

METHODOLOGY FOR SUSTAINABLE GRASSLAND MANAGEMENT ASSESSMENT REPORT



Document Prepared By Environmental Services, Inc.

Methodology Element Title	Methodology for Sustainable Grassland Management (SGM)	
Version	Version 3.2	
Methodology Element Category	Methodology	X
	Methodology Revision	
	Module	
	Tool	
Sectoral Scope(s)	Sectoral Scope: 14. Agriculture, Forestry, Land Use Applicable to ALM projects only.	

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Report Version	Version 02	
Assessment Criteria	VCS Standard v3.2, VCS AFOLU Requirements v3.2	
Client	The Food and Agriculture Organization of the United Nations Contact: Ben Henderson Livestock Policy Officer Livestock Information, Sector Analysis and Policy Branch	

	FAO, Room C 540, 00153 Rome, Italy Tel: (+39) 06 570 56 894
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Prepared By	Environmental Services, Inc., (ESI), Forestry, Carbon, and GHG Services Division
Contact	7220 Financial Way, Suite 100 Jacksonville, Florida 32256 Phone: 904-470-2200; jmcMahon@esinc.cc; http://www.esicarbon.com
Approved By	Janice McMahon, VP and Regional Technical Manager
Work Carried Out By	Shawn McMahon – Lead Validator; Dr. John Kimble – VCS AFOLU ALM Expert/Validation Team Member; Richard Scharf – Validation Team Member; Caitlin Sellers – Validation Team Member; Stewart McMorrow – Validator Trainee.

Summary:

Environmental Services, Inc., (ESI) was selected on November 30, 2011 by the Food and Agriculture Organization of the United Nations to perform the first methodology assessment of the SGM methodology in accordance with the VCS Methodology Approval Process, VCS Standard, VCS Program Guide, and the VCS AFOLU Requirements.

The SGM methodology is intended to estimate the reduction of GHG emissions through the adoption of sustainable grassland management practices that increase soil organic carbon (SOC) stocks, including improved rotation between pastures, limiting grazing time and reducing animal numbers on degraded pastures and restoration of severely degraded lands. The methodology can employ biogeochemical models to estimate SOC pool changes in regions where the models can be demonstrated as applicable and direct measurement of SOC in regions where they are not applicable.

The purpose and scope of the methodology element first validation was to evaluate whether or not the methodology was prepared in line with VCS program requirements. ESI’s assessment included a detailed review of eligibility criteria, baseline approach, additionality, project boundary, emissions, leakage, monitoring, data and parameters, and adherence to the project level principles of the VCS program (relevance, completeness, consistency, accuracy, transparency and conservativeness). ESI’s assessment also included a detailed analysis of the methodology, literature reviews, technical reviews and UN-FAO’s responses to all non-conformity reports (NCRs) and clarifications (CLs).

The ESI assessment team identified 70 NCRs/CLs. All were addressed satisfactorily by UN-FAO during the methodology assessment process. These NCRs and CLs provided needed clarity to ensure that the methodology was in compliance with VCS standards and requirements.

ESI confirms all methodology assessment (validation) activities, including objectives, scope and criteria, level of assurance and the methodology adherence to VCS Program and Standards Version 3.2, as documented in this report, are complete. ESI concludes without any qualifications or limiting conditions that the methodology element (Methodology for Sustainable Grassland Management (SGM), v01) meets the requirements of the VCS. ESI recommends that VCSA approve the methodology element.

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1 INTRODUCTION

1.1 Objective

This assessment was carried out to evaluate the likelihood that implementation of the AFOLU methodology element would result in accurate calculations of the change in SOC, and whether eligibility criteria for such SGM projects is appropriate, as stated by the methodology developer.

1.2 Scope and Criteria

The scope of the methodology element assessment included applicability conditions, project boundary, procedure for demonstrating additionality, procedure for determining baseline scenario, baseline emissions, leakage, quantification of net GHG emission reduction and/or removals, monitoring data and parameters, adherence to the principles of the VCS Program/Standard and relationship to approved or pending methodologies.

The criteria of the methodology element assessment followed the VCS Program guidance documents provided by VCS, located at <http://www.v-c-s.org/program-documents/find-programdocument>. These documents include:

- VCS Methodology Approval Process (v3.3, 01 February 2012)
- VCS Program Guide (v3.2, 01 February 2012)
- VCS Standard (v3.2, 01 February 2012)
- Program Definitions (v3.2 01 February 2012)
- Agriculture, Forestry and Other Land Uses (AFOLU) Requirements (v3.2, 01 February 2012)

1.3 Summary Description of the Methodology Element

The methodology element estimates the reduction in GHG emissions through the adoption of sustainable grassland management (SGM) practices that increase soil organic carbon (SOC). SOC changes are either estimated using the Roth C model, the CENTURY model, or another well-tested model, in regions where the model has been proven to be accurate, or the direct measurements of SOC at project initiation and at periodic intervals during the life of the project.

SGM practices include, but are not limited to, improved animal rotations, limiting grazing on degraded pastures and the restoration of severely degraded pastures.

2 ASSESSMENT APPROACH

2.1 Method and Criteria

The methodology assessment approach closely followed the system outlined in the following documents: VCS Methodology Approval Process, VCS Program Guide, VCS Standard, Program Definitions, Agriculture, Forestry and Other Land Use (AFOLU) Requirements, ISO 14064-3, ISO 14065, and ESI's Management System and Management System Manual v12. As defined by ISO 14064-3:2006 (E), "validation is the systematic, independent and documented process for the evaluation of a greenhouse gas assertion in a GHG project plan against agreed validation criteria." In the case of a new methodology element assessment (validation), the assessment is the systematic, independent documented process for the evaluation of a methodology element against the VCS program criteria.

The versions of the criteria followed are outlined in Section 1.2 of this report.

ESI’s assessment included detailed analysis of the methodology, literature review, technical reviews and use of previously approved methodologies. Our assessment/analysis technique is generally broken down into five basic parts:

- Creation of Methodology Assessment (Validation) Plan
- ESI review and assessment,
- Utilization of independent technical experts, including VCS approved AFOLU-ALM Expert,
- Issuance of non-conformity reports (NCRs) and clarifications (CLs)
- Review of methodology developer’s explanations, clarifications and insight.

2.2 Document Review

A detailed review of the methodology element documentation was conducted to ensure consistency with, and identify any deviations from, VCS program requirements. The methodology was reviewed by all team members, with some members focusing on the methodology’s adherence to VCS program guide, the VCS Standard, VCS AFOLU Requirements and other guidance documents. Others, including VCS-approved AFOLU expert, John Kimble, focused on technical aspects of the methodology and its adherence to currently accepted principles and methods of soil science. The following is the final list of documents received and reviewed by ESI:

- SGM Methodology v3.2- 01-14-14.docx
- 2012-10-23 GMS technical guidelines.docx (G-BAMS Grassland Management Baseline Activity and Monitoring Survey for Sustainable Grassland Management practices (SGM) v1.0)

For a complete list of documents reviewed by ESI, please see Appendix A.

2.3 Interviews

After ESI team members reviewed/assessed the methodology element and compiled a list of NCRs/CLs, the list was presented to the UN-FAO methodology authors. Conference calls were scheduled after each Round of NCRs/CLs was issued. During the conference calls the methodology authors were interviewed by the ESI team to reconcile understanding of the NCRs/CLs. The methodology authors were then able to ask questions of the ESI team if they were unclear about a reviewer’s comments regarding particular NCRs/CLs.

The UN-FAO methodology authors, Yue Li and Benjamin Henderson and ESI team reviewers Shawn McMahon, John Kimble (AFOLU expert), Caitlin Sellers and Richard Scharf participated in the interviews. Individual reviewers took part when an NCR/CL found by the reviewer was being discussed.

Additional interviews were arranged, as needed, after the authors addressed NCRs/CLs in subsequent versions of the methodology and reviewers required additional clarification on changes in the new version. (See table below.)

