWE and ARR-RWE project activities with emissions from peat burning." In Table 9 of REDD+ MF, the reference to E-BPB has been substituted with similar language as above. Note that stand-alone RWE only has a soil component in accounting and biomass burning does not apply. The prescribed burning in the applicability conditions in 4.5.2 applies to ARR-RWE. Procedures for biomass burning in ARR-RWE are provided through ACM0003 which implicitly uses AR-CDM Tool08 for biomass burning.	
3-Jan-20	**Developers Response to S&A Round 1 Findings:** 4: ARR-RWE projects do not use M-REDD (see Table 4 of REDD+ MF). ARR-RWE projects use the CDM tools for much of the calculations, including the tool for biomass burning (as a consequence of applying the CDM A/R methodology ACM0003, see BL-ARR). But they must use E-BPB for emission from peat burning as this is not provided in ACM0003. With this in mind the text in the applicability conditions in section 4 of E-BPB is correct. The text is table 9 of REDD+ MF is incomplete. It should also mention that the methodology provides procedures for biomass burning in ARR-RWE projects. This has been corrected.	

Open Issue from Previous Assessor	**Issue ID:** **NCR 113**	**Status:** **Closed**	**Checked by:** **LH**	**Date Closed** **27-Jan-20**
VCS/ Rule ref	**Module**	**Significance**	**Original NCR Description from Previous Assessor**	**Comments**
VCS Standard V4.0	REDD+MF	Non conformance.	Section 4.1.4 of the VCS Standard requires that "Methodology elements shall be guided by the principles set out in Section 2.4.1". The principle of "conservativeness", as set out in Section 2.4.1, is defined as "Use conservative assumptions, values and procedures to ensure that net GHG emission reductions or removals are not overestimated."	

			In Table 6 of REDD+ MF, it is indicated that aboveground shrub (i.e., non-tree) biomass and herbaceous biomass are excluded from the project boundary for stand-alone WRC project activities. However, it is also stated in Section 4.5.2 of REDD+ MF that, for RWE project activities, "The prescribed burning of herbaceous and shrub aboveground biomass (cover burns) as a project activity may occur". The assessment team suspects that this may create a situation where emission from burning of herbaceous and shrub aboveground biomass are not accounted for in the quantification of GHG emission reductions or removals, and where this omission results in a quantification that violates the principle of conservativeness. Please provide a clear justification that exclusion of aboveground shrub (i.e., non-tree) biomass and herbaceous biomass from the project boundary for stand-alone WRC project activities does not violate the principle of conservativeness.	
			Second Round Findings from Original Assessor: Through review of the revised version of REDD+ MF, entitled "VM0007 REDD+MF_v1.6_SCS RD2_19MAR2019", the assessment team can confirm that the allowance for prescribed burning in Section 4.5.2 is now limited to RWE-ARR project activities, and Table 6 now indicates that the herbaceous biomass pool is "Covered under ARR". Therefore, it is agreed that carbon dioxide emissions (through carbon stock change) are covered under the accounting framework of the methodology. However, the methodology does not appear to contain any procedures to account for non-carbon-dioxide emissions caused by burning of biomass for RWE-ARR project activities. Table 9 of the revised version of REDD+ MF states that procedures are "provided in Module E-BPB". However, the latest version of E-BPB submitted for review, entitled "VMD0013 E-BPB v1.1 18APR2019", states in Section 4 that "This module is applicable to REDD and REDD-WRC project activities" (i.e., it excludes RWE-ARR project activities from its use). Similarly, the methodology does contain any procedures to account for emissions caused by burning of biomass for stand-alone WRC project activities or ARR-WRC project activities, for the reasons stated above. Therefore, the issue has not been fully resolved.	
			S&A Round 1 Findings 20 December 2019: The VB confirmed, as indicated in the last round of findings, that in section 4.5.2 of REDD+ MF, prescribed burning of herbaceous and shrub aboveground biomass is limited to RWE-ARR project activities ("In RWE-ARR project activities, the prescribed burning of herbaceous shrub aboveground biomass (cover burns) may occur."). Table 6, was also confirmed to indicate for the herbaceous biomass pool, that it is "covered under ARR", demonstrating that CO2 emissions (e.g. from a carbon stock change) are covered in the methodology framework. In regard to non-CO2 emissions from biomass burning, table 9 no longer includes the reference	*VMD0013 E-BPB v1.1 23MAY2019 plus recent edits.doc* *VMD0046 M-PEAT v1.0_SCS RD2_23MAY2019 plus recent edit.doc*

			to E-BPB, and has been replaced with a statement indicating for the baseline and project; "procedures are provided for REDD project activities with emissions from biomass burning and REDD-WRC project activities with emissions from biomass and/or peat burning, was well as for RWE and ARR-RWE project activities with emissions from peat burning. In response to NCR 112, the developer notes that stand-alone RWE only has a soil component in accounting and biomass burning does not apply. The prescribed burning in the applicability conditions in 4.5.2 applies to ARR-RWE. Procedures for biomass burning in ARR-RWE are provided through ACM0003 which implicitly uses AR-CDM Tool08 for biomass burning. It is not made clear here however, that the procedures for biomass burning in ARR-RWE are provided through ACM0003 which implicitly uses AR-CDM Tool08 for biomass burning. Should this be made clear in the applicability language under section 4.5.2 of REDD+ MF? Where in the methodology and/or module documents does it make it clear that stand-alone RWE activities only has a soil component?	*VMD0042 BL-PEAT v1.0_SCS RD2_23MAY2019.doc* *VMD0015 M-REDD, v2.1_RD2 SCS_23MAY2019 with highlights.doc* *VM0007 REDD+MF_v1.6_SCS RD2_30AUG2019.doc*
			S&A Round 2 Findings 27 January 2020 As indicated in the response to this finding, the developer has reviewed the methodology and modules to ensure adequate clarity in regard to accounting of emissions from and stock changes in the biomass component for ARR and RWE-ARR project activities. This is considered to be addressed through the following guidance given in the methodology and related module documents. Section 8.1.4 of REDD+MF: "Stand-alone RWE and RWE-ARR project activities must use Module BL-PEAT or BL-TW (whichever is relevant) for baseline net GHG emissions from the SOC pool. In case fossil fuel combustion is accounted for, Module E-FFC must be used as well. RWE-ARR project activities must also use Module BL-ARR for the accounting of biomass and biomass burning (if relevant)." Section 8.4.4 of REDD+MF: "Stand-alone RWE and RWE-ARR project activities must use Module M-PEAT or M-TW (whichever is relevant) for project net GHG emissions from the SOC pool. In case fossil fuel combustion is accounted for, Module E-FFC must be used as well. RWE-ARR project activities must also use Module M-ARR for the accounting of biomass and biomass burning (if relevant)."	*VM0007 REDD+MF_v1.6_SCS RD2_02JAN2020.doc* *VMD0041 BL-ARR_v1.1_SCS RD2_02JAN2020.doc* *VMD0045 M-ARR_v1.1_SCS RD2_02JAN2020.doc*

			As the developer has pointed out, RWE projects that establish vegetation are formally ARR-RWE project activities. If pre-project vegetation exists and (altered or not) continues in the project scenario, changes in biomass must be addressed and therefore these must also be classified as ARR-RWE. A project may justify that biomass changes are de minimus in a similar way that REDD projects may justify de minimus changes in soil organic carbon, the project can be classified as stand-alone RWE. Guidance on accounting for changes in biomass in ARR-RWE project activities was already covered in BL-ARR, but the language in BL-ARR has been more explicit and now states; "RWE-ARR project activities estimate GHG emissions and removals in the biomass carbon pools (including biomass burning) using AR-ACM0003 and (where relevant) procedures for herbaceous biomass in this module. Net GHG emissions in the SOC pool are not estimated in this module, but using Modules BL-PEAT or BL-TW, as they are regarded as the WRC component." Footnote 1 of BL-ARR also states that; "RWE project activities that account for (re)establishment of herbaceous vegetation (not covered under the definition of ARR and in AR-ACM0003" are also treated as RWE-ARR." Again, Section 8.1.4 guides the reader towards the use of BL-ARR to account for burning of biomass in WRE-ARR project activities ("RWE-ARR project activities must also use Module BL-ARR for the accounting of biomass and biomass burning (if relevant)"). Also, for Table 4 in REDD+MF clearly indicates that ARR projects do not use E-BPB and refers to Modules Bl-ARR and M-ARR (Applicability noted as "**" which indicates "Procedures provided in Modules BL-ARR and M-ARR." This was found to be appropriate as BL-ARR includes procedures for biomass burning as described above. Within section 2 of REDD+MF, previously existing text that stated "unless the expected emissions from the soil organic carbon pool or change in the soil organic carbon pool in the project scenario is deemed de minimis." has been revised to now state; "Projects may combine WRC with REDD, or WRC with ARR, in a single area, in which case they must apply concomitantly the procedures for both categories provided in this methodology, unless, in the case of stand-alone REDD or ARR on wetlands, the expected emissions from the soil organic carbon pool or change in the soil organic carbon pool in the project scenario is deemed de minimis, or, in the case of stand-alone RWE with presence of vegetation, the expected emissions from the biomass pool or change in the biomass pool in the project scenario is deemed de minimis. The tool T-SIG must be used to justify the omission of carbon pools and emission sources."	

			Further clarity has also been included in Table 3 of REDD+MF, for the determination of WRC and combined categories, where for stand-alone RWE project activities are now described as 'Wetland restoration without vegetation establishment or de minimus vegetation changes." It is also noted that footnote 17 within section 4.5.2 of REDD+MF was updated to remove the restriction to RWE without a biomass component which was incorrect, and that footnote now just indicates that "These conditions are included to avoid leakage" (e.g. for RWE project activities, the described conditions must be met as an approach to avoid leakage). Lastly, it is noted that existing guidance is given in section 8.4.4 REDD+MF and remains as written in previous versions. "For RWE-ARR or stand-alone RWE on tidal wetland (excluding organic soils) GHGBSL-TW is taken from Module BL-TW. For the biomass component in RWE-ARR project activities, CBSL-ARR is taken from Module BL-ARR, see Section 8.4.3." "For RWE-ARR and stand-alone RWE project activities, use Modules M-PEAT and M-TW (whichever is relevant) for the soil component, and (for RWE-ARR) Module M-ARR for the vegetation component." The existing guidance in REDD+MF and related modules as well as the revisions made by the developer in response to this finding were found to sufficiently address the VB's questions.	

Developer Response		
Date	***Comment***	***Additional evidence submitted for review by Developer***
	Developers Response to Original Findings from the Previous Assessor: This applicability condition - as a consequence of the meaning of WRC project activities (i.e. only considering the soil component) - applies to RWE-ARR project activities. This has been added to the language.	
3-Dec-19	**Developers Status Update for S&A Carbon:** See response to NCR 112.	
3-Jan-20	**Developers Response to S&A Round 1 Findings:**	

Since this is apparently unclear from the current version of REDD+ MF, we reviewed the methodology and relevant modules.

Background

Point 1
For emissions from and stock changes in the biomass component, ARR and RWE-ARR project use BL-ARR and M-ARR. This includes biomass burning. This is not a matter of applicability, but a procedural issue.

REDD+ MF section 8.1.4 states:
"RWE-ARR project activities must also use Module BL-ARR for the accounting of biomass and biomass burning (if relevant)."
Section 8.2.4 states:
"RWE-ARR project activities must also use Module M-ARR for the accounting of biomass and biomass burning (if relevant)."

Point 2
RWE projects that establish a vegetation are formally ARR-RWE project activities. Example: Restoration of ponds by adjusting the water table normally coincide with vegetation establishment. If pre-project vegetation exists and (altered or not) continues in the project scenario, changes in biomass must be addressed and therefore these must also be classified as ARR-RWE (already clarified in BL-ARR, see below). If projects can justify that biomass changes are de minimis (similar to REDD projects on wetlands that justify de minimis changes in soil organic carbon), the project can be classified as stand-alone RWE. This is now added to REDD+ MF Ch2 (see below). Stand-alone RWE projects are probably an exceptional case, as it may be expected that with restoring natural hydrology, biomass stocks will increase. The clear exception is RWE-REDD, e.g. where peat swamp forest hydrology is restored while maintaining the forest cover.

Edits for better guidance

Point 1

Table 4 in REDD+ MF indicates that ARR projects do not use E-BPB and refers to "Procedures provided in Module M-ARR". Footnote ** has been removed and footnote *** applied for E-BPB (and renamed to **) because BL-ARR also include procedures for biomass burning.

