



SUMATRA MERANG PEATLAND PROJECT VALIDATION REPORT

Document Prepared By: Aster Global Environmental Solutions, Inc.

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Summary:

The Sumatra Merang Peatland Project (SMPP) combines Afforestation, Reforestation, and Revegetation (ARR) and Wetlands Restoration and Conservation (WRC) project activities under the Verified Carbon Standard (VCS) sectoral scope of Agriculture, Forestry and Other Land-Use (AFOLU). SMPP encompasses 22,922 hectares (56,641 acres) of tropical peatland in the Musi Banyuasin District of the South Sumatra Province of Indonesia. Through adherence to VCS Methodology VM0007 modules (version 1.5) and Climate, Community & Biodiversity Standards (Third Edition, June 2017), SMPP will complete ecosystem and habitat restoration of degraded peatlands, while engaging and benefitting various stakeholders within and affected by the project.

The project activities are categorized as Agriculture, Forestry, and Other Land-Use (AFOLU). A combination of Afforestation, Reforestation, and Revegetation (ARR) and Wetlands Restoration and Conservation (WRC). Under the WRC component, the project activities relate to Restoring Wetland Ecosystems (RWE).

The VCS validation purpose assessed compliance with the VCS Version 4 Program Guide, Standard, adherence to the approved VM0007 Methodology, all associated updates, and the likelihood that implementation of the planned GHG project will result in the GHG emission removal enhancements as stated by the Project Proponent (ISO 14064-3:2006).

The CCBA validation purpose assessed the likelihood that implementation of the planned GHG project will result in the GHG emission removal enhancements (climate), community, and biodiversity benefits as stated by the project developer (ISO 14064-3:2006). The validation objective is to ensure the project design documentation is in compliance with CCB Standards (Third Edition).

The scope of the validation followed Section 4.3.4 of ISO 14064-3:2006, and methods included assessment of the GHG project implementation; physical infrastructure, activities, technologies and processes of the GHG project; GHG sources, sinks and/or reservoirs; types of GHGs; and time periods covered. SMPP follows the framework of project activities listed above under ARR and WRC.

The criteria followed the validation guidance documents provided by VCS located at <https://verra.org>. Unless otherwise indicated, the assessment was performed against the most recent version of the relevant VCS guidance document as of November 2019.

During validation to VCS Program, 52 VCS findings were raised, while during validation to the CCB Standards, 18 findings were raised. A summary of all VCS findings are included in Appendix A, and CCB findings are included in Appendix B.

A risk-based approach was used to guide the validation and reach a reasonable level of assurance that no errors, omissions, nor misrepresentations resulting in a material misstatement would occur. The materiality threshold dictated by the large project size was 1%. The project took uncertainty deductions for years 2016 and 2017, which was required as part of the methodology modules. All findings were satisfied to a reasonable level of assurance.

After completion of site inspection and review of all project information, procedures, calculations, and supporting documentation, Aster Global Environmental Solutions, Inc., (herein referred to as Aster Global or the Validation Team) confirms the Project Design Documentation (PDD/PD) provided by the Project Proponent is accurate and consistent with all aforementioned VCS Version 4 criteria, CCB Third Edition criteria and the selected methodology (VM0007). Aster Global confirms *Sumatra Merang Peatland*

Project Document (Version 1.2, dated 25 November 2019) has been implemented in accordance with VCS Version 4 and CCB Third Edition criteria.

Aster Global confirms all validation activities – including objectives, scope and criteria, level of assurance, and Project Description adherence to VCS Version 4 (and all associated updates) and CCB Project Design Standards (Third Edition), as documented in this report – are complete. Aster Global concludes without any qualifications or limiting conditions *Sumatra Merang Peatland Project* (Version 1.2, dated 25 November 2019) meets the requirements of VCS Version 4 (and all associated updates) and CCB Project Design Standards (Third Edition). In addition, Aster Global asserts the project complies with the criteria for projects set out in the Third Edition of the CCB Standards to achieve Gold Level distinction for Climate and Biodiversity.

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1 INTRODUCTION

1.1 Objective

For this project, the validation objective was to ensure project's compliance with the VCS Version 4 Program Guide, Standard, AFOLU Requirements, CCB Standards (Third Edition), selected methodology (VM0007), and all associated updates.

1.2 Scope and Criteria

The scope of the validation¹ included the GHG project and baseline scenarios; physical infrastructure, activities, technologies and processes of the GHG project; GHG sources, sinks and/or reservoirs; types of GHGs; and time periods covered. The geographic scope is defined by the project boundary, the carbon reservoir types, management activities, contract periods, and related. The scope of the GHG project was outlined by the Project Proponent within the Project Description dated 25 November 2019 and is re-defined as follows:

Baseline Scenario	Deforestation from pulp and paper plantation
Activities/Technologies/Processes	Avoided Planned Deforestation, Wetland Restoration and Conservation – Peatland Restoration; ARR Activities within the REDD MF; Community and Biodiversity elements
Sources/Sinks/Reservoirs - ARR	<u>Project Scenario:</u> CH ₄ and N ₂ O through IPCC combustion factors, if burning occurs in the project scenario
Sources/Sinks/Reservoirs - WRC	<u>Baseline and Project Scenario:</u> Oxidation of drained peat: CO ₂ and CH ₄ Water bodies: CO ₂ Peat combustion: CO ₂ and CH ₄
GHG Types	CO ₂ , N ₂ O, and CH ₄
Time Period (start date, crediting period)	Start Date: 01 January 2016 Crediting Period: 01 January 2016 – 31 December 2062
Project Boundary	Approximately 23,000 hectares in the peatland rainforest of the Merang region of Indonesia (South Sumatra, Indonesia); No communities onsite, but two nearby communities – Kepayang and Muara Merang.

The criteria followed the validation guidance documents provided by VCS and CCB located at <https://verra.org>. Unless otherwise indicated, the assessment was performed against the most recent version of the relevant guidance document. These documents include the following:

- *VCS Program Guide (v4, 19 September 2019)*
- *VCS Standard (v4, 19 September 2019)*²
- *Program Definitions (v4, 19 September 2019)*

¹ Section 4.3.4 of ISO 14064-3:2006

² During the course of the Validation, VCS Version 4 was released on 19 September 2019. The VCS Standard section references in the review findings appendix reflect VCS Standard V3.7. However, the Validation Team assessed the Project's adherence with VCS V4 Program updates.

- *AFOLU Non-Permanence Risk Tool (v4, 19 September 2019)*
- *VM0007 REDD+ Methodology Framework (REDD-MF), (v1.5, 09 March 2015)*
- *Climate, Community & Biodiversity Standards, v3.1 (21 June 2017; Third Edition updates)*
- *CCB Program Rules, v3.1 (21 June 2017)*
- *CCB Program Definitions; v3.0 (21 June 2017)*

1.3 Summary Description of the Project

The Sumatra Merang Peatland Project (SMPP) combines Afforestation, Reforestation, and Revegetation (ARR) and Wetlands Restoration and Conservation (WRC) project activities under the VCS sectoral scope of Agriculture, Forestry and Other Land-Use (AFOLU). SMPP encompasses 22,922 hectares (56,641 acres) of tropical peatland in the Musi Banyuasin District of the South Sumatra Province of Indonesia. Through adherence to VCS Methodology VM0007 modules (version 1.5) and Climate, Community & Biodiversity Standards (Third Edition, June 2017), SMPP will complete ecosystem and habitat restoration of degraded peatlands, while engaging and benefitting various stakeholders within and affected by the project.

The project activities are categorized as Agriculture, Forestry, and Other Land-Use (AFOLU), specifically a combination of Afforestation, Reforestation, and Revegetation (ARR) and Wetlands Restoration and Conservation (WRC). Under the WRC component, the project activities relate to Restoring Wetland Ecosystems (RWE).

The activities will be accomplished by the construction of dams in the project to block canals currently draining the project area. This will ultimately restore hydrology in these degraded peatland areas and achieve the emissions reduction or removal of 62,912,755 tCO₂ equivalents (*ex-ante* estimate) over the life of the project. The project activities will lead to the protection of critical habitat for 10 endangered and critically endangered species. In addition, the project will provide training and employment to community members, further improving their health, education, well-being and livelihoods. Water quality and access for community members will also be improved by the project activities.

2 VALIDATION PROCESS

2.1 Audit Team Composition (*Rules 4.3.1*)

For VCS/CCB validations, Aster Global maintains an experienced internal staff of Lead Validators, in addition to Certified Foresters, Registered Professional Foresters, The Wildlife Society Biologists, M.S. Forest Biometricians, Remote Sensing/GIS Specialists, and VCS-approved AFOLU Experts in IFM, REDD, and WRC categories. Aster Global's own Project Specialist (e.g., a trained soil scientist) was on-site conducting the field validation activities, and subcontractors included on the audit team were employed for translation services (as applicable). Aster Global completes all calculation/modeling review in-house with our team of forest biometricians, remote sensing experts, and a soil scientist. Aster Global has been involved in 34 VCS validations and 31 CCB validations, including many methodology assessments. Aster Global has a specialist on staff with 9 years of CCB experience who handles all CCB components for project review. All Aster Global staff involved in the audit have ecological, biodiversity, natural resources and forestry background to fulfill these requirements.

2.2 Method and Criteria

The validation assessed SMPP's compliance with VCS Version 4, CCB Third Edition, all associated updates, and the selected methodology (VM0007, v1.5). The Validation Team assessed the *ex-ante* Greenhouse Gas (GHG) emission reductions/removals through Agriculture, Forestry and Other Land Use (AFOLU) criteria, specifically: a combination of Afforestation, Reforestation, and Revegetation (ARR) and Wetlands Restoration and Conservation (WRC). Under the WRC component, the project activities relate to Restoring Wetland Ecosystems (RWE). The Validation Team assessed whether the Project Proponent adequately addressed project emissions, unplanned reductions in carbon stocks, and any possible leakage outside of the project boundary.

The non-permanence risk analysis was assessed for this validation. Further, following Section 2.1.2 of the VCS Validation & Verification Manual, V3.2, the objectives of the validation exercise were to assess:

- Project conformance to VCS rules;
- Project conformance to the applied methodology, including the procedure for the demonstration of additionality specified in the methodology; and
- Likelihood that methods and procedures set out in the project description will generate verifiable GHG data and information when implemented.”³

The criteria followed the guidance documents provided by Verra at <https://verra.org>. Unless otherwise indicated, the assessment was performed against the most recent version of the relevant VCS or CCBA guidance document. Refer to Section 1.2 of this report for details of versions against which the project was validated.

In the validation process, there is a risk that potential errors, omissions, and misrepresentations will be found. Therefore, a risk-based approach was used to guide the collection of appropriate and sufficient evidence to support a reasonable level of assurance. A risk-based approach means the validation team focused on items that might result in a material misstatement of the reported project conformance to VCS/CCB rules and the applied methodology.

A project-specific Validation/Verification and Sampling Plan was developed to guide the auditing process and ensure efficiency and effectiveness. The purpose of the Validation/Verification and Sampling Plan was to present a risk assessment for determining the nature and extent of procedures necessary to ensure the risk of auditing error was reduced to a reasonable level. The Validation/Verification and Sampling Plan methodology was derived from all items in our validation process stated above. Specifically, the sampling plan utilized the VCS and CCBA guidance documents and ISO 14064-3. Any modifications applied to the Validation/Verification and Sampling Plan were made to detect the project activities and processes with highest risk of material discrepancy. A detailed field plan was developed to guide the site visit and is embedded within the Validation Team's own Validation/Verification and Sampling Plan.

For the field sampling effort, direct measurement, observation, and interviews were conducted in key areas determined to be the greatest risk, followed by ground-truthing and review of project activities. Field

³ VCS Guidance: Validation and Verification Manual, v3.2, 19 October 2016

sampling and techniques were based on the project parameters/scope and best professional judgment of the Validation Team/Lead Validator to meet a reasonable level of assurance. Biomass inventory (REDD) was reviewed through sampling of inventory plots completed via detailed review/re-measurement. For the peat component (WRC), stratification and canal extent were assessed. To-date, fires have not occurred during the project's crediting period (see Section 2.4 of this report).

In addition, a risk-based approach was used for the on-the-ground field sampling effort to select key areas for direct observation of peatland hydrologic monitoring, stratification and post-fire conditions, and stated project activities. The most likely access points for anthropogenic degradation (along watercourse access points) within the Project Area and adjacent lands were toured to allow the Validation Team to establish a reasonable level of assurance regarding the implementation of project activities and to further confirm the reported areas of disturbance. Please see Section 2.4 of this report for more details.

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

2.3 Document Review

A detailed review of all project documentation was conducted to ensure consistency with, and identify any deviation from the VCS Program requirements, CCB program requirements, and the methodology (VM0007). Initial review focused on the PD relative to the field conditions observed and interviews with project management staff. Project details, data and parameters, and *ex ante* quantification of GHG emission reductions and removals were thoroughly examined. Key supporting documents were also reviewed. These included remote sensing/Geographic Information System (GIS) data, Standard Operating Procedures (SOPs), financial analyses, property boundaries, maps and aerial images, fire-specific data, biomass and carbon calculation spreadsheets, CCB interview/survey results, and responses to Non-conformance Requests (NCRs) and Clarification Requests (CLs).

The VCS AFOLU Non-Permanence Risk Tool was used by the Project Proponent to assess overall project risk. The VVB reviewed the Non-Permanence Risk Report provided with the supporting documentation and confirmed the Project adheres to the requirements set out in the VCS AFOLU Non-Permanence Risk Tool. Each risk factor was thoroughly assessed for conformance. Any identified NCR and/or CL findings related to the AFOLU Non-Permanence Risk Tool/Report are presented in Appendix A. The final score was calculated to be 14%.

For a listing of all documents received from the client for this validation, please see Appendix D.

2.4 Interviews

Interviews were performed during the validation site inspection and as part of the overall validation process, and additional detail to that provided in the project description is included below. The validation team met with individuals with various roles in the project. This included a series of interviews with on-site and in-country staff who support the mission of the project and other conservation objectives. On-site interviews and informal discussions were conducted with SMPP staff, members of Forest Carbon and members and leaders of the local communities. The following is a list of the main interviewees:

Individual	Affiliation	Role
Riza Suarga	PT GAL	President
Mary Osmond	Forest Carbon	Law advisor
Angga	Forest Carbon	Monitoring and evaluation
Ophelia Wang	Forest Carbon	Deputy tech director, GIS expert, data analysis
Jeff Chatellier	Forest Carbon	Managing director
Prasetya Maharditama (Prass)	Forest Carbon	Remote sensing
Sebastian Persch	Forest Carbon	Forest and peatland scientist
Josh (last name not recorded)	Forest Carbon	Biodiversity
Reagan	Private individual	Shareholder and commissioner
Manda Wahyuli	PT GAL	Radio operator (main camp)
Berliana Nauli	PT GAL	Administration (main camp)
Siti Nurhasanah	PT GAL	Cook (main camp)
Riadi	PT GAL	Driver (main camp)
Dewi Astuti	PT GAL	Cleaning service (main camp)
R. Agus Panjiputra	PT GAL	Facility manager (main camp)
Esron Nainggolan	PT GAL	Driver
Bosner	PT GAL	Chef
Robert Nainggolan	PT GAL	Fireman, General labor
Edi Purwanto	PT GAL	Fireman
Indrah	PT GAL	Chef
Mat Nur	Community member	Farmer

Rampeli	Village stakeholder	Firefighter
Darman	Village stakeholder	Firefighter
Sahril	Village stakeholder	Firefighter
Agus	Village stakeholder	Firefighter
Badarudin	Village stakeholder	Firefighter
Lia Oktariza	Village stakeholder	Not recorded
Juwita Septy Diana Gur Ngoji	Village stakeholder	Not recorded
Kosilan T. Maiyarnka	Village stakeholder	Leader
Yaini	Community member	Fisherman
Badarudin	Community member	Fisherman
Fredanyas	Community member	Fisherman
Rampeli	Village stakeholder	Firefighter
Leader and villagers of Merang	Village stakeholders	6 women and 3 men

2.5 Site Inspections

The validation site inspection occurred in conjunction with the verification site inspection and followed the VVB's prepared Validation/Verification and Sampling Plan process and was conducted on 17-25 June 2019 by the Validation Team. The validation site visit was a required tool to help the VVB reach reasonable assurance for validation of Project Document reported elements. It also allowed the VVB to understand application of the methodology on-site, confirm project activities, and to identify possible sources where error is more likely to occur in which to focus desktop validation efforts.

The objectives of the on-site inspections performed were to:

- Conduct a risk-based review of the project area and project activities to check that the project adhered to the requirements of the VCS/CCB rules and the methodology during the reporting period

- Select data samples from ground measurements for validation purposes in order to achieve a reasonable level of assurance and meet the materiality requirements of the project following Section 4.1.2 of the VCS Standard
- Check that proposed monitoring will be conducted in accordance with the requirements of the VM0007 methodology and VCS/CCB rules

A ground inspection was made of the project and surrounding areas, especially along the southern boundary of the project area, where the peat dome is thinnest and there is somewhat more interaction between the project and communities. The following villages were visited, and interviews conducted for VCS and CCB elements: Merang and Kepayang, as well as one of the small farms and personnel at the camps. The site visit ground inspection was performed to assess the baseline measurements at the peat plots and monitoring plan effectiveness, including but not limited to; unplanned deforestation activities, unplanned degradation, and community member feedback.

During the site visit, CCB components concentrated on the communications between communities, stakeholders and the project, as well as employment, training, livelihoods and field employee relations with management.

The following additional activities/project aspects were also observed on-site:

- Largest significant remaining part of the dense forest stratum, surrounding closed canopy forest and open canopy strata
- Preliminary canal blocks visited, discussed proposed sites for new canal blocks, and visited an example of compacted peat canal blocks
- Re-sampling of 7 peat plots for bulk density, % carbon and peat depth
- Visited and interviewed project employees at main camp and along the Buring River
- Discussed project impacts with fisherman community
- Visited farm area and discussed project impacts with one of the two farmers
- Discussed project impacts with stakeholders in surrounding villages
- Observed land uses surrounding the project area
- Heard calls of gibbons from main camp
- Interviewed monitoring patrol group members

- Discussed patrol findings, to date, and expectations for future
- Visited project boundary marker

2.6 Public Comments (*Rules 4.6*)

The public comment period was held from 10 June 2019 to 10 July 2019. One entity provided 11 public comments for this project as confirmed by an email from VCS. The comments ranged from fire risk, to baseline conversion percent, deforestation rate, subsidence rate, peat compaction, boundaries for project zone, drainage elevation limit map, start date, baseline drivers of deforestation, acacia plantation prohibitions, and credible land use scenarios. As they are extensive, the comments are summarized, assessed and concluded in Appendix C.

2.7 Resolution of Findings

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

The process of resolution of findings involved one formal round of assessment by Aster Global. Findings were resolved during the validation by the Project Proponent implementing corrective actions such as amending the Project Document and calculations, as well as providing written responses. This resulted in project documentation in conformance with the requirements of the VCS Standard and CCB Third Edition for GHG projects.

Findings were characterized as described below.

Non-Conformity Reports (NCRs) were issued as a response to material discrepancies in a part of the project and generally fell into one of the following category:

- Non-conformity to a VCS or CCB guiding document listed in Sections 1.2 and 2.2 above
- Consistency among project documentation or calculations was lacking
- Mathematical formulae were incorrect
- Additional information was required by the VVB to confirm reasonable assurance for compliance

Clarifications (CL) were issued when language within a project document needed extra clarification to avoid ambiguity.

Opportunities for Improvement (OFI) were issued to the Project Proponents when an opportunity for improvement was identified.

During the validation, 52 (fifty-two) essential VCS findings were identified. Detailed summaries of each VCS finding, including the issue raised, responses, and final conclusions, are provided in Appendix A Verified Carbon Standard Findings. Please also see Appendix B: Climate, Community and Biodiversity Standard Findings for all findings raised during the CCB review. All NCRs/CLs were satisfactorily addressed.

2.7.1 Forward Action Requests

No forward action requests were identified during the validation event.

3 VALIDATION FINDINGS

3.1 Summary of Project Benefits

As part of the validation process, the VVB reviewed the SMPP Project Description Summary of Project Benefits (Section 1). The table from Section 1.2 of the PD detail the unique and standardized project benefits and is provided below for reference.

Category	Metric	Estimated by the End of Project Lifetime
GHG emission reductions or removals	Net estimated emission removals in the project area, measured against the without-project scenario	5,915,842
	Net estimated emission reductions in the project area, measured against the without-project scenario	67,308,950
Forest cover	For REDD projects: Estimated number of hectares of reduced forest loss in the project area measured against the without-project scenario	N/A
	For ARR ⁴ projects: Estimated number of hectares of forest cover increased in the project area measured against the without-project scenario	20,601.37 Hectares (Ha)
Improved land management	Number of hectares of existing production forest land in which IFM practices are expected to occur as a result of project activities, measured against the without-project scenario	N/A
	Number of hectares of non-forest land in which improved land management practices	N/A

	are expected to occur as a result of project activities, measured against the without-project scenario	
Training	Total number of community members who are expected to have improved skills and/or knowledge resulting from training provided as part of project activities	Identified project community members: 100% = 23 Other stakeholders who are residents in nearby villages and settlements: 25% = ~1,438 people
	Number of female community members who are expected to have improved skills and/or knowledge resulting from training as part of project activities	At least 25% of women in community families and nearby villages and settlements = ~704 women
Employment	Total number of people expected to be employed in project activities, expressed as number of full-time employees	Approximately 75 to 100 people
	Number of women expected to be employed as a result of project activities, expressed as number of full-time employees	At least 25% of employees = approximately 18 to 25 women
Livelihoods	Total number of people expected to have improved livelihoods or income generated as a result of project activities	At least 50% of residents in nearby villages and settlements = ~2,876 people
	Number of women expected to have improved livelihoods or income generated as a result of project activities	At least 50% of female residents in nearby villages and settlements = ~1,408 women
Health	Total number of people for whom health services are expected to improve as a result of project activities, measured against the without-project scenario	All 5,752 residents of nearby villages and settlements, comprising 1,640 families
	Number of women for whom health services are expected to improve as a result of project activities, measured against the without-project scenario	All 2,817 female residents of nearby villages and settlements
Education	Total number of people for whom access to, or quality of, education is expected to improve as result of project activities, measured against the without-project scenario	At least 45% of the population of nearby villages and settlements that are ages 11-40 = ~2,500 people
	Number of women and girls for whom access to, or quality of, education is expected to improve as result of project activities,	At least 45-50% of the population of nearby villages and settlements that are women or

	measured against the without-project scenario	girls ages 11-40 = ~1,250 women and girls
Water	Total number of people who are expected to experience increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	At least 20% of residents in nearby villages and settlements = ~ 1,150 people
	Number of women who are expected to experience increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	At least 20% of female residents in nearby villages and settlements = ~563 women
Well-being	Total number of community members whose well-being is expected to improve as a result of project activities	At least 50% of residents in nearby villages and settlements = ~1,438 people
	Number of women whose well-being is expected to improve as a result of project activities	At least 50% of female residents in nearby villages and settlements = ~1,408 women
Biodiversity conservation	Expected change in the number of hectares managed significantly better by the project for biodiversity conservation, measured against the without-project scenario	22,922 Ha
	Expected number of globally Critically Endangered or Endangered species benefiting from reduced threats as a result of project activities, measured against the without-project scenario	10 Critically Endangered or Endangered species and 19 Vulnerable species occurring in the project area.

The VVB confirmed estimated benefits included are appropriate, benefits are labelled correctly, and all achievements reported are substantiated in the Section References, where indicated.

The conclusion of the VVB is the listed project benefits are appropriately documented and adhere to the VCS/CCB project requirements.

3.2 General

3.2.1 Summary Description of the Project (G1.2)

SMPP's PD includes a summary description of the Project. Requirements of CCB Indicator G1.2 are assessed below.

Technologies/measures to be implemented by the project and eligibility of the project

The Project secured a carbon storage and sequestration license from the government of Indonesia. This will prevent the without-project scenario of conversion to industrial agriculture in the form of acacia plantations. The project also implements fire protection, hydrological restoration, forest rehabilitation, biodiversity conservation, and community development initiatives. These Project technologies/measures, in addition to the Project's adherence to VCS/CCB and VM0007 requirements, have been confirmed by the Validation Team, as described throughout this document.

Project proponent and other entities involved in the project

Project Proponents include PT Global Alam Lestari (PT GAL) and Forest Carbon. Descriptions of their roles are provided in PD Section 2.1.1 and have been confirmed appropriate through the validation process, including site visit interviews and meetings during the validation process.

Project start date

The project start date is 01 January 2016, which is the date project activities began to contribute to GHG emissions reductions and removals. The activities that began in January of 2016 were:

- Establishment of a permanent presence in the project area, and;
- Starting to conduct formal patrol activities for fire prevention and forest degradation.

The validation team confirmed the activities associated with the start date by reviewing work logs, conducting interviews with project staff, and review of project documentation (dated 25 November 2019) showing the Indonesian government's interim approval of activities to begin, even before formal approval to begin work on the concessions had been acquired. Reports to the government (dated 2016) documented the Project's formal measures to begin officially implementing the Project activities.

Project scale and estimated GHG emission reductions or removals

The project scale is considered a large project, in accordance with the VCS definition, as 1,338,569 mtCO_{2e} of annual GHG emission reductions and removals are expected to occur from the Project. The Validation Team confirmed the scale and GHG emission reductions and removals through our Validation process, including but not limited to data checks of project calculations, interviews with Project Proponents and staff members, and various meetings/discussions on the data and technologies presented.

Project location

The PD states the project area is located within the Bayung Lencir sub-district, Musi Banyuasin district, South Sumatra province, Sumatra, Republic of Indonesia. Lat/Long range is provided, and Maps 1 and 2 provide additional location information.

The PD goes on to describe the topography (flat); soils (mostly peat); and the nature of the hydrology. Climate is described as tropical monsoonal. Vegetation types are mostly an open canopy tree-shrub-herb mix, some dense forest in the eastern portion, and spotty closed canopy tree-shrub-herb mix.

The area is described as largely isolated from surrounding communities, but 21 people use it for fishing, and two farm small parts of it. No one lives in or near the project area, except for the farmers who live there only while farming operations require them to be there.

Nearby townspeople are considered "other stakeholders," since they are distant from the project area and do not use the project area for any purpose. No indigenous people live in the area.

During site visit inspections, interviews, GIS/remote sensing review, and review of all other Project Documentation, the Validation Team agrees with the Project's assertions of project location.

The scenario existing prior to the implementation of the project

Prior to SMPP implementation, the project area had been subjected to historical logging and canal construction, which led to degradation of the peat domes. Commercial logging stopped in 2000, but further small-scale illegal harvesting occurred as access to the area was opened through the existing canals. Additionally, agricultural operations conducting adjacent to the project area led to further degradation and wildfires.

In the without-project scenario, the project lands would be subject to continuing commercial agricultural operations in the form of acacia plantations, leading to increased GHG emissions due to peat decomposition. In addition, wildfire fighting capabilities and abatement would not be occurring at the capacity the project allows.

The Validation Team confirmed these without-project assertions through site visit inspections, interviews, GIS/remote sensing review, and review of all other Project Documentation.

The project's climate, community and biodiversity objectives

The Project summarizes all of its climate, community and biodiversity objectives in Section 2.1.1 of the PD. Namely, "SMPP aims to restore the ecological functions of the Merang peatland through the use of sustainable land-use models that benefit critically endangered biodiversity and provide benefits for local communities. These overarching objectives will be achieved by implementing ecosystem and habitat restoration activities while establishing sustainable avenues for economic success amongst the local communities."⁵ The Validation Team confirms the objectives of the Project meet the Rules and criteria of the VCS/CCB programs, and the project activities will achieve the stated objectives.

The Validation Team concludes the "Summary Description of the Project" provided in Section 2.1.1 of the PD adhere to the requirements of VCS and CCB. The summary description is accurate, complete, and provides an understanding of the Project's nature.

3.2.2 Physical Parameters (G1.3)

The Physical Parameters described in Section 2.1.5 of the PD include location, topography, soils, climate, hydrology, and vegetation.

Maps detailing all physical parameters were provided by the project and were reviewed/ground-truthed during the site visit, where feasible to achieve reasonable assurance of accuracy. Additionally, soil samples were re-taken during the field visit. Further, GIS and remote sensing review occurred in-office to confirm boundaries provided were accurate. The Validation Team is reasonably assured the information presented in the PD is accurate and meets the requirements of VCS/CCB.

3.2.3 Social Parameters (G1.3)

Section 2.1.6 of the PD describes the following social parameters of the Project: communities and other stakeholders, local ethnicities, land-uses and economic well-being, public health, and education. Site visit observations and interviews, in addition to detailed project documentation and records, confirmed the Project's social parameters were appropriate.

⁵ PD, Section 2.1.1

3.2.4 Project Zone Map (G1.4-7, G1.13, CM1.2, B1.2)

Map 8 (Section 2.1.7) of the PD depicts the Project Zone. Site visit observations and interviews, in addition to GIS review, provided the necessary assurance the Validation Team required that the Project Zone, as depicted in the PD was accurate and met the rules of the VCS/CCB programs. The Project Zone includes the peat hydrology land status designation and settlements that are participating in the Project's community development programs. The definition of the Project Zone per CCB was followed, where the Zone includes areas directly affected by project activities, including alternative livelihoods and community development. Please refer to PD Section 2.1.7 and VVB Indicator G1.4 for additional details.