Table 1. Meetings/Interviews Schedule

Date	Attendees	Topics Discussed
21-December-2011	Janice McMahon – ESI Benjamin Henderson – FAO Pierre Gerber - FAO	Opening Meeting – Validation Plan
16-January-2012	Shawn McMahon – ESI Janice McMahon - ESI Richard Scharf – ESI John Kimble – ESI/Independent	Review of Round 1 NCRs

	Benjamin Henderson – FAO Yue Li – FAO team Timm Teningkeil – FAO team	
9-March-2012	Shawn McMahon – ESI Janice McMahon – ESI Caitlin Sellers – ESI Richard Scharf – ESI Benjamin Henderson – FAO Yue Li – FAO team Timm Teningkeil – FAO team Andreas Wilkes – FAO team	Review of Round 3 NCRs
25-July-2012	Janice McMahon – ESI Richard Scharf – ESI Benjamin Henderson - FAO	Closing Meeting – review of Draft Report/overall feedback/next steps

2.4 Use of VCS-Approved Expert

VCS-approved AFOLU Expert John Kimble served on the ESI team during the methodology assessment.

2.5 Resolution of Any Material Discrepancy

When a potential material discrepancy/non-conformity was identified during the assessment process, a NCR/CL was issued. After review and issuance of each round of NCRs/CLs, the methodology authors were allowed sufficient time to correct or address non-conformities and make clarifications. Changes were reviewed by the ESI team, who either accepted corrected non-conformities and clarifications, or rejected them with explanation. The methodology authors were then able to confer again with the ESI team to discuss and clarify their findings. If the ESI team were satisfied that corrections and clarifications to the methodology bringing it into compliance with VCS program requirements, the NCR/CL was considered resolved. Please see Appendix B for a complete list of NCRs and their resolutions.

2.6 Internal Quality Control

The Regional Technical Manager is responsible for the overall performance of the methodology assessment process, and is the main authority for quality assurance and quality control of the validation/verification policy and procedures of the ESI Management System. The methodology element assessment was conducted according to ESI’s policies and procedures, their accreditation under ISO 14065:2007, and VCS program requirements.

3 ASSESSMENT FINDINGS

3.1 Applicability Conditions

The methodology’s applicability conditions are appropriate and adequate. They are in compliance with VCS Standard (v3.2) by identifying activities, locations and conditions under which the methodology can be appropriately used and identify which specific methodology modules apply to specific project activities.

The methodology applies to degraded grasslands expected to continue degrading, subject to livestock grazing, burning or nitrogen fertilization (or some combination of the three) in the baseline.

Projects may not include changes in manure management, increased fuel use, land use changes (other than replanting degraded grasslands), nor the recent clearing of native ecosystems and the project area is located in a region where leaching is unlikely to occur.

3.2 Project Boundary

The methodology addresses the establishment of spatial and temporal project boundaries, including the selection of mandatory carbon pools, i.e., the sources, sinks and reservoirs relevant to the baseline scenario. In accordance with AFOLU Requirements v3.2, ALM projects under this methodology will consider above-ground woody biomass, soil and, optionally, below-ground biomass pools. Sources of GHG emissions are also in compliance with AFOLU Requirements v3.2, and include CH₄ from manure; enteric fermentation and burning; N₂O when fertilizers, manures, burning or N-fixing species are used; as well as CO₂ from the use of farm machinery.

3.3 Procedure for Determining the Baseline Scenario

Baseline scenario is determined by using a stepwise procedure whereby all credible alternative land use scenarios are compared, including the present, pre-project land use and previous land uses.

3.4 Procedure for Demonstrating Additionality

The demonstration of additionality is determined by using the most recent version of the Tool for the Demonstration and Assessment of Additionality in the VCS AFOLU Project Activities.

3.5 Baseline Emissions

The methodology generally uses 2006 IPCC Guidelines for most baseline emissions. When country specific emission factors for burning or N₂O emission factors for N fertilization is available, those factors may be substituted in equations in place of IPCC factors.

3.6 Project Emissions

The methodology generally uses 2006 IPCC Guidelines for most project emissions. When country specific emission factors for burning or N₂O emission factors for N fertilization is available, those factors may be substituted in equations in place of IPCC factors.

3.7 Leakage

The methodology authors reasonably determined that the potential sources of leakage would be displacement of grazing outside the project boundaries. Market leakage was conservatively included.

Originally, the CDM "Tool for the estimation of GHG emissions related to displacement of grazing activities" was used to estimate leakage. This tool was replaced during the second validation with a new "Module for Estimation of Leakage Emissions From Displacement of Grazing Activity Due to Implementation of Sustainable Grassland Management Activities." A quick review of the module indicates that it appears generally reasonable, however a full in depth review of the new module

has not been undertaken. Also a VCS module, VMD0033, authored by The Earth Partners, was used to help determine market leakage.

3.8 Quantification of Net GHG Emission Reductions and/or Removals

The methodology states the formula for quantifying total emission reductions and removals, based on baseline emissions, project emissions, sequestration in soils and biomass, and leakage.

3.9 Monitoring

The methodology clearly states the data and parameters that must be monitored for a project, as well as those parameters that do not need to be monitored regularly. As specified in AFOLU requirement 4.8.3, detailed information is provided on how to directly measure SOC for baselines and stock changes.

3.10 Data and Parameters

Data and parameters to be reported are explained, including sources, units of measurement, frequency of reporting, etc. Specifications for all data and parameters are sound and in the format provided in VCS templates.

3.11 Use of Tools/Modules

The methodology uses the VCS Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities, VCS AFOLU Non-permanence Risk Tool, v3.2, the CDM Tool for Identification of Degraded or Degrading Lands for Consideration in Implementing CDM A/R Project Activities, (version 01), CDM Tool for estimation of Carbon Stocks of Trees and Shrubs in A/R CDM Project Activities, CDM Tool for Calculation of the Number of Sample Plots for Measurement within A/R CDM Project Activities and the CDM tool for Testing Significance of GHG Emissions in A/R CDM Project Activities. The methodology also uses the VCS module Estimation of Emissions from Market Leakage, V1.0 (VDM0033). The tools are explained and used appropriately. VDM0033 includes no applicability conditions.

In addition, the methodology uses a pending VCS module, written by the methodology authors during the second validation, called Estimation of Leakage Emissions from Displacement of Grazing Activity due to Implementation of Sustainable Grassland Management Activities. This document has not been reviewed in depth by ESI.

3.12 Adherence to the Project Principles of the VCS Program

The methodology adheres to the principles taken from IOS 14064-2, clause 3, and therefore the VCS standard. In terms of relevance, it addresses a significant source of GHG emissions from marginal grazing lands, and uses one of those sources, SOC, as a sink for removals. In terms of completeness, all relative information to carry out procedures is included. A significant amount of relevant data is expected to be generated in a project using this methodology to meet transparency requirements. The methodology's elements are conservative.

3.13 Relationship to Approved or Pending Methodologies

As the methodology states, “there is one similar methodology approved under the VCS Program – Adoption of Sustainable Agricultural Land management (VM0017). While relevant, the methodology focuses on a different set of management practices and does not have the option to use either activity-based model estimates or direct soil carbon measurements. Instead, VM0017 only allows the use of activity-based model estimates and is also limited by the fact that only the RothC model can be used for this purpose.

Further, there are two related methodologies under development: "ALM Adoption of Sustainable Grassland Management Through Adjustment of Fire and Grazing" and "Agricultural Land Management – Improved Grassland Management" The first of these is applicable only to projects where land is potentially subject to burning and wildfires and in situations where the use of cultivation and fertilizer for improved grassland management are not included. The second methodology includes some applicable conditions, such as a soil organic carbon model applicable to the project area and a change in the species mix from the baseline scenario. But this methodology also has the additional requirements for ex post measurement and does not treat leakage in the same way. The proposed methodology is for improved grassland management activities not restricted by the above applicability conditions.”