BL-ARR states:

	"RWE-ARR project activities estimate GHG emissions and removals in the biomass carbon pools using AR-ACM0003 and (where relevant) procedures for herbaceous biomass in this module, while net GHG emissions in the SOC pool are not estimated in this module, but using Modules BL-PEAT or BL-TW, as they are regarded as the WRC component." This text has been amended to make biomass burning explicit: "RWE-ARR project activities estimate GHG emissions and removals in the biomass carbon pools (including biomass burning) using AR-ACM0003 and (where relevant) procedures for herbaceous biomass in this module. Net GHG emissions in the SOC pool are not estimated in this module, but using Modules BL-PEAT or BL-TW, as they are regarded as the WRC component." A similar edit was done in M-ARR. Point 2 REDD+ MF Ch2 The text "unless the expected emissions from the soil organic carbon pool or change in the soil organic carbon pool in the project scenario is deemed de minimis." has been amended to read: "... unless, in the case of stand-alone REDD or ARR on wetlands, the expected emissions from the soil organic carbon pool or change in the soil organic carbon pool in the project scenario is deemed de minimis, or, in the case of stand-alone RWE with presence of vegetation, the expected emissions from the biomass pool or change in the biomass pool in the project scenario is deemed de minimis." In table 3 "Wetland restoration without vegetation establishment" changed into "Wetland restoration without vegetation establishment or de minimis vegetation changes" Footnote 17 under section 4.5.2 "General" in REDD+ MF has been amended to read: "These conditions are included to avoid leakage". The restriction to RWE without a biomass component was incorrect. Additional guidance is provided in section 8.4.4 and left unaltered	

	"For RWE-ARR or stand-alone RWE on tidal wetland (excluding organic soils) GHG_BSL-TW is taken from Module BL-TW. For the biomass component in RWE-ARR project activities, dCBSL-ARR is taken from Module BL-ARR, see Section 8.4.3." "For RWE-ARR and stand-alone RWE project activities, use Modules M-PEAT and M-TW (whichever is relevant) for the soil component, and (for RWE-ARR) Module M-ARR for the vegetation component" BL-ARR (no changes needed) Ch2 states: "RWE-ARR project activities estimate GHG emissions and removals in the biomass carbon pools using AR-ACM0003 and (where relevant) procedures for herbaceous biomass in this module, while net GHG emissions in the SOC pool are not estimated in this module, but using Modules BL-PEAT or BL-TW, as they are regarded as the WRC component." Footnote 1 states: "RWE project activities that account for (re)establishment of herbaceous vegetation (not covered under the definition of ARR and in AR-ACM0003) are also treated as RWE-ARR"	

Open Issue from Previous Assessor	**Issue ID:** **NCR 114**	**Status:** **Closed**	**Checked by:** **LH**	**Date Closed** **20-Dec-19**
VCS/ Rule ref	**Module**	**Significance**	**Original NCR Description from Previous Assessor**	**Comments**
VCS Standard V4.0	REDD+MF	Non conformance.	Section 4.7.1 of the VCS Standard requires that "The methodology shall establish criteria and procedures for quantifying GHG emissions and/or removals, and/or carbon stocks, for the selected GHG sources, sinks and/or reservoirs, separately for the project (including leakage) and baseline scenarios."	

			Procedures for quantifying leakage emissions are provided in LK-ASP. However, these procedures make reference to a "leakage belt". This term is missing from the currently prevailing version of LK-ASP (Version 1.2) and does not have a clear meaning or definition in the context of activity-shifting leakage related to avoided planned deforestation.	
			Second Round Findings from Original Assessor: The finding response had not been reviewed by the assessment team prior to the discontinuation of assessment services. Given that the finding response had not been reviewed prior to the time of discontinuation of assessment services, this finding remained open as of that time.	
			S&A Round 1 Findings 20 December 2019: VB review confirmed that the references to leakage belts have been removed throughout the LK-ASP module. The references to the leakage belt in LK-ASP (section 5.3.1) is said to have been an error, and the removal of the leakage belt language from the updated module was found to address the concerns raised in this NCR.	*VMD0009 LK-ASP v1.2_RD2 SCS_17APR2019 with highlights.doc*
Developer Response				
Date			***Comment***	***Additional evidence submitted for review by Developer***
			Developers Response to Original Findings from the Previous Assessor: The reference to leakage belt has been removed throughout.	
3-Dec-19			**Developers Status Update for S&A Carbon:** This correction was made to LK-ASP. References to leakage belts had been erroneously added to the introductory text of section 5.3.1 (highlighted). This is a mute issue.	

Open Issue from Previous Assessor	**Issue ID: NCR 115**	**Status: Closed**	**Checked by: LH**	**Date Closed 27-Jan-20**

VCS/ Rule ref	**Module**	**Significance**	**Original NCR Description from Previous Assessor**	**Comments**
VCS Standard V4.0	LK-ASP LK-ASU	Non conformance.	Section 4.7.1 of the VCS Standard requires that "The methodology shall establish criteria and procedures for quantifying GHG emissions and/or removals, and/or carbon stocks, for the selected GHG sources, sinks and/or reservoirs, separately for the project (including leakage) and baseline scenarios." Procedures for quantifying leakage emissions are provided in LK-ASP and LK-ASU. However, the following discrepancies have been identified in respect of these procedures: 1. In Section 5.3.1 of LK-ASP, the following is stated: "Where the deforestation agent has been identified or where Approach 1 when only the agent class has been identified is used, the cumulative carbon lost at tPDT (Closs-PDT-LB) in the undrained peatland in the leakage belt or the cumulative soil organic carbon loss at tSDT (Closs-SDT) in all of the agent´s concessions in the leakage belt, as well as the PDT or SDT itself, must be estimated using the principles in Sections 5.4 and 5.5, as applicable, in Module X-STR... Where the agent has not been identified and Approach 2 (market leakage) has been applied, the estimation of Closs-PDT-LB or Closs-SDT-LB must be carried out for the alternative areas in the country where the production of the identified commodity is feasible according to Step 1 of Part 2 above." The above language does not provide adequate guidance regarding quantification of the parameters C(PDT-LB) or C(SDT-LB). It is insufficient to provide a vague reference to "the principles in Sections 5.4 and 5.5, as applicable, in Module X-STR". The module LK-ASU is missing even the vague reference to "Sections 5.4 and 5.5, as applicable, in Module X-STR". The assessment team is aware that reference to specific equations in X-STR is provided in the parameter tables in Section 6.2 of each of the respective modules. Even with these equation references, however, guidance for quantification of these parameters is insufficient. 2. The parameters C(loss-PDT-LB) or C(loss-SDT-LB) are represented in LK-ASP and LK-ASU as being in units of t C per hectare. However, in quantification of the "CO2 emission leakage factor", these parameters are divided by an area value and the result is intended to be on a per-hectare basis, in both LK-ASP and LK-ASU. The results of the operation are not consistent with the principles of dimensional analysis.	

			Second Round Findings from Original Assessor: The finding response had not been reviewed by the assessment team prior to the discontinuation of assessment services. Given that the finding response had not been reviewed prior to the time of discontinuation of assessment services, this finding remained open as of that time.	
			S&A Round 1 Findings 20 December 2019: 1) The VB can confirm that additional guidance for the quantification of soil organic carbon stocks has been included in LK-ASP and LK-ASU for the calculation of Closs-PDT & Closs-SDT (LK-ASP) as well as Closs-PDT-LB & Closs-SDT-LB (LK-ASU) . Below Equation 13 in LK-ASP, the updated guidance indicates that; "tPDT can be taken from tPDT-BSL,i or tSDT can be taken from tSDT-BSL,i i in Section 5.5 and 5.6 respectively, or Module X-STR or by using default values derived from the peer-reviewed literature, including default factors, where available." "Ct0 must be quantified using Module X-STR (See CBSL,i,t0 in Section 5.4.1). CPDT and CSDT (whichever is relevant) must be quantified using Module X-STR (See CBSL,i,t100 in Section 5.4.1, substituting tPDT or tSDT for t100)." The same language is included below Equation 19 in LK-ASU regards to the parameters Ct0-LB, CPDT-LB & CSDT-LB ("Ct0-LB must be quantified using Module X-STR (See CBSL,i,t0 in Section 5.4.1). CPDT-LB and CSDT-LB (whichever is relevant) must be quantified using Module X-STR (See CBSL,i,t100 in Section 5.4.1, substituting tPDT or tSDT for t100)") This additional guidance coupled with the references to the X-STR Module in the parameter tables was found to be sufficient. LK-ASP Data/Parameter: tPDT Source of data: Taken from tPDT-BSL,i Section 5.5 in module X-STR Data/Parameter: tSDT Source of data: Taken from tSDT-BSL,i Section 5.6 in module X-STR Data/Parameter: CPDT Source of data: Module X-STR (Refer to CBSL,i,t100 in Section 5.4.1 in Module X-STR, and substitute tPDT for t100) Data/Parameter: CSDT Source of data: Module X-STR (Refer to CBSL,i,t100 in Section 5.4.1 in Module X-STR, and substitute tSDT for t100) LK-ASU:	*VMD0009 LK-ASP v1.2_RD2 SCS_17APR2019 with highlights.doc* *VMD0010 LK-ASU v1.1_RD2 SCS_01NOV2019 with highlights.doc* *VMD0016 X-STR_v1.2_SCS RD2_24NOV2019 with highlights*

			Data/Parameter: CPDT-LB Source of data: Module X-STR (Refer to CBSL,i,t100 in Section 5.4.1 in Module X-STR, and substitute tPDT for t100) Data/Parameter: CSDT-LB Source of data: Module X-STR (Refer to CBSL,i,t100 in Section 5.4.1 in Module X-STR, and substitute tSDT for t100) Data/Parameter: Ct0-LB Source of data: Module X-STR (Refer to CBSL,i,t0 in Section 4.5.1 in Module X-STR) The VB confirmed that the referenced source of data given for these parameters in X-STR was correct, by cross checking sections 5.5, 5.6 & 5.4.1 in X-STR. The VB found that the revisions made address the concerns raised in this element of the finding, and the guidance given below the applicable equations and in the parameter tables is sufficiently specific. However the parameter Ct0-LB in the parameter tables of LK-ASU appears to incorrectly reference Section 4.5.1 of X-STR, when it appears the correct reference is 5.4.1 of X-STR (Refer to CBSL,i,t0 in Section5.4.1 in Module X-STR). 2) The VB can confirm that the parameters Closs-PDT (Cumulative peat loss at tPDT (t CO2e ha-1)) and Closs-SDT (Cumulative soil organic carbon loss at tSDT (t CO2e ha-1)) in LK-ASP as well as the parameters Closs-PDT-LB (Cumulative peat loss in the leakage belt at tPDT (t CO2-e ha-1)) and Closs-SDT-LB (Cumulative soil organic carbon loss in the leakage belt at tSDT (t CO2-e ha-1)) in LK-ASU are in units of t CO2e ha-1. These parameters, calculated in Equations 12 & 13 of LK-ASP are then considered to be the per hectare CO2 emissions factors in Equations 14 & 15 to determine LKEF-PEAT (CO2 emission factor from leakage to undrained peatlands (t CO2e ha-1)) and LKEF-TW (CO2 emission factor from leakage to intact tidal wetlands (t CO2e ha-1)) as covered in Step 2 to Estimate the CO2 Emission Factor from Leakage to Peatland or Tidal Wetland per ha. In Step 3, these emission factors are then multiplied by LKAplanned,i,t (The area of activity shifting leakage in stratum i in year t (ha)) in the calculation of ΔCLK-ASP-PEAT (Net GHG emissions due to peatland drainage from planned deforestation displaced from the project area up to year t* (t CO2e)) and ΔCLK-ASP-TW (Net GHG emissions due to tidal wetland degradation from planned deforestation displaced from the project area up to year t* (t CO2e)) for Estimating the Net GHG Emissions Due to Leakage to Undrained Peatlands or Intact or Partially Degraded Tidal Wetlands as a Result of Implementation of a Planned Deforestation Project (ΔCLK-ASP-PEAT or ΔCLK-ASP-TW). The VB feels the calculations in these steps are appropriate.	

			These parameters, calculated in Equations 18 & 19 of LK-ASU are then considered to be the per hectare emission factors in Equations 16 & 17 to determine LKPEAT-EF-LB (Emission factor from peat loss at tPDT in the leakage belt (t CO2-e ha-1)) and LKTW-EF-LB (Emission factor from soil organic carbon loss at tSDT in the leakage belt (t CO2-e ha-1)). These emission factors are then used to determine the proportion of undrained peatland area or the intact partially degraded tidal wetland area of the total area of the leakage belt (representing the probability of leakage affecting such areas). These unitless parameters (PROPPEAT-LB: Proportion of undrained peatland area in the leakage belt with respect to the total area of the leakage belt (unitless) and PROPTW-LB: Proportion of intact or partially degraded tidal wetland area in the leakage belt with respect to the total area of the leakage belt (unitless)) are calculated in Equations 14 & 15 by dividing the areas within the leakage belt (e.g. APEAT-LB: Total undrained peatland area found within the leakage belt (ha) and ATW-LB: Total intact or partially degraded tidal wetland area found within the leakage belt (ha)) by the emission factors determined in Equations 16 & 17. The VB feels the calculations in these steps are appropriate. While the VB did not find any issues with the operation of these calculations in terms of the parameters or units, it isn't entirely clear why the approaches taken to determine the estimate of emissions due to leakage vary between the LK-ASP and LK-ASU Modules, and request an explanation for the reasoning behind these differences to confirm their understanding of these particular aspects of these Modules.	
			S&A Round 2 Findings 27 January 2020 1: VB review of the updated version of the LK-ASU module provided confirmed the noted incorrect reference in the parameter table for Ct0-LB has been corrected to reflect section 5.4.1 of X-STR. 2: The response to this finding provides context related to the procedural operations of these calculations in that the structure of the procedures were already in existence prior to the revisions made to the modules, but that the overall method remained the same, but that the order of the calculations are presented differently. The application of LK-ASU is based on first estimating the proportion of wetland compared to the total area of the leakage belt, and then an emission factor associated with activity shifting to wetlands, measured as PDT or SDT. In both LK-ASU and LK-ASP, this amount (loss of carbon at PDT or SDT) is the difference in carbon stock at time=0, and at t=PDT and t=SDT. In LK-ASP however, once the loss of carbon at PDT or SDT is estimated, the emissions factors and proportions of wetland area are quantified. LK-ASP	*VMD0010 LK-ASU v1.1_RD2 SCS_03JAN2020.doc* *VMD0010 LK-ASU v1.1_RD2 SCS_03JAN2020.doc* *VMD0009 LK-ASP v1.2_RD2 SCS_17APR2019 with highlights.doc*

			includes additional procedures depending on whether deforestation agents can be tracked, and does not address or concerned with activity shifting to the leakage belt. The VB accepts the clarification given in response to this finding.	