3.2.5 Stakeholder Identification (G1.5)

To identify stakeholders, Section 2.1.8 of the PD details the Project gathered preliminary general information from previous socio-economic assessments and local partners. Substantial literature review occurred, and a field effort was then commenced, using the PRA process to conduct surveys, hold meetings, and interview individuals and groups.

Section 2.1.8 of the PD concludes by mentioning the project is in consistent and direct communication with the people in the settlements and communities.

The Validation Team concludes the information presented in the PD and supporting documentation to identify stakeholders is sufficient and meets the requirements of the VCS/CCB programs.

3.2.6 Stakeholder Descriptions (G1.6, G1.13)

Section 2.1.7 of the PD defines the project zone as covering "all settlement areas associated with the villages of Kepayang and Muara Merang as these villages will be beneficiaries of community development activities." Stakeholder identification within the Project Area and Zone occurred as described above. The site visit observations confirmed that stakeholder descriptions, including settlements (villages and unofficial sub-villages) within proximity to the project area, are fully developed in the PD. Livelihoods in the adjacent settlements were considered, as related to potential impacts from project activities. The PD was confirmed to include relevant local stakeholder identification and background information pertaining to VCS Standard Section 3.16.11.

The Project Proponent identified local stakeholder project participation risks, including considerations for fishing, farming and other livelihoods. As the project is not expected to impact the project participants, trade-offs or livelihood losses are not expected by the validation team.

Project management on-the-ground teams demonstrated expertise and prior experience in community engagement at the project scale. The inherent characteristics of the conservation project, coupled with low population density in the Project Zone, ensure local stakeholder resources are respected. Communication and consultation measures were observed on-site and were shown to be an on-going process for the life of the project. The Validation Team is reasonably assured that VCS Standard Section 3.16 has been satisfied and captured as part of the CCB Version 3 review.

3.2.7 Sectoral Scope and Project Type

The project exists under sectoral scope 14 (AFOLU). As described in Section 3.2.1 of the VCS AFOLU-Specific Matters, the project is a combination of Afforestation, Reforestation, and Revegetation (ARR) and

Wetlands Restoration and Conservation (WRC). Under the WRC component, the project activities relate to Restoring Wetland Ecosystems (RWE). The SMPP is not a grouped project. The Validation Team concludes the sectoral scope, project type, technologies and measures implemented, and eligibility of the project are accurate and meet the Rules and Definitions of the VCS/CCB programs.

3.2.8 Project Activities and Theory of Change (G1.8)

The PD restates the Project's main goal: restoring the currently degraded peatland ecosystem.

The conceptual model of the Project provided in detail in the PD lists the underlying risks to the project, direct threats, direct interventions, specific objectives and ultimate objective. The ultimate objective is stated as: "Restore the ecological functions of the Merang Peatland through the implementation of sustainable land use models that benefit critically endangered species and local communities."

Direct threats are listed as illegal logging, drainage canals, fire, illegal poaching and commercial agricultural expansion. The activities are referred to as direct interventions.

Activities listed include:

- Forest patrolling to reduce illegal logging, overfishing, further conversion to agriculture
- Fire prevention and monitoring
- Canal blocking and hydrology management
- Reforestation and assisted natural regeneration
- Community development
- Biodiversity management and monitoring
- "Cross-cutting," which is described as the implementation of adaptive management, effective administration, financial management and ensuring legal compliance

Each activity listed is really a subset of contributing activities. Text of this section includes more detail.

Specific objectives are listed as:

- Restore variety of forest types
- Increase populations of critically endangered species
- Restore the hydrological integrity of the peatlands
- Ensure continued access and sustainable use of natural resources by local communities

Each activity is further explained in terms of contributions to project goals and benefits.

These activities were observed during the site visit, and the objectives were confirmed through discussions with the Project staff on-site. The Validation Team is reasonably assured the project activities and objectives causally affect the Project and meet the intent of the VCS/CCB programs theory of change requirement.

3.2.9 Sustainable Development

The Project's sustainable development initiatives include the following:

- Economic growth and development
- Poverty and equity

- Education
- Sustainable forest and land-use
- Climate change

The PD describes each targeted initiative and how it aligns with above-described project objectives. Based on the observations and interviews conducted during the site visit and review of relevant Project documentation, the Validation Team is assured the Project's stated sustainable development targets will be achieved over the life of the Project.

3.2.10 Implementation Schedule (G1.9)

A brief implementation schedule is included as Table 4 in section 2.1.13 of the PD. Further, baseline re-assessment, which is to occur every 10 years, is shown in Section 2.1.15. The Validation Team is assured the Project's stated Implementation Schedule is accurate and contains the necessary milestones to achieve and maintain compliance.

3.2.11 Benefits Assessment and Crediting Period (G1.9)

The biodiversity and community benefits assessment period and GHG accounting period is 01 January 2016 through 31 December 2062 – a total of 47 years. The Validation Team concludes project activities planned will be sufficient to assure consistency of assessment periods and longevity of the project.

3.2.12 Risks to the Project (G1.10)

Section 2.1.18 of the PD describes risks to the project, which were assessed with the VCS AFOLU Non-Permanence Risk Tool (v4, 19 September 2019). The Validation Team reviewed the Project's stated risks and issued several findings to clarify the analysis. The outcome was a project risk summary that accurately reflected all associated internal, external, and natural risks for an overall rating of 14%. All Findings associated with the Validation risk review can be found in our Issues Log (Appendix A).

3.2.13 Benefit Permanence (G1.11)

The project's community development activities are expected to enhance CCB benefits beyond the project lifetime by creating local employment opportunities, including investments to small businesses and an increase in access to quality education.

The promotion of the importance of hydrology and conservation is expected to extend beyond the project lifetime. Hydrological management is expected to create benefits that last beyond the project's lifetime by reducing fire risk and allowing vegetation and peat to build up over the project lifetime.

The Validation Team assessed the permanence of these benefits by reviewing the aspects during the site visit – including observations and interviews with project staff and community members. Further, the Validation Team reviewed documentation showing legally binding concessions that cover the life of the project. Thus, the Validation Team is assured of the permanence of the stated benefits.

3.2.14 Financial Sustainability (G1.12)

The Validation Team confirmed the Project Proponent received funding from Althelia Climate Fund, which is an investor and supporter of global conservation projects. This initial investment of 5.6 million USD has sufficiently provided funding for the project design, fieldwork, calculations, and preparation/submission of required project documentation. The Validation Team reviewed financial documents, which served to estimate future revenues and costs, project the project's financial feasibility, and show financial mechanisms in place. This documentation ensured an adequate flow of funds to support current and future project activities through the duration of the project.

3.2.15 Grouped Projects

The section is only required for grouped projects and is thus not applicable, as this is not a grouped project.

3.2.16 Land-Use Scenarios without the Project (G2.1)

The PD describes the condition of the land at the start of the project as highly degraded peatland, due to illegal logging and fires, over the last 2 decades. It states the "CDM Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities" was used to identify the baseline scenario.

The most likely land use in the absence of the project was determined to be the establishment of an industrial acacia plantation grown for pulp. The fires of 2015 are said to have made the area more attractive to acacia growers.

Table 21 constitutes a list of possible land uses compared to determine the most likely scenario in the absence of the project:

- Acacia plantations – a rapidly growing land use in Indonesian peatlands that have been established on lands surrounding the project area. Applications for more land were made in 2007 and 2011. Peat drainage is crucial to acacia establishment
- Industrial palm oil – another expanding land use, found west and south of the project area. Considered a less likely land use scenario because it has taken place, legally, outside the forest estate, or inside the estate, marked for conversion, and the project area has no such designated land uses
- Forest with commercial logging – while commercial logging was widespread, changes to the industry make it less profitable, like long-term management requirements
- Unexploited forest – this is not the norm in Sumatra, and the few such forests are typically in transition to a form of exploitation
- Protected forest – conversion to protected forest can happen, but it is rare and considered unlikely
- Small holder agriculture – not a major activity in the region, due to unsuitable soils and high risk of fire. Two small farms exist on the project lands, but this is not considered a likely scenario for the project area
- Mining and natural gas extraction – while these activities occur in the area, it is not considered likely, because the land was surveyed for gas and coal many years ago, and promising concessions were awarded and have been in existence for a long time

The Project then details possible land uses considering laws and regulations. The land is said to be designated as production forest, according to Map 23 in Section 3.1.5 of the PD. These are the effects on the listed land uses:

- Acacia plantation is allowed.

- Palm oil is not allowed without removing the land from the forest estate, which is difficult for land in the current designation.
- Commercial logging is allowed.
- Unexploited forest can remain if it is not subject to a license application for logging or conversion to agriculture. It can also be converted to other, more conservation-like land management scenarios.
- Conversion to protected forest can happen, but it has many hurdles, requiring significant time.
- Small holder agriculture is not allowed, legally, though it happens illegally.
- Mining and gas extraction can only be done with an appropriate license. The area is restricted, and compensation must be paid to existing concession holders. There are no active or exploratory mining concessions overlapping the project area.

Barrier analysis found the following:

- Commercial logging is unlikely, due to the lack of commercial sized timber.
- For several reasons, unexploited forest is unlikely to remain so for an extended period.
- Protected forest does not have the required local political support, for cost reasons.
- Small holder agriculture is unlikely to be widespread, due to the difficulty of draining peat soils on a small-scale basis and fire danger.
- The area lacks suitable coal deposits and previous surveys show there are no gas deposits overlapping the project area.
- Only acacia plantations were not eliminated at this point in the analysis.

Investment analysis was deemed unnecessary, since only one land use scenario remained. Common practice analysis concluded the most likely, business-as-usual scenario was conversion to industrial acacia plantation.

3.2.17 Most-Likely Scenario Justification (G2.1)

To validate the most likely land-use scenarios without the project, the Validation Team reviewed legal opinion from a member of the Indonesia Bar Association indicating legal precedence for the allowance of acacia plantations on the project lands. Further, the Validation Team reviewed precedents from nearby lands that were developed for acacia, palm oil and other land uses. This included review of remote sensing data and interviews/observations during the site inspection. The Validation Team is assured the information provided, as described above, sufficiently shows the potential land use scenarios in the absence of the project are viable, well-documented, and justified.

3.2.18 Community and Biodiversity Additionality (G2.2)

Sections 3.2.16 and 3.2.17 of this report contains the validation of the additionality analysis completed by the project. Assuming the most credible baseline is an industrial acacia plantation, the PD states biodiversity would suffer, compared to the project scenario, because the land would be cleared and only about 10% would be set aside as conservation area.

The communities of fishermen and farmers would lose access to livelihood resources. Further, though industrial land users have corporate social responsibility programs, the project intends to invest at higher levels.

The PD further describes that the project does not intend to generate community or biodiversity benefits to use as offsets. The PD also states “In terms of climate, the baseline scenario would emit millions of tons of CO₂ further causing climate change. As a result of the project activities such as canal blocking, the SMPP will prevent CO₂ emissions from occurring as compared to the baseline scenario as outlined in section 2.1.17.”⁶ The information presented by the project shows that biodiversity and community benefits (though not intended to be used as offsets) will be additional to a business as usual scenario.

3.2.19 Stakeholder Access to Project Documents (G3.1)

The PD states “the project field office will maintain a full, printed copy of the PD in English for public viewing. A summary was also translated into Bahasa and given to community leaders to make available in public places in the surrounding villages.”⁶ The PD and executive summaries are also available on social media and other websites. Informational meetings were held with stakeholders between 2016 and 2019. All stakeholder access to project documentation was observed and confirmed during the site inspection and further reviewed in project documentation during the validation process.

3.2.20 Community Costs, Risks and Benefits (G3.2)

The PD states the most effective way of communicating costs, risks and benefits with communities has been direct meetings. The project has been in regular communication with the fisherman and farmer communities on-site. Other stakeholders in the settlements were informed via group meetings.

During the site visit, the Validation Team interviewed a small number of stakeholders who were aware and appreciative of the project but who were not familiar with all aspects of the project. Thus, the Project has committed to conduct quarterly meetings with the fishermen and farmers to discuss on-going project activities and the potential impacts on them. The Project Proponent has also stated it will conduct quarterly meetings with stakeholders in Merang and Kepayang to provide updates on the implementation of the project and community development program.

If any concerns are highlighted by the communities and stakeholders, these will be addressed with follow-up meetings and plans to mitigate any negative impact. Therefore, the Validation Team confirmed the information will be relevant, adequate and understood by the stakeholders who were interviewed, which confirms the project’s commitment to keep stakeholders updated and informed.

3.2.21 Information to Stakeholders on Validation and Verification Process (G3.3)

The PD states the project will provide the PD at project headquarters and distribute summaries to the surrounding villages. The summaries include details on how to comment and are available in English and Bahasa. The Validation Team noted the posted PD during the site visit, and discussions with stakeholders during the site visit further confirmed they had been informed of the validation and verification process.

3.2.22 Site Visit Information and Opportunities to Communicate with Auditor (G3.3)

The PD states staff met with communities and residents to inform them of the Validation Team’s visit, the reason for the audit and the audit process. The site visit confirmed the stakeholders, fishermen and at least one of the two farmers were informed of the Validation/Verification site visit and the purpose of the visit.

⁶ Sumatra Merang Peatland Project (SMPP) Project Document, v1.2, 25 November 2019

3.2.23 Stakeholder Consultations (G3.4)

The project has had meetings with the stakeholders dating back to 2016 and considers the feedback they receive to be important to the project's success. A tally of meetings is provided in Table 7 of the PD. The PD further states the project intends to continue these direct lines of communication and will use them to inform their adaptive management plans.

A description of how stakeholders influenced project design and implementation was provided in Sections 2.3.7 and 2.3.8 of the PD. In village meetings during the site visit, villagers said they had strong input into benefits and potential benefits the project might provide. This was confirmed through the project's commitment to include improving the education of the nearby villages, supporting the health facilities that exist, and supporting them on improved livelihoods in the design of the program, after stakeholder input in community meetings. Further, the project has committed to assessing the impact of the canal dams on a single affected fisherman and work to implement solutions, which will be reviewed in quarterly meetings.

The Validation Team is assured the Project is taking the necessary steps to include stakeholder feedback into their design process in accordance with G3.4.

3.2.24 Stakeholder Consultation Channels (G3.5)

The project has conducted numerous meetings with stakeholders, which was confirmed during the site visit. Site visit meetings included village leaders of the Project Zone. The communities identified in the Project Area do not have leaders, but all fishermen and one of the two farmers was visited by the project directly for consultations.

3.2.25 Stakeholder Participation in Decision-Making and Implementation (G3.6)

The project has met many times with stakeholder groups – including village officials, educators, fishermen, farmers, and other villagers – and has made special accommodation to include more women.

The people at the village meetings appeared satisfied with the way the project has consulted with and informed them. They requested that meetings with the project be made on a regular schedule of approximately 4 times per year, which the project has committed to undertake. The Validation Team is assured the project has considered cultural appropriateness and gender sensitivity in the stakeholder participation of the project design process.

3.2.26 Anti-Discrimination Assurance (G3.7)

The project states they will abide by all Indonesian labor laws and has an equal opportunity policy to ensure the project is not complicit in any form of harassment. A grievance system is in place to protect employees, community members and other stakeholders.

The project staff contains both genders, and many of the staff were interviewed during the site visit. All stated they were not harassed in any way. From the interviews, it is clear a grievance system is in place. To confirm the lack of harassment, women working at the project camp were interviewed individually by our female interpreter, outside of the presence of men, and they confirmed there was no sexual harassment or harassment of any kind. The Validation Team is assured the project implementation includes the necessary measures to avoid discrimination of any kind.

3.2.27 Feedback and Grievance Redress Procedure (G3.8)

Section 2.3.12 of the PD discusses the “Sumatra Merang Peatland Project Grievance Redress Mechanism.” This document was provided to the Validation Team, along with a statement that no grievances were received 2017 – 2019. The Validation Team confirmed the grievance redress procedure meets the requirements of G3.8.

3.2.28 Worker Training (G3.9)

Section 2.3.14 of the PD states the project provides all staff with orientation to and instruction in SOPs and policies, with attention to health and safety. Other training is also provided in GPS, computers, solar energy, firefighting, etc. The goal is to employ 80% of staff from the local population.

Site visit interviews of project field staff revealed most had received about 3 months of training on various aspects of their work, with the exception of a driver and a manager, who had been previously employed in such positions and were already familiar with their work.

About half of the staff interviewed were from nearby villages. The others were from Sumatra, at somewhat longer distances from the project area. It appears the project trains its staff, as needed. There is also evidence that the project is hiring local people.

The Validation Team is assured the requirements of G3.9 are being and will continue to be satisfied.

3.2.29 Community Employment Opportunities (G3.10)

The PD states the project is dedicated to hiring 80% of its staff from local areas and to have a workforce of around 25% women. To create opportunities for marginal groups, there are jobs for those without high school diplomas. Job opportunities are advertised on community boards and announced by community leaders and through meetings convened with stakeholders. There is also a standing recruitment drive from forest patrollers. Applicants are selected for interviews based on experience, then selected according to the equal opportunity policy, giving local people a preference when two applicants have similar experience and qualifications.

Site visit interviews confirmed the how job announcements are made and the process of interviewing and hiring. All available staff were interviewed at the project camp for a total of eight employees. Three of the eight were women. All indications, including at the office in Jakarta, are that the project is actively trying to hire local people and women. The Validation Team is therefore assured that G3.10 is addressed.

3.2.30 Relevant Laws and Regulations Related to Worker’s Rights (G3.11)

The PD states the project complies with all national and provincial laws related to worker’s rights and mentions Law 13/2003 regarding Manpower is an umbrella law on labor relations in Indonesia, stipulating working conditions and rights and obligations of employees and the company. The project has its own human resources policies, which are explained to staff during orientation and are available for review.

During interviews with staff, all said they were made aware of their rights as workers, during orientation. Thus, the Validation Team is satisfied the project adheres to relevant worker’s rights laws and regulations. This aspect will continue to be monitored in future verification events.

3.2.31 Occupational Safety Assessment (G3.12)

The PD states the project has created a comprehensive Health and Safety Plan that addresses all workplace safety risks and the practices to mitigate those risks. A few risks were mentioned in the PD, including risks of heat stroke, etc., fires, transportation accidents, interactions with illegal loggers and wildlife, and exposure to mosquito borne illness. Health and safety training addresses these risks.

An extensive first aid SOP, covering all manner of injuries and ailments, was provided to the auditors. A fire prevention SOP, forest safety SOP (when confronting illegal activities), and instructions for use of a type of fire extinguisher were provided. Based on review of project documentation and site visit observations/interviews, the Validation Team is assured has adequately accounted for occupational safety and implemented measures needed to minimize risk.

3.2.32 Project Governance Structures (G4.1)

The PD states the project is implemented by two proponents – PT GAL and Forest Carbon. It is managed by a project management board comprised of representatives from the two proponents and an observer from the investment partner, Althelia Climate Fund.

The joint board is responsible for:

- Developing and approving strategic plans;
- Approving annual budget and large expenditures;
- Reviewing key personnel performance;
- Evaluating project performance;
- Determining project finance needs;
- Providing oversight to subcontractors and consultants.

PT GAL is responsible for all field activities in line with project design, community stakeholder relations and ensuring compliance with all government regulations.

Forest Carbon is responsible for project design, GIS work, remote sensing, biomass inventories, biodiversity monitoring and community engagement.

The Validation Team is assured the Project Governance Structures are in compliance with G4.1.

3.2.33 Required Technical Skills (G4.2)

The PD provides a table of project activities and the skills required to perform them in Section 2.4.2.

Skills required include:

- Expertise in peatland science, forestry, GIS/remote sensing, statistics and C monitoring and verification
- Community organizing, conflict resolution, business management, adult education, and livelihoods
- HCV mapping, forest conservation, conservation biology, and biodiversity monitoring

- Forestry, peatland forest fire management, and community engagement
- Hydrology, peatland science, silviculture, forestry, and biodiversity conservation, engineering
- Finance and accounting, HR, business management, legal compliance, and administration

The management team's expertise and experiences are then listed. All necessary skills are covered.

3.2.34 Management Team Experience (G4.2)

The Validation Team has significant experience in CCB project review. The Validation Team has built significant experience on the required skills necessary for project success and completion over the course of several years. The skills presented in Section 3.2.33 above cover all technical, community, and project management aspects needed for the success of the project. These skills have been observed throughout the validation process and during the site visit. The Validation Team is reasonably assured the management team has the necessary experience and skills for successful project completion.

3.2.35 Project Management Partnerships/Team Development (G4.2)

This section is not applicable, as all relevant project management is present in the current project team.

3.2.36 Financial Health of Implementing Organization(s) (G4.3)

The PD states that both of the Project Proponents (PT GAL and Forest Carbon) are financially stable companies that are capable of implementing a project of this size and nature. The project provided financial statements covering two years, which were thoroughly reviewed by the Validation Team. This included evidence of financial stability and financial reviews completed each month. The project also provides a quarterly report to its investors for detailed review. These aspects are sufficient to provide reasonable assurance that the financial health of the implementing organization is adequate over the project lifetime.

3.2.37 Avoidance of Corruption and Other Unethical Behavior (G4.3)

The PD Section 2.4.6 describes how the project has zero tolerance toward corrupt or unethical behavior. They are compliant with the US Foreign Corruption Practice Act. No evidence of corruption was observed during the validation process. Future verifications and site inspections will continue to confirm this aspect.

3.2.38 Commercially Sensitive Information (Rules 3.5.13 – 3.5.14)

According to Section 2.4.7 of the PD, the project has excluded the following commercially sensitive documentation:

- Project implementation plans, financial plans, budgets, and projections
- Original data, electronic shape files, computer model code, and classified satellite imagery
- Agreements and contracts between project proponents, other project entities, and stakeholder groups

The Validation Team has reviewed commercially sensitive documentation and agrees with the project's designation that it is proprietary in nature, and its public disclosure could result in material loss to the project or gain to a third party.

3.2.39 Statutory and Customary Property Rights (G5.1)

The PD states that the project has officially received all statutory rights to manage the land under the PAN/RAP license granted by the Indonesian government. Some previously identified stakeholders access the area for customary property rights to fish and farm. Their usage is also classified as a High Conservation Value in Section 4.1.3 of the PD. The Project has mapped areas to be designated as High Conservation Value for fishing and farming to ensure customary property rights are respected. The Project is reasonably working with one farmer/fisher who had experienced difficulty accessing his fishing location after a dam was built. The Project conducted meetings with him and will work to create new access or find an alternate fishing location, and the Project has already purchased him some equipment to aid in finding alternative means of gardening. This was confirmed through review of receipts and documentation provided by the Project after the site visit. This and the Validation Team's review and additional interviews during the site visit confirmed the customary rights are continuing during the project.

3.2.40 Recognition of Property Rights (G5.1)

The Project has been designed to ensure no property rights are impinged. There are no statutory rights on the Project Area besides those of the Project, but the Project still ensures customary rights and historical access are recognized. The Project has taken necessary steps to include all stakeholders in project implementation, recognizing their rights while carefully planning project activities.

3.2.41 Free, Prior and Informed Consent (G5.2)

The Project does not encroach on private or community property and has the required license to use the land. This was confirmed during site visit observations and review of project documentation, specifically the project carbon license. The Project has shown that it is taking all necessary measures to respect customary property rights of stakeholders.

3.2.42 Property Rights Protection (G5.3)

The PD states that the project activities do not lead to the involuntary removal or relocation of property rights holders from their lands. No one lives on project area lands, though two farmers are using approximately 12 hectares along the southern boundary. An interview with one of the farmers confirmed that he was not asked to relocate. Thus, the Validation Team is assured property rights protection has been undertaken by the Project.

3.2.43 Illegal Activity Identification (G5.4)

Illegal logging and hunting were identified as practices that could affect the project's beneficial impacts. The project has built and staffed several forest patrol posts and has commenced forest patrols for illegal activities. In addition, the project plans to develop other economic activities local area people can participate in to lessen any need for people to become involved in illegal activities.

Patrol posts were visited during the site visit and confirmed to be staffed. There was no evidence of any illegal activities during the site visit. Given the small area of dense forest with sizable trees, it is unlikely that much illegal logging could take place. Due to the size, the small area remaining of dense forest is relatively easy to protect.

One of the forest patrollers interviewed was previously involved in illegal logging, so it is clear to the Validation Team that the project is successful in its training and commitments to stakeholders.

3.2.44 Ongoing Disputes (G5.5)

The PD states there are no ongoing disputes or any unresolved conflicts regarding the project area. Based on site visit interviews, it appears there are no disputes regarding rights to the project lands. Only two individuals (the farmers) encroach on project lands, and they have been allowed to stay, in spite of their having no legal right to the land. If ongoing disputes materialize during future project activities, then those will be reviewed during future verification events.

3.2.45 National and Local Laws (G5.6)

Section 2.5.7 of the PD states they are in full compliance with all national, regional and local laws regulating forest conservation projects. The PD then provides a list of laws categorized by the project activity in question, including laws, regulations and guidelines involving:

- Fire prevention
- Canal Blocking
- Community development
- Forest conservation activities
- PAN/RAP management activities
- Trading and taxation
- Labor laws (essentially law 13/2003)

The Validation Team completed a risk-based comparison review of stated laws affecting the Project, observations during the site visit, internet review of Indonesian law, and review of all Project documentation. The Validation Team did not note any instance of non-compliance with national, regional or local laws of the Republic of Indonesia. If future non-compliance occurs, it will be noted in future verification events.

3.2.46 Approvals (G5.7)

The PD includes a list of decrees and approvals from several levels of government and ministries, the name of the decree/approval and the dates of those decrees and approvals. A list of the necessary approvals and dates of the approvals was provided and can be summarized as:

- carbon storage license agreement
- document describing the boundaries of the project area
- technical recommendation from the Bupati
- recommendation from the governor of South Sumatra

The Validation Team reviewed the documentation provided and is assured the Project has secured necessary approvals from the appropriate authorities.

3.2.47 Project Ownership (G5.8)

According to VCS, the project ownership type is “arising by virtue of a statutory, property or contractual right in the land, vegetation or conservational or management process that generates GHG emission reductions and/or removals (where such right includes the right of use of such reductions or removals and the project proponent has not been divested of such right of use).”⁷

Section 2.5.9 of the PD states that PT GAL holds the land tenure rights for the project area. A license for the carbon sequestration and carbon sink rights was granted in 2013, and it allows the project to restore the land and sell carbon credits on the international voluntary markets. The project provided a copy of the IUP PAN/RAP license from the Indonesian government, including a map.

The Validation Team confirmed dates on documentation and is assured the provided license gives PT GAL land tenure rights on the Project Area, allows it to conduct project activities, and sell carbon credits on the international voluntary markets. Further, the Validation Team noted concession boundary marking during the site visit. The Validation Team is assured PT GAL is granted ownership rights in congruence with VCS and CCB rules.

3.2.48 Management of Double Counting Risk (G5.9)

The PD states the project has not received in form of environmental or social credits nor does it participate under any other program to create such credits. Emissions reductions do not fall under any other emissions trading program. The project only seeks to generate VCUs, and double counting is avoided through registration of VCUs with Verra.

⁷ VCS Standard, v4, 19 September 2019

3.2.49 Emissions Trading Programs and Other Binding Limits

The Project is not involved in any emissions trading programs nor does it have any other binding limits in relation to GHG emissions.

3.2.50 Other Forms of Environmental Credit

The Project seeks to generate VCUs and has never received another form of environmental credit.

3.2.51 Participation under Other GHG Programs

The Project does not participate under any other GHG program. Where available this was confirmed by a cursory review of the project against other major voluntary programs registry lists.

3.2.52 Projects Rejected by Other GHG Programs

The Project has not been rejected by other GHG programs.

3.2.53 Double Counting (G5.9)

As the Project does not generate credits in a country participating in a compliance mechanism, this section is not applicable.

3.3 Climate

3.3.1 Title and Reference

The Project applies VCS Methodology VM0007 – REDD+ Methodology Framework (REDD-MF), version 1.5, 09 March 2015. The various applicable modules are shown in Section 3.1.2 of the PD, and each was reviewed for its applicability and the Project's compliance, as described below. The modules assessed during validation follow:

- Baseline modules:
 - BL-PEAT “VMD0042 Estimation of baseline soil carbon stock changes and greenhouse gas emissions in peatland rewetting and conservation project activities” Version 1.0
 - BL-ARR “VMD0041 Estimation of baseline carbon stock changes and greenhouse gas emissions in ARR project activities on peat and mineral soil” version 1.0
- Leakage modules:
 - LK-ASP VMD0009 “Estimation of emissions from activity shifting for avoided planned deforestation and planned degradation”, version 1.2
 - LK-ECO VMD0044 “Estimation of emissions from ecological leakage”
 - LK-ARR “VMD0043 Estimation of emissions from displacement of pre-project agricultural activities” version 1.0
- Monitoring module:
 - M-MON “VMD0015 Methods for monitoring of greenhouse gas emissions and removals”, version 2.1.
 - M-PEAT VMD0046 “Methods for monitoring of soil carbon stock changes and greenhouse gas emissions and removals in peatland rewetting and conservation project activities”, version 1.0

- M-ARR “VMD0045 Methods for monitoring greenhouse gas emissions and removals in ARR project activities on peat and mineral soil” version 1.0
- Miscellaneous Modules:
 - E-BPB “VMD0013 Estimation of greenhouse gas emissions from biomass and peat burning”, v1.1.
 - X-STR “VMD0016 Methods for stratification of the project area”, version 1.1.
 - X-UNC “VMD0017 Estimation of uncertainty for REDD project activities”, version 2.1.
 - AR-ACM0003 - A/R Large-scale Consolidated Methodology - Afforestation and reforestation of lands except wetlands Version 02.0
- Tools:
 - T-SIG, CDM tool “Tool for testing significance of GHG emissions in A/R CDM project activities,” Version 1.0
 - T-ADD “CDM Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities”
 - VCS AFOLU Non-Permanence Risk Tool, Version 4

3.3.2 Applicability

The following table is from Section 3.1.2 of the PD. The project’s comments are copied in columns 1 through 4, while the Validation Team’s (VVB) conclusion of adherence to applicability and a summary of how each applicability condition was assessed are in the fifth column.