3.14 Stakeholder Comments

The methodology developers received stakeholder comments from Robert Seaton of Brinkman & Associates/The Earth Partners (TEP), Nicole R. Virgilio of The Nature Conservancy (TNC), Abhirup Sen of Emergent Ventures (EV), and Andrea Malmberg of The Savory Institute (TSI).

TEP commented that the use of option 1 to estimate future SOC could lead to large errors when using a Tier 1 default value of 20 years, rather than more area specific transition periods, at the project level. While this may be true, the methodology authors point out that this is already part of VCS approved methodology VM0017.

TEP also commented that the soil sampling protocol included in the methodology does not account for soil processes that can affect SOC quantification measurements, like compaction, decompaction, erosion, deposition and possibly other soil changes that can occur. The methodology authors withdrew their initial soil sampling component of the methodology and now refer to a sampling protocol used by members of the European Union (Stolbovoy, et al., Soil sampling protocol to certify the changes of organic carbon stock in mineral soil of the European Union, ver. 2, 2007).

Additionally, TEP pointed out that the depths for soil sampling stated in the original methodology called for sampling to 20 cm, and that in many cases that depth is inadequate. TEP suggested the sampling depth should be determined on a case by case basis. Methodology authors agreed and changed the depth increment to 30 cm or greater, as determined by the PD.

TNC offered these comments:

- In the original version of the methodology, applicability conditions included the term, "...in the same period," by which the authors meant, "...in the same year." TNC mentioned that the meaning of the original phrase was unclear. Subsequent drafts of the methodology eliminate the phrase.

- TNC mentioned that it appeared that N from N fixing species was assumed to contribute to emissions while other sources of N were not similarly accounted. The methodology authors point out that all sources of N are accounted, in accordance with approved methodology VM0017.
- TNC mentioned that the criteria for determining whether land is degrading are unclear (applicability conditions). The authors added a footnote, indicating the Tool for the identification of degraded and degrading lands for consideration in implementing A/R CDM project activities should be used.
- TNC mentioned that "stratum" should be included in the list of definitions. The methodology authors added stratum to the definitions in response.
- TNC mentioned the inadequacy of the original 20 cm sampling depth increment, and suggested 30 cm would be better. Methodology authors adopted the 30 cm minimum depth, and greater depths if deemed important.
- TNC mentioned that grazing displacement leakage is poorly addressed, but the authors use the Tool for estimation of emissions due to the displacement of grazing to calculate this leakage. TNC's concerns appear to be with the tool, and not this methodology.

EV made the following comments:

- Below ground biomass should be a required pool for consideration of emissions and reductions, because in grassland ecosystems, it is a major percentage of living biomass. The methodology authors include it as an optional pool. The methodology authors responded to this comment by pointing out that ignoring below ground biomass would be conservative.
- EV commented that direction for determining leakage sources should be more general. No action was taken by the methodology developers because the comment lacked the specifics necessary for a relevant response.
- EV also commented that the basis for stratification was not well defined. The methodology authors added stratification procedures.
- EV requested that the methodology authors state a position on the use of genetically modified organisms (GMOs), specifically grasses that might be designed to lower methane emissions, increase digestibility, etc. The methodology authors point out that VCS has no guidance regarding GMOs, and it is not required that the methodology account for benefits of GMOs.

TSI offered several comments:

- TSI pointed out that livestock management is just as important as the number of livestock on the land. The methodology authors point out that the methodology revolves around improved livestock management.
- TSI commented that "properly managed livestock may be considered a zero emitter of CH₄..." provided certain soil organisms are present. The methodology authors pointed out that such a consideration is against IPCC Good Practice Guidelines.

- TSI commented that a statement by UN-FAO that within ten years the grasslands will have stored as much carbon as possible is questionable. The methodology authors point out that this ten year figure does not come from their methodology, but from a UN-FAO press release.

4 RESOLUTION OF CORRECTIVE ACTION REQUESTS AND CLARIFICATION REQUESTS

The ESI assessment team initially identified 57 non-conformity reports (NCRs) and clarifications (CLs). Subsequent to VCS Standard v3.2's release, an additional 13 NCRs/CLs were found, pertaining to the change in the standard. All were addressed satisfactorily by UN-FAO during the methodology element assessment process. These NCR's and CL's provided needed clarity to ensure technical accuracy and to ensure that the methodology was in compliance with the VCS Standard. All NCRs/CLs are outlined in Appendix B.

5 ASSESSMENT CONCLUSION

ESI confirms all methodology element assessment (validation) activities, including objectives, scope and criteria, level of assurance and the methodology adherence to the VCS Program Guide, VCS Standard, and VCS AFOLU Requirements as documented in this report, are complete and concludes without qualification or limiting conditions that the methodology, *Sustainable Grassland Management* (Version 01, dated 20 June 2012) meets the requirements of the VCS.

ESI recommends that VCSA approve the methodology element (*Sustainable Grassland Management*, Version 01, dated 20 June 2012).

6 REPORT RECONCILIATION

After the second assessment of the methodology was completed by SCS Global Services, ESI reviewed the revisions to the methodology. There were significant revisions, including the creation of a new and separate module for grazing displacement leakage. The only clarification requested by ESI was related to a NCR issued by the second assessor which was listed as unresolved in the initial version of the second assessor's report received from VCS (see NCR 62 in VCS UNFAO-SGM Assessment Report 01-24-12.pdf). After further discussion with SCS and VCS it was noted we did not have the latest version of the second assessment validation report in which the NCR had been resolved successfully. The current version of the report was provided and reviewed by ESI and we found no additional issues with the changes made during the first reconciliation process. No further discussions were needed with the second assessors to address reconciliation of any items.

During the second validator's review process it was determined that the CDM Tool "Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity" was not appropriately used (see: Second Assessment Report For The "Methodology for Sustainable Grassland Management (SGM)" and "Estimation of Leakage Emissions From Displacement of Grazing Activity Due to Implementation of Sustainable Grassland Management Activities" Methodology Elements, SCS Global Services, NCR 2012.12). This resulted in the methodology authors creating a new module to replace the CDM tool. The new module for grazing displacement leakage was reviewed for quantification processes and logic and was found to be an appropriate replacement for the CDM tool.

7 EVIDENCE OF FULFILMENT OF VVB ELIGIBILITY REQUIREMENTS

As set out in the VCS document Methodology Approval Process for Non-ARR AFOLU Methodology Elements:

- 1) Both validation/verification bodies shall be eligible under the VCS Program to perform validation for sectoral scope 14 (AFOLU); AND
- 2) At least one of the validation/verification bodies shall use an AFOLU expert (see Section 9) in the assessment; AND
- 3) At least one of the validation/verification bodies shall have completed at least ten project validations in any sectoral scope. Project validations can be under the VCS Program or an approved GHG program, with the projects having been registered under the applicable program. A validation of a single project under more than one program (e.g., VCS and CDM) counts as one project validation. The validation/verification body that meets this eligibility requirement may be the same validation/verification body that uses an AFOLU expert

ESI fulfils the eligibility requirements in the following ways:

- 1) ESI is accredited by the American Standards Institute under ISO 14065:2007 for GHG Validation and Verification Bodied; including validation/verification of assertions related to GHG emission reductions and removals at the project level for Land Use and Forestry (Group 3). VCS accepts this accreditation.
- 2) ESI added John Kimble to our team. John is a VCS AFOLU-ALM Expert and was considered a full team member with his main role being technical review.
- 3) To date ESI has completed 12 project validations under AFOLU; however five have not been registered yet. Therefore ESI added three CCB project validations. Please see Appendix C for the required evidence.

8 SIGNATURE

Signed for and on behalf of:

Name of entity: Environmental Services, Inc.