Developer Response		
Date	***Comment***	***Additional evidence submitted for review by Developer***
	Developers Response to Original Findings from the Previous Assessor: Re 1: The remark referring to the principles in X-STR is a general one and the instructions making this operational are provided in the equations 12 and 13 and the tables for the parameters in section 6.2. We believe this together is quite sufficient as guidance. To avoid confusion we removed the remark and made the guidance more specific. LK-ASU section 5.1.6 has been amended accordingly. Re 2. Closs-PDT and Closs-SDT have been corrected to tCO2e ha-1. This value and its unit thus serves as the leakage factor as amount of carbon per ha (see eqs 14 and 15) to be multiplied with the area of leakage and the proportion of undegraded wetland (see eqs 16 and 17). Therefore, the language at the top of section 5.3.2 has been adapted. LK-ASU section 5.1.6 has been amended accordingly.	
3-Dec-19	**Developers Status Update for S&A Carbon:** Re 1: Additional guidance for determining soil organic carbon stock underneath eq 13 in LK-ASP and eq 19 in LK-ASU has been yellow highlighted. C(PDT-LB) or C(SDT-LB) have been removed (see NCR 114). Re 2: See highlight for Re 1 above.	
3-Jan-20	**Developers Response to S&A Round 1 Findings:** 1: Corrected to "5.4.1" 2: The structure of the procedures was inherited from the existing structure in the revised modules. The method is essentially the same, but the order in which the calculation are presented is different. LK-ASU works on the basis of first estimating a proportion of wetland compared to total area of the leakage belt, and then an emission factor associated with activity shifting to wetlands, measured as a loss of carbon at PDT or SDT. In both modules, this amount is based on the difference in carbon stock at t=0 and at t=PDT or t=SDT. These can be obtained from X-STR section 5.4.1. In LK-ASP, after estimating this difference, the emissions factors and proportions of wetland area are quantified.	

	LK-ASP has additional procedures depending on whether agents or agent classes can be tracked, and does not concern activity shifting to a leakage belt. In LK-ASU Ch2 we removed a typo: "and or" became "and/or"	

Open Issue from Previous Assessor	**Issue ID:** **NCR 123**	**Status:** **Closed**	**Checked by:** **LH**	**Date Closed** **20-Dec-19**

VCS/ Rule ref	**Module**	**Significance**	**Original NCR Description from Previous Assessor**	**Comments**
VCS Standard V4.0	M-REDD	Non conformance.	Section 4.8.4 of the VCS Standard requires that "The methodology shall establish criteria and procedures for monitoring…" Procedures for monitoring are provided in the module M-REDD. However, in that module, a revision (which may or may not have been intentional) has been made relative to the currently prevailing version of M-REDD. In the currently prevailing version, the "Net carbon stock change as a result of forest growth and sequestration..." is subtracted from the result of the preceding terms of the equation, which is appropriate, given that the outcome of Equation 1 is a calculation of project-scenario emissions (and so any carbon stock change attributable to growth in the project scenario offsets emissions in the project scenario). In the revision to M-REDD, the "Net carbon stock change as a result of forest growth and sequestration..." is added to the result of the preceding terms of the equation, leading to erroneous quantification of emissions in the project scenario.	
			S&A Round 1 Findings 20 December 2019: The VB can confirm that the the parameter; Net carbon stock change as a result of forest growth and sequestration during the project in areas projected to be deforested in the baseline in stratum i in year t; t CO2-e ΔC(P,Enh,i,t) is now being subtracted from the previous term in equation 1, Greenhouse gas emissions	*VMD0015 M-REDD, v2.1_RD2 SCS_23MAY2019 with highlights.doc*

			as a result of deforestation and degradation activities within the project area in the project case in stratum i in year t; t CO2-e (GHGP-E,i,t) correcting the issue.	
Developer Response				
Date			***Comment***	***Additional evidence submitted for review by Developer***
			Developers Response to Original Findings from the Previous Assessor: A further response to this finding had not been received by the assessment team prior to the discontinuation of assessment services. Please note that it was not feasible to budget time to review findings responses after 3 May 2019 and before discontinuation of assessment services was requested. It is possible that a response was sent to the assessment team regarding this finding during the period after 3 May 2019 and prior to the discontinuation of assessment services but, in such case, this response will not have been reviewed or saved to the assessment team's internal records.	
3-Dec-19			**Developers Status Update for S&A Carbon:** This has been corrected.	

Open Issue from Previous Assessor	**Issue ID:** **NCR 117**	**Status:** **Closed**	**Checked by:** **LH**	**Date Closed** **27-Jan-20**
VCS/ Rule ref	**Module**	**Significance**	**Original NCR Description from Previous Assessor**	**Comments**
Methodology Approval Process V4.0	M-TW BL-TW	Non conformance.	Section 6.1.4 of the Methodology Approval Process states the following: "Where the proposed methodology references tools or modules approved under the VCS or an approved GHG program, the validation/verification body shall determine whether the tool or module is used appropriately within the methodology."	

			The M-TW and BL-TW modules both reference E-FFC and E-BPB for quantification of emissions from fossil fuels and peat/biomass burning, respectively. The M-TW module also references M-REDD explicitly. However, it is notable that both M-REDD (for monitoring of project-scenario emissions) and BL-PL and BL-UP (for quantification of baseline emissions), which are paired with BL-TW and M-TW under certain circumstances, also contain procedures for quantification of emissions from fossil fuels and peat/biomass burning. This results in double-count of such emissions within the quantification framework and, thus, inappropriate use of the various modules within the methodology.	
			Second Round Findings from Original Assessor: As it is not clear what response has been taken in response to this finding, the finding must remain open.	
			S&A Round 1 Findings 20 December 2019: The introductory language in section 5.1.1 of M-TW and BL-TW was found to provide an adequate summary of the emissions that need to be considered and quantified in Tidal Wetland Restoration and Conservation Project Activities indicating that; "Emissions in the project/baseline scenario of WRC project activities in tidal wetlands are attributed to carbon stock changes in biomass carbon pools, soil processes, or a combination of these. In addition, where relevant, emissions from fossil fuel use and prescribed burning of biomass may be quantified." Section 5.1.1 was found to be clear that for REDD-CIW and stand-alone CIW project activities, procedures for biomass, fossil fuel use and biomass burning are provided in M-REDD (project activity), and BL-UP and BL-PL as appropriate for the baseline scenario, in combination with Modules CP-AB, E-FFC and E-BPB. For ARR-RWE and stand-alone RWE project activities, procedures for fossil fuel use in BL-TW and M-TW direct the reader to the use of E-FFC, while procedures for biomass and biomass burning in ARR-RWE project activities are covered in BL-ARR and M-ARR (baseline and project). Net GHG emissions from fossil fuel use in the project and baseline (M-TW and BL-TW respectively) is calculated using equation 1 in these modules, which incorporates the parameter EFC,i,t (Net CO2e emissions from fossil fuel combustion in stratum 1, in year t) which is determined in the E-FFC module. In M-REDD, with respect to monitoring project emissions, it is made clear under the Monitoring Project Emissions heading that emissions are calculated through applying Modules E-BPB, E-FCC and E-NA. The	*M-TW_v1.0_SCS RD2_12MAY2019 plus recent edits.doc* *BL-TW_v1.0_SCS RD2_10MAY2019 plus recent edits.doc* *VMD0015 M-REDD, v2.1_RD2 SCS_23MAY2019 with highlights.doc* *VMD0007 BL-PL_v1.2_RD2 SCS_23MAY2019 plus recent edits.doc* *VMD0007 BL-UP_v3.3_RD2 SCS_23MAY2019*

			parameters EBiomassBurn,i,t & EFC,i,t used in equation 30 of M-REDD, come from E-BPB (equation 1), and E-FCC (equation X) respectively. In BL-UP and BL-PL, it is made clear that the parameters EBiomassBurn,i,t & EFC,i,t come from E-BPB (equation 1), and E-FCC (equation X) respectively. For ARR-RWE and stand-alone RWE project activities, the parameter EFC,i,t used in equation 1 of BL-TW and M-TW is calculated in E-FFC equation X, and use of the E-FFC module to calculate this parameter is made clear. M-ARR and BL-ARR clearly indicate that ARR-RWE project activities must estimate the GHG emissions and removals under the project/baseline scenario using AR-ACM0003 and associated tools for the non-soil pools and biomass burning. It appears that for the quantification of emissions from fossil fuels and peat/biomass burning in M-TWE and BL-TW, the modules are accurately indicating which sources need to be considered in TW project activities, and that the relevant modules are being references and appropriately used. The current copy of the E-FCC module has not been made available. I couldn't find this on the Verra website, and the page giving access to the VM0007 modules. Please provide the current copy of E-FCC. In BL-TW, when clarifying the use of BL-ARR in regard to procedures for biomass burning for ARR-RWE project activities the terms "and biomass burning" appears to have been omitted. Was this intentional, or is this a mistake? The VB is having difficulty understanding what or where the concern is in regard to double accounting for emissions from fossil fuel use of biomass burning? Can any further insight into these concerns that resulted in this NCR be given?	*plus recent edits.doc* *VMD0041 BL-ARR_v1.1_SCS RD2_19MAR2019.doc*
			S&A Round 2 Findings 27 January 2020 The VB was able to obtain a copy of the E-FCC module through the link provided. The omission noted in the guidance of BL-TW related to the burning of biomass has been addressed in the updated version provided. It now states in section 5.1.1 that "For ARR-RWE project activities, procedures for biomass and biomass burning are provided in Module BL-ARR."	*VMD0014-E-FFC-v1.0.pdf* *BL-TW_v1.0_SCS RD2_03JAN2020.doc* *M-TW_v1.0_SCS RD2_12MAY2019*

			The developer asserts that they believe the concerns raised by the previous assessor related to double accounting of emissions from fossil fuel use and biomass burning were in regard to a lack of clear procedures or otherwise a misinterpretation of procedures, but that that no such double accounting was occurring. To address this concern however, language in section 5.1.1 of BL-TW and 5.1 of M-TW was revised. To account for these emissions, these sections of BL-TW and M-TW (5.1.1 and 5.1 respectively) indicate that; "For REDD-CIW and stand-alone CIW project activities, procedures for biomass, fossil fuel use and biomass burning are provided in Modules BL-UP and BL-PL, in combination with Modules CP-AB, E-FFC and E-BPB." and "For ARR-RWE project activities, procedures for biomass and biomass burning are provided in Module BL-ARR. For ARR-RWE and stand-alone RWE project activities, procedures for fossil fuel use are provided in Module E-FFC." The VB feels these procedures are clear in regard to where to find the procedures for accounting of emissions from fossil fuel use and biomass burning, and that there is no double counting of these emission sources.	*plus recent edits.doc*

Developer Response		
Date	***Comment***	***Additional evidence submitted for review by Developer***
	Developers Response to Original Findings from the Previous Assessor: See the response to NCR 112.	
3-Dec-19	**Developers Status Update for S&A Carbon:** The reference to NCR 112 was erroneously used to point to changes in the introductions of BL-TW and M-TW that outline the scope of accounting in respect of fuel use and biomass burning. Section 5.1.1 in BL-TW and M-TW have been better aligned. It summarizes which sources need to be considered in TW and points to other modules for procedures that are not covered in the TW modules. There is thus no double counting.	