Applicability Table

No	Module	Applicability Condition	Comment	VVB Conclusion
“1	REDD-MF, 4.3 ARR	The project area is non-forest land or land with degraded forest.	Condition met. See Section 2.1.5.	The VVB confirmed compliance by visiting project area and confirming land classification by GIS/remote sensing review.
2	REDD-MF, 4.3 ARR	The project scenario does not involve the harvesting of trees. Therefore, procedures for the estimation of long-term average carbon stocks are not provided.	Condition met. See Section 2.1.11.	The project scenario does not include harvesting of trees, which was confirmed through review of project attestations and on-site interviews/observations.
3	REDD-MF, 4.3 ARR	ARR activities are not eligible if the project scenario does not involve the application of nitrogen fertilizers.	Condition met. The project does not involve the application of any fertilizers. See Section 2.1.11.	The project has stated it will not apply nitrogen fertilizers to the project lands, and no fertilization was observed during site visit.

No	Module	Applicability Condition	Comment	VVB Conclusion
4	REDD-MF, 4.3 ARR	Where project activities on wetlands are excluded by the applicability conditions of applied modules or tools, these can be disregarded for the purpose of their use within this methodology, as quantification procedures for the peat soil are provided in modules BL-PEAT and M-PEAT.	Condition met. The project applies modules BL-PEAT and M-PEAT alongside all modules related to ARR.	As this is an ARR project on wetlands, the applicability condition has been waived where quantification has occurred in other modules for WRC peat.
5	REDD-MF, 4.4 WRC	This methodology is applicable to rewetting drained peatland (RDP) and conservation of undrained and partially drained peatland (CUPP) activities on project areas that meet the VCS definition for peatland. The scope of this methodology is limited to domed peatlands in the tropical climate zone.	Condition met. The project area contains peatland (see Section 2.1.5) which would be drained in the baseline and which will be conserved and restored in the project scenario. The project therefore falls in the category of RDP and CUPP. The project meets the definition of domed peatlands (see Section 2.1.5) and is located in the tropical climate zone (see Section 2.1.5 (see Section 2.1.5)).	The VVB confirmed the project is located in the tropical climate zone via maps. The VVB confirmed the project meets the definition of domes peatlands by comparing project attestations and site visit observations to VCS definition. As the project activities are rewetting drained peatland and conserving additional areas of undrained and partially drained peatland, the project adheres to this condition.
6	REDD-MF, 4.4 WRC	Fire reduction projects on peatland that exclude rewetting as part of the project activity are not eligible.	Condition met. The project includes extensive rewetting across the entire project area (see Section 2.1.11) in conjunction with WRC and ARR activities.	A main project activity is rewetting, as described throughout documentation and observed on-site during VVB site visit.
7	REDD-MF, 4.4 WRC	Rewetting of drained peatland and conservation of undrained or partially drained peatland may be implemented in combination with REDD project activities.	N/A. The project does not include any REDD components.	The VVB agrees this is N/A, as the project does not contain REDD activities.

No	Module	Applicability Condition	Comment	VVB Conclusion
		REDD project activities on peatland must not increase drainage.		
8	REDD-MF, 4.4 WRC	Rewetting of drained peatland may be implemented as a separate activity or in combination with ARR project activities. ARR activities must not enhance peat oxidation and therefore this activity requires at least some degree of rewetting.	Condition met. The project includes extensive rewetting across the entire project area (see Section 2.1.11) in conjunction with WRC and ARR activities.	The VVB confirms the project is accurately described and adheres to the applicability condition.
9	X-STR	In case of REDD, aboveground biomass stratification is only used for pre-deforestation forest classes, and strata are the same in the baseline and the project scenario. Post-deforestation land-uses are not stratified. Instead, average post-deforestation stock values (e.g., simple or historical area-weighted approaches are used, as per Module BL-UP).	N/A. The project does not include any REDD components.	The VVB agrees this is N/A, as the project does not contain REDD activities.
10	X-STR	For peatland rewetting and conservation project activities, this module must be used to delineate non-peat versus peat and to stratify the peat according to peat depth and soil emission characteristics, unless it can be demonstrated that the expected emissions from the soil organic carbon pool or change in the soil organic carbon pool in the project scenario is <i>de minimis</i> .	Condition met. See application of X-STR in Section 3.1.3.	The required module has been used as required, which was confirmed during review of project calculations by the VVB.
11	X-STR	In the case of peatland rewetting and conservation project activities, the project boundary must be designed such that the negative effect of drainage activities that occur outside the project area on the project GHG benefits are minimized.	Condition met. The project is taking significant steps to maintain the intactness of hydrology in the project area and to restore hydrology in areas which have been disturbed by existing drainage.	The VVB confirms the project has been designed to minimize effects on the GHG benefits from drainage outside the project boundary.

No	Module	Applicability Condition	Comment	VVB Conclusion
			The project is monitoring areas outside the project area which could be under threat of disturbance in ordered to minimize potential impacts in terms of drainage. See Section 3.2.3.	
12	BL-ARR	The applicability conditions set out in AR-ACM0003 Afforestation and reforestation of lands except wetlands must be met.	See #25 & 17 below.	See below comments.
13	BL-ARR	Applicability conditions included in AR-ACM0003 Afforestation and reforestation of lands except wetlands and corresponding tools that exclude project activities on wetlands can be disregarded for the purpose of their use in this module, as accounting procedures for the peat soil are provided in module BL-PEAT.	Condition met. See #4 above.	As this is an ARR project on wetlands, the applicability condition has been waived where quantification has occurred in other modules for WRC peat.
14	BL-ARR	Where the ARR project activity is implemented on peatland, the peatland must be degraded in the baseline scenario as identified by the presence of drainage infrastructure (ditches, canals) and associated lowered water tables below the surface. In the case of forested peatland, degradation may be identified by the removal or degradation of the tree cover before the project start date.	Condition met. ARR project activities are only implemented on already degraded land which would be further degraded in the baseline as demonstrated in Sections 3.1.3 and 3.2.1.	The VVB confirms the project occurs on non-forested peatland and has been degraded by drainage canals. This was confirmed through site visit observations and review of aerial imagery pre- and post-project start.
15	BL-ARR	The project scenario does not involve the harvesting of trees. Therefore, procedures for the estimation of long-term average carbon stocks are not provided.	Condition met. See #2 above.	The project scenario does not include harvesting of trees, which was confirmed through review of project attestations and on-site

No	Module	Applicability Condition	Comment	VVB Conclusion
				interviews/observations.
16	ACM0003	This methodology is applicable under the following conditions: (a) The land subject to the project activity does not fall in wetland category; (b) Soil disturbance attributable to the project activity does not cover more than 10 per cent of area in each of the following types of land, when these lands are included within the project boundary: (i) Land containing organic soils; (ii) Land which, in the baseline, is subjected to land-use and management practices and receives inputs listed in appendices 1 and 2 to this methodology.	Per #13 above, condition (a) can be neglected, as the project applies relevant wetland procedures. Condition (b) is not relevant, as the project does not cause soil disturbance.	The VVB confirms these applicability conditions can either be neglected or are N/A per the stated reasons.
17	ACM0003	A project activity applying this methodology shall also comply with the applicability conditions of the tools contained within the methodology and applied by the project activity.	Condition met. This table lists all relevant applicability conditions and describes how they are fulfilled.	The VVB confirms the project has met not only the stated applicability conditions but also the conditions of the tools therein, as described above and below.
18	BL-PEAT	This module is applicable to RDP and CUPP activities on project areas that meet the VCS definition for peatland. The scope of this module is limited to domed peatlands in the tropical climate zone.	Condition met. See #5 above.	The VVB confirmed the project is located in the tropical climate zone via maps. The VVB confirmed the project meets the definition of domes peatlands by comparing project attestations and site visit observations to VCS definition. As the project activities are rewetting drained peatland and conserving

No	Module	Applicability Condition	Comment	VVB Conclusion
				additional areas of undrained and partially drained peatland, the project adheres to this condition.
19	BL-PEAT	It must be demonstrated by using the latest version of the CDM A/R methodological tool: "Tool for testing significance of GHG emissions in A/R CDM project activities" (T- SIG) that N ₂ O emissions in the project scenario are not significant, or it must be demonstrated that N ₂ O emissions will not increase in the project scenario compared to the baseline scenario, and therefore N ₂ O emissions need not be accounted for.	Condition met. The project does not cause an increase in N ₂ O emissions.	The VVB confirms project appropriately applied the required tool, and N ₂ O emissions are not increasing in the project scenario.
20	BL-PEAT	In the baseline scenario the peatland must be (partially) drained. At project start the peatland may still be undrained.	Condition met. Peatland will be drained in the baseline (see Section 3.2.1).	The VVB confirmed the baseline scenario is drained peatland. This was confirmed through site visit observations and review of all project documentation.
21	BL-PL	The module is applicable for estimating the baseline emissions on forest lands (usually privately or government owned) that are legally authorized and documented to be converted to non-forest land.	N/A. The project does not include any REDD components.	Confirmed to be N/A, as the project does not contain forestlands (REDD).
22	BL-PL	Where pre-project, unsustainable fuelwood collection is occurring within the project boundaries modules BL-DFW and LK-DFW shall be used to determine potential leakage	N/A. Unsustainable fuelwood collection not occurring within the project boundaries.	The VVB confirmed unsustainable fuelwood collection is not occurring in the project boundaries via site visit interviews and observations.

No	Module	Applicability Condition	Comment	VVB Conclusion
23	LK-ECO	This module is applicable under the following condition: • Leakage caused by hydrological connectivity is avoided by project design and site selection, as outlined in Chapter 5 (Procedures).	Condition met. Project does not cause ecological leakage. See application of LK-ECO in Section 3.2.3.	The VVB confirms the project is not causing hydrological leakage through site visit observations, interviews, and review of project documentation and calculations.
24	T-ADD	The tool is applicable under the following conditions: • Forestation of the land within the proposed project boundary performed with or without being registered as the A/R CDM project activity shall not lead to violation of any applicable law even if the law is not enforced. • This tool is not applicable to small - scale afforestation and reforestation project activities.	Condition met. Reforestation activities do not violate any applicable laws indeed they are required under the project scenario. The reforestation activities are not classified as small scale.	The VVB has confirmed forestation will not lead to violation of any laws by conducting a risk-based review of stated laws and observations during the site visit. The project is a large project, not classified as small-scale.
25	T-SIG	The tool shall be used in the application of an A/R CDM approved methodology to an A/R CDM project activity: a) To determine which decreases in carbon pool and increases in emissions of the greenhouse gases measured in CO ₂ equivalents that results from the implementation of the A/R project activity, are insignificant and can be neglected b) To ensure that it is valid to neglect decreases in carbon pools and increases GHG emission by source stated as being insignificant in the applicability conditions of an A/R CDM methodology	Condition met. T-SIG was used, however no significance calculations needed to be performed as carbon pools and sources of GHG emissions were only neglected where it was demonstrably conservative.	The VVB agrees in the conservative result of neglecting GHG emissions and sources. This was confirmed through data checks and review of calculations.
26	E-BPB	This module is applicable to avoiding unplanned deforestation or degradation (AUDD), avoiding planned deforestation (APD) and avoiding degradation	Condition met. Project includes WRC activities.	The VVB agrees this module is applicable and was applied appropriately through review of

No	Module	Applicability Condition	Comment	VVB Conclusion
		project activities, whether or not situated on peatland.		project calculations.
27	M-ARR	This module is applicable under the following conditions: • The applicability conditions provided in A/R CDM consolidated methodology AR-ACM0003 (Afforestation and reforestation of lands except wetlands) and associated tools. • Where exclusion of project activities on wetlands exist in the applicability conditions of methodologies and tools, these can be neglected for the purpose of their use in this module, as accounting procedures for the peat soil are provided in module M-PEAT.	Condition met. See #13 & #14 above	As this is an ARR project on wetlands, the applicability condition has been waived where quantification has occurred in other modules for WRC peat. The VVB confirms the project occurs on non-forested peatland and has been degraded by drainage canals. This was confirmed through site visit observations and review of aerial imagery pre- and post-project start.
28	M-PEAT	This module is applicable to RDP and CUPP activities as defined in VCS AFOLU Requirements. The project area must meet the VCS definition for peatland. This module is limited to domed peatlands in the tropical climate zone.	Condition met. See #5 above.	The VVB confirmed the project is located in the tropical climate zone via maps. The VVB confirmed the project meets the definition of domes peatlands by comparing project attestations and site visit observations to VCS definition. As the project activities are rewetting drained peatland and conserving additional areas of undrained and partially drained peatland, the project adheres to this condition.

No	Module	Applicability Condition	Comment	VVB Conclusion
29	M-PEAT	Furthermore, the following applicability conditions apply: It must be demonstrated using tool T-SIG that N₂O emissions in the project scenario are not significant, or it must be demonstrated that N₂O emissions will not increase in the project scenario compared to the baseline scenario, and therefore N₂O emissions need not be accounted for. In the baseline scenario the peatland must be drained or partially drained. At project start the peatland may still be undrained. It must be demonstrated using Module LK-ECO that ecological leakage must not occur.	Condition met. See #19 regarding N₂O emissions. Baseline scenario includes draining of peatland. Project is partially drained at project start. Per Section 3.2.3 ecological leakage does not occur.	The VVB has confirmed this applicability condition has been met. See above comments.
30	M-MON	Strata as defined in the relevant baseline modules are fixed and may not be changed without baseline revision.	Condition met. See Section 3.1.3.	The VVB has confirmed the strata have been fixed through review of GIS material and calculations. This will be confirmed in future verification events.
31	M-MON	The module is always mandatory. Without application of this module the methodology shall not be used.	Condition met. The module is applied as per the requirement.	The VVB has confirmed the project has used the required module. See below comments.
32	M-MON	Where selective logging is taking place in the project case: - Emissions from logging may be omitted if it can be demonstrated the emissions are <i>de minimis</i> using T-SIG. - If emissions from logging are not omitted as <i>de minimis</i>, logging may only take place within forest management areas that possess and maintain a	Condition met. Project does not include selective logging.	The VVB confirms the project does not contain selective logging. This was confirmed through site visit interviews and observations.

No	Module	Applicability Condition	Comment	VVB Conclusion
		Forest Stewardship Council (FSC) certificate for the years when the selective logging occurs. - Logging operations may only conduct selective logging that maintains a land cover that meets the definition of forest within the project boundary. - All trees cut for timber extraction during logging operations must have a DBH greater than 30 cm. - During logging operations, only the bole/log of the felled tree may be removed. The top/crown of the tree must remain within the forested area. - The logging practices cannot include the piling and/or burning of logging slash - Volume of timber harvested must be measured and monitored.		
33	X-UNC	The module is mandatory when using VCS methodology VM0007. It is applicable for estimating the uncertainty of estimates of emissions and removals of CO₂-e generated from REDD and WRC project activities. The module focuses on the following sources of uncertainty: - Determination of rates of deforestation and degradation - Uncertainty associated with estimation of stocks in carbon pools and changes in carbon stocks - Uncertainty associated with estimation of peat emissions - Uncertainty in assessment of project emissions	Condition met. X-UNC has been used throughout to estimate uncertainties associated with this project. See Section 3.2.4.	The VVB has confirmed the project has appropriately used this required module through review of project calculations and associated data checks.
34	X-UNC	Where an uncertainty value is not known or cannot be simply calculated, then a project must justify that it is	Condition met. The uncertainty value is known,	The VVB confirmed the known uncertainty through review of

No	Module	Applicability Condition	Comment	VVB Conclusion
		using an indisputably conservative number and an uncertainty of 0% may be used for this component.	see Section 3.2.4.” ⁸	project documentation and calculations, including data checks.

3.3.3 Project Boundary

The VCS Standard requires that projects describe the project boundary and identify and select appropriate carbon pools, i.e., sources, sinks, and reservoirs relevant to the baseline. Procedures to quantify emissions are included for each of these pools and sources by demonstrating significance in using the appropriate VCS modules and tools. The project addresses the establishment of spatial, temporal, and gaseous boundaries to meet VCS AFOLU Requirements for the WRC/ARR project categories. The Validation Team found that mandatory and optional pools in this project are appropriate for planned conversion of peatland.

The spatial boundaries for the Project were assessed for conformance to VCS rules and found to be sufficiently detailed, appropriate, and adequate as well as in compliance with the REDD-MF methodological module. Similarly, temporal boundaries were reviewed within the context of VCS rules and found to be detailed and correct.

Significant pools, sinks, and reservoirs accounted for are in compliance with AFOLU Requirements section 4.3 and are appropriately justified for the project. The following tables present a brief review of all considered carbon pools, and the validation assessment findings:

GHG Sources in the WRC project boundary

Source		Gas	Included	Justification/Explanation	Validation Findings
Baseline	Oxidation of drained peat	CO ₂	Yes	Considered under carbon pools.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		CH ₄	Yes	Required unless <i>de minimus</i> or conservatively omitted.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		N ₂ O	No	Excluded as per applicability condition in Module BL-PEAT.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
	Water bodies	CO ₂	Yes	Water bodies comprise 2.35% of the drained peatland landscape in the baseline (Table 27). IPCC DOC values for ‘drained’	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.

⁸ Sumatra Merang Peatland Project (SMPP) Project Description, v1.1, November 14th, 2019

Project				and 'natural' peatlands will be used.	
		CH ₄	No	Conservatively assume that all DOC emissions are CO ₂ .	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		N ₂ O	No	Conservatively omitted.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
	Peat combustion	CO ₂	Yes	Procedures provided in Module E-BPB. Make use of IPCC combustion factors.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		CH ₄	Yes	Procedures provided in Module E-BPB. Make use of IPCC combustion factors.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		N ₂ O	No	Conservatively omitted.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
	Combustion of fossil fuels	CO ₂	No	Deemed de minimis in VCS AFOLU Requirements	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		CH ₄	No	Deemed de minimis in VCS AFOLU Requirements	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		N ₂ O	No	Deemed de minimis in VCS AFOLU Requirements	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
	Fertilizer application	CO ₂	No	Fertilizer application is higher in the baseline than in the project scenario. As such it is conservative to omit.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		CH ₄	No	Fertilizer application is higher in the baseline than in the project scenario. As such it is conservative to omit.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		N ₂ O	No	Fertilizer application is higher in the baseline than in the project scenario. As such it is conservative to omit.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
	Oxidation of drained peat	CO ₂	Yes	Considered under carbon pools.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.

		CH ₄	Yes	Required unless de minimis or conservatively omitted.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		N ₂ O	No	Excluded as per applicability condition in Module BL-PEAT.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
	Water bodies	CO ₂	Yes	IPCC DOC values for 'drained' and 'undrained' peatlands are used.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		CH ₄	No	Conservatively assume that all DOC emissions are CO ₂ .	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		N ₂ O	No	Conservatively omitted.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
	Peat combustion	CO ₂	Yes	Procedures provided in Module E-BPB. Make use of IPCC combustion factors.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		CH ₄	Yes	Procedures provided in Module E-BPB. Make use of IPCC combustion factors.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		N ₂ O	No	Conservatively omitted.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
	Combustion of fossil fuels	CO ₂	No	Deemed de minimis in VCS AFOLU Requirements.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		CH ₄	No	Deemed de minimis in VCS AFOLU Requirements.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		N ₂ O	No	Deemed de minimis in VCS AFOLU Requirements.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
	Fertilizer application	CO ₂	No	Fertilizer application is higher in the baseline than in the project scenario. As such it is conservative to omit.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		CH ₄	No	Fertilizer application is higher in the baseline than in the project scenario. As	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.

				such it is conservative to omit.	
		N ₂ O	No	Fertilizer application is higher in the baseline than in the project scenario. As such it is conservative to omit.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.

GHG Sources in the ARR project boundary

Source		Gas	Included?	Justification/Explanation	Validation Findings
Baseline	Burning of woody biomass	CO ₂	No	Aboveground biomass losses as a result of fire are conservatively assumed to be zero.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		CH ₄	No	Aboveground biomass losses as a result of fire are conservatively assumed to be zero.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		N ₂ O	No	Aboveground biomass losses as a result of fire are conservatively assumed to be zero.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
Project	Burning of woody biomass	CO ₂	No	CO ₂ emissions are excluded but carbon stock decreases due to burning are accounted for as a carbon stock change.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		CH ₄	Yes	CH ₄ will be accounted for through the use of IPCC combustion factors if burning occurs in the project scenario.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.
		N ₂ O	Yes	N ₂ O will be accounted for through the use of IPCC combustion factors if burning occurs in the project scenario.	Confirmed and appropriate selection made following REDD-MF tables 7 and 8.

GHG Pools in the WRC and ARR project boundaries

Pool	Included	Project Justification	Validation Findings
Above-ground tree biomass	Yes	Mandatory to include. Tree biomass is included, as required.	Validation team concludes this is appropriate following REDD-MF tables 4 and 5.

Above-ground non-tree biomass	No	Excluded, as pool is expected to increase in the project scenario	Validation team concludes this is appropriate following REDD-MF tables 4 and 5.
Below-ground biomass	No	Excluded, as it is accounted for in the peat soil component.	Validation team concludes this is appropriate following REDD-MF tables 4 and 5.
Harvested Wood Products	No	Excluded, as no commercial harvesting for wood products takes place in the baseline nor project scenario.	Validation team concludes this is appropriate following REDD-MF tables 4 and 5.
Litter on mineral soil and Litter on peatland	No	Excluded, as no mineral soil is present in the project area; Excluded, as the pool is not mandatory for peatlands. The litter on peatland pool is expected to increase in the project scenario compared to the baseline and has been conservatively omitted.	Validation team concludes this is appropriate following REDD-MF tables 4 and 5.
Deadwood	No	Excluded, as this pool is not mandatory for mineral soil or peatlands. The deadwood pool is expected to increase in the project scenario and thus has been conservatively omitted.	Validation team concludes this is appropriate following REDD-MF tables 4 and 5.
Mineral soil carbon pool	No	Excluded, as no mineral soil is present in the project area.	Validation team concludes this is appropriate following REDD-MF tables 4 and 5.
Peat carbon pool	Yes	Included and is a major project pool.	Validation team concludes this is appropriate following REDD-MF tables 4 and 5.

The sources and pools selected or conservatively excluded by the project were confirmed against methodology requirements by the Validation Team to a reasonable level of assurance.

3.3.4 Baseline Scenario

The procedures for determination of the baseline scenario in the Project were applied using the “CDM Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities”. Project Proponents properly selected applicable sub-steps 1a and 1b, “Define alternative scenarios to the proposed CDM project activity” and “Consistency with mandatory applicable laws and regulations”, respectively. Project Proponents identified seven (7) alternative land use scenarios from the outcome of sub-step 1a:

1. Acacia Plantation
2. Industrial Oil Palm Plantation
3. Forest with Commercial Logging
4. Unexploited Forest
5. Protected Forest
6. Smallholder Agriculture
7. Mining and Natural Gas Extraction

The result and determination by Project Proponents is the most likely land use in the absence of the project is establishment of an industrial acacia plantation grown for pulp. The fires of 2015 have made the area more attractive to acacia growers. This is substantiated by plantation establishment to the north, west, south, and east of the project area. Intentions to deforest were demonstrated by the Project Proponent collectively through evidence supplied (baseline agent applications for additional plantations in the Forest Management Unit of the Project), in addition to the Ministry of Forestry Development plans that targeted additional acacia plantations in the area.

Overall, the procedures for identifying the baseline scenario have been correctly followed and the identified without project scenario is reasonably expected to occur. The Validation Team concludes that procedures for determining the baseline are appropriate, adequate, and in compliance with VCS rules for ARR/WRC project activities applicable to this project.

3.3.5 Additionality

The “CDM Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities” was used to assess additionality. Project Proponents correctly establish the outcome of sub-step 1b, as the land use scenarios are in compliance with applicable laws and regulatory requirements, and sufficiently demonstrated the project land was at threat for conversion to acacia. The Project then details possible land uses considering laws and regulations. The land is designated as production forest, according to Map 23 in Section 3.1.5 of the PD. These are the effects on the listed land uses:

- Acacia plantation is allowed.
- Palm oil is not allowed without removing the land from the forest estate, which is difficult for land in the current designation.
- Commercial logging is allowed.
- Unexploited forest can remain if it is not subject to a license application for logging or conversion to agriculture. It can also be converted to other, more conservation-like land management scenarios.
- Conversion to protected forest can happen, but it has many hurdles, requiring significant time.
- Small holder agriculture is not allowed, legally, though it happens illegally.
- Mining and gas extraction can only be done with an appropriate license. The area is restricted, and compensation must be paid to existing concession holders. There are no active or exploratory mining concessions overlapping the project area.

Barrier analysis found the following:

- Commercial logging is unlikely, due to the lack of commercial sized timber.
- For several reasons, unexploited forest is unlikely to remain so for an extended period.
- Protected forest does not have the required local political support, for cost reasons.

- Small holder agriculture is unlikely to be widespread, due to the difficulty of draining peat soils on a small-scale basis and fire danger.
- The area lacks suitable coal deposits and previous surveys show there are no gas deposits overlapping the project area.
- Only acacia plantations were not eliminated at this point in the analysis.

The most likely alternative of conversion to agriculture and specifically acacia plantation is represented above in sub-step 1a #1. After reviewing all project documentation, site visit observations, and completing interviews with project staff, the Validation Team is reasonably assured that acacia plantation would most likely be established without the project. The Validation Team confirmed that the alternative scenarios identified by the Project Proponent represent realistic and credible land-use scenarios that could have occurred within the project area in the absence of the AFOLU project activity under VCS. The evidence provided by Project Proponents and accurate application of the CDM tool is deemed sufficient by the Validation Team for the project to be additional.

3.3.6 Methodology Deviations

One deviation was proposed to the methodology. The modification was related to monitoring and measurement, specifically the selection of proxy areas for the leakage analysis and did not relate to any other parts of the methodology. The deviation did not negatively impact the conservativeness of the quantification of GHG emission reductions or removals.

The VCS Standard section 3.5.1 states “Methodology deviations shall not negatively impact the conservativeness of the quantification of GHG emission reductions or removals, except where they result in increased accuracy of such quantification.” The overall adjustment to the proxy areas was considered. A unique situation made it not possible to find enough sites with similar (low) forest cover. The project did not use the project area forest cover in 2015 because they would have compared the project area after a catastrophic fire event in 2015 to concessions prior to the fire event. Also, by choosing 2013 as the year for comparison it was conservative as in this year forest cover was higher, translating to proxy concessions that had higher initial forest cover. For these reasons the validators considered this an allowable deviation.

3.3.7 Quantification of GHG Emission Reductions and Removals

Procedures for quantifying the baseline emissions from planned deforestation were conducted in accordance with Avoided Planned Deforestation, Wetland Restoration and Conservation – Peatland Restoration; with ARR Activities, please applicable modules in Section 3.3.2 above. Aster Global conducted an intensive review of all input data, parameters, formulae, calculations, conversions, statistics and resulting uncertainties and output data to ensure consistency with the VCS Standard, the Project Description, and VM0007. Data with associated conversion factors, formulas, and calculations were provided by the project proponent in spreadsheet format to ensure all formulae were accessible for review. The validation team recalculated subsets of the analyses to confirm correctness and assess if data transposition errors occurred to achieve a reasonable level of assurance and to meet the materiality requirements of the project, as required by Section 5.1.3 of the VCS Standard. The project proponent also provided answers to questions on calculations to ensure the validation team understood the approach and could confirm its consistency with VM0007 and the PD. Where applicable, references for analysis methods or default values were checked against relevant scientific literature for best practice and adherence to VCS program requirements.