Signature: _____

Name of signatory: Janice McMahon

Date: 14 February 2014

9 APPENDIX A – LIST OF DOCUMENTS RECEIVED AND REVIEWED

2011-12-06:

Methodology for Sustainable Grassland Management, FAO, 6 SEP 2011.pdf
 Comment 1_5.pdf
 Comment 2_4.pdf
 Comment 3_1.pdf
 Comment 4_1.pdf

2011-12-13:

SGM Methodology - 2011-08-24_VCSreview2.docx

2012-01-23:

2012-01-23 GMS technical guidelines.docx
 2012-01-23 responses to comments on VCS methodology.docx
 Methodology Round 1 NCRs 2012-01-23.xlsx
 SGM Methodology - 2012-01-23-clean.docx
 Methodology - 2012-01-23-track-without Annex.docx

2012-02-21:

UN FAO Methodology Round 2 NCRs.xlsx
 2012-02-21 GMS technical guidelines.docx
 2012-02-21 responses to comments on VCS methodology.docx
 SGM Methodology - 2012-02-21 round 2.docx

2012-04-01:

UN FAO Methodology Round 3 NCRs 2012-04-01.xlsx
 SGM Methodology - 2012-04-01ed.docx

2012-06-16:

UN FAO Methodology Round 4 NCRs-2012-06-16.xlsx
 SGM Methodology - 2012-06-16a.docx

2012-06-28:

SGM Methodology - 2012-06-16b.docx

2014-01-24:

FAO Grasslands Methodology v3.2 01-14-14.docx
 *FAO Grasslands Displacement Module 12-30-13.docx
 VCS UNFAO-SGM AssessmentReport 01-24-14.pdf

*No in depth review of this document

10 APPENDIX B – LIST OF NCRS/CLS AND RESOLUTIONS

Table 1. Corrective Action Requests and Clarification Requests – VCS Standard 3.1

	VCS Standard 3.1 Requirement	NCR/CL/OFI	Response From Client
1	AFOLU methodologies shall meet the rules and requirements set out in VCS document AFOLU Requirements.	Please ensure that a requirement is in the methodology for projects to meet the rules and requirements set out in the VCS AFOLU Requirements.	Yes - requirement added Closing remark: Client's response adequately addresses finding.
2	Methodologies shall be informed by a comparative assessment of the project and its alternatives in order to identify the baseline scenario. Such an analysis shall include, at a minimum, a comparative assessment of the implementation barriers and net benefits faced by the project and its alternatives.	Please clarify if the “Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities” is for assessing the baseline also, as the title and eligibility criteria of the tool seem to indicate it is for an additionality analysis only.	Revised to clarify the tool can be used to determine the most plausible baseline scenario. Closing remark: Client's response adequately addresses finding.
3	Methodology elements shall be guided by the principles set out in Section 2.4. They shall clearly state the assumptions, parameters and procedures that have significant uncertainty, and describe how such uncertainty shall be addressed. Where applicable, methodology elements shall provide a means to estimate a 90 or 95 percent confidence interval. Where a methodology applies a 90 percent confidence interval and the width of the confidence interval exceeds 20% of the estimated value or where a methodology applies a 95 percent confidence interval and the width of the confidence interval exceeds 30% of the estimated value, an appropriate confidence deduction shall be	Please state assumptions, parameters and procedures that have significant uncertainty, and describe how such uncertainty shall be addressed. Please mention statistical requirements that must be met in accordance with the general requirements of the Section 4.1 of the VCS Standard.	One section was added to the methodology: "Uncertainty analysis" Closing remark: Client's response adequately addresses finding.

	<p>applied. Methods used for estimating uncertainty shall be based on recognized statistical approaches such as those described in the IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories. Confidence deductions shall be applied using conservative factors such as those specified in the CDM Meth Panel guidance on addressing uncertainty in its Thirty Second Meeting Report, Annex 14.</p>		
4	<p>The methodology shall establish criteria and procedures for describing the project boundary and identifying and assessing GHG sources, sinks and reservoirs relevant to the project and baseline scenarios. Justification for GHG sources, sinks and reservoirs included or excluded shall be provided.</p>	<p>Please include a requirement that projects provide justification for each GHG sources, sinks and reservoirs included or excluded.</p>	<p>Revised according to table 2: Carbon pools to be considered in methodologies of AFOLU requirements: VCS V3.1.</p> <p>Closing remark: Client's response adequately addresses finding.</p>
5	<p>In identifying GHG sources, sinks and reservoirs relevant to the project, the methodology shall set out criteria and procedures for identifying and assessing GHG sources, sinks and reservoirs that are controlled by the project proponent, related to the project or affected by the project (i.e., leakage).</p>	<p>Please clarify how areas related to or affected by the project will also be included in the project boundary.</p>	<p>One sentence was added at the end of section 3.1: "The emissions from affected area caused by the grazing displacement shall be considered as leakage."</p> <p>Closing remark: Client's response adequately addresses finding.</p>
6	<p>"In identifying GHG sources, sinks and reservoirs relevant to the baseline scenario, the methodology shall:</p>	<p>It appears VCS has additional tools for demonstrating the baseline. Please demonstrate why a specific baseline tool is</p>	<p>VCS has no additional tools for demonstrating the</p>

	<p>1) Set out criteria and procedures used for identifying the GHG sources, sinks and reservoirs relevant for the project."</p>	<p>not being utilized here.</p>	<p>baseline.</p> <p>Closing remark: NCR/CL withdrawn.</p>
<p>7</p>	<p>Standards and factors used to derive GHG emission data shall meet the following requirements:</p> <p>4) Be current at the time of quantification.</p>	<p>Please ensure the methodology includes a requirement for the latest version of the IPCC tools, as the IPCC tools could be amended in the future.</p>	<p>In Section 1 "introduction", one sentence was added: " 2006 IPCC Guidelines for National Greenhouse Gas Inventories, any future elaboration of these guidelines, or parts of them, and any good practice guidance, will be applied to estimate the GHG emissions from use of synthetic nitrogen fertilizers, planting n-fixing species, burning of grass, application of lime, enteric fermentation, manure management, and the consumption of fossil fuels for SGM." In the relevant equations, the description was revised to show the flexibility to use the latest version of IPCC methodologies. This can ensure the methodology includes a requirement for the latest version of the IPCC tools.</p> <p>Closing remark: Client's response</p>

			adequately addresses finding.
8	<p>The methodology shall establish criteria and procedures for monitoring, which shall cover the following:</p> <p>1) Purpose of monitoring.</p>	<p>Please provide a requirement for "Purpose of monitoring" in the monitoring plan section.</p>	<p>see revisions in Section 8</p> <p>Closing remark: Client's response adequately addresses finding.</p>
9	<p>The methodology shall establish criteria and procedures for monitoring, which shall cover the following:</p> <p>2) Monitoring procedures, including estimation, modelling, measurement or calculation approaches.</p>	<p>"Although some of the information is provided in the monitoring tables, the monitoring plan description (Section 9.3) should be more descriptive to include general procedures, including estimation, modelling, measurement or calculation approaches. Please ensure the tables contain all information, i.e., ""Description of measurement methods and procedures to be applied"" has been left blank on Page 50."</p>	<p>see revisions in Section 8</p> <p>Closing remark: Client's response adequately addresses finding.</p>

Table 2. Corrective Action Requests and Clarification Requests – VCS Standard 3.2

	VCS Standard v3.2 Requirement	NCR/CL/OFI	Response From Client
1	<p>4.1.6 Methodologies shall use a standardized method (i.e., performance method or activity method) or a project method to determine additionality and/or the crediting baseline, and shall state which type of method is used for each. A project method is a methodological approach that uses a project-specific approach for the determination of additionality and/or crediting baseline. Standardized methods</p>	<p>As required in the Standard Version 3.2, Section 4.1.6, please state which type of method (standardized performance, standardized activity, or project method) will be used to determine additionality and or/ the crediting baseline for this</p>	<p>In introduction section, "The methodology will use a project method to determine additionality and the crediting baseline." was added at the end of first paragraph.</p>