	Section 5.1.1 outlines that REDD-CIW and stand-alone CIW for accounting of fossil fuel emissions must use BL-UP and BL-PL (for baseline), or M-REDD (for project), in combination with E-FFC. ARR-RWE and stand-alone RWE cannot use these modules and they must use equation 1 and take the value for E_FC from module E-FFC. For biomass burning in RWE-ARR modules BL-ARR or M-ARR must be used.	
3-Jan-20	**Developers Response to S&A Round 1 Findings:** Point 1 Module E-FFC can be found here: https://verra.org/wp-content/uploads/2018/03/VMD0014-E-FFC-v1.0.pdf Point 2 This was an omissions. "and biomass burning" has been added. Point 3 We believe that the suspicion of double counting was caused by a lack of clear procedures or a misinterpretation of procedures and that there was no double counting. Therefore, we amended the language in both BL-TW 5.1.1 and M-TW 5.1. The language in BL-TW and M-TW: "For REDD-CIW and stand-alone CIW project activities, procedures for biomass, fossil fuel use and biomass burning are provided in Modules BL-UP and BL-PL, in combination with Modules CP-AB, E-FFC and E-BPB." and "For ARR-RWE project activities, procedures for biomass and biomass burning are provided in Module BL-ARR. For ARR-RWE and stand-alone RWE project activities, procedures for fossil fuel use are provided in Module E-FFC." seems to be sufficiently clear now.	

Open Issue from Previous Assessor	**Issue ID: NCR 118**	**Status: Closed**	**Checked by: LH**	**Date Closed 20-Dec-19**
VCS/ Rule ref	**Module**	**Significance**	**Original NCR Description from Previous Assessor**	**Comments**
VCS Standard V4.0	M-TW	Non conformance.	Section 4.7.1 of the VCS Standard requires that "The methodology shall establish criteria and procedures for quantifying GHG emissions and/or removals, and/or carbon stocks, for the selected GHG sources, sinks and/or reservoirs, separately for the project (including leakage) and baseline scenarios." 1. Procedures for quantifying GHG emissions in the project scenario are provided in M-TW. However, these procedures contains various references to the "baseline", which are likely a holdover from other modules. These references introduce confusion into the quantification procedures. 2. M-TW references, in Section 5.3.2.2, the parameter "deduction_alloch". There are no other references, in M-TW or BL-TW, to this parameter.	
			Second Round Findings from Original Assessor: Through review of the revised version of M-TW, entitled "M-TW_v1.0_SCS RD2_17APR2019", the assessment team can confirm the parameter in question has been renamed Deduction(alloch) for consistency with the parameter used in Equation 7. In addition, most of the references to "the baseline" have been removed. The only remaining reference is in Section 6.2, in the parameter table for parameter R(TREE). Therefore, the discrepancy has not been fully resolved.	
			S&A Round 1 Findings 20 December 2019: The last remaining concern excising with this NCR, regarding the description of the parameter RTREE given in section 6.2 with regard to the baseline was confirmed to have been addressed in the updated version of the M-TW module. The description given for RTREE in the parameters table of section 6.2 now states; "Roo-shoot ratio for trees in the project" with the erroneous reference to the baseline having been removed. This NCR is therefore considered closed.	*M-TW_v1.0_SCS RD2_12MAY2019 plus recent edits.doc*
Developer Response				

Date	*Comment*	*Additional evidence submitted for review by Developer*
	Developers Response to Original Findings from the Previous Assessor: This has been corrected.	
3-Dec-19	**Developers Status Update for S&A Carbon:** This has been corrected	

Open Issue from Previous Assessor	**Issue ID:** **NCR 124**	**Status:** **Closed**	**Checked by:** **LH**	**Date Closed** **27-Jan-20**

VCS/ Rule ref	**Module**	**Significance**	**Original NCR Description from Previous Assessor**	**Comments**
VCS Standard V4.0	M-REDD	Non conformance.	Section 4.7.1 of the VCS Standard requires that "The methodology shall establish criteria and procedures for quantifying GHG emissions and/or removals, and/or carbon stocks, for the selected GHG sources, sinks and/or reservoirs, separately for the project (including leakage) and baseline scenarios." Procedures for quantifying GHG emissions in the project scenario are provided in M-REDD. However, these procedures refer to the parameter A(WPS,i,t) in Equations 2 and 3 the parameter A(WPS,LB,i,t) in Equations 4 and 5. No further procedures are provided in M-REDD regarding quantification of these parameters.	
			Second Round Findings from Original Assessor: A response to this finding had not been received by the assessment team prior to the discontinuation of assessment services. Please note that it was not feasible to budget time to review findings responses after 3	

			May 2019 and before discontinuation of assessment services was requested. It is possible that a response was sent to the assessment team regarding this finding during the period after 3 May 2019 and prior to the discontinuation of assessment services but, in such case, this response will not have been reviewed or saved to the assessment team's internal records.	
			S&A Round 1 Findings 20 December 2019: As indicated in the response to this finding, the procedures in this section of M-REDD has been revised and the equations (e.g. 2 - 5) as originally written have been removed. As a result of these revisions, the VB can confirm that the use of area in the calculations for quantifying GHG emissions occur only in the M-TW and M-PEAT modules. The guidance given under equation 1 now indicates; "For the net GHG emissions in the project case in CIW-REDD and RWE-REDD project activities, use Equation 1 in combination with GHGWPS-PEAT or GHGWPS-TW (whichever is relevant) from Modules M-PEAT or M-TW, respectively...". "For stand-alone CIW project activities, quantify GHGWPS-PEAT or GHGWPS-TW (whichever is relevant) from Modules M-PEAT or M-TW respectively." Similar language is given under equation 2 in regard to the leakage belt and the parameters GHGWPS-PEAT,LB or GHGWPS-TW,LB ("For the leakage belt of CIW-REDD or RWE-REDD project activities, the net GHG emissions in the project case in CIW-REDD and RWE-REDD project activities, use Equation 2 in combination with the net GHG emissions due to wetland degradation equal to GHGWPS-PEAT,LB or GHGWPS-TW,LB (whichever is relevant) from Modules M-PEAT or M-TW, respectively...". "For the leakage belt of stand-alone CIW project activities, quantify GHGWPS-PEAT,LB or GHGWPS-TW,LB (whichever is relevant) from Modules M-PEAT or M-TW, respectively." Further guidance is now given as described in response to this finding, that "When using Modules M-PEAT or M-TW, AWPS,i,t (Area of stratum i in year t in the project area in the project scenario and AWPS,LB,i,t (Area of stratum i in year t in the leakage belt) must be quantified. This area is subject to stratification (see Module X-STR for general guidance). In the project scenario, strata can be formed by deforestation, degradation and all other factors mentioned in this module (see Equations 1 and 2) for which an area must be quantified when relevant." The parameters GHGWPS-PEAT or GHGWPS-TW to be used in combination with Equation 1 in M-REDD and GHGWPS-PEAT,LB or GHGWPS-TW,LB to be used in combination with Equation 2 in M-REDD, come from M-PEAT and M-TW (whichever is relevant) and are quantified based on the parameters AWPS,i,t (Area of stratum i in year t in the project scenario) and AWPS,LB,i,t (Area of stratum i in year t in the leakage belt).	*VMD0015 M-REDD, v2.1_RD2 SCS_23MAY2019 with highlights.doc* *M-TW_v1.0_SCS RD2_12MAY2019 plus recent edits.doc* *VMD0046 M-PEAT v1.0_SCS RD2_23MAY2019 plus recent edit.doc*

			The area (e.g. AWPS,i,t & AWPS,LB,i,t) used in the calculation of net GHG emissions in the project case for CIW-REDD and RWE-REDD project activities and for the leakage belt of CIW-REDD or RWE-REDD project activities is confirmed to now only be taking place in the M-PEAT or M-TW modules (whichever is relevant). The updates to M-REDD and guidance given was found to address the concerns raised in this finding. However, In M-PEAT and M-TW, it is clear where the parameter AWPS,i,t (Area of stratum i in year t in the project scenario) is being used to calculate GHGWPS-PEAT or GHGWPS-TW, but I do not see the parameter AWPS,LB,i,t (Area of stratum i in year t in the leakage belt) for calculating GHGWPS-PEAT,LB or GHGWPS-TW,LB as is described in the updated guidance in M-REDD. Where is the parameter AWPS,LB,i,t (Area of stratum i in year t in the leakage belt), and where is GHGWPS-PEAT,LB or GHGWPS-TW,LB calculated - to then be used in combination with equation 2 in M-REDD?	
			S&A Round 2 Findings 27 January 2020 The response to this finding acknowledges that AWPS,LB,i,t (Area of stratum i in year t in the leakage belt) for calculating GHGWPS-PEAT,LB or GHGWPS-TW,LB is not explicitly given, but that for GHGWPS-PEAT,LB or GHGWPS-TW,LB, these parameters are obtained by applying the same procedure in M-PEAT or M-TW as is done for the project area, and just applied to the leakage belt. The guidance given in Section 5 of M-REDD (under equation 2) for AWPS,i,t and AWPS,LB,i,t now states; "When using Modules M-PEAT or M-TW, AWPS,i,t (Area of stratum i in year t in the project area in the project scenario) and AWPS,LB,i,t (Area of stratum i in year t in the leakage belt; by replacing AWPS,i,t with AWPS,LB,i,t) must be quantified." The VB feels this amendment provides sufficient clarification that AWPS,LB,i,t (Area of stratum i in year t in the leakage belt) for calculating GHGWPS-PEAT,LB or GHGWPS-TW,LB is done using the same procedures in M-PEAT and M-TW as are performed for the project area but just applied to the leakage belt.	*VMD0015 M-REDD, v2.1_RD2 SCS_02JAN2020.doc* *M-TW_v1.0_SCS RD2_12MAY2019 plus recent edits.doc* *VMD0046 M-PEAT v1.0_SCS RD2_23MAY2019 plus recent edit.doc*
Developer Response				
Date	***Comment***			***Additional evidence submitted for review by Developer***

	Developers Response to Original Findings from the Previous Assessor: No response provided as of the time assessment services were discontinued.	
3-Dec-19	**Developers Status Update for S&A Carbon:** These duplicative equations have been removed and procedures have been adjusted. The following guidance has been added: "When using Modules M-PEAT or M-TW, AWPS,i,t (Area of stratum i in year t in the project area in the project scenario) and AWPS,LB,i,t (Area of stratum i in year t in the leakage belt) must be quantified. These areas are subject to stratification (see Module X-STR for general guidance). In the project scenario, strata can be formed by deforestation, degradation and all other factors mentioned in this module (see Equations 1 and 4) for which an area must be quantified when relevant." This way, the use of area in the calculations only occurs in module M-PEAT or M-TW.	
3-Jan-20	**Developers Response to S&A Round 1 Findings:** A_WPS,LB,i,t is not explicitly given, and just like GHG_WPS-PEAT,LB or GHG_WPS-TW,LB, is obtain using the same procedure in M-PEAT or M-TW as for the project area, but applied to the leakage belt. The text: "When using Modules M-PEAT or M-TW, A_WPS,i,t (Area of stratum i in year t in the project area in the project scenario) and A_WPS,LB,i,t (Area of stratum i in year t in the leakage belt) must be quantified." has been amended as: "When using Modules M-PEAT or M-TW, A_WPS,i,t (Area of stratum i in year t in the project area in the project scenario) and A_WPS,LB,i,t (Area of stratum i in year t in the leakage belt; by replacing A_WPS,i,t with A_WPS,LB,i,t) must be quantified."	