Estimated GHG emission reductions for the first 10-year baseline period (through 31 December 2025) for the Sumatra Merang Peatland Project are listed below:

Table 11 Estimated GHG emission reductions or removals (tCO₂e) by year

Year Ending	Estimated GHG emission reductions or removals (tCO ₂ e)
2016	336,581
2017	439,999
2018	492,325
2019	487,966
2020	1,081,349
2021	1,107,735
2022	1,210,235
2023	1,276,896
2024	1,362,486
2025	1,378,830
2026	1,485,689
2027	1,512,235
2028	1,643,700
2029	1,613,677
2030	1,622,027
2031	1,585,265
2032	1,687,316
2033	1,549,637
2034	1,585,128
2035	1,545,999
2036	1,658,436
2037	1,553,427
2038	1,525,843
2039	1,548,639
2040	1,598,080
2041	1,525,229
2042	1,484,457
2043	1,449,954
2044	1,529,117

Year Ending	Estimated GHG emission reductions or removals (tCO ₂ e)
2045	1,440,378
2046	1,449,510
2047	1,391,788
2048	1,510,217
2049	1,381,253
2050	1,374,405
2051	1,332,050
2052	1,429,344
2053	1,350,037
2054	1,333,945
2055	1,281,424
2056	1,359,406
2057	1,253,072
2058	1,267,736
2059	1,250,312
2060	1,270,852
2061	1,192,850
2062	1,165,919
Total estimated ERs	62,912,755
Total number of crediting years	47 years
Average annual ERs	1,338,569

The Project has appropriately included baseline emissions calculations in the PD Section 3.2.1. Net greenhouse gas emissions in the baseline from planned deforestation, represented by parameter NER_{REDD+} where, $NER_{REDD+} = NR_{ARR} + NER_{WRC}$ was confirmed to have been correctly quantified. Data and parameters selected for spatial and temporal boundaries were found to be properly selected and calculated accurately from verifiable sources. The validation team checked all processes for estimation of projected baseline emissions following BL-PEAT and BL-ARR and confirmed the accuracy of remote sensing analysis.

The project does not have a verifiable plan for the rate of deforestation; therefore, module BL-PL was followed to determine a baseline conversion/plantation establishment rate (not deforestation) and to calculate leakage with a baseline deforestation rate. Six proxy areas were selected to determine the rate of deforestation. Module BL-ARR and Methodology extension AR-ACM0003, do not include specific requirements for the justification of the plantation establishment rate, hence the justification for applying BL-PL. The following criteria for applicability of proxy areas for determination of deforestation rate was confirmed by the validation team.

Criteria	Validation Findings
Land conversion practices shall be the same as those used by the baseline agent or class of agent	The validation team reviewed proxy areas selected by the project and confirmed that land conversion practices include acacia plantation.
The post-deforestation land use shall be the same in the proxy areas as expected in the project area under business as usual	The validation team reviewed proxy areas and confirmed using remotely sensed imagery that the post land uses are the same.
The proxy areas shall have the same management and land use rights type as the proposed project area under business as usual	The project concession was reviewed, and the validation team confirmed that under the Indonesian legal requirements, concession holders are required to have a financial and management plan for the concession specific land use type. and would be granted for a specific land use type, ensuring the same management and land use rights type as the proposed project area under business as usual.
If suitable sites exist they shall be in the immediate area of the project; if an insufficient number of sites exists in the immediate area of the project, sites shall be identified elsewhere in the same country as the project; if an insufficient number of sites exists in the country, sites shall be identified in neighboring countries	The validation team reviewed the selected proxy areas through their process of data collection, compilation, review and processing of national-level datasets. The proponents prepared a similarity analysis using multiple reputable datasets which were examined and confirmed by the validation team.
Agents of deforestation in proxy areas must have deforested their land under the same criteria that the project lands must follow (legally permissible and suitable for conversion—see section 1.1 above).	Please see Section 3.3.4 above.

Deforestation in the proxy area shall have occurred within the 10 years prior to the baseline period.	The validation team reviewed proxy area data and confirmed against the available data that the proxy areas converted to industrial acacia production forest within the ten years prior to the start date.
The three following conditions shall be met: • The forest types surrounding the proxy area or in the proxy area prior to deforestation shall be in the same proportion as in the project area ($\pm 20\%$). • Soil types that are suitable for the land-use practice used by the agent of deforestation in the project area must be present in the proxy area in the same proportion as the project area ($\pm 20\%$). The ratio of slope classes “gentle” (slope $< 15\%$) to “steep” (slope $\geq 15\%$) in the proxy areas shall be ($\pm 20\%$) the same of the ratio in the project area. • Elevation classes (500m classes) in the proxy area shall be in the same proportion as in the project area ($\pm 20\%$).	The validation team confirmed the remote sensing and GIS workflow for determination of suitable proxy areas to meet these requirements. The validation team reviewed the selected proxy areas through their process of data collection, compilation, review and processing of national-level datasets as described in PD Annex 9.

The project description contained sufficient information for the validation team to assess the accuracy of quantified baseline GHG emission reductions and removals. Relevant assumptions made by project proponents are listed and include the appropriate references and sources. The validation team deemed data and parameters applied to the baseline to be reasonable within the context of the project. As part of the validation process, the validation team was able to successfully reproduce GHG emission calculations and conclude that information supplied in the project description is sufficiently transparent. In summary, project proponents correctly calculated all GHG emissions reductions and removals for baseline emissions.

The Project has appropriately included project emissions calculations in the PD per VM0007 for aboveground biomass stock changes in ARR, peat microbial decomposition and water table changes from WRC activities. The ex-ante project emissions were confirmed for adherence to monitoring modules and checked as accurate. Data and parameters for calculating and reporting project scenario ex-ante values were individually confirmed to be correct for project area boundaries.

Quantification of leakage followed module LK-ASP for activity shifting leakage under planned conversion to industrial Acacia plantations and resulting peatland drainage. Parameters and values used to calculate

the annual ex-ante GHG emissions in leakage were individually checked for correctness and found to be accurate.

The validation team confirmed that net GHG emission reductions and removals have been estimated in accordance with VM0007 v1.5. Overall net GHG emissions reductions or removals were carefully scrutinized for correctness according to module REDD-MF. The estimate of GHG credits eligible for issuance as VCUs accounted for the proper parameters and resulted in a correct estimate of *ex-ante* total emissions reductions.

Uncertainty associated with the calculations of emissions was performed appropriately using the X-UNC module under VCS methodology VM0007 v1.5. Parameters factored into uncertainty calculations were assessed and the final uncertainty related to 15% of $NER_{REDD+ERROR}$ at the 95% confidence level is evaluated on an annual basis. An uncertainty deduction was required for years 2016 and 2017 by 11.12% and 2.03%, respectively.

The project description contained sufficient information for the validation team to assess the accuracy of quantified GHG emission reductions and removals. Relevant assumptions made by project proponents are listed and include the appropriate references and sources. The validation team deemed data and parameters to be reasonable within the context of the project. As part of the validation process, the validation team was able to successfully reproduce all GHG emission calculations and conclude that information supplied in the project description is sufficiently transparent.

3.3.8 Monitoring Plan

The parameters to be monitored were identified in section 3.1.2 of the Project Document. They include the following monitored parameters:

Data / Parameter	$\Delta C_{WPS-ARR}$
Data unit	t CO ₂ -e
Description	Net GHG removals in the ARR project scenario up to year t^*
Equations	PD Section 3.1.3.1.6 Equation 5
Source of data	Module M-ARR
Description of measurements methods and procedures to be applied	See Module M-ARR
Frequency of monitoring/recording	See Module M-ARR
QA/QC procedures to be applied	See Module M-ARR
Purpose of data	Calculation of project emissions
Calculation Method	See Module M-ARR
Comments	

Data / Parameter	ΔC_{LK-ARR}
Data unit	t CO ₂ -e

Description	Net GHG emissions due to leakage from the ARR project activity up to year t^*
Equations	PD Section 3.1.3.1.6 Equation 5
Source of data	Module LK-ARR
Description of measurements methods and procedures to be applied	See Module LK-ARR
Frequency of monitoring/recording	See Module LK-ARR
QA/QC procedures to be applied	See Module LK-ARR
Purpose of data	Calculation of leakage
Calculation Method	See Module LK-ARR
Comments	

Data / Parameter	$GHG_{WPS-WRC}$
Data unit	t CO ₂ -e
Description	Net GHG emissions in the WRC project scenario up to year t^*
Equations	PD Section 3.1.3.1.6 Equation 6
Source of data	Module M-PEAT
Description of measurements methods and procedures to be applied	See Module M-PEAT
Frequency of monitoring/recording	See Module M-PEAT
QA/QC procedures to be applied	See Module M-PEAT
Purpose of data	Calculation of project emissions
Calculation Method	See Module M-PEAT
Comments	See Module M-PEAT

Data / Parameter	GHG_{LK-ECO}
Data unit	t CO ₂ -e
Description	Net GHG emissions due to ecological leakage from the WRC project activity up to year t
Equations	PD Section 3.1.3.1.6 Equation 6
Source of data	Module LK-ECO
Description of measurements methods and procedures to be applied	See Module LK-ECO
Frequency of monitoring/recording	See Module LK-ECO

QA/QC procedures to be applied	See Module LK-ECO
Purpose of data	Calculation of leakage emissions
Calculation Method	See Module LK-ECO
Comments	See Module LK-ECO

Data / Parameter	$E_{peatburn-WPS,i,t}$
Data unit	t CO ₂ -e yr ⁻¹
Description	GHG emissions from burning of peat within the project boundary in the project scenario in stratum <i>i</i> in year <i>t</i>
Equations	PD Section 3.2.2.6 Equation 30
Source of data	Literature values
Description of measurements methods and procedures to be applied	See Module E-BPB
Frequency of monitoring/recording	At each monitoring period
QA/QC procedures to be applied	See Module E-BPB
Purpose of data	Calculation of project emissions
Calculation Method	N/A
Comments	N/A

Data / Parameter	$E_{proxy-CO2,i,t}$
Data unit	t CO ₂ -e yr ⁻¹
Description	Soil emission of CO ₂ as land-use proxy in stratum <i>i</i> at year <i>t</i>
Equations	PD Section 3.2.2.4 Equation 27
Source of data	IPCC default factors
Description of measurements methods and procedures to be applied	See Module M-PEAT
Frequency of monitoring/recording	At each monitoring period
QA/QC procedures to be applied	See Module M-PEAT
Purpose of data	Calculation of project emissions
Calculation Method	N/A
Comments	N/A

Data / Parameter	$E_{proxy-CH4,i,t}$
Data unit	t CO ₂ -e yr ⁻¹
Description	Soil emission of CH ₄ as land-use proxy in stratum <i>i</i> at year <i>t</i>

Equations	PD Section 3.2.2.4 Equation 28
Source of data	IPCC default factors
Description of measurements methods and procedures to be applied	See Module M-PEAT
Frequency of monitoring/recording	At each monitoring period
QA/QC procedures to be applied	See Module M-PEAT
Purpose of data	Calculation of project emissions
Calculation Method	N/A
Comments	N/A

Data / Parameter	A_i
Data unit	ha
Description	Total area of stratum i
Equations	PD Section 3.2.2.4 Equation 27 & 28
Source of data	Module X-STR
Description of measurements methods and procedures to be applied	See module X-STR
Frequency of monitoring/recording	See module X-STR
QA/QC procedures to be applied	See module X-STR
Purpose of data	Calculation of project emissions
Calculation Method	N/A
Comments	N/A

Data / Parameter	$E_{peatditch-CO2,i,t}$
Data unit	t CO ₂ -e yr ⁻¹
Description	Emission of CO ₂ from ditches and open water stratum i at year t in the project scenario
Equations	PD Section 3.2.2.5.1 Equation 29
Source of data	Literature values
Description of measurements methods and procedures to be applied	IPCC default factor for naturally drained organic soils
Frequency of monitoring/recording	At each monitoring period
QA/QC procedures to be applied	See Module M-PEAT
Purpose of data	Calculation of project emissions

Calculation Method	N/A
Comments	N/A

Data / Parameter	$A_{ditch-WPS,i,t}$
Data unit	ha
Description	Total area of ditch and other open water stratum i in year t in the project scenario
Equations	PD Section 3.2.2.5.1 Equation 29
Source of data	Module X-STR
Description of measurements methods and procedures to be applied	See Module X-STR
Frequency of monitoring/recording	See Module X-STR
QA/QC procedures to be applied	See Module X-STR
Purpose of data	Calculation of project emissions
Calculation Method	N/A
Comments	N/A

Data / Parameter	$A_{DefPA,i,u,t}$
Data unit	Ha
Description	Area of recorded deforestation in the project area in stratum i converted to land use u at time t
Equations	Equation 3 (Module M-MON)
Source of data	Remote sensing imagery
Description of measurements methods and procedures to be applied	See Module M-MON
Frequency of monitoring/recording	See Module M-MON
QA/QC procedures to be applied	See Module M-MON
Purpose of data	Calculation of project emissions
Calculation Method	See Module M-MON
Comments	See Module M-MON

Data / Parameter	$C_{BSL,i}$
Data unit	t CO ₂ -e ha ⁻¹
Description	Carbon stock in all pools in the baseline in stratum i
Equations	Equations 5, 17, 18, 19, 24, 27 (Module M-MON)
Source of data	Module M-MON

Description of measurements methods and procedures to be applied	See Module M-MON
Frequency of monitoring/recording	See Module M-MON
QA/QC procedures to be applied	See Module M-MON
Purpose of data	Calculation of project emissions
Calculation Method	See Module M-MON
Comments	See Module M-MON

Data / Parameter	$A_{RRL,forest,t}$
Data unit	Ha
Description	Remaining area of forest in <i>RRL</i> at time <i>t</i>
Equations	
Source of data	Module M-MON
Description of measurements methods and procedures to be applied	See Module M-MON
Frequency of monitoring/recording	See Module M-MON
QA/QC procedures to be applied	See Module M-MON
Purpose of data	Calculation of project emissions
Calculation Method	See Module M-MON
Comments	See Module M-MON

The suitability and eligibility of monitoring equipment and procedures was considered in the desktop review prior and post site visit and were observed and discussed in the field to confirm their appropriateness. All were found to be consistent with good standard operating practices and in accordance with the requirements of the methodology. The monitoring plan appears to adhere to the requirements of the methodology and the relevant tools it requires.

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

The executive summary was translated into Bahasa Indonesia and was given to community leaders to make available in public places in the surrounding villages, and the full PD with its executive summary was posted in English and in Bahasa Indonesia on relevant SMPP social media or website accounts. In addition to the executive summary, a brochure was provided in Bahasa Indonesia advertising the project, and an email address was posted in local villages and given to SMPP communities and other stakeholders as a point of contact. Finally, notices in Bahasa Indonesia advertising the public comment period and field validation were posted in communities throughout the project area which included details on how to make a comment on the CCB version.

As proposed by the project proponent the monitoring results will be discussed throughout the duration of project monitoring, and information will be continually disseminated to the communities through consultation with actively involved individuals, particularly SMPP residents, fishermen, and village leaders, who will be encouraged to further share project information throughout their wider community.

Validators confirmed wherever possible onsite that the translated executive summary and PD were given to community leaders and made available in public places. This was further confirmed with local community members who were informed on the project particulars and confirmed discussions with the project.

3.3.10 Non-Permanence Risk Analysis

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

The final score was calculated to be 14%. A brief review of each factor is found in the table below:

Risk Factor	Rationale & Quality	Conclusion
Internal Risks		
Project Management	The management team includes individuals with skills necessary to undertake all project activities. Project proponents have experience in the development of carbon projects with the same project activities thus also lowering overall internal risk. Other project management components were confirmed to have been applied during the site visit.	A risk rating of -4 is appropriate given the rationale as the management team has demonstrated appropriate qualifications and all statements made are substantiated.
Financial viability	Project proponents provided the validation team appropriate and verifiable documentation to prove that the project's financial resources are available and have been secured. Items presented to the validation team by project proponents give reasonable assurance that the risk rating for financial viability is appropriately set. Values were sourced from reputable sources and calculations were confirmed correct through data checks.	A review of the financial resources has been confirmed so a risk rating of 0 is appropriate.

Opportunity Cost	A comprehensive NPV analysis was provided to substantiate the most profitable alternative (industrial paper pulp plantation) is like the project scenario. The financial model was confirmed through materials that substantiate NPV assumptions. Literature sources were found to be reputable (The World Bank, The Bank of Indonesia). The validation team traced key values in the NPV calculations worksheet to confirm their source and correctness.	The NPV analysis and supporting materials provided were reviewed and appeared appropriate. A risk rating of 0 is appropriate given the rationale provided.
Project Longevity	The validation team reviewed the documentation provided concerning the concession license for the entire project area. The license is valid for 25 years and is renewable for another 25 years. The validation team agrees with the project determined longevity of 47 years since the concession was issued in 2013 and the project start is 01 January. As such, the value applied was appropriate.	A risk rating of 15 is appropriate given the rationale provided.
Total Internal Risks		11
External Risks		
Land Tenure	For this Indonesian project the ownership and resource access/use are held by different entities. The government owns the land and the project retains ownership rights.	A risk rating of 2 is appropriate given the rationale provided.
Community Engagement	Extensive stakeholder consultation and community involvement was confirmed during the site visit. Consultation on community needs was confirmed for those communities visited. The project has strong intentions to improve the social and economic well-being of local communities.	A risk rating of -5 is appropriate given the rationale provided.
Political Risk	Validation team confirmed the political risk to be rated correctly for Indonesia's average governance score from the World Bank as well as the fact that Indonesia is implementing REDD+ Readiness activities.	A risk rating of 0 is appropriate given the rationale provided.
Total External Risks		0
Natural Risks		
Natural Risk	The risk rating given for fire was justified by scientific research which supports the notion that fires in the project region are primarily	A combined natural risk rating of 3 is appropriate

	anthropogenic and primarily affect drained peatlands especially in El nino years. Natural fire incidence is low as the elevated water table in undrained peatlands prevents spreading. The validation team agrees with this assessment as being appropriate with a risk rating of 1. Validation team agrees that pest or disease outbreak would most likely only impact above-ground carbon stocks and not the peat layer. Project proponents appropriately base risk of extreme weather risk rating with the understanding of the peat swamp water table fluctuations could influence carbon stocks, but since the vegetation is adapted to the ecosystem, risk is minimal. The Validation team agrees with the projects justification for geologic events given that the Island of Sumatra is known to experience geologic, volcanic and tsunami events; however, the eastern side of the island where the project is located experiences less activity. The risk score of 2 was given.	given the rationale provided and all statements made are substantiated.
Total Natural Risks		3
Overall Risk Rating = 14% Non-Permanence Risk Rating = 14%		

In summary, project proponents have accounted for risk factors in a reasonable manner and have reached an overall risk rating that encompasses all risks of non-permanence. The project has applied the Non-Permanence Risk Rating of 14% correctly. As required, risk will be reassessed and given risk scores at each verification period.

3.3.11 Optional Gold Level: Regional Climate Change Scenarios (GL1.1)

From the World Bank publication, "Vulnerability, Risk Reduction and Adaptation to Climate Change - Indonesia," The PD states that Indonesia's weather events, like droughts and higher than average rainy seasons, are strongly influenced by ENSO events, with droughts during El Niño events and excessive rain during La Niña events.

Temperature is expected to increase with increased duration of heat waves and dry spells. Precipitation patterns are expected to change, with increased rainfall during the rainy season, but the season will start several weeks later. There will be increased frequency and intensity of heavy rainfall events.

Longer droughts and fire seasons, along with intense rainy seasons with more intense flooding is expected. These effects are already apparent, with severe fire seasons in 2015 (catastrophic for the closed canopy forest) and more recently this year.

Communities dependent on the project area would suffer due to continued and accelerating degradation of resources, including poorer fish habitat, degraded water quality and increased vulnerability to wildfires.

3.3.12 Optional Gold Level: Climate Change Impacts (GL1.2)

From the World Bank publication, changes in land use, temperature and precipitation have already caused widespread impacts in the form of wildfires. Continued climate change will make things worse.

There are food security implications due to changing precipitation patterns and evaporation. Reduced availability of fresh water may cause health problems.

Expansion of agriculture and flooding will decrease water quality. Fires will cause a decline in biodiversity. Loss of ecosystem services will affect all forest-dependent livelihoods. Increased exposure to diseases, such as malaria and dengue fever, are expected.

3.3.13 Optional Gold Level: Measures Needed and Designed for Adaptation (GL1.3)

The project aims to strengthen community and environmental resilience by implementing adaptation options through project activities.

Relevant project activities include:

1. Forest patrolling
2. Fire prevention and monitoring
3. Canal blocking and hydrology management
4. Reforestation and assisted natural regeneration
5. Community development
6. Biodiversity management and monitoring
7. Cross-cutting

Several activities reduce fire risk. Soil and water quality are improved by hydrological management. Replanting conserves local gene pools. Community development diversifies economic opportunities. Biodiversity activities allows change to be monitored in response to climate change.

The project activities were related to climate change adaptation measures in a reasonable manner. It is likely the project will ameliorate impacts of climate change to the local ecosystem and communities using the project area.

3.4 Community

3.4.1 Descriptions of Communities at Project Start (CM1.1)

The project area is isolated, and the local people have little interaction with it. From the nearest village, it can take 45 minutes – 1.5 hours to reach the project area by road and 2 hours or more by boat.

Using the definition of a community, defined in footnote 18 of the third edition of the CCB standard, the communities are the sub-group of people from the surrounding villages who fish in and around the project area, as well as the two farmers who were farming a few hectares of the project area, before the project began.

Ethnic backgrounds are diverse, from many parts of Indonesia, with no indigenous groups living in the area.

The fisherman community is comprised of retired, older men. Nine rely solely on fishing for income, but all consider fishing crucial to their livelihoods. The average net income derived from fishing is \$47 USD per fisherman per month. Average monthly salaries in Merang and Kepayang ranges from \$139-\$209/month.

The farmers are of a lower socio-economic bracket than the majority of people in surrounding villages, as small-scale farming is a less attractive way to make a living than the jobs available in the area.

3.4.2 Interactions between Communities and Community Groups (CM1.1)

Communities using this project area are very small, amounting to fewer than two dozen people and therefore there are no community groups, as defined by CCBA, and no communications between groups. The fisherman all know each other.

3.4.3 High Conservation Values (CM1.2)

The two HCVs identified in the project area include ecosystem services provided for both the farmer and fisherman communities and areas fundamental to the livelihoods of these communities. These services include flood and fire protection, fisheries protection, microclimate regulation, water supply and pollination services.

Validation of the community well-being HCVs was fairly simple, in that the fisherman community exists due to the water and fish habitat quality provided by the project area and the farmers depend on the water supply, subsistence fishing and benefit from reduced fires.

Interviews with members of the fishermen community and travel in the region during the site visit showed there are many waterways more convenient to the fishermen's villages, but the water quality and fish habitat is poor, due to the palm oil and acacia plantation land uses. They travel several hours to and from the project area, due to these HCVs.

The interview with one of the farmers revealed he lives in fear of the threat of wildfires, which are becoming worse in recent years. Project activities are reducing the threat through both patrols, fire suppression and raising the water table (rewetting) the peat in the project area.

3.4.4 Without-Project Scenario: Community (CM1.3)

The site visit allowed observations of the landscape of the project area and the surrounding region and the way the people used these lands. The plantations are working lands and essentially no one, aside from the pulp and palm oil companies and workers, use them. There are no fish populations, due to poor water quality stemming from the land uses.

It is reasonable to assume the without-project scenario would turn the project area into a landscape similar to that of the surrounding area, degrading water quality, eliminating fish habitat and therefore a vital livelihood of the fishermen community.

Conversion to an acacia plantation would also result in the eviction of the farming community from the lands they currently cultivate.

Community-related HCVs would certainly be adversely affected by the expected baseline scenario, essentially eliminating the HCVs for both communities.

3.4.5 Expected Community Impacts (CM2.1)

Expected community impacts were validated through face-to-face interviews, observations of the project area and surrounding lands and the way the communities use the land.

Since the communities are small and their relationship to the project area is very basic (subsistence and a small amount of market fishing, very small-scale commercial farming), validating expected community impacts was straightforward.

It is clear from interviews and observations that the only land in the area that is used for fishing is the project area. This is due to the higher quality of water and fish habitat provided by relatively pristine lands over the surrounding commercial plantations. The impact of the project on the fishermen community is that they will be able to continue this aspect of their livelihoods. Similarly, the impact on the farmers is that they will be able to continue to farm, perhaps with less danger of losses from fire.

The project also provides some jobs, though these may not directly impact the communities as much as they will impact some of the other stakeholders in surrounding villages. However, one project employee interviewed was an illegal logger in his previous occupation, demonstrating that alternative occupations for at risk people are being provided.

The expected impacts on community groups are expected to be near neutral to positive by comparison to their present condition. Compared to the without-project scenario, the impact are very positive.

3.4.6 Negative Community Impact Mitigation (CM2.2)

There are few negative community impacts from this project, because the communities are dependent on continued ecosystem services provided by the project lands and the project activities protect and enhance those services.

During the site visit, an interview with one of the farmers indicated a canal block prevents him from subsistence fishing. He has since been provided with help in clearing land for a garden and efforts are being made to identify another suitable fishing spot for him.

Site visit interviews also identified an older fisherman who had difficulty portaging his boat around canal blocks. When water levels are higher and fishing can commence again, the project will meet and work with the fisherman to develop solutions for his access problem.

In the long run, negative impacts are expected to be few. The project has demonstrated that when negative impacts are brought to their attention, they will act to effectively mitigate them.

3.4.7 Net Positive Community Well-Being (CM2.3, GL1.4)

Net well-being impacts were validated through interviews with community members, interviews with other stakeholders in surrounding villages, interviews with staff and observations of the way people use the land on and off the project area.

The simple fact is the well-being of the communities is dependent on either maintaining the project area in its present state or working to stop further degradation. In the without-project scenario, the resources the communities depend on will eventually disappear. The project scenario will stop further degradation and possibly improve ecosystem services.

Interviews with the fishermen and one of the farmers indicated that the main climate-related concern is the increase in wildfires and the additional fire protection is welcomed. Some fishermen also noted that fishing is improving, due to the canal blocks – possibly providing additional cover and deep pool habitat.

The reduction in danger from fires, which are expected to increase as climate continues to change, is the main way the project is helping the communities adapt.

3.4.8 High Conservation Values Protected (CM2.4)

The HCVs related to community well-being are dependent on a working, intact ecosystem in the project area. Maintaining and enhancing that is the project's goal and all activities are directly or peripherally related to it. There is no question community-related HCVs are being protected by the project.

3.4.9 Impacts on Other Stakeholders (CM3.1)

There are no negative impacts for other stakeholders, who live at a considerable distance from the project area. Some project activities provide jobs, alternative economic activities, educational opportunities and increased levels of healthcare to these villages, so the impact of the project on these other stakeholders is clearly positive.

3.4.10 Mitigation of Negative Impacts on Other Stakeholders (CM3.2)

There are essentially no negative impacts on other stakeholders to mitigate.

Project documentation does mention there could be greater potential for wildlife-human conflicts in the future, as biodiversity improves with habitat. Given the distance between villages and the project area,

this impact is unlikely. However, the project will provide training for interested local stakeholders to reduce the risks of these encounters.

3.4.11 Net Impacts on Other Stakeholders (CM3.3)

Due the remoteness of the project area to local villages, there are no negative impacts from project activities. However, the project is providing some benefits to the people in the local villages, as determined during face-to-face meetings with villagers during the site visit.

The net impacts of the project on other stakeholders are positive.

3.4.12 Community Monitoring Plan (CM4.1, CM4.2, GL1.4, GL2.2, GL2.3, GL2.5)

The community monitoring plan and survey/assessment questions were provided to the VV body and examined. Communities include the fishermen, the farmers and other stakeholders in the nearby villages. All questions and queries are directly related to the community member's well-being and aspects of the individual's livelihood that have the potential to be impacted by project activities.

Some questions relate to natural capital, which encompasses community-related HCVs.

Adaptation benefits are monitored, because the survey questions are related to the individual's continued ability to make a living through their traditional means.

The project is not seeking Gold Level for Exceptional Community Criteria.

3.4.13 Monitoring Plan Dissemination (CM4.3)

While no project documentation was seen in villages, interviews with communities and local stakeholders during the site visit confirmed that the project distributed project documentation summaries, including monitoring plan result summaries, to local communities and in villages. Project documentation was also available online and at the project area camps.

3.4.14 Optional Gold Level: Exceptional Community Criteria (GL2.1)

SMPP is not seeking Gold Level status for Exceptional Community Criteria. This Section through 3.4.22 is N/A.

3.5 Biodiversity

3.5.1 Existing Conditions (B1.1)

Wildlife observations in the project area and published wildlife surveys for nearby areas provide evidence the project area includes many globally significant species. In spite of its degraded condition, prints from a Sumatran tiger were found in the project area by a patrol.

During the site visit, sun bear claw marks on a tree were observed. The calls of agile gibbons were heard from the main camp during the site visit, though the calls were coming from the adjacent conservation area left by the neighboring acacia plantation. See table 63 of the project description document for a more complete listing of project area species.

3.5.2 High Conservation Values (B1.2)

The project's biodiversity-related HCVs include the presence of threatened and endemic species (HCVs a. ii and a. iii) and that tropical peat domes are threatened ecosystems (HCV C).

Observations during the site visit indicate a high likelihood of the presence of sun bears and agile gibbons in the project area. Published studies in nearby areas indicate many threatened and endangered species are present. Project patrols reported seeing tiger prints.

Visits to sample plots during the site visit made it obvious the project area is a peat dome, which is considered a threatened ecosystem.

3.5.3 Without-project Scenario: Biodiversity (B1.3)

It was observed during the site visit and through project documentation that the project area is surrounded by industrial land uses and that the area would be at risk of clearance and drainage, under the without-project scenario.