	<p>are further described in Section 4.1.8 and additional guidance is available in VCS document Guidance for Standardized Methods. This guidance document provides additional information to aid the interpretation of the VCS rules on standardized methods and should be read before developing or assessing such methods. Although the guidance document does not form part of the VCS rules, interpretation of the rules shall be consistent with the guidance document.</p>	<p>methodology.</p>	<p>Closing remark: Client's response adequately addresses finding.</p>
2	<p>4.1.7 Methodologies may use any combination of project, performance or activity methods for determining additionality and the crediting baseline. However, methodologies shall provide only one method (i.e., a project method or performance method) for determining the crediting baseline (i.e., methodologies shall not provide the option of using either a project method or a performance method for the crediting baseline).</p>	<p>As required under 4.17 of the Standard, please require that projects use "only one method for determining the crediting baseline" and specify which is used.</p>	<p>Section 4 now states: "An approved project method will be applied to identify the most plausible baseline scenario. Standardized or activity baselines are not permitted under this methodology."</p> <p>Closing remark: Client's response adequately addresses finding.</p>
3	<p>4.1.8 Standardized methods are methodological approaches that standardize the determination of additionality and/or the crediting baseline for a given class of project activity, with the objective of streamlining the development and assessment process for individual projects. Additionality and/or the crediting baseline are determined for the class of project activity, and qualifying conditions and criteria are set out in the methodology. Individual projects need only meet the conditions and apply the pre-defined criteria set out in the standardized method, obviating the need for each project to determine additionality and/or the crediting</p>	<p>Please clarify if standardized methods will be allowed in projects' determination of additionality or crediting baseline. If yes, then please ensure 4.1.9 is addressed in the methodology.</p>	<p>Section 5 now states: "A project method for demonstrating additionality will be applied. Standardized or activity-based additionality tests are not permitted under this methodology."</p> <p>Closing remark: Client's response adequately addresses</p>

	baseline via project-specific approaches and analyses.		finding.
4	4.1.10 All new performance methods shall be prepared using the VCS Methodology Template. A performance method is an integral part of a methodology and therefore it cannot be developed and approved as a separate module that is then applied by projects in conjunction with other methodologies.	Please clarify if performance methods will be allowed in projects' determination of additionality or crediting baseline. If yes, then please ensure 4.1.11 - 4.1.15 are addressed in the methodology.	Only project method will be allowed to demonstrate the additionality. Sections 4 & 5 now prohibit standardized or activity based methods. Closing remark: Client's response adequately addresses finding.
5	4.1.16 The activity method shall be prepared using the VCS Module Template, or, where a new methodology is being developed, may be written directly into the methodology (i.e., a positive list may be prepared and approved as a standalone additionality test that may be used in conjunction with applicable methodologies, or may be prepared as a direct part of a new methodology, in which case it may not be used in conjunction with other methodologies). To aid the readability of this document, it is assumed that the activity method is being written directly into the methodology, so readers should take references to methodology to mean methodology or module, as appropriate.	"Please clarify if an activity method is being applied in the methodology. If yes, then please ensure 4.1.17 is being addressed in the methodology. Please use the ""VCS Module Template, v3.1"" for G-BAMS."	Only project method is allowed. Sections 4 & 5 now prohibit standardized or activity based methods. Closing remark: Client's response adequately addresses finding.
6	4.1.17 The activity method shall set out, using the specification of the project activity under the applicability conditions, a positive list of project activities that are deemed as additional under the activity method (see Section 4.3 for further information on providing specification of project activities). All such project activities are deemed as additional under the activity method.	If the methodology is for activity-based projects, please establish a positive list of project activities that are deemed additional under the activity method in the applicability conditions.	Only project method is allowed. Closing remark: No activity method is proposed, so this is not applicable.

7	<p>4.3.2 Precise specification of the project activity is required to provide a carefully targeted standardized method with an appropriate level of aggregation with respect to the project activity. The applicability conditions shall be specified accordingly and shall cause to be excluded from the methodology, to the extent practicable; those classes of project activities that it can be reasonably assumed will be implemented without the intervention created by the carbon market. For example, the methodology may exclude facilities larger than a specific size or capacity, constructed before a given date or that have regular access to lower cost fuels than most facilities. The methodology shall demonstrate how the applicability conditions achieve such objective with respect to free-riders.</p>	<p>Please see CL #60 above.</p>	<p>Only project method is allowed.</p> <p>Closing remark: No standardized method is proposed, so this is not applicable.</p>
8	<p>4.3.3 The applicability conditions shall limit the applicability of the methodology to project activities whose performance can be described in terms of the performance benchmark metric set out in the methodology.</p>	<p>Please see CL #61 above. If yes, then please ensure 4.3.3 - 4.3.6 are being addressed in the methodology.</p>	<p>Only project method is allowed.</p> <p>Closing remark: No performance method is proposed, so this is not applicable.</p>
9	<p>4.3.7 The applicability conditions specify the project activity and they shall therefore serve as the specification of the positive list (i.e., all project activities that satisfy the applicability conditions are deemed as additional).</p>	<p>Please see CL #62. If yes, then please ensure 4.3.7 - 4.3.9 are being addressed in the methodology.</p>	<p>Only project method is allowed.</p> <p>Closing remark: No activity method is proposed, so this is not applicable.</p>
10	<p>4.5.2 Methodologies using a standardized method for determining the crediting baseline shall describe (taking into account the factors set out Section 4.5.1 above), as far as is possible, the technologies or measures that represent the most plausible</p>	<p>Please see CL #60 above.</p>	<p>Only project method is allowed.</p> <p>Closing remark: No</p>

	baseline scenario or the aggregated baseline scenario (see Section 4.5.4 for further information on aggregate baseline scenarios), though it is recognized that it may not be possible to specify precisely all technologies or measures given that the baseline may represent a variety of different technologies and measures.		standardized method is proposed, so this is not applicable.
11	4.5.3 Standardized methods shall be developed with the objective of predicting, as accurately as is practicable, the most plausible baseline scenario or aggregated baseline scenario. Notwithstanding this principle, it is recognized that standardized methods cannot perfectly capture the precise baseline behaviour for all proposed projects eligible under a standardized method.	Please see CL #60 above.	Only project method is allowed. Closing remark: No standardized method is proposed, so this is not applicable.
12	4.5.4 The methodology shall identify alternative baseline scenarios and determine either the most plausible baseline scenario or an aggregate baseline scenario for the project activity. Aggregate baseline scenarios shall be determined by combining likely scenarios on a probabilistic (i.e., likelihood) basis.	Please see CL #62 above. If yes, then please ensure 4.5.4 - 4.5.7 are being addressed in the methodology.	Only project method is allowed. Closing remark: No performance method is proposed, so this is not applicable.
13	4.6.9 Step 2: Positive List: The methodology shall apply one or more of the following three options:	Please see CL #62. If yes, then please ensure 4.6.9 is being addressed in its entirety in the methodology.	The methodology mandates use of a project method to determine additionality, viz Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities Closing remark: No standardized method

			is proposed and therefore no positive list would be generated. This is not applicable.
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Table 3. Corrective Action Requests and Clarification Requests – AFOLU Version 3.2

	VCS AFOLU 3.2 Requirement	NCR/CL/OFI	Response From Client
1	There are currently six AFOLU project categories under the VCS Program, as further described below. Proposed methodologies shall fall within one or more of these AFOLU project categories.	Please specify that the methodology is only applicable to ALM projects in the applicability conditions.	Revised to "only applicable to Agricultural Land Management ALM projects" in applicability section. Closing remark: Client's response adequately addresses finding.
2	4.2.2 Eligible ALM activities are those that reduce net GHG emissions on croplands and grasslands by increasing carbon stocks in soils and woody biomass and/or decreasing CO ₂ , N ₂ O and/or CH ₄ emissions from soils. The project area shall not be cleared of native ecosystems within the 10 year period prior to the project start date. Eligible ALM activities include:	Please require "the project area shall not be cleared of native ecosystems within the 10-year period prior to the project start date" in the applicability conditions section of the methodology. Please include a statement below the applicability criteria "In addition to the above-referenced applicability criteria, please reference the most recent version of the VCS AFOLU ALM applicability criteria." Please specifically define "grasslands" for the purposes of this methodology.	1) One condition was added "the project area shall not be cleared of native ecosystems within the 10-year period prior to the project start date". 2) "In addition to the above-referenced applicability criteria, the most recent version of the VCS AFOLU ALM applicability criteria should be applied." was added at the end of the applicability conditions section; 3) Definition of grassland was added in Annex II. Closing remark: Client's responses adequately address findings.