Open Issue from	**Issue ID:** **NCR 125**	**Status:**	**Closed**	**Checked by:**	**LH**	**Date Closed**	**20-Dec-19**

Previous Assessor				
VCS/ Rule ref	**Module**	**Significance**	**Original NCR Description from Previous Assessor**	**Comments**
VCS Standard V4.0	BL-PEAT	Non conformance.	Section 4.7.1 of the VCS Standard requires that "The methodology shall establish criteria and procedures for quantifying GHG emissions and/or removals, and/or carbon stocks, for the selected GHG sources, sinks and/or reservoirs, separately for the project (including leakage) and baseline scenarios." 1. In Section 5.2 of the BL-PEAT module, the parameter A(i,t) is referenced as "Total area of stratum i at year t in the baseline scenario (ha)". However, no procedures are provided regarding quantification of this parameter. 2. In Section 5.2 of the BL-PEAT module, it is stated that "For water bodies, the area Ai in Equation 1 must be replaced with Aditch-BSL,i,t." This statement appears to be correct in respect of the quantification of emissions from ditches and other open water bodies. However, for project activities with some areas of open water and some areas without open water, this statement will likely result in confusion, due to the following factors: 2a. Through thorough review of the BL-PEAT module, it appears the intent is that parameters GHG(peatsoil-BSL,i,t) and GHG(peatburn-BSL,i,t) are quantified as zero in respect of areas of ditches and open water bodies. While this is the intent, it is not clearly stated. Given the absence of clear instruction and given that the parameters GHG(peatsoil-BSL,i,t), GHG(peatditch-BSL,i,t) and GHG(peatburn-BSL,i,t) all make use of the same parameter for expansion to a totals basis in Equation 1, it is quite possible that a reader of the methodology could presume that, for areas of ditches and open water, the parameters GHG(peatsoil-BSL,i,t) and GHG(peatburn-BSL,i,t) somehow need to be quantified. 2b. It only "works" to instruct the user of the methodology to replace A(i) (or, more precisely, A(i,t)) with A(ditch-BSL,i,t) if areas of ditches and open water are differentiated as separate strata. The module X-STR does state, in Section 5.3.1, that "The area of channels and ditches must be quantified and treated as separate strata." However, X-STR contains no parallel guidance regarding other bodies of open water. 3. As referenced in Equation 1, the parameter GHG(peatburn-BSL,i,t) is on a per-hectare basis. In Section 5.5, module E-BPB is referenced for quantification procedures for this parameter. However, module E-BPB quantifies this parameter on a totals basis (already expanded to the number of hectares involved) in Equation 3.	
			Second Round Findings from Original Assessor:	

			A response to this finding had not been received by the assessment team prior to the discontinuation of assessment services. Please note that it was not feasible to budget time to review findings responses after 3 May 2019 and before discontinuation of assessment services was requested. It is possible that a response was sent to the assessment team regarding this finding during the period after 3 May 2019 and prior to the discontinuation of assessment services but, in such case, this response will not have been reviewed or saved to the assessment team's internal records.	
			S&A Round 1 Findings 20 December 2019: 1: In the updated version of BL-PEAT, section 5.2, and equation 1, have been revised to distinguish the relevant areas into separate categories including the parameters Apeatsoil-BSL,i,t (Area of peatland (not open water, not burnt) in stratum i in year t in the baseline scenario (ha)), Aditch-BSL,i,t (Area of ditch and other open water in stratum i in year t in the baseline scenario (ha)), and Apeatburn-BSL,i,t (Area of peat burnt in stratum i in year t in the baseline scenario (ha)). These areas are collectively used to calculate the net GHG emissions in the WRC baseline scenario on peatland (GHGBSL-PEAT). Procedures for these parameters are given in the parameter tables of section 6 in BL-PEAT, and are each sourced from the X-STR module. This approach was found to be consistent with the calculation of Net GHG emissions in the WRC project scenario covered in M-PEAT, which also distinguishes the relevant areas into separate categories (area of peatland - not open water, not burnt, area of ditch and other open water, & area of peat burnt). These updates made to BL-PEAT were found to address this element of the NCR 125 findings. *1)* 2: The VB agrees with the developer's response to this item in that the updates made to section 5.2, and equation 1, distinguishing the relevant areas into separate categories including the parameters Apeatsoil-BSL,i,t (Area of peatland (not open water, not burnt) in stratum i in year t in the baseline scenario (ha)), Aditch-BSL,i,t (Area of ditch and other open water in stratum i in year t in the baseline scenario (ha)), and Apeatburn-BSL,i,t (Area of peat burnt in stratum i in year t in the baseline scenario (ha)) addresses the concerns raised in item 2 of this finding. 2a: The VB confirmed that M-REDD now includes guidance on stratification through the X-STR Module when the Modules M-PEAT or M-TW are used. ("When using Modules M-PEAT or M-TW, AWPS,i,t (Area of stratum 1 in year t in the project area in the project scenario) and AWPS,LB,i,t (Area of stratum 1 i in year t in the leakage belt) must be quantified. This area is subject to stratification (see Module X-STR for	*VMD0042 BL-PEAT v1.0_SCS RD2_23MAY2019.doc* *VMD0046 M-PEAT v1.0_SCS RD2_23MAY2019 plus recent edit.doc* *VMD0015 M-REDD, v2.1_RD2 SCS_23MAY2019 with highlights.doc* *VMD0007 BL-UP_v3.3_RD2 SCS_23MAY2019 plus recent edits.doc* *VMD0007 BL-PL_v1.2_RD2 SCS_23MAY2019 plus recent edits.doc* *VMD0016 X-STR_v1.2_SCS RD2_23MAY2019*

			general guidance). In the project scenario, strata can be formed by deforestation, degradation and all other factors mentioned in this module (see Equations 1 and 2) for which an area must be quantified when relevant.") The VB can also confirm that similar guidance was entered into the BL-UP and BL-PL Modules with regard to stratification. (BL-PL: "When using Modules BL-PEAT or BL-TW, ABSL,i,t (Area of stratum i in year t in the project area in the baseline scenario) must be quantified. This area is subject to stratification (see Module X-STR for general guidance). The sum of strata must be equal to Aplanned,i,t..") (BL-UP: "When using Modules BL-PEAT or BL-TW, ABSL,i,t (Area of stratum i in year t in the project area in the baseline scenario) and ABSL,LB,i,t (Area of stratum i in year t in the leakage belt) must be quantified. These areas are subject to stratification (see Module X-STR for general guidance). The sum of strata must be equal to Aunplanned,i,t..") The requirement to stratify relevant areas (e.g. areas formed by deforestation, degradation and all other factors mentioned in M-REDD) was found to be sufficiently clear in M-REDD, and it is the opinion of the VB that the parameters for these stratified areas Apeatsoil-BSL,i,t (Area of peatland (not open water, not burnt) in stratum i in year t in the baseline scenario (ha)), Aditch-BSL,i,t (Area of ditch and other open water in stratum i in year t in the baseline scenario (ha)), and Apeatburn-BSL,i,t (Area of peat burnt in stratum i in year t in the baseline scenario (ha)) are clearly linked to the Parameters GHGpeatsoil-BSL,i,t, GHGpeatditch-BSL,i,t & GHGpeatburn-BSL,i,t in BL-PEAT when quantifying the net GHG emissions from the peat soil in the baseline scenario using equation 1 of BL-PEAT. 3: The VB can confirm that the parameters for GHG emissions from (peat) fires in the baseline and project scenario (GHGpeatburn-BSL,i,t and GHGpeatburn-WPS,i,t respectively) are only quantified in BL-PEAT and M-PEAT. See section 5.5 of BL-PEAT and 5.4 of M-PEAT. Both BL-PEAT and M-PEAT direct the reader to use the E-BPB module for the procedures for assessing/quantifying the parameters for these emission sources. In E-BPB was confirmed to have been updated to reflect the parameter GHGpeatburn,i,t as a per hectare value (vs. a total figure for this emission source), and is therefore considered to be properly used in BL-PEAT and M-PEAT for the quantification of GHG emissions from burning of peat (baseline and project). The parameter is now only assessed in the BL-PEAT and M-PEAT Modules as described in the findings above. These revisions were found to address the concerns raised with this item of the NCR.	*plus recent edits.doc VMD0013 E-BPB v1.1 23MAY2019 plus recent edits.doc*
Developer Response				

Date	*Comment*	*Additional evidence submitted for review by Developer*
	Developers Response to Original Findings from the Previous Assessor: No response provided as of the time assessment services were discontinued.	
3-Dec-19	**Developers Status Update for S&A Carbon:** "Re 1. Equation 1 now directly distinguishes between water bodies, burnt peat and other. This high level of stratification mimics the procedures provided in this module. Procedures are provided in chapter 6. The same approach was applied to M-PEAT. Re 2a. Corrected as a result of the overhaul mentioned under 1 above. In conjunction with this, in M-REDD the guidance on stratification is provided after equation 2. Also in BL-UP (step 4.4), and BL-PL (before equation 13), similar guidance on stratification has been added. Re 2b: X-STR has been modified to cover other water bodies in this context as well. Text now reads: ""The area of ditches and other open water bodies ..."" in line with the PEAT modules. Re 3: Emissions from burning of peat are only quantified in modules BL-PEAT and M-PEAT. Therefore, in E-BPB, the unit for GHGpeatburn,i,t has been changed to a per ha basis, for correct use in BL-PEAT and M-PEAT, without affecting other modules. Apeatburn,i,t has been removed from E-BPB and is assessed in BL-PEAT and M-PEAT."	

Open Issue from Previous Assessor	**Issue ID:** **NCR 126**	**Status:** **Closed**	**Checked by:** **LH**	**Date Closed** **27-Jan-20**
VCS/ Rule ref	**Module**	**Significance**	**Original NCR Description from Previous Assessor**	**Comments**

VCS Standard V4.0	BL-PEAT	Non conformance.	Section 4.7.1 of the VCS Standard requires that "The methodology shall establish criteria and procedures for quantifying GHG emissions and/or removals, and/or carbon stocks, for the selected GHG sources, sinks and/or reservoirs, separately for the project (including leakage) and baseline scenarios." 1. In Section 5.1 of the M-PEAT module, the parameter A(i,t) is referenced as "Total area of stratum i at year t in the project scenario (ha)." However, no procedures are provided regarding quantification of this parameter, although a reference to X-STR is provided in Section 6.2 regarding quantification of the parameter A(i). 2. In Section 5.1 of the M-PEAT module, it is stated that "For water bodies, the area Ai in Equation 1 must be replaced with Aditch-WPS,i,t." This statement appears to be correct in respect of the quantification of emissions from ditches and other open water bodies. However, for project activities with some areas of open water and some areas without open water, this statement will likely result in confusion, due to the following factors: 2a. Through thorough review of the M-PEAT module, it appears the intent is that parameters GHG(peatsoil-WPS,i,t) and GHG(peatburn-WPS,i,t) are quantified as zero in respect of areas of ditches and open water bodies. While this is the intent, it is not clearly stated. Given the absence of clear instruction and given that the parameters GHG(peatsoil-WPS,i,t), GHG(peatditch-WPS,i,t) and GHG(peatburn-WPS,i,t) all make use of the same parameter for expansion to a totals basis in Equation 1, it is quite possible that a reader of the methodology could presume that, for areas of ditches and open water, the parameters GHG(peatsoil-WPS,i,t) and GHG(peatburn-WPS,i,t) somehow need to be quantified. 2b. It only "works" to instruct the user of the methodology to replace A(i) (or, more precisely, A(i,t)) with A(ditch-WPS,i,t) if areas of ditches and open water are differentiated as separate strata. The module X-STR does state, in Section 5.3.1, that "The area of channels and ditches must be quantified and treated as separate strata." However, X-STR contains no parallel guidance regarding other bodies of open water. 3. As referenced in Equation 1, the parameter GHG(peatburn-WPS,i,t) is on a per-hectare basis. In Section 5.4, module E-BPB is referenced for quantification procedures for this parameter. However, module E-BPB quantifies this parameter on a totals basis (already expanded to the number of hectares involved) in Equation 3. 4. In the currently prevailing version of the M-PEAT module, the parameters E(peatsoil-WPS,i,t) and E(peatsoil-BSL,i,t) are on a totals basis (already expanded to the number of hectares involved) in the equations in which the Fire Reduction Premium is calculated. In the revision to M-PEAT, the corresponding	

			parameters GHG(peatsoil-WPS,i,t) and GHG(peatsoil-BSL,i,t) are calculated on a per-hectare basis, but no amendment has been made to the corresponding equations to account for this modification.	
			Second Round Findings from Original Assessor: A response to this finding had not been received by the assessment team prior to the discontinuation of assessment services. Please note that it was not feasible to budget time to review findings responses after 3 May 2019 and before discontinuation of assessment services was requested. It is possible that a response was sent to the assessment team regarding this finding during the period after 3 May 2019 and prior to the discontinuation of assessment services but, in such case, this response will not have been reviewed or saved to the assessment team's internal records.	
			S&A Round 1 Findings 20 December 2019: 1) The VB can confirm that M-PEAT was updated in a similar fashion as was done to BL-PEAT in response to the findings of NCR 125. In the updated version of M-PEAT, section 5.1, and equation 1, have been revised to distinguish the relevant areas into separate categories including the parameters Apeatsoil-WPS,i,t (Area of peatland (not open water, not burnt) in stratum i in year t in the project scenario (ha)), Aditch-WPS,i,t (Area of ditch and other open water in stratum i in year t in the project scenario (ha)), and Apeatburn-WPS,i,t (Area of peat burnt in stratum i in year t in the project scenario (ha)). These areas are collectively used to calculate the net GHG emissions in the WRC project scenario on peatland (GHGWPS-PEAT). Procedures for these parameters are given in the parameter tables of section 6 in M-PEAT, and are each sourced from the X-STR module. This approach was found to be consistent with the calculation of Net GHG emissions in the WRC project scenario covered in BL-PEAT, which also distinguishes the relevant areas into separate categories (area of peatland - not open water, not burnt, area of ditch and other open water, & area of peat burnt). These updates made to M-PEAT were found to address this element of the NCR 126 findings. 2) The VB agrees with the developer's response to this item (see associated NCR 125)in that the updates made to section 5.1, and equation 1, distinguishing the relevant areas into separate categories including the parameters Apeatsoil-WPS,i,t (Area of peatland (not open water, not burnt) in stratum i in year t in the project scenario (ha)), Aditch-WPS,i,t (Area of ditch and other open water in stratum i in year t in the project	*VMD0042 BL-PEAT v1.0_SCS RD2_23MAY2019.doc* *VMD0046 M-PEAT v1.0_SCS RD2_23MAY2019 plus recent edit.doc* *VMD0015 M-REDD, v2.1_RD2 SCS_23MAY2019 with highlights.doc* *VMD0007 BL-UP_v3.3_RD2 SCS_23MAY2019 plus recent edits.doc* *VMD0007 BL-PL_v1.2_RD2 SCS_23MAY2019 plus recent edits.doc*