There is little habitat in the plantations, except for the small areas set aside as conservation areas. Conversion would eventually result in the loss of all habitat in the project area in the without-project scenario.

3.5.4 Expected Biodiversity Changes (B2.1)

Expected changes amount to improvements in wildlife habitat on degraded/burned parts of the project area, protection of areas that are minimally degraded and disturbed and reduced fire risks to the peatland ecosystem. These expected changes are assumed to improve habitat quality and recovery of species populations.

Validation of the expectations from habitat protection and improvement requires validation of the project activities that rewet the peat dome and patrol the forest for fire and illegal activities (logging, hunting, collecting). Reducing these threats to the ecosystem will improve wildlife habitat and expand the higher quality habitat in the project area.

3.5.5 Mitigation Measures (B2.3)

There are no negative impacts to biodiversity from project activities. All project activities are intended to improve wildlife habitat and native biodiversity.

3.5.6 Net Positive Biodiversity Impacts (B2.2, GL1.4)

The project's activities protect, enhance and expand wildlife habitat and the likely without-project scenario will result in the elimination of most habitat. Examples of the without-project scenario can be seen in the lands adjacent to the project area, and reports from fisherman indicate that essentially no fish are found within these plantations.

Validation that net biodiversity impacts are positive in comparison with the without-project scenario was achieved when the enhancements to the project area (canal blocking, patrols) were observed along with the nature of the surrounding plantations.

Stopping peat drainage and regenerating burned forest will provide wildlife with some relief from droughts and floods. The project also provides habitat connectivity with surrounding lands with high HCV values.

3.5.7 High Conservation Values Protected (B2.4)

Biodiversity HCVs are the direct beneficiaries of project activities, from protection and patrolling to hydrological management. No negative impacts can reasonably be expected to occur.

3.5.8 Species Used (B2.5)

A list of species used in project activities was provided to the VV body. These species were checked against the invasive species database for Indonesia on the www.issg.org website. No species used in the project are considered invasive.

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

Only native species will be used in project activities.

3.5.10 GMO Exclusion (B2.7)

The declaration that no GMOs will be used to generate GHG emissions was made in project documentation. There are few, if any, native climax forest tree species for Sumatra that have GMO versions. Additional assurance was not required.

3.5.11 Inputs Justification (B2.8)

No fertilizers, chemical pesticides or biological control agents are used in project activities, and there is little or no opportunity or reason to use them.

3.5.12 Waste Products (B2.9)

No activity that produces waste products are included in the project, and none are planned. However, a procedure is in place to evaluate and deal with any future activity that might produce a waste product.

3.5.13 Negative Offsite Biodiversity Impacts (B3.1) and Mitigation Measures (B3.2)

No negative offsite biodiversity impacts can reasonably be expected from this project.

3.5.14 Net Offsite Biodiversity Benefits (B3.3)

No negative biodiversity impacts are expected inside or outside the project area. Net biodiversity impacts are expected to be positive, because as habitat improves, there could be spillover of species into surrounding lands. Also, the project area will serve as corridors, connecting habitat on surrounding lands.

3.5.15 Biodiversity Monitoring Plan (B4.1, B4.2, GL1.4, GL3.4)

The biodiversity monitoring plan was reviewed for variables, areas, methods and frequency of monitoring. Methods for various target species and wildlife types were reasonable and camera traps and patrol observations will be used for greater varieties of species.

Biodiversity monitoring will directly monitor the biodiversity-related HCVs for threatened and endemic species. Monitoring of water table levels will be a direct monitor for the peat dome habitat, itself.

The monitoring plan directly monitors the numbers and presence of agile gibbons and hornbills and the other 27 threatened species. Population trends of species and reports of illegal hunting and collecting are reported.

The monitoring plan is robust and likely will be able to monitor population trends of trigger species.

3.5.16 Biodiversity Monitoring Plan Dissemination (B4.3)

The site visit interviews confirmed that the monitoring plan and report was distributed to local villages and was also available at the main camp and online.

3.5.17 Optional Gold Level: High Biodiversity Conservation Priority Status (GL3.1)

The claims made in project documentation regarding the biodiversity present in the project area are backed by published studies. Signs of sun bear and the call of agile gibbons were seen and heard during the site visit. It is confirmed that the project area is used by endangered and threatened species.

3.5.18 Optional Gold Level: Trigger Species Population Trends (GL3.2, GL3.3)

Described trends in trigger species are derived from the state of the species generally, as only preliminary work has been done to monitor biodiversity, thus far, and the project is new. Literature articles were provided to back the trends described.

The site visit confirmed the presence of two endangered/threatened species.

4 VALIDATION CONCLUSION

Aster Global Environmental Solutions confirms all validation activities, including objectives, scope and criteria, level of assurance, and the PD's adherence to the selected methodology (VM0007 v1.5), VCS Version 4 (and updates), and CCB Project Design Standards (Third Edition), as documented in this report are complete. ESI concludes without any qualifications or limiting conditions that the *Sumatra Merang Peatland Project* dated 25 November 2019, v1.2 meets the requirements of the VCS and CCB to a reasonable level of assurance. The project is likely to achieve the estimated climate, community, and biodiversity benefits, including Exceptional Climate and Biodiversity Benefits as described in the PD dated 25 November 2019, v1.2

CCB CRITERIA CHECKLIST:

GENERAL SECTION

CONFORMANCE

G1. Project Goals, Design & Long-Term Viability (Required)	YES ☒ NO ☐ N/A ☐
G2. Without-Project Land Use Scenario & Additionality (Required)	YES ☒ NO ☐ N/A ☐
G3. Stakeholder Engagement (Required)	YES ☒ NO ☐ N/A ☐
G4. Management Capacity (Required)	YES ☒ NO ☐ N/A ☐
G5. Legal Status and Property Rights (Required)	YES ☒ NO ☐ N/A ☐

CLIMATE SECTION

CL1. Without-Project Climate Scenario (Required)	YES ☒ NO ☐ N/A ☐
CL2. Net Positive Climate Impacts (Required)	YES ☒ NO ☐ N/A ☐
CL3. Offsite Climate Impacts (Required)	YES ☒ NO ☐ N/A ☐
CL4. Climate Impact Monitoring (Required)	YES ☒ NO ☐ N/A ☐
CL5. Climate Impact Adaptation (Optional)	YES ☒ NO ☐ N/A ☐

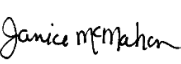
COMMUNITY SECTION

CM1. Without-Project Scenario for Communities (Required)	YES ☒ NO ☐ N/A ☐
CM2. Net Positive Community Impacts (Required)	YES ☒ NO ☐ N/A ☐
CM3. Offsite Stakeholder Impacts (Required)	YES ☒ NO ☐ N/A ☐
CM4. Community Impact Monitoring (Required)	YES ☒ NO ☐ N/A ☐
GL5. Exceptional Community Benefits (Optional)	YES ☐ NO ☐ N/A ☒

BIODIVERSITY SECTION

B1. Without-Project Biodiversity Scenario (Required)	YES ☒ NO ☐ N/A ☐
B2. Net Positive Biodiversity Impacts (Required)	YES ☒ NO ☐ N/A ☐
B3. Offsite Biodiversity Impacts (Required)	YES ☒ NO ☐ N/A ☐
B4. Biodiversity Impact Monitoring (Required)	YES ☒ NO ☐ N/A ☐
GL3. Exceptional Biodiversity Benefits (Optional)	YES ☒ NO ☐ N/A ☐

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Aster Global President Name and Signature	 Janice McMahon President
Date:	26 November 2019

CLS/SMM/RS/VO19026.00/SumatraMerangVCS-CCBVALreport_Final-20191126.doc
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APPENDIX A: VERIFIED CARBON STANDARD FINDINGS

Item Number	1
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Section)	8.4.7 Calculation of Verified Carbon Units
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	To estimate the number of Verified Carbon Units (VCUs) for the monitoring period $T = t_2 - t_1$, this methodology uses the <u>Equation on page 28</u> .
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	MR Table 35; PD Tables worksheet
Aster Global Findings - Round 1	This equation was found to have been implemented correctly, however VCUt parameter is an annual time t parameter and was incorrectly reported as a sum for 3 years of the monitoring period.
Round 1 NCR/CL/OFI	CL: Please ensure VCUs are reported correctly in Table 35 of the MR.
Round 1 Response from Project Proponent	The new MR table 35 can be found in spreadsheet "PD_Tables_20190930.xlsx", tab "MR table 35"
Aster Global Findings - Round 2	"MR table 35" tab was reviewed, and VCUs are depicted in 1-year increments, correctly following the equation. This item is addressed.

Item Number	2
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Section)	9.3.1 Development of Monitoring Plan
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	For each of these tasks, the monitoring plan must include the following information: a. Technical description of the monitoring task. b. Data to be collected. The list of data and parameters to be collected must be given in PD. c. Overview of data collection procedures. d. Quality control and data quality assurance procedure. e. Data archiving. f. Organisation and responsibilities of the parties involved in all the above.

Applicability the (Y or N/A)	to Project	Y
Requirement Met (Y, N, Pending)		Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)		PD, MR
Aster Global Findings - Round 1		Although the monitoring plan embedded in the MR doesn't contain the exact headers listed for each task, there is some monitoring task information following this requirement in PD Section 3.3.3. The monitoring plan is sufficient. The audit team notes that although the project is undergoing validation and verification concurrently. Clarification is requested whether the proponent has updated any content within the Monitoring Plan from project start date (PD) to implementation (MR, end of 2018) for actions taken on any specific monitoring task. It was noted that figure 1 exists in the MR but is absent from the PD.
Round 1 NCR/CL/OFI		CL: Please clarify any changes to the monitoring plan from project start date (PD) to implementation (MR, end of 2018) for actions taken on any specific monitoring task.
Round 1 Response from Project Proponent		Since we updated the proposed/planned compacted peat dams, we also reran the hydrological model of water table level (WTL), we also updated the locations of the dip wells to monitor the WTL in the project area. Please see the attached Dip Wells Map under folder '9.3.1 Development of Monitoring Plan'.
Aster Global Findings - Round 2		The addition and revisions to the dip well map appear to capture the updates to current monitoring as a result of the verification process. This item is addressed.
Item Number		3
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Section)		9.3.1 Development of Monitoring Plan

VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	To ensure that GHG fluxes are estimated in a way that is accurate, verifiable, transparent, and consistent across measurement periods, the project must establish and document clear standard operating procedures and procedures for ensuring data quality. At a minimum, these procedures must include: • Comprehensive documentation of all field measurements carried out in the project area. This document must be detailed enough to allow replication of sampling in the event of staff turnover between monitoring periods. • Training procedures for all persons involved in field measurement or data analysis. The scope and date of all training must be documented. • A protocol for assessing the accuracy of plot measurements using a check cruise and a plan for correcting the inventory if errors are discovered. • Protocols for assessing data for outliers, transcription errors, and consistency across measurement periods. • Data sheets must be safely archived for the life of the project. Data stored in electronic formats must be backed up.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	Carbon Stock Study - Belowground - Peat SOP.pdf; on-site observations
Aster Global Findings - Round 1	Clear standard operating procedures were considered of the project components related to this requirement. The SOP for peat sampling and peat depth was observed to have been followed at each resampling plot, during the site visit. The field team was observed to have been well trained and had obviously done this sampling many times. The SOP was considered to be clear and reproducible by similarly trained people. Data sheets appear to have been consistently taken electronically and archived. However, this requirement for establishment of standard operating procedures for data collection does not appear to have been fully meet. The monitoring plan mentions fire prevention and remote sensing topics but these SOPs, and others related to ARR, do not appear to have been provided for the validation.
Round 1 NCR/CL/OFI	CL: Please provide all standard operating procedures developed for field measurements to satisfy this requirement. Please also ensure that all standard operating procedures follow the specifics as outlined in this requirement.
Round 1 Response from Project Proponent	
Aster Global Findings - Round 2	
Round 2 NCR /CL/OFI	
Round 2 Response from Project Proponent	The SOP has been provided for review.

Aster Global Findings - Round 3	A remote sensing SOPs document was provided in response to the finding. This document is clearly comprehensive enough to capture relevant remote sensing monitoring methods which are not explicitly described in primary reporting documentation. Other SOPs related to ARR and fire prevention are captured within the PD and MR. The item is addressed.
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Item Number	4
VCS MODULE VMD0042 REDD METHODOLOGICAL MODULE: Estimation of baseline soil carbon stock changes and greenhouse gas emissions in peatland rewetting and conservation project activities (BL-PEAT) Version 1.0 9 March 2015 Sectoral Scope 14 (Section)	5.2 Assessing GHG Emissions in the Baseline Scenario of the CUPP Project Activity
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	The net CO ₂ -equivalent emissions from the peat soil in the baseline scenario are estimated as <u>Equation 1 on page 7</u>
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD Table 32; PD Tables worksheet Spreadsheet for Baseline CO ₂ -CH ₄ emission_20190927
Aster Global Findings - Round 1	Application of Equation 1 was confirmed; however a data transcription error was noted for PD table 32. Spreadsheet for Baseline CO ₂ -CH ₄ emission_20190520, Columns: W5:W53 & X5:X53
Round 1 NCR/CL/OFI	CL: Please correct the noted data transcription error in PD reporting, noting derivative tables which may also require updates throughout the PD.
Round 1 Response from Project Proponent	The spreadsheet "Spreadsheet for Baseline CO ₂ -CH ₄ emission_20190520.xlsx" was updated to "Spreadsheet for Baseline CO ₂ -CH ₄ emission_20190927.xlsx", and the values in "PD_Tables_20190930" tab "Table 32" correctly transcribed.
Aster Global Findings - Round 2	The transcription error was corrected in referenced files. This item is addressed.
Item Number	5

VCS MODULE VMD0042 REDD METHODOLOGICAL MODULE: Estimation of baseline soil carbon stock changes and greenhouse gas emissions in peatland rewetting and conservation project activities (BL-PEAT) Version 1.0 9 March 2015 Sectoral Scope 14 (Section)	5.3 Assessing Baseline GHG Emissions due to Peat Drainage (Epeatsoil,BSL,i,t)
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	GHG emissions from the peat soil per stratum as a result of drainage in the baseline scenario are estimated as follows: <u>Equation 6 on page 8</u>
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD Section 3.2.1.5.4; Spreadsheet for Baseline CO2-CH4 emission_20190520.xlsx; PD_Tables_20190611.xlsx
Aster Global Findings - Round 1	CO2 and CH4 emission calculations from microbial decomposition were examined. The emission factors for stratum IN-UDP and IN-UPSF, DS-CAU for CH4 do not appear to have been correctly sourced. Also, Table 32 values for parameter "CH4 from peat microbial decomposition (t CO2-e ha-1 yr-1)" appear to have been incorrectly transcribed from the PD tables worksheet.
Round 1 NCR/CL/OFI	CL: Please clarify the correctness of the emission factors noted in the finding. Please also ensure PD Table 32 data has been correctly transcribed. CL: The spreadsheet "Baseline CO2-CH4 emissions_20190520.xlsx" was checked against the IPCC tables and updated accordingly in the updated file "Baseline CO2-CH4 emissions_20190820.xlsx". Also, for reference the file with the IPCC emission factors is attached ("Emission and Combustions Factors_20190820.xlsx"). Table 32 was also updated, and the new collection of PD tables attached as "PD_Tables_20190821.xlsx".
Round 1 Response from Project Proponent	The spreadsheet "Baseline CO2-CH4 emissions_20190520.xlsx" was checked against the IPCC tables and updated accordingly in the updated file "Baseline CO2-CH4 emissions_20190927.xlsx". Also, for reference the file with the IPCC emission factors is attached ("Emission Factors_20190930.xlsx"). Table 32 was also updated, and the new collection of PD tables attached as "PD_Tables_20190930.xlsx".
Aster Global Findings - Round 2	The audit team re-checked application of CH4 emissions factors in "Spreadsheet for Baseline CO2-CH4 emission_20190927.xlsx." The value applied for stratum IN-UPSF, DS-CAU does not appear to have been sourced correctly.

Round NCR /CL/OFI	2	CL: Please clarify the correctness of the CH4 emission factor for stratum IN-UPSF, DS-CAU as noted in the finding.
Round 2 Response from Project Proponent		As the IPCC 2013 Wetlands supplement does not have an EF for CH4 for undrained/undisturbed peatlands, we used the EF for rewetted peatlands. Further, as Table 3.3 uses roundings (EF-CH4 = 41), we used the original data to generate the EF from the source table (3A.3). This is detailed in the file "Emission Factors_20191101, Tab IPCC, Cells J27:Q54. Note that here the GWP was also changed from 28 to 25 as requested in item 30.
Aster Global Findings - Round 3		The audit team re-reviewed emission factors in the emissions factors worksheet. The correct GWP (CH4) is now used following AR4. The item is addressed.

Item Number	6
Approved VCS Tool VT0001, Version 3.0 (1 February 2012), TOOL FOR THE DEMONSTRATION AND ASSESSMENT OF ADDITIONALITY IN VCS AGRICULTURE, FORESTRY AND OTHER LAND USE (AFOLU) PROJECT ACTIVITIES, Sectoral Scope 14 (Section)	2.3 Step 3. Barrier analysis
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	a) Prevent the implementation of this type of proposed project activity without the revenue from the sale of GHG credits; and
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	Section 3.1.5 of the PD.
Aster Global Findings - Round 1	The PD does not discuss the project activities in this analysis.
Round 1 NCR/CL/OFI	NCR: See the finding. Please discuss barriers that would prevent the project from occurring in the absence of revenue from the sale of GHG credits.
Round 1 Response from Project Proponent	Documentation: Folder 3.1.5 Barrier Analysis: 3.1.5 Additionality Barrier Analysis.doc

Aster Global Findings - Round 2	The project proponents added a section explaining the barriers that would prevent the creation of a protected forest in the absence of carbon revenues. Millions of dollars would be required to install the infrastructure canal blocks, etc., creating a major burden on local governments. The national government has not been funding existing national parks at the levels they need, and funding is being reduced with time. Changing the land status would also take years, requiring ecological studies, meetings and technical review. Item closed. 03 November 2019
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Item Number	7
VCS Methodology VMD0046 Version 1.0 9 March 2015 Methods for monitoring of soil carbon stock changes and greenhouse gas emissions and removals in peatland rewetting and conservation project activities (M-PEAT) Sectoral Scope 14 (Section)	5.1 Assessing Project Emissions
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Project emissions include the following as described in Equation 1: 1. GHG emissions from the peat soil due to microbial decomposition 2. GHG emissions from open water (e.g., ditches) 3. GHG emissions from biomass and peat burning See Equation 1 on page 6
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD Table 43; PD Tables worksheet
Aster Global Findings - Round 1	Equation 1 was found to be correctly applied; however a data transcription error was noted for PD Table 43, from R script Project emission from peat oxidation calculation_20190507; output file Total_emission_oxidation_PRJ.csv line 59.
Round 1 NCR/CL/OFI	CL: Please correct the noted data transcription error in PD reporting, noting derivative tables which may also require updates throughout the PD.
Round 1 Response from Project Proponent	The spreadsheet "Baseline CO2-CH4 emissions_20190520.xlsx" was checked against the IPCC tables and updated accordingly in the updated file "Baseline CO2-CH4 emissions_20190927.xlsx". Also, for reference the file with the IPCC emission factors is attached ("Emission Factors_20190930.xlsx"). Table 32 was also updated, and the new collection of PD tables attached as "PD_Tables_20190930.xlsx".
Aster Global Findings - Round 2	The data transcription error related to Table 43 of the PD has been fixed. The item is addressed.

Item Number	8
VCS Methodology VMD0046 Version 1.0 9 March 2015 Methods for monitoring of soil carbon stock changes and greenhouse gas emissions and removals in peatland rewetting and conservation project activities (M-PEAT) Sectoral Scope 14 (Section)	5.6.3 Direct Measurement of GHG Emissions
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	The project proponent may carry out direct measurements of GHG fluxes to assess emissions in relation to chosen proxies. Direct measurements of GHG fluxes may include closed chamber measurements, eddy covariance measurements and (for measuring C loss in drained sites only) subsidence measurements (see Section 5.6.4). Applied techniques must follow international standards of application as laid out in pertinent scientific literature (e.g., Pattey et al. 2006, Alm et al. 2007, Evans et al. 2011).
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	Sections 3.2.2.3, 3.2.2.7.2, etc., of the MR.
Aster Global Findings - Round 1	At this time, the project does not carry out direct measurements of emissions fluxes and instead uses published emissions factors (mostly IPCC). The intention is to transition to emissions factors based on direct measurement of fluxes. No method for direct measurement is provided in the monitoring report or Annexes. 5 September 2019
Round 1 NCR/CL/OFI	CL: Please describe the methods of direct emissions measurements that will be used to develop future project emissions.
Round 1 Response from Project Proponent	The module M-Peat uses the wording "may", which indicates optionality. However, the used IPCC factors will be updated as new reports become publicly available, to reflect the most up to date scientific literature. (01 October 2019)
Aster Global Findings - Round 2	The VVB agrees the Project is not required to carry out direct GHG flux measurements and thus may develop standards of measurement in the future, when applicable. This item is addressed.
Item Number	9

VCS Methodology VMD0046 Version 1.0 9 March 2015 Methods for monitoring of soil carbon stock changes and greenhouse gas emissions and removals in peatland rewetting and conservation project activities (M-PEAT) Sectoral Scope 14 (Section)	5.6.4 Monitoring Soil Subsidence
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	For remote and inaccessible areas, project proponents may rely on vegetation cover as an indicator for water table depth and associated subsidence rates as supported by data or literature references in a conservative way. The minimum monitoring frequency for soil subsidence is once a year.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	Section 3.2.2.7.2 of the MR, section 3.2.2.4.2 of the PD, Annex 8.
Aster Global Findings - Round 1	The project intends to check subsidence poles every three months. No mention is made of using vegetative cover as an indicator of water table depths for remote areas. 5 September 2019
Round 1 NCR/CL/OFI	CL: Please state whether vegetative cover will be used as an indicator for water table levels for remote areas. If so, please provide an SOP for that event.
Round 1 Response from Project Proponent	We will install dipwells to monitor water table levels (WTL) every 2 months and also rerun WTL model every year to update for each monitoring period, so we will not use vegetation cover as an indicator.
Aster Global Findings - Round 2	As the project is not intending on relying on vegetative cover analysis to estimate water table depth, this item is no longer applicable and can be considered addressed.

Item Number	10
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VCS Methodology VMD0046 Version 1.0 9 March 2015 Methods for monitoring of soil carbon stock changes and greenhouse gas emissions and removals in peatland rewetting and conservation project activities (M-PEAT) Sectoral Scope 14 (Section)	5.6.4 Monitoring Soil Subsidence
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Consolidation of the saturated peat below the water table may contribute to subsidence over multiple years. Proponents must conservatively assess the contribution of consolidation to overall subsidence by reference to literature values or expert judgment or demonstrate that consolidation plays an insignificant role in overall subsidence (< 5%). The calculation of carbon loss rates from subsidence data must follow pertinent scientific literature (e.g., Couwenberg & Hooijer 2013) and usually requires data on the volumetric carbon content of the peat. When subsidence measurements are used to establish emission factors to be associated with other proxies, measurements must be carried out over a period of at least 24 months to cover intra- and inter-annual variability.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	Annex 8 and Annex 15
Aster Global Findings - Round 1	No mention of accounting for consolidation was found in project documentation
Round 1 NCR/CL/OFI	CL: Please direct verifiers to discussion, analysis and calculations of consolidating below the water table, or include it in project documentation.
Round 1 Response from Project Proponent	The project uses water table as a proxy for carbon loss and GHG emissions. Thus, subsidence measurements are not required. (01 October 2019)
Aster Global Findings - Round 2	Though subsistence measurements may not be required, conservative assessment of the contribution of consolidation to overall subsidence must occur.
Round 2 NCR /CL/OFI	CL: Please address the finding and demonstrate where conservative assessment of the contribution of consolidation to overall subsidence is occurring.
Round 2 Response from Project Proponent	The methodology VMD0045, v1.0 provides guidance on "Potential" proxies that can be used for the estimation of carbon loss and GHG emissions from peat oxidation. However, the SMPP is not using soil subsidence as a proxy and therefore does not have to follow the procedures listed in section 5.6.4 which was referenced in the original finding. The project is using other proxies listed in the VMD0045 Module.

Aster Global Findings - Round 3	The audit team notes that soil subsidence (Ratesubs,i,t) is not used, but instead water table, as a proxy for carbon loss and CO2 emissions. Section 5.6.1 is the applicable requirement under M-PEAT and 5.3 under BL-PEAT. The item is addressed.
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Item Number	11
VCS Methodology VMD0046 Version 1.0 9 March 2015 Methods for monitoring of soil carbon stock changes and greenhouse gas emissions and removals in peatland rewetting and conservation project activities (M-PEAT) Sectoral Scope 14 (Section)	5.6.5 Determining Volumetric C Content of the Peat
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Undisturbed samples can be attained from open soil pits that are dug in the field (see eg, Hooijer et al. 2012) or by using a large diameter piston sampler. As such sampling is labour and resource intensive, it is allowed to sample selectively in those strata that deviate most in terms of drainage intensity and to derive BD of other strata conservatively by interpolation. Samples must be taken near subsidence poles, to allow use of subsidence and soil information from the same locations. CC and BD must be determined ex ante and be re-assessed regularly and at least every 10 years.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	Site visit observations of sampling methods, peat sampling SOP, annex 15
Aster Global Findings - Round 1	The project used a peat sampler that scoops out a known volume of undisturbed peat. No mention of taking BD samples from sites where subsidence poles are installed.
Round 1 NCR/CL/OFI	CL: Please describe the pertinent aspects of the procedure for measuring subsidence and installing poles.
Round 1 Response from Project Proponent	The project uses water table as a proxy for carbon loss and GHG emissions. Thus, subsidence measurements are not required. (01 October 2019)
Aster Global Findings - Round 2	It is unclear how the allowed proxy accounts for subsistence, which is required to be monitored.
Round NCR /CL/OFI 2	CL: Please address the finding and demonstrate where subsistence monitoring is occurring.

Round 2 Response from Project Proponent	We are monitoring Volumetric C Content of the Peat as we do not calculate carbon from the subsidence rate because we are using water table level as a proxy for carbon loss and GHG emissions. We therefore do not need to follow the procedures in section 5.6.5 of VMD0045.
Aster Global Findings - Round 3	The project proponents are correct. The project uses water table depth as the proxy and is not using subsidence poles. The item is addressed.

Item Number	12
VCS Methodology VMD0046 Version 1.0 9 March 2015 Methods for monitoring of soil carbon stock changes and greenhouse gas emissions and removals in peatland rewetting and conservation project activities (M-PEAT) Sectoral Scope 14 (Section)	6.1 Data and Parameters Available at Validation
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	<u>Please see Tables on pages 16-18</u>
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	
Aster Global Findings - Round 1	Not all parameters found.
Round 1 NCR/CL/OFI	CL: Please direct the verifiers to the location of all parameters in project documentation.
Round 1 Response from Project Proponent	See revised monitoring report "SMPP Monitoring Report Final 20190930_edit data parameters from M-Peat (Audit VCS items 9&10)"

Aster Global Findings - Round 2	The following data and parameters required at validation from M-PEAT still do not appear to be referenced in the PD: Average volumetric carbon content of the peat above and below the water table in stratum i at year t Total area of peat in the project area (in case of rewetting projects) or proxy area (in case of conservation projects) Area of peat burnt in stratum i at time t in the baseline scenario GHG emissions from microbial decomposition of the peat soil within the project boundary in the baseline scenario in stratum i in year t
Round 2 NCR /CL/OFI	CL: Please include or explain why the listed data and parameters available at validation have not been included in the PD.
Round 2 Response from Project Proponent	The following parameters were added to the PD: AP: Total area of peat in the project area (in case of rewetting projects) or proxy area (in case of conservation projects) Apeatburn,i,t: Area of peat burnt in stratum i at time t in the baseline scenario GHGpeatsoil-BSL,i,t: GHG emissions from microbial decomposition of the peat soil within the project boundary in the baseline scenario in stratum i in year t (edited) Since the project did not use subsidence as a proxy, we therefore do not need to determine the "Average volumetric carbon content of the peat above and below the water table in stratum i at year t". All other parameters in this finding have been included in the latest version of the PD.
Aster Global Findings - Round 3	The audit team confirmed that parameters are reported appropriately in the newly revised PD. The item is addressed.