3	Table 2: Carbon Pools to be Considered in Methodologies	<p>1. Please explain why above-ground is optional in the methodology. Please ensure consistency throughout document.</p> <p>2. There are two instances of "Table 1." One on page 6 and one on page 29. Please correct.</p>	<p>1. Revised according to the VCS AFOLU Requirements version 3.2.</p> <p>2. Revised "table 1" on page 29 to "table 3" and changed sequence of table number for the following table.</p> <p>Closing remark: Client's responses adequately address findings.</p>
4	<p>4.3.4 Specific carbon pools and GHG sources, including carbon pools and GHG sources that cause project and leakage emissions, may be deemed de minimis and do not have to be accounted for if together the omitted decrease in carbon stocks (in carbon pools) or increase in GHG emissions (from GHG sources) amounts to less than five percent of the total GHG benefit generated by the project. The methodology shall establish the criteria and procedures by which a pool or GHG source may be determined to be de minimis. For example, peer reviewed literature or the CDM A/R methodological tool for testing significance of GHG emissions in A/R CDM project activities may be used to determine whether decreases in carbon pools and increases in GHG emissions are de minimis.</p>	Please establish the criteria and procedures by which a pool or GHG source may be determined to be de minimis.	<p>Added in section 6.4.</p> <p>Closing remark: Client's response adequately addresses finding.</p>
5	<p>4.3.6 Reductions of N₂O and/or CH₄ emissions are eligible for crediting if in the baseline scenario the project area would have been subject to livestock grazing, rice cultivation, burning and/or nitrogen fertilization.</p>	Please include a specific applicability criteria, section, or footnote, etc., detailing the requirement.	<p>One condition was added "Land is subject to livestock grazing, and/or burning and/or nitrogen fertilization" in the applicability conditions section.</p> <p>Closing remark: Client's response adequately addresses</p>

			finding.
6	ALM 4.3.9 Where the methodology is applicable to projects with livestock grazing in the project or baseline scenario, CH4 emissions from enteric fermentation and CH4 and N2O emissions from manure shall be included in the project boundary.	Please include CH4 emissions from manure as a required source and pool.	Baseline and project CH4 emissions from manure management were added to the methodology. Closing remark: Client's response adequately addresses finding.
7	4.3.10 Where land-use conversion requires intensive energy inputs or infrastructure development, such as the establishment of irrigation or drainage systems, the methodology shall include the GHG emissions associated with the conversion process in the project boundary.	Please clarify if the methodology will allow for land-use conversions. If so, please include them in the project boundary requirements.	The methodology cannot allow for land-use conversion. It is one of the applicability conditions. Closing remark: Clarification withdrawn.
8	4.3.11 Where energy-conserving practices reduce emissions of CO2, such as adopting no-till practices to reduce fuel use, the methodology may include these GHG emissions reductions in the project boundary.	Please clarify if energy-conserving practices may be included in the project boundary.	Energy-conserving practices are not included in the project boundary. In this methodology, CO2 emission may be increased under project activity because of the SGM. The CO2 emissions from fuel combustion by tillage machine were considered. Closing remark: Client's response adequately addresses finding.
9	ALM 4.4.3 The criteria and procedures for identifying alternative baseline scenarios shall require the project proponent to take into account current and previous management activities. The quantification of the baseline scenario may be determined from measured inventory estimates and/or activity-based estimation	Please require the project proponent to take into account current and previous management activities in identifying alternative baseline scenarios. Refer to NCR 2.	Added one sentence to the section of "PROCEDURE FOR DETERMINING THE BASELINE SCENARIO". "Project proponent should take into account current

	<p>methods, such as those found in the IPCC 2006 Guidelines for National GHG Inventories.</p>		<p>and previous management activities in identifying alternative baseline scenarios."</p> <p>Closing remark: Client's response adequately addresses finding.</p>
10	<p>4.4.4 Where activity-based methods are used for determining baseline soil carbon stocks, estimates shall be conservatively determined relative to the computed maximum carbon stocks that occurred in the designated project area within the previous 10 years. For example, if carbon stocks in the project area were 100 tonnes C/ha in 2002 and declined to 90 tonnes/ha by 2007 after intensive tillage, the minimum baseline carbon stock for a project established in 2008 would be 100 tonnes/ha.</p>	<p>Please require PPs to incorporate such data into baseline determination of SOC stocks.</p>	<p>Since the applicability conditions limit the project to lands that are degrading. In the methodology, the baseline removals due to changes in SOC is assumed to be zero. It is conservative.</p> <p>Closing remark: Client's response adequately addresses finding.</p>
11	<p>4.5.1 Methodologies shall establish procedures to quantify the GHG emissions or removals for the project and baseline scenario. The IPCC 2006 Guidelines for National GHG Inventories or the IPCC 2003 Good Practice Guidance for Land Use, Land-Use Change and Forestry shall be used as guidance for quantifying increases or decreases in carbon stocks and GHG emissions. The IPCC Guidelines shall also be followed in terms of quality assurance/quality control (QA/QC) and uncertainty analysis.</p>	<p>In the methodology on Page 5, please clarify the methodology will only allow the most current version of the selected CDM/VCS tools utilized. Please provide the guidelines for QA/QC and uncertainty so the validator can ensure they are consistent with IPCC guidelines.</p>	<p>1)On page 7, in reference to "Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities" we mention that "The most recent version of the tool should be applied by the project proponent to identify the most plausible baseline scenario" ; 2) we indicate that methodology uses the latest version of the "tool for the —Calculation of the number of sample</p>

			<p>plots for measurements within A/R CDM project activities" under the sampling framework heading. 3) we indicate that "The significance of the emission will be tested using the latest version of the CDM EB approved Tool for testing significance of GHG emissions in A/R CDM project activities "in section 6.4.; 4) we indicate that baseline removals from existing woody perennials () is calculated using the latest version of the A/R Working Group Tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities"" in section 6.1.8; 5) in grazing displacement tool in Annex 1, references are to latest version of CDM AR grazing displacement leakage tool; 6) section on "Uncertainty Analysis" added.</p> <p>QA/QC guidelines were added in the new table 5 where the QA/QC procedures was not described in G-BAMS</p>
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			<p>Closing remark: Client's response adequately addresses finding.</p>
12	<p>4.5.6 Procedures to measure soil carbon stocks shall be based on established and reliable sampling methods, with sufficient sampling density to determine statistically significant changes at a 95 percent confidence level. Uncertainty related to sampling shall be addressed as set out in the VCS Standard.</p>	<p>Please provide more detail on soil sampling requirements and/or references to a complete method for sampling.</p>	<p>Following reference was added: Stolbovoy, V., Montanarella, L., Filippi, N., Jones, A., Gallego, J., and Grassi, G. 2007. Soil sampling protocol to certify the changes of organic carbon stock in mineral soil of the European Union. Version 2. European Commission, Joint Research Centre. ISBN 978-92-79-05379-5 http://eussoils.jrc.ec.europa.eu/esdb_archive/eussoils_docs/other/EUR21576...</p> <p>Closing remark: Client's response adequately addresses finding.</p>
13	<p>4.5.7 Procedures to estimate soil carbon stock shall use soil carbon stock change factors that are based on measurements of soil carbon stocks to the full depth of affected soil layers (usually 30 cm), accounting for differences in bulk density as well as organic carbon concentrations.</p>	<p>Generally accepted literature and research states soil layers are affected to 30 cm. Please revise the methodology to include sampling to 30 cm, or justify why sampling to a depth of 20 cm is allowed.</p>	<p>Revised to 20 cm to 30 cm</p> <p>Closing remark: Client's response adequately addresses finding.</p>
14	<p>4.5.8 Procedures to quantify N₂O and CH₄ emissions factors shall be based on scientifically defensible measurements of sufficient frequency and duration to determine emissions for a full annual cycle. Minimum baseline estimates for N₂O and CH₄ emissions shall be based on documented management records averaged over the five year period prior to</p>	<p>Please specify that when emissions factors from the scientific literature are used, they meet the guidelines specified in 4.5.8.</p>	<p>For emission factors, the methodology requires that the PPs use country-specific emission factors. If the country-specific emission factors cannot be obtained, default values can be</p>