			scenario (ha)), and Apeatburn-WPS,i,t (Area of peat burnt in stratum i in year t in the project scenario (ha)) addresses the concerns raised in item 2 of this finding. 2a) The VB confirmed that M-REDD now includes guidance on stratification through the X-STR Module when the Modules M-PEAT or M-TW are used. ("When using Modules M-PEAT or M-TW, AWPS,i,t (Area of stratum 1 in year t in the project area in the project scenario) and AWPS,LB,i,t (Area of stratum 1 i in year t in the leakage belt) must be quantified. This area is subject to stratification (see Module X-STR for general guidance). In the project scenario, strata can be formed by deforestation, degradation and all other factors mentioned in this module (see Equations 1 and 2) for which an area must be quantified when relevant.") The requirement to stratify relevant areas (e.g. areas formed by deforestation, degradation and all other factors mentioned in M-REDD) was found to be sufficiently clear in M-REDD, and it is the opinion of the VB that the parameters for these stratified areas Apeatsoil-WPS,i,t (Area of peatland (not open water, not burnt) in stratum i in year t in the project scenario (ha)), Aditch-WPS,i,t (Area of ditch and other open water in stratum i in year t in the project scenario (ha)), and Apeatburn-WPS,i,t (Area of peat burnt in stratum i in year t in the WPS scenario (ha)) are clearly linked to the Parameters GHGpeatsoil-WPS,i,t, GHGpeatditch-WPS,i,t & GHGpeatburn-WPS,i,t in M-PEAT when quantifying the net GHG emissions from the peat soil in the project scenario using equation 1 of M-PEAT. 2b) The requirement to stratify relevant areas (e.g. areas formed by deforestation, degradation and all other factors mentioned in M-REDD) was found to be sufficiently clear in M-REDD and guidance directs the reader to use X-STR for spatial stratification. X-STR, section 5.2 states: "Modules BL-PEAT and M-PEAT distinguish area of ditch and other open water, area of peat burnt and area of peatland (not open water, not burnt). The area of ditches and other open water bodies (Aditch-WPS,i,t for the project scenario and Aditch-BSL,i,t for the baseline scenario) must be quantified, but do not have to be explicitly mapped. The area of peat burnt (Apeatburn-WPS,i,t for the project scenario and Apeatburn-BSL,i,t for the baseline scenario) and area of peatland (not open water, not burnt) (Apeatsoil-WPS,i,t for the project scenario and Apeatsoil-BSL,i,t for the baseline scenario) determine the difference between the remaining carbon stock in	*VMD0016 X-STR_v1.2_SCS RD2_23MAY2019 plus recent edits.doc* *VMD0013 E-BPB v1.1 23MAY2019 plus recent edits.doc*

			the project scenario and baseline scenarios after 100 years. In the procedures in Section 5.4 these areas are together referred to as AWPS,i,t and ABSL,i,t." This language was found to sufficiently clarify that that the areas of ditch and other open water, area of peat burnt and area of peatland (not open water, not burnt) are distinguished, and that the area of ditches and other open water bodies (Aditch-WPS,i,t for the project scenario and Aditch-BSL,i,t for the baseline scenario) must be quantified and are in line with the M-PEAT and BL-PEAT modules. 3) The VB can confirm that the parameters for GHG emissions from (peat) fires in the baseline and project scenario (GHGpeatburn-BSL,i,t and GHGpeatburn-WPS,i,t respectively) are only quantified in BL-PEAT and M-PEAT. See section 5.5 of BL-PEAT and 5.4 of M-PEAT. Both BL-PEAT and M-PEAT direct the reader to use the E-BPB module for the procedures for assessing/quantifying the parameters for these emission sources. E-BPB was confirmed to have been updated to reflect the parameter GHGpeatburn,i,t as a per hectare value (vs. a total figure for this emission source), and is therefore considered to be properly used in BL-PEAT and M-PEAT for the quantification of GHG emissions from burning of peat (baseline and project). The parameter is now only assessed in the BL-PEAT and M-PEAT Modules as described in the findings above. These revisions were found to address the concerns raised with this item of the NCR. 4) The VB can confirm that the parameters, GHGpeatsoil-WPS,i,t in M-PEAT and GHGpeatsoil-BSL,i,t in BL-PEAT are quantified on a per hectare basis. In the parameter tables, GHGpeatsoil-BSL,i,t is shown as the data unit t CO2e/ha/yr, while the description given appears to imply the parameter is for the entire area of the stratum (i) in a given year (t). This is the same for GHGpeatburn-WPS,i,t in M-PEAT. Were these parameters are used to determine the fire reduction premium in section 5.5, the use of these parameters (GHGpeatsoil-WPS,i,t & GHGpeatsoil-BSL,i,t) still doesn't appear to expand the parameters to be reflected as a total bases (e.g. GHG emissions for the project/baseline scenario for the total strata). It is not clear that the concerns raised in this element of the finding have been addressed. Further clarification on how/why this aspect of the finding has been addressed is requested to help the VB understand why this is no longer an issue.	
			S&A Round 2 Findings 27 January 2020	

			The developer has expressed uncertainty with regard to the concerns raised by the previous assessor on this particular NCR. The VB finds that their original finding for item 4 of this NCR is not really clear. In M-PEAT, the parameter GHGpeatsoil-WPS,i,t is given in in units of t CO2e/ha/year (t CO2e ha-1 yr-1). This parameter is equal to GHGproxy-WPS,I,t (equation 2), which is given in the same units. In BL-PEAT, GHGpeatsoil-BSL,i,t is given in units of t CO2e/ha/year (t CO2e ha-1 yr-1). This parameter is equal to GHGproxy-BSL,i,t (equation 5) which is given in the same units. Quantification of GHGpeatsoil-WPS,i,t in M-PEAT and GHGpeatsoil-BSL,i,t in BL-PEAT appear to be correctly quantified on a per hectare basis. The VB finds everything to be in order and has no remaining concerns with this NCR.	*VMD0046 M-PEAT v1.0_SCS RD2_23MAY2019 plus recent edit.doc* *VMD0042 BL-PEAT v1.0_SCS RD2_23MAY2019.doc*

Developer Response		
Date	***Comment***	***Additional evidence submitted for review by Developer***
	Developers Response to Original Findings from the Previous Assessor: No response provided as of the time assessment services were discontinued.	
3-Dec-19	**Developers Status Update for S&A Carbon:** Re 1-3: Similar amendments have been made as outlined for BL-PEAT in NCR 125. Re 4: The parameters GHGpeatsoil-WPS,i,t and GHGpeatsoil-BSL,i,t are emissions per stratum per year as indicated by the suffixes i and t. This seems to be in order.	
3-Jan-20	**Developers Response to S&A Round 1 Findings:** We do not understand the concern of the previous assessor. We corrected an error in version 1.0 of M-PEAT. In that version, "GHG emissions from microbial decomposition of the peat soil within the project boundary in the project scenario in stratum i in year t" had the unit tCO2e yr-1. This assumes that the area of stratum i does not	

	matter, which is false. Therefore we amended the unit into tCO2e ha-1 yr-1. The parameter is the same as the one in BL-PEAT, where units have also been adjusted to tCO2e ha-1 yr-1.	

Open Issue from Previous Assessor	**Issue ID:** **NCR 127**	**Status:** **Closed**	**Checked by:** **LH**	**Date Closed** **27-Jan-20**

VCS/ Rule ref	**Module**	**Significance**	**Original NCR Description from Previous Assessor**	**Comments**
VCS Standard V4.0	E-BPB	Non conformance.	Section 4.7.1 of the VCS Standard requires that "The methodology shall establish criteria and procedures for quantifying GHG emissions and/or removals, and/or carbon stocks, for the selected GHG sources, sinks and/or reservoirs, separately for the project (including leakage) and baseline scenarios." Procedures for quantification of emissions from biomass burning are provided in E-BPB. However, the table in Section 6.2 of the module for the parameter C(AB_tree,i,t), which is present in the prevailing version of the module, has been removed from E-BPB. This introduces confusion into the procedures for quantification of emissions from biomass burning.	
			Second Round Findings from Original Assessor: A response to this finding had not been received by the assessment team prior to the discontinuation of assessment services. Please note that it was not feasible to budget time to review findings responses after 3 May 2019 and before discontinuation of assessment services was requested. It is possible that a response was sent to the assessment team regarding this finding during the period after 3 May 2019 and prior to the discontinuation of assessment services but, in such case, this response will not have been reviewed or saved to the assessment team's internal records.	
			S&A Round 1 Findings 20 December 2019:	*VMD0013 E-BPB v1.1 23MAY2019*

			VB review confirmed that the parameter CAB,tree,i (Carbon stock in aboveground biomass in trees in stratum i) is again included in section 6.2 of the E-BPB module. This parameter is used to estimate the average aboveground biomass stock before burning in a given stratum (in the calculation of baseline and project emissions), and is applied in Equation 2 of E-BPB. This parameter is sourced from Step 4 in the CP-AB Module (VMD0001 Estimation of carbon stocks in the above- and belowground biomass in live tree and non-tree pools), and this module is included in the source references given in section 1 of E-BPB. It is noted by the VB however, that in the parameter tables of section 6.2 in E-BPB, it shows the parameter CAB,tree,i being used in Equation 3, when it appears it is rather used in Equation 2 of the Module.	*plus recent edits.doc VMD0001v1.1.pdf*
			S&A Round 2 Findings 27 January 2020 The VB confirmed the equation reference (2) for the parameter CAB,tree,I in the parameters tables of section 6.2 E-BPB has been corrected. This correction was found to fully close out the finding.	*VMD0013 E-BPB v1.1 03JAN2020.doc VMD0001v1.1.pdf*
Developer Response				
Date	***Comment***			***Additional evidence submitted for review by Developer***
	Developers Response to Original Findings from the Previous Assessor: No response provided as of the time assessment services were discontinued.			
3-Dec-19	**Developers Status Update for S&A Carbon:** This parameter has been put back in section 6.2			
3-Jan-20	**Developers Response to S&A Round 1 Findings:** This has been corrected.			

Open Issue from Previous Assessor	Issue ID: NCR 128	Status: Closed	Checked by: LH	Date Closed 7-Feb-20

VCS/ Rule ref	Module	Significance	Original NCR Description from Previous Assessor	Comments
VCS Standard V4.0	E-BPB M-REDD	Non conformance.	Section 4.7.1 of the VCS Standard requires that "The methodology shall establish criteria and procedures for quantifying GHG emissions and/or removals, and/or carbon stocks, for the selected GHG sources, sinks and/or reservoirs, separately for the project (including leakage) and baseline scenarios." It is stated below in Section 4 of M-REDD that "The module is mandatory for REDD and CIW project activities." While it seems appropriate to make M-REDD mandatory for REDD and REDD-WRC project activities, M-REDD is, as it stands, poorly suited to handle stand-alone WRC project activities. Example of issues that arise when M-REDD is used for such activities are as follows: 1. Parameters from the "CP modules" (e.g., CP-AB and CP-D) are referenced throughout M-REDD. However, such modules are not required (per Table 4 of REDD+ MF) for use with stand-alone WRC project activities; therefore, there is a disconnect in the methodology guidance. 2. Step 1 of M-REDD contains procedures for "Selection and analyses of sources of land-use and land-cover (LU/LC) change data", and Step 2 of Section 5 of M-REDD contains procedures for "Monitoring deforestation" and "Monitoring forest degradation". It is understood that, per application of Table 1 of M-REDD; the sub-sections of Step 2 should be read as "Monitoring wetland degradation" in the context of stand-alone CIW project activities. However, Steps 1 and 2 reference remote sensing methods that are not likely to be capable of accurately monitoring degradation in non-forested wetlands. Step 1 refers to the use of medium-resolution remotely sensed imagery that seems incapable of detecting degradation of non-forested wetlands. Step 2 references "IPCC 2006 GL AFOLU, Chapter 3A.2.4 and the GOFC-GOLD 2008 Sourcebook for REDD for additional guidance", but this source does not contain guidance for assessing degradation of non-forested wetlands. 3. Furthermore, very few, if any, of the procedures under "Monitoring forest degradation" are logical in the context of project activities on non-forested wetlands. This section references degradation from "extraction of trees for illegal timber or fuelwood and charcoal" and "selective logging of forest management areas	