Item Number	13
VCS Methodology VMD0046 Version 1.0 9 March 2015 Methods for monitoring of soil carbon stock changes and greenhouse gas emissions and removals in peatland rewetting and conservation project activities (M-PEAT) Sectoral Scope 14 (Section)	6.2 Data and Parameters Monitored
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	<u>Please see Tables on pages 18-22</u>

Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	
Aster Global Findings - Round 1	Not all parameters found.
Round 1 NCR/CL/OFI	CL: Please direct the verifiers to the location of all parameters in project documentation.
Round 1 Response from Project Proponent	See revised monitoring report "SMPP Monitoring Report Final 20190930_edit data parameters from M-Peat (Audit VCS items 9&10)"
Aster Global Findings - Round 2	The following data and parameters required to be monitored from M-PEAT still do not appear to be referenced in the PD and MR: Emission of CH ₄ from ditch and open water stratum i at year t in the project scenario Soil subsidence rate
Round 2 NCR /CL/OFI	CL: Please include or explain why the listed data and parameters monitored have not been included in the PD and MR.
Round 2 Response from Project Proponent	The SMPP is not using soil subsidence as a proxy and therefore does not have to monitor the subsidence rate. The below statement taken from the IPCC means that there are no default factors for CH ₄ from ditches and waterbodies, i.e. (IPCC wetlands supplement, page 50, section 2.2.1.2, paragraph 2): "In most peatlands and organic soils, DOC forms the largest component of waterborne carbon export [...]", and further in paragraph 4: "Gaseous CO ₂ and CH ₄ dissolved in water transported laterally from the organic soil matrix represent indirectly emitted components of the total emission of these gases from the land surface. Dissolved CO ₂ in excess of atmospheric pressure will also be degassed from drainage waters, while some DOC may be transported downstream. At present, available data are insufficient (particularly for drained organic soils) to permit default emission factors to be derived.". Emissions from ditches and other water bodies are accounted for through DOC.
Aster Global Findings - Round 3	The project proponents are correct. The project uses water table depth as the proxy and is not monitoring subsidence rate directly. DOC captures the methane component in ditches and water bodies. The item is addressed.

Item Number	14
Approved VCS Module VMD0016, Version 1.1 (9 March 2015), REDD Methodological Module: Methods for stratification of the project area (X-STR), Sectoral Scope 14 (Section)	II. PROCEDURES

VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	At the project start and whenever biomass stocks are re-measured (i.e. at least every 10 years), project proponents must demonstrate after inventory that within the project area there are no unidentified (i.e. not previously stratified) discrete clusters of sample plots/points representing >10% of samples in the project area that consistently differ (i.e. each sample plot/point estimate) from the overall project mean by $\pm 20\%$.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD
Aster Global Findings - Round 1	The VVB could not locate a demonstration after inventory that within the project area there are no unidentified (i.e. not previously stratified) discrete clusters of sample plots/points representing >10% of samples in the project area that consistently differ (i.e. each sample plot/point estimate) from the overall project mean by $\pm 20\%$.
Round 1 NCR/CL/OFI	CL: Please clarify if the noted demonstration is included in the project documentation. If not, please include the noted demonstration.
Round 1 Response from Project Proponent	We did not account for aboveground biomass (AGB) in the project design document and monitoring report. Likely in 2020, we will conduct the first AGB inventory and set 2020 as the starting point for accounting for AGB increments. ARR accounting only begins after the first inventory has been conducted (likely 2020). This is a conservative approach in ER calculations as we have ignored changes in AGB.
Aster Global Findings - Round 2	The audit team understands that REDD components are not included in this project. AGB stocks will be inventoried to coincide with ARR crediting. The item is addressed.

Item Number	15
VCS Methodology VMD0017 Version 2.1 9 March 2015 Sectoral Scope 14 Estimation of uncertainty for REDD+ project activities (X-UNC) (Section)	5.1.1 Step 1: Assess Uncertainty in Projection of Baseline Rate of Deforestation or Degradation
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Table 1 below provides the parameters and corresponding modules relevant to this step. Please see Table 1 on page 6. It is here assumed that there is zero uncertainty in baseline rate of deforestation or degradation where numbers are equal to a long-term average (BL-UP), are based on actual deforestation plans (BL-PL) or are derived from PRA (BL-DFW). In these specific cases assume: UncertaintyBSL,RATE = 0 In all other scenarios the uncertainty in rate shall be a component of net project uncertainty.

Applicability the (Y or N/A)	to Project	Y
Requirement Met (Y, N, Pending)		Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)		Project files;
Aster Global Findings - Round 1		The "year of depletion" values in the "Table 14" tab of PD_Tables_20190611.xlsx do not match the values from the noted source "PDT_max_year_BSL.csv". The VVB could not locate "Konecny, K. , Ballhorn, U. , Navratil, P. , Jubanski, J. , Page, S. E., Tansey, K. , Hooijer, A. , Vernimmen, R. and Siegert, F. (2016), Variable carbon losses from recurrent fires in drained tropical peatlands. Glob Change Biol, 22: 1469-1480. https://doi.org/10.1111/gcb.13186". The file "20 IPCC AR5 Synthesis Report CC Box 3.2 Table 1 - Contribution of Working Groups I, II and III to the Fifth Assessment Report (AR5) of the Intergovern.pdf" would not open.
Round 1 NCR/CL/OFI		CL: Please clarify the noted discrepancy in the "Table 14" tab of PD_Tables_20190611.xlsx. CL: Please provide and/or direct the VVB to "Konecny, K. , Ballhorn, U. , Navratil, P. , Jubanski, J. , Page, S. E., Tansey, K. , Hooijer, A. , Vernimmen, R. and Siegert, F. (2016), Variable carbon losses from recurrent fires in drained tropical peatlands. Glob Change Biol, 22: 1469-1480. https://doi.org/10.1111/gcb.13186". o CL: Please provide the file "20 IPCC AR5 Synthesis Report CC Box 3.2 Table 1 - Contribution of Working Groups I, II and III to the Fifth Assessment Report (AR5) of the Intergovern.pdf" in a format that may be read by the VVB.
Round 1 Response from Project Proponent		Response: The "year of depletion" values values in the "Table 14" tab of PD_Tables_20190930.xlsx do match the values from the noted source "PDT_max_year_BSL.csv", if you comare the individual IDs. The file "PDT_max_year_BSL.csv" was not sorted by ID, but in the tab "Table 14" the table was sorted by ID. The 2 files can be found in the DB folder "References"

Aster Global Findings - Round 2	VVB again compared the "year of depletion" input values from the CSV file based on the sorted items. All values matched. The provided files were reviewed. Fire scar depth for baseline and project emissions is based on Table 3 values from the Konecny et al. (2016) literature. A preceding paragraph to Table 3 states those values may be used if distance to canals is not known. It is unclear if "distance to canals" was known and accounted for in the decision to use the values from Table 3 of the cited literature. Also, Box 3.2, page 87 of the "20 IPCC AR5 Synthesis Report to the Fifth Assessment Report (AR5) of the Intergovern.pdf" details the IPCC GWP emission metric values that the Project has used. This item is pending the earlier Finding of the values being required from the IPCC Fourth Assessment Report.
Round 2 NCR /CL/OFI	CL: Please clarify if "distance to canals" is known and if so, whether the values from Table 4 should be used instead.
Round 2 Response from Project Proponent	The methodology says you can use literature values for burn scar depth. The distance to canals from the burn scars was not known. We therefore chose to use more conservative literature values for burn scar depth as seen table 3. The data from Table 4b in Konecny (2016), the average burn depth per burn event would be higher (see spreadsheet Emission Factors_20191101, Tab Fire EF, Cells A22:J31) thereby creating a higher number of emissions from our baseline analysis. We are therefore justified in using the selected literature values from Table 3. As for the GWP of CH₄, this was changed as requested under item 30 (see spreadsheet Emission Factors_20191101, Tab Fire EF, Cells D3:D6, that uses the GWP as shown in cell E12).
Aster Global Findings - Round 3	The audit team agrees that literature values are acceptable under VM0007 for burn scar depth, as confirmed elsewhere in the review. The values for burn scar depth are reasonable and the methane global warming potential findings were resolved elsewhere in the review. The item is addressed.

Item Number	16
VCS Methodology VMD0017 Version 2.1 9 March 2015 Sectoral Scope 14 Estimation of uncertainty for REDD+ project activities (X-UNC) (Section)	5.1.3 Step 3: Estimate Total Uncertainty in REDD Baseline Scenario
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	<u>Rate uncertainty is incorporated as follows: See Equation 6 on page 10.</u>
Applicability to the Project (Y or N/A)	Y

Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	Project files;
Aster Global Findings - Round 1	The subsidence rate of 14.5 for acacia plantations between years 4 and 5 was unable to be confirmed via the provided publication.
Round 1 NCR/CL/OFI	CL: Please clarify the source of the subsidence rate of 14.5 for acacia plantations between years 4 and 5.
Round 1 Response from Project Proponent	Response: The reference does not state a single value for the subsidence in year 4 and 5. We therefore calculated the subsidence rate for the years 4 and 5 as $\frac{(67-19 \times 2)}{2}$, where 67 is the subsidence rate (cm) "over the subsequent 4 yr", i.e. total subsidence of year 1 to 4, and 19 is the average subsidence rate the second and third year. In other words, we took the total subsidence rate for years 2-5 (i.e. 67 cm), subtract the average of year 2 and 3 (19 cm) twice (hence $\times 2$), and averaged the result to calculate the annual average for the years 4 and 5.
Aster Global Findings - Round 2	The VVB confirmed the 67-centimeter 4th-year subsidence rate from the referenced literature. The second and third-year rate of 19 cm was also confirmed. Over 5 years, 142 total cm was also confirmed. The VVB agrees with the assertions used to derive the acacia subsidence rate. This item is addressed.

Item Number	17
VCS Methodology VMD0017 Version 2.1 9 March 2015 Sectoral Scope 14 Estimation of uncertainty for REDD+ project activities (X-UNC) (Section)	5.2 Part 2: Uncertainty in WRC Baseline Estimates
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Sources of uncertainty in the baseline scenario accounted for WRC activities include uncertainty around regression models, or discrete default factors, relating CO ₂ and CH ₄ emissions from peat and ditches to chosen proxies, and uncertainty around estimates of emissions from burning of peat. It is assumed that area and strata bounds, Ai and Aditch-BSL,i,t, are known exactly when complying with requirements in modules X-STR and BL-PEAT and that uncertainty around estimates of proxy parameters is zero when complying with requirements of module BL-PEAT.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	MR; PD; Calc Files;

Aster Global Findings - Round 1	• Within the "BSL_Uncertainty" tab of ER, IPCC, and Uncertainty_20190519.xlsx, the following items require clarification: ○ The VVB could not confirm the source of the values in cells G3:H13 ○ The VVB could not confirm the source of the values in cells B22:E68 ○ The VVB could not confirm the source of the values in cells B132:C178 ○ The VVB could not confirm the source of the values in cells B185:C231 ○ It is unclear why "GHGPEAT-BSL,t is calculated in the manner that it is in this worksheet. Cells F185:G231 reference incorrect values.
Round 1 NCR/CL/OFI	CL: Please clarify the noted items.
Round 1 Response from Project Proponent	Response: The spreadsheet "ER, IPCC, and Uncertainty_20190519.xlsx" was updated to "Uncertainty_20190930.xlsx". Notes to the data source is given next to the area estimates as green italic text. ○ The VVB could not confirm the source of the values in cells G3:H13 Response: The source is tab "Emission factors and 95% CI"; Cells: G2:H13 (and the respective references in column E.) ○ The VVB could not confirm the source of the values in cells B22:E68 Response: See spreadsheet "Spreadsheet for Baseline CO2-CH4 emission_20190927", Cells B7:E53 (note that the LUC are in a different order when comparing the 2 spreadsheets). ○ The VVB could not confirm the source of the values in cells B132:C178 Response: see spreadsheet "PD_Tables_20190930.xlsx", tab "Table 35", Cells G2:G14 and K2:K14 for rivers and canals, respectively. ○ The VVB could not confirm the source of the values in cells B185:C231 Response: from spreadsheet "Spreadsheet for Table 33 (burn_LUC_end_summary_area)_20190930.xlsx", Cells R2:R48 ○ It is unclear why "GHGPEAT-BSL,t is calculated in the manner that it is in this worksheet. Response: GHGPEAT-BSL,t is now updated with the new values of spreadsheet "PD_Tables_20190930.xlsx", tab "Table 30", Cells G2:G48 Cells F185:G231 reference incorrect values. Response: This is updated in the new version "Uncertainty_20190930.xlsx"

Aster Global Findings - Round 2	When files reference IPCC tables, it is unclear which IPCC documents are the source. For example, in the Data and Parameters section of the PD, "IPCC default factors" are mentioned, but there does not appear to be a citation referencing which IPCC document. The same situation exists in the "BSL_Uncertainty" (column D) and "Emission factors and 95% CI" (column E) tabs of the "Uncertainty_20190930" and "Emission Factors_20190930" files, respectively, and in other places. This makes it difficult to trace the sources. The VVB noted the use of IPCC Tables but noted inconsistency. In the "IPCC" tab of "Emission Factors_20190930", Cell M31 uses a value from IPCC Table 3.A.3 but references Table 3.3 as its source. Further, it is unclear where the values for G6:G13 of the "BSL_Uncertainty" tab of the "Uncertainty_20190930" file are sourced. The referenced IPCC tables 2.2, 2.3 and 3.3 were not located in the IPCC documents by the VVB. A spell check in all Excel files is recommended for better clarity for the reader/reviewer. Also, units are missing from many column headers. It is unclear what is being presented when reviewing values because of the missing units. It's unclear to the VVB whether the values for Eprox-CO₂,i,t & Eprox-CH₄,i,t from the "BSL_Uncertainty" tab of the Uncertainty file should be used to calculate uncertainty, versus the values post-emission factor conversion from columns N and U of the "Spreadsheet for Baseline CO₂-CH₄ emission_20190927" file. For the rivers and canals area estimates from "PD_Tables_20190930," tab "Table 35," columns G and K, it is unclear why the areas remain the same after year 13. The values in "GHGPEAT-BSL,t" match values from PD_Tables "Table 30. Pending further review of inputs. The cell references in F185:G231 appear to have been corrected, pending further review of above inputs.
Round NCR /CL/OFI	2 CL: Please address all Findings and note that spell-check and units are not required but would be helpful in expediting further review.

Round 2 Response from Project Proponent	The files have been updated to "Uncertainty_20191101", and "Emission Factors_20191101". 1) in respect to the references "Uncertainty_20191101" was updated in: Tab Emission factors and 95% CI, Column E, BSL_Uncertainty Cells D2:D13, WPS_Uncertainty Cells D2:D13. "Emission Factors_20191101" was updated in: Tab IPCC, Cells A1, J1, T1, and AF1 (and the screenshots of the IPCC tables are in this tab as well), and tab emission factors and 95% CI, Column E. 2) Yes, the value is taken from IPCC (2013) table 3A.3, because Table 3.3 uses a rounded value. Where we took the EF of CH4 from IPCC (2013) table 3A.3, the reference was updated. 3) The references in cells G6:G13 were updated and reference the Wetlands supplement of the IPCC (2013). 4) The units in all excel files were missing were added. 5) Columns N and U from the "Spreadsheet for Baseline CO2-CH4 emission_20191028" (which was updated), are the emissions (Area * EF), but for calculating the uncertainty associated with each parameter, the actual area per year per stratum is required (see screenshot from equation 7 of X_UNC below) 6) The areas of the rivers and canals remain constant, because in the baseline scenario, the whole project area is converted to HTI and no new canals are dug.
Aster Global Findings - Round 3	The audit team reviewed the revised uncertainty and emission factor worksheets provided in response to the findings. It was confirmed that updates were performed across calculation worksheets and are appropriate. The item is addressed.

Item Number	18
VCS Methodology VMD0017 Version 2.1 9 March 2015 Sectoral Scope 14 Estimation of uncertainty for REDD+ project activities (X-UNC) (Section)	5.4 Part 4: Uncertainty in WRC Project Scenario Estimates

VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Where regression models are used to estimate emissions from oxidation of peat from proxy parameters, uncertainty is calculated by referencing the 95% confidence limits of the regression model, calculated using standard regression analysis techniques. For the value of the referenced proxy in year t, the half-width of the 95% confidence interval for the dependent variable (emissions) is calculated to produce parameters U*t. Where emissions are estimated applying a discrete default factor, uncertainty, U*t, is simply calculated by referencing the 95% confidence limit of the default factor estimate, or assigned as zero if an indisputably conservative value is used. Note that each parameter U*t is in units of t CO₂-e yr⁻¹ (not percent) and represents error in year t propagated across strata as follows: <u>See Equation 12 15 on pages 14 -16.</u>
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	MR; PD; Calc Files;
Aster Global Findings - Round 1	Within the "WPS_Uncertainty" tab of ER, IPCC, and Uncertainty_20190519.xlsx, the source of cells B65-B114 could not be determined.
Round 1 NCR/CL/OFI	CL: Please clarify the noted items.
Round 1 Response from Project Proponent	Response: The tab "WPS_Uncertainty", the emission factor is sourced from Cell G8 and the 95% CI from H8. The area estimates are from spreadsheet "PD_Tables_20190930.xlsx", tab "Table 44", Cells D2:D48.
Aster Global Findings - Round 2	The VVB noted the source and value changed from 53.28 hectares to 69.30 hectares of water bodies. This finding is addressed but pending confirmation of strata hectare changes and further review associated with this item pending above clarifications.
Round 2 NCR /CL/OFI	No response from proponent required.
Round 2 Response from Project Proponent	
Aster Global Findings - Round 3	The audit team has closed this finding to defer to another clarification request in this review. Finding closed.

Item Number	19
Approved VCS Module VMD0015, Version 2.1 (20 November 2012), REDD Methodological Module: Methods for monitoring of greenhouse gas emissions and removals (M-MON), Sectoral Scope 14 (Section)	5 PROCEDURES

VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	For the project area the <u>net greenhouse gas emissions in the project case</u> is equal to the sum of stock changes due to deforestation and degradation plus the total greenhouse gas emissions minus any eligible forest carbon stock enhancement (<u>Calculated using Equation 1 on page 6</u>)
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	Project Docs
Aster Global Findings - Round 1	Table 33 of the MR does not exactly match the rounded values from the "Table 30" tab of PD_Tables_20190611.xlsx. This is pending findings related to ARR data checks.
Round 1 NCR/CL/OFI	CL: Please correct Table 33 of the MR to match the quantification files.
Round 1 Response from Project Proponent	Response: The MR Table is updated in "PD_Tables_20190930.xlsx", tab "MR Table 30", which links to the updated values in tab "Table 37", Cells B2:B4.
Aster Global Findings - Round 2	Table 33 of the MR was confirmed to correctly report computed values. The item is addressed.

Item Number	20
Approved VCS Module VMD0015, Version 2.1 (20 November 2012), REDD Methodological Module: Methods for monitoring of greenhouse gas emissions and removals (M-MON), Sectoral Scope 14 (Section)	5.2.2 Monitoring degradation
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	The key is that the monitoring method results in estimates of any emissions from degradation that may occur in the project area ($\Delta CP, Deg, i, t$).
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y

Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD, MR, Project Docs;
Aster Global Findings - Round 1	The VVB could not locate references to monitoring and/or calculating any emissions from degradation in the project scenario.
Round 1 NCR/CL/OFI	CL: Please clarify if emissions from degradation were monitored in the project scenario. If not, please clarify why.
Round 1 Response from Project Proponent	The project does not account for emission reductions from deforestation and degradation (i.e. REDD), only from WRC and ARR. In the next few CL we will clarify again that the SMPP is a WRC + ARR project, not a REDD project.
Aster Global Findings - Round 2	The audit team understands that this project is ARR+WRC and does not include REDD activities. The item is addressed.

Item Number	21
Approved VCS Module VMD0015, Version 2.1 (20 November 2012), REDD Methodological Module: Methods for monitoring of greenhouse gas emissions and removals (M-MON), Sectoral Scope 14 (Section)	6.1 Data and Parameters Monitored for Baseline Renewal
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	<u>Project Forest Cover Benchmark Map</u>
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD, MR;
Aster Global Findings - Round 1	It was unclear to the VVB if a Project Forest Cover Benchmark Map was included in the project documentation.
Round 1 NCR/CL/OFI	CL: Please clarify if a Project Forest Cover Benchmark Map was included in the project documentation. If it was not, please include one in the project documentation as prescribed.
Round 1 Response from Project Proponent	The forest/non-forest cover map at the initial status of the project scenario was already included in the project documentation. For better clarity in the revised Project Design Document we are happy to enclose a forest/non-forest cover benchmark map.
Aster Global Findings - Round 2	The audit team understands that this project is ARR+WRC and does not include REDD activities. The item is addressed.

Item Number	22
Approved VCS Module VMD0015, Version 2.1 (20 November 2012), REDD Methodological Module: Methods for monitoring of greenhouse gas emissions and removals (M-MON), Sectoral Scope 14 (Section)	Degradation PRA Results
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	<u>Degradation PRA Results</u>
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD; MR;
Aster Global Findings - Round 1	While the PD and MR contain language describing the PRA, it is unclear if the PRA followed the guidelines outlined in M-MON for PRAs.
Round 1 NCR/CL/OFI	CL: Please clarify if the PRAs followed the guidelines outlined in M-MON for PRAs.
Round 1 Response from Project Proponent	The project does not account for emission reductions from deforestation and degradation (i.e. REDD), only from WRC and ARR. In the next few CL we will clarify again that the SMPP is a WRC + ARR project, not a REDD project.
Aster Global Findings - Round 2	The audit team understands that this project is ARR+WRC and does not include REDD activities. The item is addressed.

Item Number	23
Approved VCS Module VMD0015, Version 2.1 (20 November 2012), REDD Methodological Module: Methods for monitoring of greenhouse gas emissions and removals (M-MON), Sectoral Scope 14 (Section)	Area of recorded deforestation in the leakage belt in stratum I converted to land use u at time t (A _{DefLB,i,u,t})

VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	<u>Area of recorded deforestation in the leakage belt in stratum I converted to land use u at time t (ADefLB,i,u,t)</u>
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	MR; PD;
Aster Global Findings - Round 1	The VVB could not find reference to ADefLB,i,u,t in the project documentation.
Round 1 NCR/CL/OFI	CL: Please clarify if ADefLB,i,u,t is monitored in the project documentation.
Round 1 Response from Project Proponent	We did not identify a leakage belt as typically thought of for REDD projects. In the project design document (PD) we used broader national data from which historical HTI licensed area and deforestation of the baseline agent were determined and then projected to the future years. In the monitoring report we then assessed deforestation data across that whole national area and confirmed that the actual deforestation was less than what was projected in PD, so we could claim no leakage during this monitoring period.
Aster Global Findings - Round 2	Procedures for leakage for this ARR+WRC project are provided for in LK-ASP, as required by REDD-MF. The item is addressed.

Item Number	24
Approved VCS Module VMD0015,Version 2.1 (20 November 2012), REDD Methodological Module: Methods for monitoring of greenhouse gas emissions and removals (M-MON), Sectoral Scope 14 (Section)	Remaining area of forest in RRL at time t (ARRL,forest,t)
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	<u>Remaining area of forest in RRL at time t (ARRL,forest,t)</u>
Applicability to the Project (Y or N/A)	Y

Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD; MR;
Aster Global Findings - Round 1	The VVB could find no reference to ARRL,forest,t in the project documentation.
Round 1 NCR/CL/OFI	CL: Please clarify if and why ARRL,forest,t is/is not a monitored parameter.
Round 1 Response from Project Proponent	In the Project Documentation we described, "We will obtain and analyze satellite imagery to detect land cover change, such as natural regeneration of vegetation, or (if any) vegetation loss caused by fire or encroachment. In cases where forest changes take place, we will follow the procedures outlined in VCS methodology VM0007 Module M-MON to quantify the relevant parameters. We will update the land cover map at each monitoring period. We will carry out the update annually." For better clarity in the revised Project Design Document we specify that area of recorded deforestation (ADefPA,u,i,t) will be quantified by subtracting change areas of forest cover. Emissions ($\Delta CP, Def, i, t$) from deforestation will be calculated by multiplying areas (ADefPA,u,i,t) of deforestation by the average forest carbon stock per hectare (CBSL,i). The area of remaining forest in the RRL (ARRL,forest,t) will be based on subtracting non-forest area within the RRL and will be recorded in a forest benchmark map, which will be updated for each monitoring period.
Aster Global Findings - Round 2	The audit team noted the additional text in the PD pertaining to relevant monitoring from M-MON. However, the description of M-MON monitoring methods in PD Section 3.3.3.1.1 appears to be lacking in some of the detail provided in the response (e.g. parameters, AdefPA,u,i,t). Further, M-MON specifies greater monitoring steps and tasks which are not detailed in project reporting documentation for the monitoring plan. As M-MON is a mandatory module, but noting that REDD is not a project activity, additional detail is requested in reporting documentation to clarify all relevant components of monitoring from M-MON the project is required to carry out.
Round 2 NCR /CL/OFI	CL: Please clarify in reporting documentation the detailed monitoring tasks, relevant to M-MON, the project will undergo.
Round 2 Response from Project Proponent	We elaborated further in PD Section 3.3.3.1.1 and MR Section 3.1.3.1.1 of the remote sensing approach to be undertaken following the standard steps guided by module M-MON. More specific details regarding each step are available in an added Annex on the Remote Sensing Standard Operating Procedure.
Aster Global Findings - Round 3	The audit team noted the additional detail presented in PD Section 3.3.3.1.1 and MR Section 3.1.3.1.1, including the newly submitted remote sensing SOPs annex. The monitoring tasks are now sufficiently described, and this requirement is met. The item is addressed.
Item Number	25

Approved VCS Module VMD0015, Version 2.1 (20 November 2012), REDD Methodological Module: Methods for monitoring of greenhouse gas emissions and removals (M-MON), Sectoral Scope 14 (Section)	Total area of degradation sample plots in stratum I (Api)
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Total area of degradation sample plots in stratum I (Api)
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD; MR;
Aster Global Findings - Round 1	The VVB could find no reference to Api in the project documentation.
Round 1 NCR/CL/OFI	CL: Please clarify if and why Api is/is not a monitored parameter.
Round 1 Response from Project Proponent	The project does not account for emission reductions from deforestation and degradation (i.e. REDD), only from WRC and ARR. In the few CL we clarify again that the SMPP is a WRC + ARR project, not a REDD project.
Aster Global Findings - Round 2	The audit team understands that this project is ARR+WRC and does not include REDD activities. The item is addressed.

Item Number	26
	1.1 VERSION
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	This document will be updated from time-to-time and readers shall ensure that they are using the most current version of the document. Where external documents are referenced, such as the IPCC 2006 Guidelines for National GHG Inventories, and such documents are updated, the most recent version of the document shall be used.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y

Evidence Used to Assess (Location in PD, MR or Supporting Documents)	Reference # 30 of PD
Aster Global Findings - Round 1	The most recent version of the CDM "Combined tool to identify the baseline scenario and demonstrate additionality" is not used.
Round 1 NCR/CL/OFI	CL: Please clarify why the most recent version of the CDM "Combined tool to identify the baseline scenario and demonstrate additionality" is not used.
Round 1 Response from Project Proponent	Response: "Page 96 of PD says: ""In this section we identify the baseline scenario of the SMPP and demonstrate our project's additionality using the "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities: Version 1" (REF:30)"" Ref: United Nations Framework Convention on Climate Change (UNFCCC)- CDM Executive Board. A/R Methodological tool: 'Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities' (Version 01). (2007). This should be: United Nations Framework Convention on Climate Change (UNFCCC)- CDM Executive Board. A/R Methodological tool: 'Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities'.(Version 01). (2007)."
Aster Global Findings - Round 2	The most recent version of the Tool is Version 7, applicable from 22 September 2017 onward (https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-02-v2.2.pdf/history_view).
Round 2 NCR /CL/OFI	CL: Please review and ensure the most recent version of the tool is used.
Round 2 Response from Project Proponent	We have confirmed that we have used the most recent version of the tool and have modified the text in section 3.1.4 on the Baseline Scenario and in the Bibliography on reference number 30. The correct reference should be : United Nations Framework Convention on Climate Change (UNFCCC)- CDM Executive Board. A/R Methodological tool: 'Combined tool to identify the baseline scenario and demonstrate additionality'.(Version 07.0). (2017)." And has been updated in the PD (SMPP PD Submission Version Final 20191106.docx).
Aster Global Findings - Round 3	The correct citation was confirmed reported in Section 3.1.4 and the references section of the PD. The item is addressed.

Item Number	27
	3.10 PROJECT LOCATION
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	3) Project location for AFOLU projects shall be specified using geodetic polygons to delineate the geographic area of each AFOLU project activity and provided in a KML file.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y

Evidence Used to Assess (Location in PD, MR or Supporting Documents)	Numerous SMPP_Project_Area.kml	GIS	files
Aster Global Findings - Round 1	While the project proponents provided numerous shapefiles depicting the project area boundaries and areas where project activities will take place, no KML files were provided.		
Round 1 NCR/CL/OFI	NCR: Please provide a KML file that satisfies this requirement.		
Round 1 Response from Project Proponent	KML file is provided under folder 3.10 Project Location		
Aster Global Findings - Round 2	The newly provided KML file satisfies the requirement of the VCS Standard. This item is addressed.		