	<p>the project start date. Documented management records may include fertilizer purchase records, manure production estimates and/or livestock data. For new management entities or where such records are unavailable, minimum baseline estimates may be based on a conservative estimate of common practice in the region.</p>		<p>obtained from IPCC 2006 Guidelines, any future elaboration of these guidelines, or parts of them, and any good practice. For baseline activity data, the revised methodology inserted procedures on the data collection.</p> <p>Revised "any good practice guidance" to "any IPCC good practice guidance for agriculture, forestry and other land use"</p> <p>Closing remark: Client's response adequately addresses finding.</p>
15	<p>4.6.2 Leakage that is determined, in accordance with Section 4.3.3, to be below de minimis (i.e., insignificant) does not need to be included in the GHG emissions accounting. The significance of leakage may also be determined using the CDM A/R methodological tool for testing significance of GHG Emissions in A/R CDM Project Activities.</p>	<p>Please clarify when the "Tool for testing significance of GHG emissions in A/R CDM project activities" is utilized versus the "CDM AR grazing displacement leakage tool (A/R CDM project activity ar-am-tool-15-v1)" for the determination of leakage.</p>	<p>Revised. Tool for estimation of emissions due to displacement of grazing" listed in Annex I of this methodology will be applied for estimate the leakage.</p> <p>Closing remark: Client's response adequately addresses finding.</p>
16	<p>4.6.3 GHG emissions from leakage may be determined either directly from monitoring, or indirectly when leakage is difficult to monitor directly but where scientific knowledge provides credible estimates of likely impacts. The GHG credit calculation table provided below in Section 4.7 includes an example of indirect leakage accounting.</p>	<p>a) The validator was unable to locate a leakage monitoring plan for other forms of leakage beyond livestock displacement. Please provide.</p> <p>b) Please clarify the statement "Total animal unit</p>	<p>a) Added in the section of monitoring plan and monitored parameter table, see also G-BAMS guideline</p> <p>b) Number of months animals owned by</p>

		<p>months of owned by entities outside the project boundary grazing inside the project boundary."</p>	<p>herders outside the project area that are grazing inside the project area. This will be monitored and considered for GHG accounting</p> <p>Closing remark: Client's responses adequately address findings.</p>
17	<p>4.6.4 Projects shall account for market leakage where the production of a commodity (eg, timber) is significantly affected by the project. The significance of timber production is determined as set out in Section 4.3.3 above or as set out in Section 4.6.15 below.</p>	<p>a) Please clarify if market leakage will be a factor to be quantified in the methodology.</p> <p>b) The argument proposed assumes no lag time in market effects; however wouldn't it also be possible for a project proponent using this methodology to "destock" their cattle by selling their livestock in a short enough period of time to avoid the impact of the decrease in price? In this scenario potentially significant effects could still impact the livestock sales market. Please discuss.</p> <p>c) The argument provided regarding the lag time is largely dependent on the market where this methodology is applied. Indeed, there are markets where the lag time of 1-2 days applies; however, there are also markets where technology (mobile phones, internet, etc.) is not as available and the lag times could be longer.</p>	<p>a) The additional sales in livestock is the only potential market leakage, but sales volumes and related emissions related emissions are not significant compared to overall livestock sales. If the project would result in a significant additional livestock supply the price for livestock would drop and herders would not sell the livestock. Hence if this market leakage is significant the project activity (destocking) cannot be implemented. Therefore, we do not consider market leakage.</p> <p>b) Each herder has a mobile phone therefore lag time in markets are very short (1-2 days). In addition the destocking proposed in the project is not</p>

		<p>In addition, what is the basis for the statement provided regarding the lack of significance in destocking in comparison to the overall sales of animals (literature, market study, etc.)? This would appear to be largely dependent upon the variables of each project (geographic location, size of the market, size of the project, volume of animals from destocking, etc.).</p> <p>More discussion is needed on both points.</p> <p>d) Please note that this is a module of the Earth Partners methodology with is not yet approved. The current language is unclear how the project developer would need to respond in Table A1. More explicit instructions are needed on how to fill out the table. Also, an outcome after each step is needed. The example in Step 4 references "oranges," which appears out of context.</p>	<p>significant in comparison to the overall sales in animals.</p> <p>c) See Appendix II on market leakage.</p> <p>d) The market leakage module was modified to match the Earth Partners module as closely as possible, under the understanding that this module is at an advanced stage of validation, so that linking more explicitly with this module would expedite our validation process. Some changes have been made to increase relevance to SGM, with some explanations provided in comments on the latest draft of the methodology.</p> <p>Closing remark: Client's responses adequately address finding.</p>
18	<p>4.6.6 Where leakage mitigation measures include tree planting, agricultural intensification, fertilization, fodder production, and/or other measures to enhance cropland and/or grazing land areas, then any significant increase in GHG emissions associated with these activities shall be accounted for, unless deemed de minimis (as set out in Section 4.3.3) or conservatively excluded (as set out in Section 4.3.4).</p>	<p>The validator was unable to locate leakage mitigation criteria in the methodology. Please include this in the methodology.</p>	<p>Criteria have been inserted in the section of 6.3 "Leakage."</p> <p>Closing remark: Client's response adequately addresses finding.</p>

19	4.8.1 The methodology shall establish criteria and procedures for monitoring, and specify the data and parameters to be monitored, as set out in the VCS Standard.	The data collection procedures and criteria for monitoring do not appear to be defined. Please provide more detail.	Revised. Closing remark: Client's response adequately addresses finding.
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Table 4. General/Technical Clarifications and Opportunities for Improvement

	Original Location in Methodology	Clarification/Opportunity for Improvement	Client's Response
1	Page 7; Line 138	Please clarify why N-fixing species emissions are not considered.	N-fixing species emissions are considered. Closing remark: Clarification withdrawn.
2	Page 7; Line 144	Please clarify the use of GM, in lieu of SGM.	Acronyms "SGM" was used in the methodology. Instances of "GM" corrected. Closing remark: Client's response adequately addresses finding.
3	Page 7; Line 163	Please explain the difference between fodder grasses in Line 168 versus perennial grasses from line 138, or revise for consistency.	Both "fodder" and "perennial" were deleted for consistency. Closing remark: Client's response adequately addresses finding.
4	Page 7; applicability condition (h)	The use of "leach" should be "leaching." Please correct.	Revised. Closing remark: Client's response adequately addresses finding.
5	Page 8; Project Boundary	a) It appears that the usage of the words "at" and "are" in the first sentence change the intent of the sentence. Please clarify if they should be removed. b) Please strike the word "that" from the sentence as it is confusing.	a) They should be maintained. b) done Closing remark: Client's response adequately addresses findings.
6	Page 8; Project Boundary	The use of the word "properties" in the second bullet point could cause confusion. Please consider changing to "parcels."	Revised. Closing remark: Client's response adequately addresses finding.