			possessing a FSC certificate", but neither of these appear likely to be sources of degradation in non-forested wetlands. In addition, M-REDD mentions "RWE-REDD project activities" in Step 2 of Section 5. This conflicts with Section 4 of M-REDD, which suggests that M-REDD does not apply to such project activities.	
			Second Round Findings from Original Assessor: A response to this finding had not been received by the assessment team prior to the discontinuation of assessment services. Please note that it was not feasible to budget time to review findings responses after 3 May 2019 and before discontinuation of assessment services was requested. It is possible that a response was sent to the assessment team regarding this finding during the period after 3 May 2019 and prior to the discontinuation of assessment services but, in such case, this response will not have been reviewed or saved to the assessment team's internal records.	
			S&A Round 1 Findings 20 December 2019: 1) The language given in the response to this item was confirmed to be included in section 2 of M-REDD, below table 1. ("When applying M-REDD for CIW-REDD, RWE-REDD or stand-alone CIW project activities, disregard the references to Module CP-S and instead use Module M-TW or M-PEAT (whichever is relevant) for soil GHG accounting. For stand-alone CIW project activities, all CP modules (VMD0001 - VMD0005) do not apply, and procedures for GHG emissions (GHGWPS-TW,i,t and GHGWPS-PEAT,i,t) are provided in Modules M-TW or M-PEAT (whichever is relevant) while procedures for assessing areas are provided in this module, both captured in Equations 1 and 2 below.") This language added into M-REDD was found to sufficiently clarify that the references in M-REDD to the Module CP-S are to be disregarded for CIW-REDD, RWE-REDD or stand-aloe CIW project activities, and rather M-TW and M-PEAT (whichever are relevant) are the appropriate Modules to use for soil GHG accounting. It was also found to be sufficiently clear that for stand-alone CIW ProJet activities, all CP modules do not apply. This guidance was also considered to be aligned with guidance given in Table 4 of REDD+ MF in regard to the required modules for project activities cover by the methodology. Guidance given below equation 1 in M-REDD was confirmed to indicate that "for stand-alone CIW project activities, quantify GHGWPS-PEAT or GHGWPS-TW (whichever is relevant) from Modules M-PEAT or M-TW,	*VMD0015 M-REDD, v2.1_RD2 SCS_23MAY2019 with highlights.doc* *VMD0013 E-BPB v1.1 23MAY2019 plus recent edits.doc* *VM0007 REDD+MF_v1.6_SCS RD2_30AUG2019.doc* *VMD0007 BL-UP_v3.3_RD2 SCS_23MAY2019 plus recent edits.doc*

			respectively. Similar language is given below Equation 2 of M-REDD with respect to the GHGWPS-PEAT,LB or GHGWPS-TW,LB parameters. ("For the leakage belt of stand-alone CIW project activities, quantify GHGWPS-PEAT,LB or GHGWPS-TW,LB (whichever is relevant) from Modules M-PEAT or M-TW, respectively."). This expanded guidance was found to give sufficient clarity on the applicability (or inapplicability) of the CP Modules within M-REDD. 2) The response to item 2 of this finding outlines the developer's asserted disagreement with the statement that remote sensing methods are not likely to be capable of accurately monitoring degradation in non-forested wetlands. The VB would tend to agree with the assertion that the guidance given in the referenced materials given in M-REDD in regard to remote sensing data sources (e.g. Chapter 3A.2.4 of the IPCC 2006 GL AFOLU and GOFC-GOLD 2008) is generic enough that it can be applied to wetland ecosystems. While the VB also acknowledges there could be limitations in the ability to detect wetland degradation using remote sensing techniques, both M-REDD and BL-UP were found to be clear in regard to the minimum map mapping accuracy needing to be 90% both for the "forest" class and the "non-forest" class (taking into consideration the terminology translations between REDD and WRC given in Table 1). The developer has however recognized potential limitations with remote sensing techniques applied for the conservation of seagrass project activities given the underwater existence of these ecosystems. To address this possibility footnote 6 has been added into M-REDD (Step 1, section 5) indicating; "For conservation of seagrass project activities, due to the under-water presence of these ecosystems, remotes sensing techniques may not be always sufficient to obtain the required mapping accuracy of 90%. In such cases, project proponents may use ground-based mapping techniques, when possible in combination with remote sensing." While the VB finds this added footnote (6) as appropriate for the allowance to use ground-based mapping techniques, when possible in combination with remote sensing in order to obtain the required 90% mapping accuracy, they question whether such allowance should be considered for all WRC project activities in other wetland ecosystem types in order to ensure the minimum mapping accuracy requirements are met, if limitations with remote sensing techniques are encountered in other wetland ecosystems.	

			3) The VB acknowledges that much of the procedural guidance given under the "Monitoring Forest Degradation" heading of section 5, step 2 of M-REDD isn't relevant in the context of project activities on non-forested wetlands, the use of the term "forest" here was found to clearly distinguish that this guidance does not apply to monitoring of wetland degradation. Further clarity has been added under the Monitoring Forest Degradation heading indicating that "this chapter does not apply to stand-alone CIW project activities" which was found to give sufficient clarity on the applicability (or inapplicability) of this section.	
			S&A Round 2 Findings 27 January 2020 2: The response (*see NCR 106) is found to provide helpful contextual background on why the additions made to M-REDD were considered necessary to provide clarity that the document is intended to comprehensively incorporate CIW-REDD, RWE-REDD and stand alone CIW project activities. In previous versions, applicability for CIW project activities was considered to be implicit from the transition guidance given in Table 1. Clarity was however lacking on how procedures for CIW project activities would work however, so the developer attempted to explicitly make a clear link with the wetland modules (TW & PEAT). VB review found that the M-REDD document does fully incorporate CIW-REDD, RWE-REDD and stand alone CIW project activities, including references to M-PEAT and M-TW as appropriate for the quantification of net GHG emissions in the project area and leakage belt for CIW-REDD, RWE-REDD and stand-alone CIW project activities. Total net GHG emission reductions from REDD project activities are covered by equation 2, while net GHG emission reductions for wRC (wetland) project activities are covered in equation 11. The said revision to footnote #6 in M-REDD (e.g. change of the term "may" to "must") does not appear to have actually been made in the updated version of M-REDD provided.	*VMD0015 M-REDD, v2.1_RD2 SCS_02JAN2020.doc*
			S&A Round 3 Findings 7 February 2020: The VVB confirmed that the intended edits said to have been made to footnote 6 in M-REDD has now been made addressing the remaining aspect of this finding. Footnote 6 now states: "For conservation of seagrass project activities, due to the under-water presence of these ecosystems, remotes sensing techniques may not be always sufficient to obtain the required mapping accuracy of 90%. In such cases, project proponents must use ground-based mapping techniques, when possible in combination with remote sensing."	*VMD0015 M-REDD, v2.1_RD2 SCS_28JAN2020.doc*
Developer Response				

Date	*Comment*	*Additional evidence submitted for review by Developer*
	Developers Response to Original Findings from the Previous Assessor: No response provided as of the time assessment services were discontinued.	
3-Dec-19	**Developers Status Update for S&A Carbon:** Re 1: In the text right underneath Table 1 we added the following additional guidance: "For stand-alone CIW project activities, all CP modules (VMD0001 – VMD0005) do not apply, and procedures for GHG emissions (GHGWPS-TW,i,t and GHGWPS-PEAT,i,t) are provided in Modules M-TW or M-PEAT, whichever is relevant, while procedures for assessing areas are provided in this module, both captured in Equations 1 and 2 below." The language above these equations already mentions: "For stand-alone CIW project activities, use Equation 2 or 3 (whichever is relevant)." Re 2: The statement "However, Steps 1 and 2 reference remote sensing methods that are not likely to be capable of accurately monitoring degradation in non-forested wetlands" is not confirmed by wetland scientists applying remote sensing and RS specialists involved in wetlands science. The guidance provided in M-REDD and BL-UP, as well as IPCC 2006 and GOFC-GOLD 2008, is generic enough to apply to wetlands of any sort. Most wetlands projects will involve vegetation changes and these can be monitoring on a routinely basis using remote sensing. It is not anymore the rocket science it seemed to be when the first version of VM0007 was drafted. Even for stand-alone CIW project where vegetation change is not relevant, but conversion to open water, shrimp ponds, rice fields and infrastructure is, remote sensing techniques are described in the VM0007 modules and sources referenced therein can be successfully applied. An outlier is perhaps seagrass conservation, where ground-based mapping is still necessary but where sensors referred to in VM0007 are feasible in mapping at least at the project scale. We added a footnote: "For conservation of seagrass project activities, due to the under-water presence of these ecosystems, remotes sensing techniques may not be always sufficient to obtain the required mapping accuracy of 90%. In such cases, project proponents may use ground-based mapping techniques, when possible in combination with remote sensing." The guidance in BL-UP, referenced in M-REDD, gives sufficient insurance that mapping using RS techniques generates sufficiently reliable maps also in case of sea grass: "There is no specific method prescribed for forest land and deforestation mapping. The project proponent may select from the variety of existing methods, data sources, and software. However, good practice in remote sensing analysis must be followed in any case. The selected mapping method for each land cover type (i.e., forest / deforestation) must generate consistent maps." Re 3: Monitoring forest degradation does not apply to wetlands degradation. That is why "forest" was added to the caption. The issues with monitoring degradation in a forest matrix are of a special nature. To avoid confusion we added "This chapter does not apply to stand-alone CIW project activities.	

	Final comment: M-REDD does not apply to stand-alone RWE projects, but if RWE is combined with REDD, M-REDD does apply to the RWE-REDD project.	
3-Jan-20	**Developers Response to S&A Round 1 Findings:** See response to NCR 106.	
28-Jan-20	**Developers Response to S&A Round 2 Findings:** Now corrected. Footnote 6: "For conservation of seagrass project activities, due to the under-water presence of these ecosystems, remotes sensing techniques may not be always sufficient to obtain the required mapping accuracy of 90%. In such cases, project proponents may use ground-based mapping techniques, when possible in combination with remote sensing."	

Open Issue from Previous Assessor	**Issue ID:** **NCR 129**	**Status:** **Closed**	**Checked by:** **LH**	**Date Closed** **27-Jan-20**
VCS/ Rule ref	**Module**	**Significance**	**Original NCR Description from Previous Assessor**	**Comments**
VCS Standard V4.0	E-BPB M-REDD	Non conformance.	Section 4.7.1 of the VCS Standard requires that "The methodology shall establish criteria and procedures for quantifying GHG emissions and/or removals, and/or carbon stocks, for the selected GHG sources, sinks and/or reservoirs, separately for the project (including leakage) and baseline scenarios." 1. It is stated in M-REDD that "This module produces the following parameter..." and then suggested that the module produces the parameter C(WPS-REDD,LB). The module does not produce this parameter.	

			2. The module produces the parameters GHG(WPS-PEAT,LB) and GHG(WPS-TW,LB). However, these parameters do not seem to be used in any downstream location in the quantification flow (i.e., there is a "dead end" in the quantification structure). 3. The module states that "For CIW-REDD, stand alone CIW and RWE-REDD project activities, for each land use u, areas AWPS,i,t in Equations 2 and 3 and AWPS,LB,i,t in Equations 5 and 6, equal ADefPA,u,i,t and ADefLB,u,i,t, respectively." This language is guaranteed to be a source of confusion. In large part, this is related to a gap between the parameters A(DefPA,u,i,t) and A(DefLB,u,i,t), which are quantified for each post-deforestation land use and are limited to areas where deforestation has occurred, and the parameters A(WPS,i,t) and A(WPS,LB,i,t), which are quantified uniquely for each year and stratum and are calculated for the entirety of the project area and leakage belt, respectively. An attempt has been made to mitigate any confusion through insertion of the words "for each land use u". However, this does not adequately address the situation. 4. The module duplicates quantification that occurs in other modules. For example, Equation 3 in M-REDD duplicates Equation 2 in M-TW. 5. The parameter tables in Section 6.3 of M-REDD reference modules BL-PEAT and BL-TW for parameters which should originate in modules M-PEAT and M-TW, respectively.	
			Second Round Findings from Original Assessor: A response to this finding had not been received by the assessment team prior to the discontinuation of assessment services. Please note that it was not feasible to budget time to review findings responses after 3 May 2019 and before discontinuation of assessment services was requested. It is possible that a response was sent to the assessment team regarding this finding during the period after 3 May 2019 and prior to the discontinuation of assessment services but, in such case, this response will not have been reviewed or saved to the assessment team's internal records.	
			S&A Round 1 Findings 20 December 2019: 1: The concerns raised in this element of the finding was found to be addressed. Section 5 of M-REDD outlines the parameters the module produces, and includes CWPS-REDD,LB (Net GHG emissions within the leakage belt in the REDD project scenario). This parameter is produced in Equation 2 of the updated version of M-REDD reviewed by the VB.	*VMD0015 M-REDD, v2.1_RD2 SCS_23MAY2019 with highlights.doc VMD0013 E-BPB v1.1 23MAY2019 plus recent edits.doc*