Item Number	28		
	3.11 OWNERSHIP AND OTHER PROGRAMS		
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	3.11.1 The project description shall be accompanied by one or more of the following types of evidence establishing project ownership accorded to the project proponent(s), or program ownership accorded to the jurisdictional proponent(s), as the case may be (see VCS document Program Definitions for definitions of project ownership and program ownership). To aid the readability of this section, the term project ownership is used below, but should be substituted by the term program ownership, as appropriate: 1) Project ownership arising or granted under statute, regulation or decree by a competent authority. 2) Project ownership arising under law. 3) Project ownership arising by virtue of a statutory, property or contractual right in the plant, equipment or process that generates GHG emission reductions and/or removals (where such right includes the right of use of such reductions or removals and the project proponent has not been divested of such right of use). 4) Project ownership arising by virtue of a statutory, property or contractual right in the land, vegetation or conservational or management process that generates GHG emission reductions and/or removals (where such right includes the right of use of such reductions or removals and the project proponent has not been divested of such right of use). 5) An enforceable and irrevocable agreement with the holder of the statutory, property or contractual right in the plant, equipment or process that generates GHG emission reductions and/or removals which vests project ownership in the project proponent.		
Applicability to the Project (Y or N/A)	Y		
Requirement Met (Y, N, Pending)	Y		
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	Sections 2.5.8,	2.5.9 and	2.5.2
	PT GAL Carbon Storage and Sequestration License - PANRAP KARBON 2013		
	PT GAL Concession Boundary Marking 2018		

Aster Global Findings - Round 1	This project's ownership appears to fall under the first listed type of project ownership. The PD states that one of the project proponents, PT Global Alam Lestari owns the land tenure rights to the project area. An IUP PAN/RAP license for the utilization of carbon sequestration and carbon sinks was granted on July 12, 2013 by the Decree of the Minister of Forestry No. SK. 494 Menhut-II/2013. No copy of the license was supplied to the auditors.
Round 1 NCR/CL/OFI	NCR: Please provide a copy of the license granting ownership to the project proponents.
Round 1 Response from Project Proponent	Copies of licenses that grant proponents the right to use the land is provided under folder 3.11 Ownership and Other Programs, as follows: 1. Carbon Storage and Sequestration License 2013.pdf 2. Permanent Concession Boundary Marking 2018.pdf Also Completed in G5.2 CCB Checklist
Aster Global Findings - Round 2	The licenses grant Project Proponents the right to use the land for the Project. This item is addressed.

Item Number	29
	Other Forms of Environmental Credit
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	3.11.4 Where projects are eligible to participate under one or more programs to create another form of GHG-related environmental credit, but are not currently doing so, a list of such programs shall be provided to the validation/verification body.
Applicability to the Project (Y or N/A)	N/A
Requirement Met (Y, N, Pending)	N/A
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	section 2.5.13 of the PD.
Aster Global Findings - Round 1	The PD states the project does not participate in any other GHG program. However, this item asks whether the project is eligible for programs that create another form of GHG-related credit but is not currently doing so. If this is the case, a list of those programs must be provided.
Round 1 NCR/CL/OFI	CL: See findings. Please determine if the project is eligible for any other form of GHG-related credit and if so, please provide a list of these programs.
Round 1 Response from Project Proponent	The project has determined it is not currently eligible for any other form of GHG-related credit program. If it becomes eligible, it will provide a list of eligible programs. (01 October 2019)
Aster Global Findings - Round 2	The VVB's own knowledge of eligible GHG activities and a risk-based review confirms the Project's statement that it is not eligible for any other GHG-related environmental credits. This item is addressed and will be further assessed in future verification events.

Item Number	30
	3.15 QUANTIFICATION OF GHG EMISSIONS REDUCTIONS AND REMOVALS
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	3.15.3 Metric tonnes shall be used as the unit of measure and the quantity of each type of GHG shall be converted to tonnes of CO ₂ e. The six Kyoto Protocol greenhouse gases and ozone-depleting substances shall be converted using 100-year global warming potentials derived from the IPCC's Fourth Assessment Report.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	Sections 3.2.1 and 3.2.2 of the MR.
Aster Global Findings - Round 1	Metric tonnes of CO ₂ e is the unit used. The GWP for methane from IPCC's fourth assessment report is 25, but the project appears to be using 28.
Round 1 NCR/CL/OFI	NCR: Please ensure the correct GWP is used in all calculations and project documentation.
Round 1 Response from Project Proponent	Response: The Project uses the GWP value for methane provided from the 5th AR (see also file "20 IPCC AR5 Synthesis Report to the Fifth Assessment Report (AR5) of the Intergovern.pdf", page 87, Box 3.2 Table 1.)
Aster Global Findings - Round 2	The VCS Standard requirement does not appear to allow for use of updated versions of the IPCC Assessment Report, although they may be more accurate.
Round 2 NCR /CL/OFI	CL: Please obtain and provide written confirmation from Verra that the 100-year GWP of methane in Box 3.2 Table 1 of the IPCC Fifth Assessment Report may be used for the Project.
Round 2 Response from Project Proponent	Response: The GWP was changed to 25 as stated in IPCC AR4. The following files were revised: - Spreadsheet for Baseline CO₂-CH₄ emission_20191028 - Spreadsheet for Table 33 (burn_LUC_end_summary_area)_20191028 - R script "Emissions from peat burning calculation_20171028" - R script "Project emission from peat oxidation calculation_20191029" - Spreadsheet "Uncertainty _20191101.xlsx" Details are provided in tab "Detailed response to Item No. 30".
Aster Global Findings - Round 3	Calculations and materials were reviewed and confirmed related to the updated GWP value. The item is addressed.
Item Number	31
	3.2 PROJECT START DATE

VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	3.2.1 As set out in the VCS Standard, the project start date of an AFOLU project shall be the date on which activities that lead to the generation of GHG emission reductions or removals are implemented. Such activities may include preparing land for seeding, planting, changing agricultural or forestry practices, rewetting, restoring hydrological functions, or implementing management or protection plans.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	section 2.1.4 of the PD Forest Carbon Response to Public Comments on the Sumatra Merang Peatland Final Start Date Overview Semester and Annual Reports for 2016 and 2017 Government Stamp on acknowledgement of receipt for 2016 and 2017 Letter from the government in October 2015
Aster Global Findings - Round 1	The PD Section 2.1.14 states that project start date of 1 January 2016 coincides with the commencement of fire and forest patrolling as well as other activities. A public comment was issued regarding the start date and date of issuance of the concession license, a response was also provided by project proponents following the VCS Standard v3.7 Section 3.17.8. The action taken by proponents consisted of a written response. The VVB raises several concerns: 1. Based on the history of activities in the project area, the VVB understands that other activities leading to the generation of GHG emission reductions have occurred prior to the January 1 2016 start date. The project area has been subject to a REDD pilot project in 2009 - 2011 and the site was under the management of the same project proponent (since July 2013). Verifiable documentary evidence is requested on activities for a January 1 2016 start date which satisfy this requirement. 2. The VVB understands that concession license holders are required to perform periodic reporting to the Indonesian government. This suggests activities leading to the generation of GHG emission reductions occurred prior to the 1 January 2016 start date since July 2013. Verifiable documentary evidence is requested of management activities which may have occurred from the period of concession approval to 1 January 2016.
Round 1 NCR/CL/OFI	CL: Please provide verifiable documentary evidence on activities for a January 1 2016 start date which satisfy this requirement. Please provide verifiable documentary evidence of management activities which may have occurred from the period of concession approval to 1 January 2016.

Round 1 Response from Project Proponent	Please see Forest Carbon Response regarding Project Start Date in the Public Comment response. Supporting material is provided under folder '3.2 Project Start Date' Additional Response provided separately: "PT GAL began reporting semester and annual progress reports to the government in 2016 as it had not started field operations prior to that time as it awaited government approval to begin activities with the approval of its long term management plan (RKU) and formal boundary marking (Tata Batas). In Indonesia, the approval of an RKU and Tata Batas can take many years and concession owners are not legally allowed to begin operations until they are approved. The 2016 report submitted to the government clearly shows that field operations started in January 2016 with the staff being hired, a lodging camp and patrol posts constructed, tree planting conducted, and canal dam construction taking place over the year. PT GAL was able to start operations in in 2016 because at the end of 2015, the Ministry of Forestry issued a letter voluntarily asking forest concession owners on peatlands to begin efforts to protect their area from fires even if it lacked certain interim approvals. As a result, PT GAL began field operations that led to emission reductions in 2016."
Aster Global Findings - Round 2	The Project Proponent has provided a response detailing how operations had not begun prior to 2016, as formal government approval had not yet been sought or received to begin operations. Field logs documenting the beginning of construction of camps and patrol posts, as well as tree planting and dam construction after January of 2016, were provided and reviewed. The Project's response to the public comment details the long process of government approval of operations after licenses are approved, and the response also uses another project's 3-year timeline (from license approval to project start date) as an example of this precedent. The OVB concurs that the documentation provided shows evidence of the 01 January 2016 start date. This item is addressed.

Item Number	32
	3.3 PROJECT CREDITING PERIOD
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	3.3.1 The project crediting period rules are set out in the VCS Standard. Projects shall have a credible and robust plan for managing and implementing the project over the project crediting period.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	Section 2.1.20 of the PD

Aster Global Findings - Round 1	See also G1.12 of the CCB checklist. The project proponents have not shown the costs of project activities into the future and the means for covering them.
Round 1 NCR/CL/OFI	NCR: See findings. Please list project activities, expected costs and revenues that will be used to cover them, through the crediting period.
Round 1 Response from Project Proponent	The following documentations are provided to demonstrate the project can sustain itself: 1. Althelia Agreements (Agency, Loan and Project Agreements) 2. Belantara Agreements (Call Option Agreement, with amendment) 3. Chanel Credit Purchase (Letter of Intent - Ecosphere.pdf) 4. L'Oreal Credit Purchase (Letter of intent Signed 20181009.pdf; Onsale Agreement - Ecosphere+ and L'Oreal.pdf) 5. SMPP Financial Model – NPV (Althelia NPV v2.xlsx) 6. SMPP 5 Years Althelia Investment Budget.xlsx 7. Althelia - SMPP Investment Confirmation Letter.pdf 8. Ecosphere plus - Credit Marketing Capacity.pdf Also Completed in G1.12 CCB Checklist
Aster Global Findings - Round 2	Althea agreements indicate the lender is satisfied the project proponents can pay back the loan at a carbon cost of 3 euro/tonne. Item addressed.

Item Number	33
	4.7 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	* Where the net change in carbon stocks is not a whole number, round the calculated VCU and buffer credit volumes down to the nearest whole number. Where the net change in carbon stocks is a whole number, round the calculated buffer volume up, and the VCU volume down, to the nearest whole number.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD tables worksheet; MR Section 3.2.4.3
Aster Global Findings - Round 1	The VVB noted in review of the final estimated VCU calculations and reporting that this decimal guidance was not followed for buffer and VCU amounts reporting. Also, the audit team noted that section heading numbers appear to be mis-formatted.
Round 1 NCR/CL/OFI	CL: Please address the findings and correctly compute and report final estimated buffer and VCU amounts following this requirement. Please also ensure section heading numbers are formatted correctly.
Round 1 Response from Project Proponent	Response: In the updated spreadsheet "PD_Tables_20190930.xlsx", the tables in tab "Table 57" , cells D2:D48 and "Table 58", cells F2:F48 are now correctly rounded.
Aster Global Findings - Round 2	Table 57, Column D (PD_Tables_20190930.xlsx) shows the ROUNDDOWN function used for the buffer credit volumes. Table 58, Column F shows the ROUNDDOWN function used for the estimated VCUs. This item is addressed.

Item Number	34
VCS Methodology VMD0043 Version 1.0 9 March 2015 Sectoral Scope 14 Estimation of emissions from displacement of pre- project agricultural activities (LK-ARR) (Section)	5 PROCEDURES
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents	PD; MR;
Aster Global Findings - Round 1	Section 3.2.1.3 of the PD states that VM0007 requires projects using both RWE and ARR to use LK-ASP. However, it was noted the LK-ARR is required under this methodology framework (Section 8.3 of VM0007 states "Leakage must be considered for all activities using the following leakage modules: • For planned deforestation/degradation: module LK-ASP • For unplanned deforestation: module LK-ASU • For fuel-wood/charcoal collection: module LK-DFW • For pre-project agricultural activities: module LK-ARR").
Round 1 NCR/CL/OFI	CL: Please clarify why LK-ARR is not utilized, when VM0007 requires its use.
Round 1 Response from Project Proponent	We stated in the project design document that "To account for leakage from combined RWE-ARR VM0007 requires projects to make use of LK-ASP, as outlined in the previous section. As such, no additional leakage calculations need to be made." The need for CL here is that we used the language from the Silvestrum methodology updates (still not yet formally approved) while the auditors might still be using the original methodologies. We hoped these would be approved and we would not have to write a whole additional methodology deviation to justify the use of LK-ASP for combined RWE-ARR projects. We already alerted the auditors to the fact that we would use the Silvestrum versions. We are happy to clarify this again in a call if needed.
Aster Global Findings - Round 2	The audit team finds the response reasonable, however unapproved methodologies are not under the purview of this validation/verification. The audit team understands that methodology deviations apply to monitoring and measurement and it is unclear whether deferment of the LK-ARR module is eligible. The LK-ARR module appears required.

Round NCR /CL/OFI	2	CL: Please further clarify the omission of LK-ARR module by providing support materials as needed.
Round 2 Response from Project Proponent		We have added a section in the PD to use the LK-ARR module. The text added to the PD is below: The VM0007 Module LK-ARR requires the use of the latest version of the CDM tool "Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity" area. Step 1 of the CDM tool requires that the area subject to pre-project agricultural activities that is expected to be afforested/reforested (therefore the activities having to be displaced) be identified. The SMPP project area, confirmed through field and drone surveys, did not have any pre-project agricultural activities in the project area considered for ARR. As a result, no pre-project agricultural activities will be displaced by ARR project activities, and hence Change_C_LK-ARR = 0.
Aster Global Findings - Round 3		Language pertaining to required use of module LK-ARR was confirmed added to the PD Section 3.2.3.1.3. The description clarifies in greater detail that LK-ARR and the associated A/R CDM tool are not applicable. The item is addressed.

Item Number	35
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	AR-ACM0003 - A/R Large-scale Consolidated Methodology - Afforestation and reforestation of lands except wetlands Version 02.0
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD; Spreadsheet for ARR calculations_20190924.xlsx; Strata Change Summary, v9A.xlsx
Aster Global Findings - Round 1	The PD states that version 1 of AR-ACM0003 was utilized. However, BL-ARR states that "This module uses the latest versions of the following methodology and module: CDM methodology AR-ACM0003 Afforestation and reforestation of lands except wetlands, and associated tools." In reviewing the ARR calculations sheet (Spreadsheet for ARR calculations_20190507.xlsx), the VVB was unable to confirm Total ARR area and Total planted area, as the spreadsheet source listed was not available. Also, the acacia carbon percentage could not be ascertained from the papers provided.

Round 1 NCR/CL/OFI	NCR: Please ensure that the latest version of AR-ACM0003 is utilized. CL: Please provide the information necessary to confirm the Total ARR area and the Total planted area within the spreadsheet "Spreadsheet for ARR calculations_20190507.xlsx" CL: Please clarify the location in the provided source papers of the acacia carbon percentage used in Spreadsheet for ARR calculations_20190507.xlsx.
Round 1 Response from Project Proponent	Response NCR: The text contained a typo and should read version 2. Response CL1: The total planted area estimates used for the ARR calculation can be found in the excel file "Strata Change Summary, v9A", tab " Baseline Annual Strata Chg", Cell "E8". The total ARR area can be found in the excel file "Strata Change Summary, v9A", tab "Annual Status Area PD", Cell "O4 - sum(G4,H4, F3)", i.e. total project area minus Conservation Areas (DS-CAU and DS-CAD, i.e. G4, H4) and the initial water body area (F3). Response CL2: The carbon percentage was used wrongly and is updated as the IPCC (2006) default value in the new version of the ARR calculations. (Spreadsheet for ARR calculations_20190924.xlsx) All values area also updated in the "PD_Tables_20190821.xlsx", tab "Table 36" and "Table 37".
Aster Global Findings - Round 2	The audit team reviewed the responses and noted the following; -area eligible for ARR crediting is reported as 20,627.25 hectares on page 91 of the PD. This indicates (within "Strata Change Summary, v9A", tab Annual Status Area PD) that only stratum DS-CAU and DS-CAD are removed from the total, other stratum such as water bodies and ground facilities do not appear appropriate for inclusion in ARR crediting hectares -total planted area (DS-AC, 31) was unable to be confirmed, total hectares did not align with "Eligible Areas for ARR crediting (Eligible).lyr" a newer version may be utilized -The carbon fraction applied was deemed suitable
Round 2 NCR /CL/OFI	CL: Please clarify the stratum for inclusion in area eligible for crediting under ARR as noted in the finding. Please clarify where total planted area is sourced from, updating values in calculations if necessary.
Round 2 Response from Project Proponent	1) The eligible area for ARR is the total area minus the conservation area (DS-CAU and DS-CAD) AND the initial waterbodies (IN-WB), resulting in 20,601.37 ha (See Strata Change Summary, v9A, tab Annual Status Area PD, Cell P4). Ground facilities are the facilities that would have been built in the baseline scenario, similarly to the waterbodies (DS-WB). The water bodies that are currently present in the project area (IN-WB) have been accounted for. 2) Total planted area can be found in "Strata Change Summary, v9A, Baseline Scenario Change, Cell E8"

Aster Global Findings - Round 3	The audit team confirmed that hectares are allocated correctly with regard to ARR area eligibility. Hectares by stratum confirmed correct. The item is addressed.
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Item Number	36																								
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Emissions from peat burning calculation_20170507.R																								
Applicability to the Project (Y or N/A)	Y																								
Requirement Met (Y, N, Pending)	Y																								
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	Emissions from peat burning calculation_20170507.R																								
Aster Global Findings - Round 1	While reviewing the R script Emissions from peat burning calculation_20170507.R, the VVB was unable to confirm the following lines: <table><tr><td>EF_CO2_first_burn</td><td><-</td><td>410.346</td></tr><tr><td>EF_CO2_second_burn</td><td><-</td><td>241.38</td></tr><tr><td>EF_CO2_third_burn</td><td><-</td><td>144.828</td></tr><tr><td>EF_CO2_subseq_burn</td><td><-</td><td>48.276</td></tr><tr><td>EF_CH4_first_burn</td><td><-</td><td>43.97288</td></tr><tr><td>EF_CH4_second_burn</td><td><-</td><td>25.8664</td></tr><tr><td>EF_CH4_third_burn</td><td><-</td><td>15.51984</td></tr><tr><td>EF_CH4_subseq_burn</td><td colspan="2"><- 5.17328</td></tr></table>	EF_CO2_first_burn	<-	410.346	EF_CO2_second_burn	<-	241.38	EF_CO2_third_burn	<-	144.828	EF_CO2_subseq_burn	<-	48.276	EF_CH4_first_burn	<-	43.97288	EF_CH4_second_burn	<-	25.8664	EF_CH4_third_burn	<-	15.51984	EF_CH4_subseq_burn	<- 5.17328	
EF_CO2_first_burn	<-	410.346																							
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EF_CO2_subseq_burn	<-	48.276																							
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EF_CH4_second_burn	<-	25.8664																							
EF_CH4_third_burn	<-	15.51984																							
EF_CH4_subseq_burn	<- 5.17328																								
Round 1 NCR/CL/OFI	CL: Please clarify the source of the noted lines from Emissions from peat burning calculation_20170507.R																								
Round 1 Response from Project Proponent	Response: see calculations of the EF in the file "Emission Factors_20190930", Tab "Fire EF", Cells C3:D6																								
Aster Global Findings - Round 2	The source of emission factors was confirmed, it was also noted that the R script "Emissions from peat burning calculation_20170507" is unchanged from the previous submission to the current submission. Changes to the file "Baseline WRC area calculations that incorporates PDT_20190927.R" (or version dated 20190921 as noted in "Spreadsheet for Baseline CO2-CH4 emission_20190927.xlsx) were noted including for instance PDT values (e.g. PDT_max_year_end.csv). Clarification is requested on the origin of the global changes.																								
Round NCR /CL/OFI 2	CL: Please consider the findings.																								

Round 2 Response from Project Proponent	The PDT changed slightly, because after reassessing the baseline strata (see change in area of the waterbodies in the baseline), some parts of the project area changed their drainage status (drained vs undrained) which subsequently changed the PDT for some parts, as the drainage status is a vital part of the function "PDT_function_BSL" in script "PDT calculations GAL_20190926.R", lines 24 - 70.
Aster Global Findings - Round 3	The audit team reviewed and confirmed the derivative changes from baseline stratum allocation. The item is addressed.

Item Number	37
	5 PROCEDURES
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	Spreadsheet for ARR calculations_20190507.xlsx
Aster Global Findings - Round 1	This equation was not implemented correctly. It was not implemented as a cumulative summation, nor could the VVB locate where GHGBSL-WRC is subtracted from the ARR baseline.
Round 1 NCR/CL/OFI	NCR: Please correctly implement Equation (2).
Round 1 Response from Project Proponent	Response: The subtraction of the GHG_BSL-WRC from the ARR baseline is ultimately just a presentation issue. Essentially, BL_ARR is asking the project proponent to consider the project as the complete package of AGB and BGB components, like an overarching architecture. As such, the project proponent uses ACM0003 for the AGB component and then WRC for the BGB component. Equation 2 is simply asking to show ACM0003 calculations for baseline AGB and WRC for baseline BGB. This would give the project's total baseline removals, which in our case of SMPP are negative removals (i.e. emissions) since WRC emissions are drastically higher than the removals). If the methodology would be implemented word for word (see section 8.4.3. and 8.4.4 "VM0007 REDD+ Methodology Framework (REDD-MF) (v.1.5)"), the WRC baseline emissions would be incorporated twice, i.e. in ΔCBSL-ARR and in GHGBSL-WRC. Thus, in the PD tables attached, we calculated the ARR removals without GHGBSL-WRC, but accounted for them in the calculations for NERWRC.

Aster Global Findings - Round 2	The audit team agrees with the proponents assertions regarding interpretation of BL-ARR equation 2. This equation is inherently captured under REDD-MF module. The item is addressed.
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Item Number	38
VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016 (Section)	Table 1 Project Management
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Ongoing enforcement to prevent encroachment by outside actors is required to protect more than 50% of stocks on which GHG credits have previously been issued.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD
Aster Global Findings - Round 1	PD indicates "The project works to reduce the threat of possible encroachment by local people." but does not provide a quantitative demonstration to show threat of encroachment is below 50%.
Round 1 NCR/CL/OFI	CL: please provide a quantitative demonstration that ongoing enforcement is not needed to prevent encroachment by outside actors on more than 50% of carbon stocks.
Round 1 Response from Project Proponent	The majority of the project's carbon stocks are in the peat soils. Therefore, encroachment on 50% of the project's carbon stocks would require massive industrial conversion of over 11,000 hectares of the project area that would create an extensive network of canals with heavy machinery. Only an industrial commercial entity would be able to achieve this. However commercial entities would have no legal right to do so and would be stopped by government authorities. Since the project has started there has been no encroachment in the project area.
Aster Global Findings - Round 2	The argument provided sufficiently supports that the risk score is appropriate. The narrative provided needs to be added to the final risk report provided by the client.
Round 2 NCR /CL/OFI	CL: Please revise the risk report to include the latest language provided in support of this risk score.
Round 2 Response from Project Proponent	The approved text has been added the annexes of the PD and the MR.
Aster Global Findings - Round 3	Addition of language confirmed. Item closed.

Item Number	39
VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016 (Section)	Table 1 Project Management
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Management team does not include individuals with significant experience in all skills necessary to successfully undertake all project activities (i.e., any area of required experience is not covered by at least one individual with at least 5 years experience in the area).
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD
Aster Global Findings - Round 1	Risk annex states "Score is zero. The project's management team includes staff with significant experience in all areas necessary to manage project activities. Resumes of staff are provided to validators upon request. ". A list of skills and persons satisfying those skills needs to be provided for confirmation of current score.
Round 1 NCR/CL/OFI	CL: Please provide a list of skills required and the staff with experience in those area to confirm the management team has sufficient experience in all appropriate areas.
Round 1 Response from Project Proponent	Provided Riza Jeffrey Ophelia Sebastian Abdul Ahmad Mary Prasetya Mahardhitama resumes Haris of: Suarga Chatellier Wang Persch Marzuki Susilo Osmond
Aster Global Findings - Round 2	The resumes provided support the risk score. Item closed.

Item Number	40
VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016 (Section)	Table 1 Project Management

VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Mitigation: Management team includes individuals with significant experience in AFOLU project design and implementation, carbon accounting and reporting (e.g., individuals who have successfully managed projects through validation, verification and issuance of GHG credits) under the VCS Program or other approved GHG programs.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD
Aster Global Findings - Round 1	The PD states "The project employs staff that have successfully developed and managed AFOLU projects, and are fully versed in the carbon accounting, methodologies and requirements of the VCS. Forest Carbon has acted as technical consultants on the Rimba Raya project and Kao Seima project, two projects that have been validated under the VCS." Specific details need to be provided so the validator can confirm the claim, and so that readers of the validation report have evidence.
Round 1 NCR/CL/OFI	CL: Please provide the names of the staff who assisted on the Rimba Raya and Kao Seima projects and their specific tasks.
Round 1 Response from Project Proponent	Jeffrey Chatellier, through his role in Forest Carbon, worked on both the Rimba Raya and the Kao Seima projects. For the Rimba Raya project, he was responsible for writing and editing the PDD and ensuring that the document was compliant with the requirements of the methodology. Forest Carbon also oversaw the implementation of the project's carbon stock assessments, remote sensing analyses, ariel surveys, and technical staff trainings. Jeffrey also worked on the Kao Seima project where he was tasked with reviewing all technical analyses and social studies conducted by the project and using them as the foundation to write sections of the project's design document and ensure that it was compliant with the VCS methodology. Colin Moore, the project's technical advisor, worked on the Kao Seima project who his position as REDD+ adviser at WCS and supported the project's audit finalization to ensure that it achieved validation and verification under the VCS.
Aster Global Findings - Round 2	The resumes and discussion provided support the risk score. Item closed.

Item Number	41
VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016 (Section)	Table 1 Project Management

VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Mitigation: Adaptive management plan in place. Adaptive management plans are those that identify, assess and create a mitigation plan for potential risks to the project, including those identified in this document, and any other obstacles to project implementation. They include a process for monitoring progress and documenting lessons learned or corrections that may be needed and incorporating them into project decision-making in future monitoring periods. The onus is on the project proponent to demonstrate that such plans are in place, that such plans have considered the realm of potential risks and obstacles to the project, and that a system is in place for adapting to changing circumstances.
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD
Aster Global Findings - Round 1	The requirement in the tool states <i>"Adaptive management plans are those that identify, assess and create a mitigation plan for potential risks to the project, including those identified in this document, and any other obstacles to project implementation. They include a process for monitoring progress and documenting lessons learned or corrections that may be needed and incorporating them into project decision-making in future monitoring periods. The onus is on the project proponent to demonstrate that such plans are in place, that such plans have considered the realm of potential risks and obstacles to the project, and that a system is in place for adapting to changing circumstances."</i> The PD states <i>"Our project has an adaptive management plan to effectively grow as our project progresses, and systematically develop existing practices through project monitoring and evaluation. We will periodically review our plans, methods, goals and objectives, to incorporate new lessons learned, available technology, and scientific knowledge. These strategies will be in accordance with our project's Standard Operating Procedures (SOPs) and our monitoring plans (see sections 3.3.3, 4.4.1, 5.4.1)."</i> While section 3.3.3 does detail the elements that will be monitored, it does not appear to specifically include elements to assess the effectiveness of those measures and create a mitigation plan for potential risks to the project (i.e. adaptive). For community the plan is somewhat more specific about the adaptive measures to be implemented, particularly in section 2.3.8 of the monitoring report. In order to achieve this score more specificity is needed within the PD section 3.3.3 to demonstrate how the monitoring plan is adaptive.
Round 1 NCR/CL/OFI	CL: Please provide greater clarity in the PD and monitoring report regarding the adaptive measures/elements of the monitoring plan.
Round 1 Response from Project Proponent	Please see the revised section 3.3.3. in Folder Table 1 Adaptive Management.
Aster Global Findings - Round 2	The language added is sufficient to demonstrate adaptive management measures are in place. This language needs to be added to an updated PD as the current version received on 10/9/19 entitled "SMPP PD Submission Version Final 20191009" does not include this language.

Round NCR /CL/OFI	2	CL: Please add the adaptive management language to an updated PD as the current version received on 10/9/19 entitled "SMPP PD Submission Version Final 20191009" does not include this language.
Round 2 Response from Project Proponent		Section 3.3.3 of the PD has been updated to include the approved text on the project's adaptive management plan in regard to its monitoring plan.
Aster Global Findings - Round 3		Addition of language confirmed. Item closed.

Item Number	42
VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016 (Section)	Table 2 Financial Viability
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Project cash flow breakeven point is less than 4 years from the current risk assessment
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD annex
Aster Global Findings - Round 1	PD annex for risk states "Score is zero as the project cash flow breakeven point is less than 4 years from the current risk assessment. Documentation demonstrating this are available to the auditor." The documentation demonstrating this could not be located in the files provided.
Round 1 NCR/CL/OFI	CL: Please provide the demonstration and documentation of breakeven point.
Round 1 Response from Project Proponent	Demonstration and documentation of breakeven point is provided under folder Table 2.1 Breakeven Point
Aster Global Findings - Round 2	The NPV analysis was provided in table 2.1. Reference to this table needs to be made within the risk report. The Call Option Agreement states that the "Option Exercise Price" is 3 euros however the breakeven and NPV analysis use a value of \$4 per VCU (note the \$4 appears to be in USD, though if the 3 Euros from the "Option Exercise Price" were to be converted to USD at current rates the value would be \$3.35 which is considerably short of a \$4 USD value). It is understood that this is potentially the result of a blended price from several contracts, though the other documents for secured funding and breakeven are not in English. An explanation of how the 4 euros per VCU was determined is needed. Please reference the relevant documents and provide English translations where appropriate.
Round NCR /CL/OFI	2 CL: Please substantiate the basis for the 4 euro VCS price. See finding for detail.