7	Page 8; Project Boundary	The use of the word "justify" in the third bullet point could cause confusion. Please consider revising to "demonstrate."	Revised. Closing remark: Client's response adequately addresses finding.
8	Page 9; Table 2	Please clarify why CO2 emissions from lime applications are not listed in the table, as lime is considered a fertilizer or other soil amendment.	Lime applications are now considered. Closing remark: Client's response adequately addresses finding.
9	Page 11; Line 210	Please clarify why NH3 was not considered in Tables 1 & 2. Its inclusion appears to include at the minimum, a loss of nitrogen.	NH3 is not a greenhouse gas. Closing remark: Clarification withdrawn.
10	Page 12; Lines 211, 216 & 218	See above NCR.	NH3 is not a greenhouse gas. Closing remark: Clarification withdrawn.
11	Page 13; Crop _{g,B} definition	The validator is unclear what the following sentence is stating. Please clarify "Annual dry matter, including above ground and below ground, returned grassland soils for N-fixing species g under baseline, t dm ha-1."	"to" was inserted between returned and grassland soil. Closing remark: Client's response adequately addresses finding.
12	Page 13	Ex ante and ex post do not appear to be defined in the methodology. Please define.	It is not necessary to provide definition for Ex ante and ex post. They are commonly used terms for CDM methodologies and projects. Closing remark: Clarification withdrawn.
13	Page 17 and elsewhere	The terms manure and dung are used interchangeably in the methodology. Please maintain consistency.	Dung was changed to manure. Closing remark: Client's response adequately addresses finding.
14	Page 19	Although it is apparent that BRWP is "Baseline removals from existing woody perennials," please define the acronym formally in the document.	BRWP was defined in the document. Closing remark: Clarification withdrawn.
15	Page 20	Please clarify the use of BE to include removals.	BE is defined as "total baseline emissions and removals". Therefore, the removal was

			included in BE. Closing remark: Clarification withdrawn.
16	Page 23 Under "Crop"	Please clarify the meaning of "returned grassland soils."	It is revised to be "returned to grassland soils." Closing remark: Client's response adequately addresses finding.
17	Page 29	Please define PRWP before the acronym is used.	PRWP was defined in the document. Closing remark: Clarification withdrawn.
18	Page 32	As previously mentioned in NCR 23, please justify the depth of 20 cm, noting that not all project areas will be similar.	Revised to 20 cm to 30 cm, or greater. Closing remark: Client's response adequately addresses finding.
19	Page 32	Please define the soil organic carbon sampling methods, including a reference to an existing soil sampling methodology that includes stratification and bulk density determinations.	Inserted a reference for Soil sampling designs, measuring soil organic carbon content, soil sample handling and storage, quality control in soil chemical analysis. Closing remark: Client's response adequately addresses finding.
20	Page 32-33; Top of page; FC section	Please identify how the "Percentage of rocks, roots, and other dead residues with a diameter larger than 2mm in the top 20 cm of soil, for stratum s, sampling site i under project activity in year t" will be determined.	Procedure for the estimation of Percentage of rocks, roots, and other dead residues in the soil was added in the section of Monitoring Plan. Closing remark: Client's response adequately addresses finding.
21	Page 33	Please clarify if "al stratum" should read "all strata."	Revised. Closing remark: Client's response adequately addresses finding.
22	Page 36	Please define "dm."	Added in section on Acronyms

			<p>in Annex II.</p> <p>Closing remark: Client's response adequately addresses finding.</p>
23	Page 48	<p>a) Please clarify how sample sites will be determined, sampled, and how carbonates are processed. These will likely be included in the soil sampling methodology.</p> <p>b) Please discuss how carbonates are processed.</p> <p>c) The approach is okay for sampling, but does not discuss lab testing (processing). Please include this requirement.</p> <p>d) Most soils lab methods manuals include more than one method for SOC determinations. Please mention the accepted method for SOC analysis used today.</p>	<p>a) Inserted a reference for Soil sampling designs, measuring soil organic carbon content, soil sample handling and storage, quality control in soil chemical analysis.</p> <p>b) In section 6.2.9 we added: For measuring soil organic carbon stock changes a scientific peer reviewed or nationally approved standard such as the soil sampling protocol used to certify the changes of organic carbon stock in mineral soil of the European Union should be used</p> <p>c) In section 6.2.9 we added: soil sampling, handling and storage, processing and measurement, quality control in soil organic analysis should follow a scientific peer reviewed reference such as Soil Sampling and Methods of Analysis; ADJUSTMENTS SUGGESTED SEE COMMENT IN SGM METHODOLOGY</p> <p>d) The following sentence was inserted after equation 47: "Among the laboratory methods available to determination of TC and OC in soils, the total combustion method described in Nelson and Sommers (1996) is the most widely accepted and is</p>

			<p>therefore recommended for this purpose". The citation is included in the reference section.</p> <p>Closing remark: Client's responses adequately addressed these findings.</p>
24	Pages 48-49; Section 531; bulk density	Please clarify the methodology for bulk density analysis.	<p>Inserted a reference for the bulk density analysis.</p> <p>Closing remark: Client's response adequately addresses finding.</p>
25	Page 49; Rocks, roots and dead residues	To be determined pending bulk density NCR above.	<p>Procedure for the estimation of Percentage of rocks, roots, and other dead residues in the soil was added in the section of Monitoring Plan.</p> <p>Closing remark: Client's response adequately addresses finding.</p>
26	Table of Contents	Please ensure the Table of Contents is updated.	<p>Yes.</p> <p>Closing remark: Client's response adequately addresses finding.</p>
27	General	<p>a) Please address all public comments from the commenting period.</p> <p>b) See "ESI Public Comment Responses."</p>	<p>a) Public comments have now been addressed.</p> <p>b) We have addressed the comments according to your recommendations.</p> <p>Closing remark: Client's response adequately addresses finding.</p>
28	General	There are still inconsistencies in spelling. For example, "fertiliser" is depicted in a few places and "fertilizer" in other places. Please check the spelling and ensure consistency.	<p>Revised.</p> <p>Closing remark: Client's response adequately addresses finding.</p>
29	Page 55	Please clarify the definition of "Seasonally"? How will the methodology require sampling seasonally (i.e., will	<p>Definition added to definitions and wording changed to "grazing season" for each</p>

		<p>sampling occur in every season or specific seasons?)?</p>	<p>occurrence.</p> <p>Changed "in every grazing season" to "At the end of In every grazing season in year t". For other measured parameters, the particular monitoring time was added.</p> <p>Closing remark: Client's responses adequately address finding.</p>
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11 APPENDIX C PROJECT VALIDATION EVIDENCE

Name of Project	Validation Report – Date Issued	Date Project Registered	GHG Program Registered With
Restoration of degraded areas and reforestation in Cáceres and Cravo Norte, Colombia	24 February 2011	14 March 2011	VCS
TIST Program in Kenya VCS-001	2 March 2011	15 April 2011	VCS
TIST Program in Kenya VCS-002	2 March 2011	15 April 2011	VCS
TIST Program in Kenya VCS-003	2 March 2011	15 April 2011	VCS
TIST Program in Kenya VCS-004	2 March 2011	17 April 2011	VCS
TIST Program in Kenya VCS-005	16 December 2011	22 December 2011	VCS
Bull Run Overseas Forest Carbon Project: Phase 1	15 March 2012	13 April 2012	VCS
TIST Program in Uganda VCS-001	20 March 2012	25 May 2012	VCS
TIST Program in Uganda VCS-002	20 March 2012	25 May 2012	VCS
TIST Program in Uganda VCS-003	20 March 2012	25 May 2012	VCS
TIST Program in Uganda VCS-004	20 March 2012	25 May 2012	VCS
Reforestation of Degraded Lands in the Valle California of Patagonia, Chile	18 June 2012	Not registered yet with VCS	VCS
Protection of the Bolivian Amazon Forest	26 March 2012 26 March 2012	Not registered yet with VCS 26 March 2012	VCS CCB
Kariba REDD+ Project	8 February 2012	8 February 2012	CCB
Panama Canal Authority Sustainable Forest Cover Establishment Project	30 March 2012	30 March 2012	CCB
Denman Island Avoided Conservation of Forestlands Project	27 June 2012	27 June 2012	CCB