			2: The following guidance was added into M-REDD below Equations 1 & 2 in response to other findings raised. 1: "For the net GHG emissions in the project case in CIW-REDD and RWE-REDD project activities, use Equation 1 in combination with GHGWPS-PEAT or GHGWPS-TW (whichever is relevant) from Modules M-PEAT or M-TW, respectively. Insert results into Equations 2 and 11 in REDD+ MF. " "For stand-alone CIW project activities, quantify GHGWPS-PEAT or GHGWPS-TW (whichever is relevant) from Modules M-PEAT or M-TW, respectively." 2: "For the leakage belt of CIW-REDD or RWE-REDD project activities, the net GHG emissions in the project case in CIW-REDD and RWE-REDD project activities, use Equation 2 in combination with the net GHG emissions due to wetland degradation equal to GHGWPS-PEAT,LB or GHGWPS-TW,LB (whichever is relevant) from Modules M-PEAT or M-TW, respectively . Insert results into Equations 2 and 11 in REDD+ MF. " "For the leakage belt of stand-alone CIW project activities, quantify GHGWPS-PEAT,LB or GHGWPS-TW,LB (whichever is relevant) from Modules M-PEAT or M-TW, respectively." These parameters (GHGWPS-PEAT or GHGWPS-PEAT,LB and GHGWPS-TW or GHGWPS-TW,LB) are now included in the parameter tables of section 6.3 in M-REDD with a clear indication that they originate in the M-PEAT and M-TW Modules. These updates made to M-REDD were found to address the concerns raised with this element of the finding, in that the source module for these parameters is made clear, as is where they will be used. 3: As indicated in the response to NCR 124, the procedures in M-REDD has been revised and the equations (e.g. 2 - 5) as originally written have been removed. See associated S&A Findings in NCR 124 & 102. The cited language in this element of the finding appears to have been removed from M-REDD (Step 2, Monitoring Deforestation). Further guidance on stratification is now given below Equation 2 as described in response to this finding, that "When using Modules M-PEAT or M-TW, AWPS,i,t (Area of stratum i in year t in the project area in the	

			project scenario and AWPS,LB,i,t (Area of stratum i in year t in the leakage belt) must be quantified. This area is subject to stratification (see Module X-STR for general guidance). In the project scenario, strata can be formed by deforestation, degradation and all other factors mentioned in this module (see Equations 1 and 2) for which an area must be quantified when relevant." This additional guidance included in the updated version of M-REDD was found to provide sufficient distinguish between the parameters ADefPA,i,t (Area of recorded deforestation (REDD) / wetland degradation (CIW) in the project area in the project case in stratum i in year t) & ADefLB,i,t (Area of recorded deforestation (REDD) / wetland degradation (CIW) in the leakage belt in the project case in stratum i in year t) and AWPS,i,t (Area of stratum i in year t in the project area in the project scenario) & AWPS,LB,i,t (Area of stratum i in year t in the leakage belt). The parameters AWPS,i,t & AWPS,LB,i,t are sourced from M-PEAT and M-TW (whichever is relevant) and are used to calculate GHGWPS-PEAT or GHGWPS-TW to then be used in combination with equations 1 & 2 in M-REDD. The revisions made to remove the duplicative equations as described in this NCR as well as NCRs 102 & 124, along with the additional guidance given on stratification was found to be appropriate to address the concerns raised in this element of the finding. In M-PEAT and M-TW, it is clear where the parameter AWPS,i,t (Area of stratum i in year t in the project scenario) is being used to calculate GHGWPS-PEAT or GHGWPS-TW, but I do not see the parameter AWPS,LB,i,t (Area of stratum i in year t in the leakage belt) for calculating GHGWPS-PEAT,LB or GHGWPS-TW,LB as is described in the updated guidance in M-REDD. Where is the parameter AWPS,LB,i,t (Area of stratum i in year t in the leakage belt), and where is GHGWPS-PEAT,LB or GHGWPS-TW,LB calculated - to then be used in combination with equation 2 in M-REDD? 4: As indicated in the response to NCR 124, the procedures in M-REDD has been revised and the equations (e.g. 2 - 5) as originally written have been removed. These revisions were found to address the concerns raised over the duplicative equations. See associated S&A Findings in NCR 124 & 102. 5: VB review of the updated version of M-REDD found this element of the finding to have been addressed. The parameters GHGWPS-PEAT and GHGWPS-PEAT,LB as well as GHGWPS-TW and GHGWPS-TW,LB, had previously erroneously indicated that they originated in the BL-PEAT and BL-TW Modules, but M-REDD now correctly indicates that these parameters originate in M-PEAT and M-TW.	

			S&A Round 2 Findings 27 January 2020 The response to this finding (*see NCR 124) acknowledges that AWPS,LB,i,t (Area of stratum i in year t in the leakage belt) for calculating GHGWPS-PEAT,LB or GHGWPS-TW,LB is not explicitly given, but that for GHGWPS-PEAT,LB or GHGWPS-TW,LB, these parameters are obtained by applying the same procedure in M-PEAT or M-TW as is done for the project area, and just applied to the leakage belt. The guidance given in Section 5 of M-REDD (under equation 2) for AWPS,i,t and AWPS,LB,i,t now states; "When using Modules M-PEAT or M-TW, AWPS,i,t (Area of stratum i in year t in the project area in the project scenario) and AWPS,LB,i,t (Area of stratum i in year t in the leakage belt; by replacing AWPS,i,t with AWPS,LB,i,t) must be quantified." The VB feels this amendment provides sufficient clarification that AWPS,LB,i,t (Area of stratum i in year t in the leakage belt) for calculating GHGWPS-PEAT,LB or GHGWPS-TW,LB is done using the same procedures in M-PEAT and M-TW as are performed for the project area but just applied to the leakage belt.	*VMD0015 M-REDD, v2.1_RD2 SCS_02JAN2020.doc* *M-TW_v1.0_SCS RD2_12MAY2019 plus recent edits.doc* *VMD0046 M-PEAT v1.0_SCS RD2_23MAY2019 plus recent edit.doc*
Developer Response				
Date	***Comment***			***Additional evidence submitted for review by Developer***
	Developers Response to Original Findings from the Previous Assessor: No response provided as of the time assessment services were discontinued.			
3-Dec-19	**Developers Status Update for S&A Carbon:** Re 1: Equation 2 has been amended to correct this. Re 2: GHGWPS-PEAT,LB,i,t and GHGWPS-TW,LB,i,t have been added to the parameter tables. These parameters need to be quantified for the leakage belt and modules M-PEAT and M-TW are the source their values. Re 3: x has been removed from the equations, resulting from the changes to address duplicative equations. Right after equation 2, guidance regarding stratification has been added: "When using Modules M-PEAT or M-TW, AWPS,i,t (Area of stratum i in year t in the project area in the project scenario) and AWPS,LB,i,t (Area of stratum i in year t in the leakage belt) must be quantified. This area is subject			

	to stratification (see Module X-STR for general guidance). In the project scenario, strata can be formed by deforestation, degradation and all other factors mentioned in this module (see Equations 1 and 2) for which an area must be quantified when relevant." Re 4: The issue of duplicative equations has been resolved in line with the response to NCRs 102 and 124. Re 5: This has been corrected.	

Open Issue from Previous Assessor	**Issue ID:** **NCR 130**	**Status:** **Closed**	**Checked by:** **LH**	**Date Closed** **6-Mar-20**

VCS/ Rule ref	**Module**	**Significance**	**NCR Description of the Issue Identified Following Reconciliation with the Initial Assessor**	**Comments**
VCS Standard V4.0	BL-TW M-TW	Non conformance.	While reviewing the updated methodology documents to be provided to the fist assessor following the second assessment, the methodology developer identified some text in the BL-TW module that required revision to ensure accuracy and clarity regarding the parameter GHG_{BSL-TW} (Net GHG emissions in the WRC baseline scenario on tidal wetland up to year t*, t CO2e) that is calculated in Equation 2. Equation 2, for the calculation of $GHG_{BSL-TW,}$ now states that "Net GHG emissions in the WRC baseline scenario on tidal wetland are estimated as…" for the introductory text of the equation. In preceding versions of TW-BL, the module had indicated that GHG_{BSL-TW} for these project activities is quantified in Modules, BL-UP or BL-PL, whichever is relevant." However, as the methodology developer has pointed out, BL-Up and BL-PL aren't actually used to quantify this parameter, but rather this parameter is used in these modules (Equation 31 in BL-UP and Equation 3 in BL-PL). Both of these modules correctly refer to BL-TW in regards to the	BL-TW_v1.0_SCS RD2_09MAR2020.doc *M-TW_v1.0_SCS RD2_28FEB2020.doc* *VMD0015 M-REDD, v2.1_RD2 SCS_28JAN2020.doc* *VMD0007 BL-UP_v3.3_RD2 SCS_23MAY2019 plus recent edits.doc* *VMD0007 BL-PL_v1.2_RD2 SCS_23MAY2019 plus recent edits.doc*

			parameter GHG_{BSL-TW}. The revisions made to BL-TW following the identification of this issue has been addressed by removing the incorrect text in BL-TW regarding the quantification of GHG_{BSL-TW} in BL-UP or BL-PL. This issue also applies to the M-TW module and the parameter GHG_{WPS-TW} (Net GHG emissions in the WRC project scenario on tidal wetland up to year t*, tCo2e) that is calculated in Equation 2 of section 5.1. In preceding versions of M-TW, the module had indicated that GHG_{WPS-TW} for these project activities is quantified in M-REDD. However, M-REDD isn't actually used to quantify this parameter, but rather this parameter is used in the M-REDD module. When discussing the GHG_{WPS-TW} parameter, M-REDD correctly refers to its origination in M-TW. The revisions made to M-TW following the identification of this issue has been addressed by removing the incorrect text in M-TW regarding the quantification of $GHG_{WPS-TW\ in}$ M-REDD.	

Developer Response		
Date	***Comment***	***Additional evidence submitted for review by Developer***
2-Mar-20	**Developers Status Update for S&A Carbon Following Reconciliation with the Initial Assessor:** **The Information below was entered by S&A Carbon based on an email communication with the Methodology Developer on 2 March 2020, following their submission of the changes to the methodology documentation made during the second assessment process.* BL-TW and M-TW: Section 5.3.1 When rereading the text surrounding equation 2, I realised that this can be and must be simplified. The module BL-UP and BL-PL do not quantify the term *GHGBSL-TW* but rather just use it. The line "For RWE-ARR or stand-alone RWE project activities, net GHG emissions in the WRC baseline scenario on tidal wetland are estimated as" has now been changed to "Net GHG emissions in the WRC baseline scenario on tidal wetland are estimated as". And the entire line	BL-TW_v1.0_SCS RD2_09MAR2020.doc M-TW_v1.0_SCS RD2_28FEB2020.doc

	"For CIW-REDD, RWE-REDD or stand-alone CIW project activities, this modules provides procedures for the quantification of *GHGBSL-TW,i,t*. *GHGBSL-TW* for these project activities is quantified in Modules BL-UP or BL-PL, whichever is relevant." has been removed. This also applies to M-TW. Both modules are attached.	

Open Issue from Previous Assessor	**Issue ID:** **NCR 131**	**Status:** **Closed**	**Checked by:** **LH**	**Date Closed** **6-Mar-20**
VCS/ Rule ref	**Module**	**Significance**	**NCR Description of the Issue Identified Following Reconciliation with the Initial Assessor**	**Comments**
VCS Standard V4.0	BL-TW M-TW	Non conformance.	While reviewing the updated methodology documents to be provided to the fist assessor following the second assessment, the methodology developer found one additional item that required revisions to BL-TW and M-TW. In BL-TW, section 6.1, Data and Parameters Available at Validation, the source of the Soil Bulk Density Parameter (BD) had been described as "Direct measurements, or for the determination of allochthonous carbon, may be derived from soil carbon percentage as provided in Section 5.3.2.7." The methodology developer points out that while there wasn't a description given, their intent was to refer to scientific	

			literature showing the relationship between bulk density and soil organic carbon content, but there was no reference to bulk density in the procedur5es for allochthonous carbon in Section 5.3.2.7." The data source for BD in section 6.1 of BL-TW has been revised and now states BD can be based on "Direct measurements or, from a relationship with organic carbon content provided by scientific literature." Regarding the BD parameter in M-TW, the Data and Parameters to be Monitored section (6.2) simply makes a reference to the BL-TW module as the source of this parameter. The revisions made to the BL-TW and M-TW modules as described above were found to address the issue identified, and the revised text is considered to clearly describe the intended source of data for the BD parameter.	

Developer Response		
Date	***Comment***	***Additional evidence submitted for review by Developer***
2-Mar-20	**Developers Status Update for S&A Carbon Following Reconciliation with the Initial Assessor:** **The Information below was entered by S&A Carbon based on an email communication with the Methodology Developer on 2 March 2020, following their submission of the changes to the methodology documentation made during the second assessment process.* BL-TW and M-TW: Section 6.1 There is one additional edit that needs to be checked by both validators, namely the description of the source of data for bulk density in table 6.1. This now reads: "Direct measurements, or from a relationship with organic carbon content provided by the scientific literature." This was: "Direct measurements, or for the determination of allochthonous carbon, may be derived from soil carbon percentage as provided in Section 5.3.2.7". In the latter section there is no description but was intended to refer to scientific literature showing the relationship between bulk density and organic carbon content. In the procedure for allochthonous carbon there is not reference to bulk density. This error already existed in VM0033 (as an undetected leftover after changes to the mentioned section), from which the procedure was copied. In any case, bulk density has a relatively straightforward field and lab procedure.	BL-TW_v1.0_SCSRD2_09MAR2020.doc M-TW_v1.0_SCSRD2_28FEB2020.doc