Round 2 Response from Project Proponent	Walkthrough of the calculations was provided via Skype and a new revised NPV/breakeven analysis was provided (SMPP Breakeven Point and NPV Analysis - Sales forecast 20191024).
Aster Global Findings - Round 3	The walkthrough and additional support documents substantiating that the price per VCU used was conservative is sufficient. Item closed.

Item Number	43
VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016 (Section)	Table 2 Financial Viability
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD annex
Aster Global Findings - Round 1	PD annex for risk states "SMPP has secured more than 80% of funding needed to cover the total cash out before the project reaches breakeven. Documentation demonstrating this are available to the auditor." The documentation demonstrating this could not be located in the files provided.
Round 1 NCR/CL/OFI	CL: Please provide the demonstration and documentation of 80% secured funding.
Round 1 Response from Project Proponent	Demonstration and documentation of 80% secured funding is provided under folder Table 2.2 Secured Funding 80pct
Aster Global Findings - Round 2	While the files provided give some context, a walkthrough or narrative is needed to fully confirm greater than 80% of funding has been achieved.
Round 2 NCR /CL/OFI	CL: A walkthrough or explanatory narrative to accompany the "SMPP 5 Years Althelia Investment Budget" is needed to confirm 80% of funding to cover total cash out has been achieved.
Round 2 Response from Project Proponent	Walkthrough of the calculations was provided via Skype and a new revised NPV/breakeven analysis was provided (SMPP Breakeven Point and NPV Analysis - Sales forecast 20191024). Additionally, the project proponent provided a walkthrough of the credit sales agreements which substantiate the secured funding.
Aster Global Findings - Round 3	The walkthrough and additional support documents substantiating that greater than 80% funding has been secured. Item closed.

Item Number	44
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VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016 (Section)	Table 2 Financial Viability
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Mitigation: Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD annex
Aster Global Findings - Round 1	PD annex states "the project's financial resources are available and have been secured and set aside. Documentation demonstrating this are available to the auditor." The documentation demonstrating this could not be located in the files provided.
Round 1 NCR/CL/OFI	CL: Please provide the demonstration and documentation that funds have been secured.
Round 1 Response from Project Proponent	Demonstration and documentation that funds have been secured is provided under folder Table 2.3 Financial Resources 50pct
Aster Global Findings - Round 2	Pending item above.
Round 2 NCR /CL/OFI	Pending item above.
Round 2 Response from Project Proponent	Walkthrough of the calculations was provided via Skype and a new revised NPV/breakeven analysis was provided (SMPP Breakeven Point and NPV Analysis - Sales forecast 20191024). Additionally, the project proponent provided a walkthrough of the credit sales agreements which substantiate the secured funding and callable resources.
Aster Global Findings - Round 3	The walkthrough and additional support documents substantiating that project has available as callable financial resources at least 50% of total cash out before project reaches breakeven. Item closed.

Item Number	45
VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016 (Section)	Table 3 Opportunity Cost

VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	NPV from the most profitable alternative land use activity is expected to be between 20% more than and up to 20% less than from project activities; or where baseline activities are subsistence-driven, net positive community impacts are demonstrated
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD annex
Aster Global Findings - Round 1	PD annex states "The project conducted an NPV analysis for its operations covering the 47-year crediting period and compared this to an NPV analysis of the establishment of an Industrial paper pulp plantation. Our project was deemed to have a higher NPV. " The documentation demonstrating this could not be located in the files provided.
Round 1 NCR/CL/OFI	CL: Please provide the demonstration and documentation of higher NPV in the project case.
Round 1 Response from Project Proponent	Demonstration and documentation of higher NPV in the project case is provided under folder Table 3.1 Higher NPV
Aster Global Findings - Round 2	The tab "NPV Comparison" in the file "SMPP NPV Analysis" shows a flat value of \$83,000,000 for the business as usual case, but this value could not easily be located in the other tabs to determine its origin. Additionally, it's clear that a narrative or walkthrough of this analysis is needed to understand how the values were derived.
Round 2 NCR /CL/OFI	CL: A walkthrough or explanatory narrative to accompany the tab "NPV Comparison" in the file "SMPP NPV Analysis" is needed to confirm the NPV analysis.
Round 2 Response from Project Proponent	The project proponent provided a walkthrough and literature supporting the basis for the \$83,000,000 business as usual case.
Aster Global Findings - Round 3	The discussion and literature were sufficient to support the baseline values. Item closed.

Item Number	46
VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016 (Section)	Table 3 Opportunity Cost
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Mitigation: Project is protected by legally binding commitment (see Section 2.2.4) to continue management practices that protect the credited carbon stocks over the length of the project crediting period

Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD annex
Aster Global Findings - Round 1	PD annex states "Mitigation: Project is protected by legally binding commitment to continue management practices that protect the credited carbon stocks over the length of the project crediting period". This appears to be the PAN/RAP. The PD states "While the SMPP has a 25-year IUP PAN/RAP carbon storage and sequestration license that is extendable up to 50 years, the project's activities are designed to enhance the CCB benefits beyond the project's lifetime." The crediting period is for 47 years and while the agreement is extendable up to 50 years, it currently is only for 25 years. A copy of the legally binding commitment could not be located. Clarity needs to be provided regarding if the extension is automatically renewable or if there are conditions that must be met before the agreement can be extended from 25 to 50 years. If it is conditional, meaning it might not be possible to extend, this mitigation score may not be warranted.
Round 1 NCR/CL/OFI	CL: Please provide a copy of the legally binding commitment (PAN/RAP) or point the validator to where it is located in the documentation sent to the validator. Please provide clarity regarding if the extension of the Pan/RAP is conditional or is simply extendable upon request.
Round 1 Response from Project Proponent	A copy of the PAN/RAP License for PT GAL is provided. A copy of the regulation from the Ministry of Forestry Number P.36/Menhut-II/2009 regarding the procedures of the licensing is also provided. The procedures stipulated that the license is extendable and can be extended upon request (article 19).
Aster Global Findings - Round 2	Both referenced documents are not in English so the language supporting that they are extendable could not be confirmed. Further to achieve mitigation score the language in the Risk Tool requirement states that the "Project <u>is</u> protected by legally binding commitment (see Section 2.2.4) to continue management practices that protect the credited carbon stocks over the length of the project crediting period ". It is unclear how the ability to extend the license upon request is the same as showing that the project is currently protected for the full duration of the crediting period.
Round 2 NCR /CL/OFI	CL: Please provide the English language versions of the referenced documents. Please see the finding and clarify how the ability to extend the license upon request is the same as showing that the project is currently protected for the full duration of the crediting period.
Round 2 Response from Project Proponent	The project has provided the English translation of the applicable regulation clauses that stipulate the project can renew the license. However, the project will not claim the mitigation credit and will modify the Risk Tool accordingly. Please see the revised PD and MR and associated annexes for the edits to the project risk as a result.
Aster Global Findings - Round 3	The risk score has been confirmed to have been withdrawn. The finding is closed.
Item Number	47

VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016 (Section)	Table 4: Project Longevity
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	With legal agreement or requirement to continue the management practice
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD annex
Aster Global Findings - Round 1	As with the mitigation requirement above, the requirement in the risk tool states "Legal agreement or requirement to continue the management practice refers to any legally enforceable agreement or requirement, such as a conservation easement or protected area law that would require the continuation of the management practice that sequesters carbon or avoids emissions for the entire project longevity." As there is some lack of clarity if the agreement is unconditionally renewable for the full 50 years (crediting period 47 years) this item is pending the item above.
Round 1 NCR/CL/OFI	Pending the item above.
Round 1 Response from Project Proponent	
Aster Global Findings - Round 2	
Round 2 NCR /CL/OFI	
Round 2 Response from Project Proponent	The project made a change to a risk score that was not in question, so it had to be review at this time in round 3. The English language translation of the license as provided in support was: (1) The duration of the RAP-KARBON and/or PAN-KARBON license is valid for up to 25 (twenty-five) years. It can be renewed by the Minister for a period that does not exceed the original length of the license. (2) In the event that the RAP-KARBON license and/or PAN-KARBON license expire, the renewal of the RAP-KARBON license and/or PAN-KARBON license may be submitted to the RAP-KARBON and/or PAN-KARBON licensor.

Aster Global Findings - Round 3	The rule in the VCS Risk Tool states: 5) "Legal agreement or requirement to continue the management practice refers to any legally enforceable agreement or requirement, such as a conservation easement or protected area law that would require the continuation of the management practice that sequesters carbon or avoids emissions for the entire project longevity." As was the question with the previous mitigation risk score which was dropped, the information provided by the client indicates that the license is not currently required to continue the management practice for the entire project longevity, instead it explicitly states the license is valid for a period of 25 years and that it <u>can be</u> renewed by the minister for an additional 25 years. It appears clear that the renewal is not guaranteed, and the project does not qualify for this score.
Round 3 NCR /CL/OFI	3 CL: Please revise the risk to remove this score as the license explicitly states that it is only valid for 25 years with the option to renew at the discretion of the minister for another 25 years and is therefore not currently protected for the entire project longevity.
Round 3 Response from Project Proponent	The VCS risk tool says in 2.2.4 Project longevity (PL) shall be assessed using Table 4, noting the following: 2) Evidence shall be provided that project ownership (see the VCS Standard for specification with respect to project ownership) can be maintained for the entire project longevity (e.g., where control is secured through a concession that is shorter than the project longevity, such concession is renewable for the full longevity period being claimed). With the ability to renew the concession license, for another 25-year period, the project longevity of 47 years will be used. However, the project will assess risk using option A in Table 4 of the risk tool instead of the previously used option B. Please see the revised PD and MR and associated annexes for the edits to the project risk as a result.
Aster Global Final Findings	The project proponent is correct and has accurately scored the risk. The verifier misunderstood how the final number was being calculated and agrees that it is no longer an issue. Finding closed

Item Number	48
VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016 (Section)	Table 7: Community Engagement
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Mitigation: The project generates net positive impacts on the social and economic well-being of the local communities who derive livelihoods from the project area
Applicability to the Project (Y or N/A)	Y

Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD annex
Aster Global Findings - Round 1	The PD annex states "Mitigation: The project generates net positive impacts on the social and economic wellbeing of the local communities who derive livelihoods from the project area." but does not provide an argument or evidence to this affect.
Round 1 NCR/CL/OFI	CL: Please provide evidence and discussion supporting this risk score.
Round 1 Response from Project Proponent	Interviews with communities who derive their income from the project area have stated that the project has helped increase the abundance of fish and the farmer stated that the prevention of fire has greatly increased his economic well being as his tree crops are safe from destruction. These statements were recorded in direct interviews with the community members. Documentation: Minutes of meeting with Matnur the farmer and Sangkut the fisherman.
Aster Global Findings - Round 2	The onsite interviews and CCB documentation support the net positive benefits and economic well-being on communities reported. Item addressed.

Item Number	49
VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016 (Section)	Natural Risks
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Fire
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD Annex
Aster Global Findings - Round 1	It looks like the arguments provided for significance was more written to address likelihood (frequency). While the agreement provided was sufficiently referenced for likelihood, the argument for significance was not sufficient and did not include references to peer reviewed literature.
Round 1 NCR/CL/OFI	CL: Please provide a discussion and support in the literature for the significance of fire in the project area.

Round 1 Response from Project Proponent	Please see response under folder Table Natural Risk: Table Natural Risks Fire.docx
Aster Global Findings - Round 2	The discussion and literature referenced support a score of 1. Item addressed.

Item Number	50
VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016 (Section)	Natural Risks
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Pest and Disease
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD Annex
Aster Global Findings - Round 1	Please provide a discussion of the potential quantitative impact to aboveground stocks as the discussion states aboveground biomass to be insignificant.
Round 1 NCR/CL/OFI	CL: Please provide a discussion of the potential quantitative impact to aboveground stocks as the discussion states aboveground biomass to be insignificant.
Round 1 Response from Project Proponent	Please see response under folder Table Natural Risk: Table Natural Risks Pests.docx
Aster Global Findings - Round 2	The response in the file "Table Natural Risks Pests.docx" is sufficient. This finding will be closed when the language from this table is included in the actual risk report annex to the monitoring report as that language has remained unchanged.
Round 2 NCR/CL/OFI	CL: Please add the language provided in support of the risk score to the risk report table which is the annex to the monitoring report.
Round 2 Response from Project Proponent	The approved text has been added to the annexes of the PD and the MR.
Aster Global Findings - Round 3	Addition of language confirmed. Item closed.

Item Number	51
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VCS AFOLU Non-Permanence Risk Tool, Version 3.3 19 October 2016 (Section)	Natural Risks
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Geological Risk)
Applicability to the Project (Y or N/A)	Y
Requirement Met (Y, N, Pending)	Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)	PD Annex
Aster Global Findings - Round 1	While the argument is based in logic, please provide reference to the source for the numbers provided.
Round 1 NCR/CL/OFI	CL: While the argument is based in logic, please provide reference to the source for the numbers provided.
Round 1 Response from Project Proponent	Please see response under folder Table Natural Risks\Geologic: 1. Table Natural Risks Geologic.docx 2. Indonesia Volcanic Activity 1750 - 2018.xlsx
Aster Global Findings - Round 2	The response in the file "Table Natural Risks Geologic.docx" is sufficient to support the score selected. This finding will be closed when the language from this table and references are included in the actual risk report annex to the monitoring report as that language has remained unchanged.
Round 2 NCR /CL/OFI	CL: Please add the language provided in support of the risk score to the risk report table which is the annex to the monitoring report.
Round 2 Response from Project Proponent	The approved text has been added to the annexes of the PD and the MR.
Aster Global Findings - Round 3	Addition of language confirmed. Item closed.

Item Number	52
General Items	
VCS Methodology VM0007 Version 1.5, 9 March 2015 REDD+ Methodology Framework (REDD-MF) Sectoral Scope 14 (Description)	Reporting Documentation

Applicability the (Y or N/A)	to Project	Y
Requirement Met (Y, N, Pending)		Y
Evidence Used to Assess (Location in PD, MR or Supporting Documents)		PD, MR
Aster Global Findings - Round 1		
Round 1 NCR/CL/OFI		
Round 1 Response from Project Proponent		
Aster Global Findings - Round 2		
Round 2 NCR /CL/OFI		
Round 2 Response from Project Proponent		
Aster Global Findings - Round 3		The audit team noted the following transcription error in PD Section 2.1.1: "Annual average and total GHG emission reductions and removals from the SMPP are 1,432,105 tonnes (t) CO ₂ -equivalents (CO ₂ -e) and 125,869 t CO ₂ , respectively, totaling 65,841,744 t of Verified Carbon Units (VCUs)."
Round 3 NCR /CL/OFI		CL: Please ensure Section 2.1.1 of the PD reports correct values.
Round 3 Response from Project Proponent		The 3 values (i.e. 1,432,105 tonnes (t) CO ₂ -equivalents (CO ₂ -e), 125,869 t CO ₂ , and 65,841,744 t of Verified Carbon Units (VCUs).) are in line with the updated calculations. See spreadsheet "PD_Tables_20191108", Tab "Table 58", Cells B50, C50, and F49, respectively).
Aster Global Final Findings		The audit team confirmed that the values in the PD are corrected. The item is addressed.

APPENDIX B: CLIMATE, COMMUNITY AND BIODIVERSITY STANDARD FINDINGS



**Climate, Community and Biodiversity
Project Design Standards – Third Edition
The Sumatra Merang Peatland Project
Validation/Verification
Non-conformance/Clarification Requests
Final**

26 November 2019
Project No. VO19026.00

Validation/Verification Being Conducted by:

Aster Global Environmental Solutions
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7 SUMMARY OF VALIDATION/VERIFICATION FINDINGS TO DATE

	Criterion	Required/ Optional	Conformance Y/N N/A
	General Section		
G1	Project Goals, Design & Long-Term Viability	Required	Y
G2	-Without-Project Land Use Scenario & Additionality	Required	Y
G3	Stakeholder Engagement	Required	Y
G4	Management Capacity	Required	Y
G5	Legal Status and Property Rights	Required	Y
	Climate Section		
CL1	Without-Project Climate Scenario	Required	Y
CL2	Net Positive Climate Impacts	Required	Y
CL3	Offsite Climate Impacts	Required	Y
CL4	Climate Impact Monitoring	Required	Y
GL1	Climate Change Adaptation Benefits	Optional	Y
	Community Section		
CM1	Without-Project Scenario for Communities	Required	Y
CM2	Net Positive Community Impacts	Required	Y
CM3	Offsite Stakeholder Impacts	Required	Y
CM4	Community Impact Monitoring	Required	Y
GL2	Exceptional Community Benefits	Optional	N/A
	Biodiversity Section		
B1	Without-Project Biodiversity Scenario	Required	Y
B2	Net Positive Biodiversity Impacts	Required	Y
B3	Offsite Biodiversity Impacts	Required	Y
B4	Biodiversity Impacts Monitoring	Required	Y
GL3	Exceptional Biodiversity Benefits	Optional	Y

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9 VALIDATION/VERIFICATION NON-CONFORMANCE/CLARIFICATION REQUEST

10 GENERAL SECTION

10.1 G1 Project Goals, Design and Long-term Viability

Indicator G1.1 – Identify the primary Project Proponent which is responsible for the project's design and implementation and provide contact details.	The two project proponents are Forest Carbon and PT Global Alam Lestari The primary contact is: Jeffrey Chatellier, Managing Director of Forest Carbon 1 Raffles Place, #44-01A One Raffles Place, Singapore, 048616 Telephone: +62 21 5740817 Email: j.chatellier@forestcarbon.com
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	Mr. Riza Suarga is Director of PT Global Alam Lestari. Komp, Mall Ska Blok E 61, Delima, Tampan, Pekanbaru, Riau, 28294 Telephone: +62 761 7891749 Email: r.suarga@globalalamlestari.com
Evidence Used to Assess Conformance:	Sections 2.1.3 of the PD and MR.
Findings:	Project proponents and contact details were provided. Item closed.
Date Closed:	12 August 2019

Indicator G1.2 – Define the project's climate, community and biodiversity objectives.	The PD states the project's goal is to protect and restore 22,922 ha of peatland ecosystem in the Merang-Kepayang peat dome. More specifically, the project seeks to restore ecological functions of the land, to benefit biodiversity (including critically endangered species) while providing benefits to local communities. Restoration of hydrology will reduce GHG emissions. (estimates mention a total of almost 63 million tonnes of CO₂e from emissions reductions and removals) Investment in sustainable livelihood opportunities will benefit neighboring communities. Protection and restoration of habitat will enhance biodiversity.
Evidence Used to Assess Conformance:	Section 2.1.1 of the PD.
Findings:	Climate, community and biodiversity objectives were generally described. Item closed.
Non-conformance Request (NCR):	Insert NCR/CL
Date Closed:	12 August 2019

Indicator G1.3 – Provide the location (country, sub-national jurisdictions(s)) and a brief overview of the basic physical and social parameters of the project.	The PD states the project area is located within the Bayung Lencir sub-district, Musi Banyuasin district, South Sumatra province, Sumatra, Republic of Indonesia. Lat./Long. range is provided. Maps 1 and 2 provide more location information. The PD goes on to describe the topography (flat), soils (mostly peat) and the nature of the hydrology. Climate (tropical monsoonal), vegetation types (mostly open canopy tree-shrub-herb mix, some dense forest in the eastern portion, along with spotty closed canopy tree-shrub-herb mix) The area is described as largely isolated from surrounding communities, but 21 people use it for fishing and two farm small parts of it.
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	No one lives in or near the project area, except for the farmers who live there only while farming operations require them to be there. Nearby townspeople are considered “other stakeholders,” since they are distant from the project area and do not use the project area for any purpose. No indigenous people live in the area. People are from multiple origins around Indonesia.
Evidence Used to Assess Conformance:	Section 2.1.6 of the PD, site visit observations and interviews.
Findings:	The physical parameters of the project area are as described in the PD. The project area is a considerable distance from settlements and the 23 people described as using the project area for fishing and agriculture are essentially the only “communities.” When stakeholders in nearby towns were asked if anyone makes a living from the area, they pointed out one or more of the 21 fishermen. Item closed.
Date Closed:	12 August 2019

Indicator G1.4 - Define the boundaries of the Project Area where project activities aim to generate net climate benefits and the Project Zone where project activities are implemented.	Map 2 of the PD, as well as several other maps, shows the boundaries of the project area. In addition, it shows the neighboring lands and land uses and 14 population centers within about 30 Km of the project area boundaries. Map 8 shows the project boundaries of the project zone, the areas used by the community of fishermen outside project boundaries, the five settlements where some project activities will be implemented, and perhaps the area where the two families of the farming community use as plantations.
Evidence Used to Assess Conformance:	Section 2.1.7 of the PD.
Findings:	The boundaries of the project area and zone were described as required. The color pattern used for the community plantation area is almost invisible on the map.
Clarification Request (CL):	Please use a more visible method of depicting the community plantation area on the project zone map.
Date Issued:	12 August 2019
Project Proponent Response/Actions and Date:	Map is revised, depicting a clear indication of community plantation with inset. The file is included.
Findings:	Map 8. SMPP Project Zone_inset.png Section 2.1.7, Map 8 of the 9 October version of the PD depicts the community plantations in yellow.

	Related to the public comment which questions the project zone, the audit team agrees with the definition put forth from CCB definitions. However, the audit team notes the current reported project zone and description in the PD appears not to fully satisfy Indicator G1.4 and project zone CCB definition. a. The audit team understands that there are other land status designations nearby the SMPP but are still eligible for inclusion in the project zone b. Audit team was unable to find project zone size in hectares or a breakdown of land use and status in reporting documentation c. It doesn't appear that all communities are included where project benefits from activities may be realized, audit team assumes project benefits are those described in reporting documentation and to meet program requirements
Clarification Request (CL):	CL: Please ensure the project zone boundaries and description within reporting documentation are in line with CCB requirements as noted in the findings.
Date Issued:	30 October 2019
Project Proponent Response/Actions and Date:	The project has revised the map of its project zone to include the government delineated Peat Hydrology Unit and the settlements that are participating the project's community development programs. The total area of the project zone is 85,182 hectares. The text in section 2.1.7 of the PD and MR has been revised to describe the project zone and address the comments of the auditor.
Evidence Used to Close NCR:	Map 8 (Section 2.1.7) of the PD depicts the Project Zone. Site visit observations and interviews, in addition to GIS review, provided the necessary assurance the Validation Team required that the Project Zone, as depicted in the PD was accurate and met the rules of the VCS/CCB programs. The Project Zone includes the peat hydrology land status designation and settlements that are participating in the Project's community development programs. The definition of the Project Zone per CCB was followed, where the Zone includes areas directly affected by project activities, including alternative livelihoods and community development.
Date Closed:	12 November 2019
Indicator G1.5 - Explain the process of stakeholder identification and analysis used to identify Communities, Community Groups and Other Stakeholders.	Section 2.1.8 of the PD states that some general information was gathered first, from previous socio-economic assessments and local partners.

	A field effort was then commenced, using the PRA process to conduct surveys, hold meetings and interview individuals and groups. The section of the PD concluded by mentioning the project is in regular, direct contact with the people in the settlements and communities.
Evidence Used to Assess Conformance:	Section 2.1.8 of the PD, discussions with project management.
Findings:	The process used in identifying stakeholders was explained and is reasonable. Item closed.
Date Closed:	12 August 2019

Indicator G1.6 -List all Communities, Community Groups and Other Stakeholders identified using the process explained in G 1.5.	The PD defines the project communities as a group of 21 fishermen and a group of 2 farmers who derive income and livelihood from the project area, using the definition of community described in footnote 18 of the CCB standards, 3rd edition. No one lives in the project area and settlements are 8 km or more from project boundaries, but the people of the nearby settlements of Muara Merang and Kepayang, along with their sub-villages and hamlets, are considered other stakeholders. The other stakeholders generally have jobs working for nearby companies in the mining, oil and gas, and agriculturally related activities.
Evidence Used to Assess Conformance:	Section 2.1.9 of the PD, observations and interviews during site visit.
Findings:	The communities, by CCB definition, include only the fishermen and two farmers. Other stakeholders, interviewed in the settlements, were largely unconcerned with the project activities on the land, except that they expressed interest in working for the project if employees were needed. Item closed.
Date Closed:	12 August 2019

Indicator G1.7 - Provide a map identifying the location of Communities and the boundaries of the Project Area(s), of the Project Zone, including any High Conservation Value areas (identified in CM1 and B1), and of additional areas that are predicted to be impacted by project activities identified in CL3, CM3 and B3.	Section 2.1.7 includes Map 8, which shows the project area, local settlements and areas used by the communities of fishermen and farmers. The project zone is somewhat disjointed compared to other projects, because there is not a lot of dependency on the project area, due to remoteness from settlements and relatively difficult access.
Evidence Used to Assess Conformance:	Section 2.1.7 of the PD

Findings:	The map was provided. Pending closing of CL3, CM3 and B3.
Project Proponent Response/Actions and Date:	An updated map was provided as a result of a separate finding. The map of the project zone is now more appropriate.
Evidence Used to Close NCR:	Updated project zone map
Date Closed:	14 November 2019

Indicator G1.8 - Briefly describe each project activity and the expected outputs, outcomes and impacts of the activities identifying the causal relationships that explain how the activities will achieve the project's predicted climate, community and biodiversity benefits.	The PD restates the project's main goal: restoring the peatland ecosystem that is now degraded, due to logging, canal construction and fires. Figure 3 shows the conceptual model of the project, listing the underlying risks to the project, direct threats, direct interventions, specific objectives and ultimate objective. The ultimate objective is stated as, "Restore the ecological functions of the Merang Peatland through the implementation of sustainable land use models that benefit critically endangered species and local communities." Direct threats are listed as illegal logging, drainage canals, fire, illegal poaching and commercial agricultural expansion. The activities are referred to as direct interventions. Activities listed include: 1. <i>Forest patrolling to reduce illegal logging, overfishing, further conversion to agriculture.</i> 2. <i>Fire prevention and monitoring</i> 3. <i>Canal blocking and hydrology management</i> 4. <i>Reforestation and assisted natural regeneration</i> 5. <i>Community development</i> 6. <i>Biodiversity management and monitoring</i> 7. <i>"Cross-cutting," which is described as the implementation of adaptive management, effective administration, financial management and ensuring legal compliance.</i> Each activity listed is really a subset of contributing activities. Text of this section includes more detail. Specific objectives are listed as: 1. <i>Restore variety of forest types</i> 2. <i>Increase populations of critically endangered species.</i> 3. <i>Restore the hydrological integrity of the peatlands.</i> 4. <i>Ensure continued access and sustainable use of natural resources by local communities.</i> Each activity is further explained in terms of contributions to project goals and benefits.
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Evidence Used to Assess Conformance:	Section 2.1.10 of the PD
Findings:	The PD describes the project activities and relates them to project goals and benefits. Item closed.
Date Closed:	12 August 2019

Indicator G1.9 - Define the project start date and lifetime, and GHG accounting period and biodiversity and community benefits assessment period if relevant, and explain and justify any differences between them. Define an implementation schedule, indicating key dates and milestones in the project's development.	The project start date is January 1, 2016, which is the date project activities began to contribute to GHG emissions reductions and removals. The activities that began in January of 2016 were: <i>1. Establishment of a permanent presence in the project area and</i> <i>2. Starting to conduct formal patrol activities for fire prevention and forest degradation.</i> The benefits assessment period is January 1, 2016 through December 31, 2062, for a crediting period of 47 years. A brief implementation schedule is included as Table 4 in section 2.1.13 of the PD. The schedule does not include the baseline reassessments which are to occur every 10 years, but they are mentioned in section 2.1.15.
Evidence Used to Assess Conformance:	Sections 2.1.13, 2.1.14, 2.1.15 and 2.1.16 of the PD.
Findings:	The start date and benefits assessment periods agree. A general implementation schedule was provided. Item closed.
Date Closed:	12 August 2019

Indicator G1.10 - Identify likely natural and human-induced risks to the expected climate, community and biodiversity benefits during the project lifetime and outline measures needed and <i>taken</i> to mitigate these risks.	The PD has a summary of the non-permanent risk analysis in Table 6 in Section 2.1.18, for an overall risk rating of 14.
Evidence Used to Assess Conformance:	Section 2.1.18 of the PD.
Findings:	All risk elements are confirmed to be appropriately addressed in the VCS risk tool.
Date Closed:	11/14/19

Indicator G1.11 - Describe the measures needed and <i>taken</i> to	The project's community development activities are expected to enhance CCB benefits beyond the project
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maintain and enhance the climate, community and biodiversity benefits beyond the project lifetime.	lifetime by creating local employment opportunities, including investments to small businesses, increase access to quality education. The promotion of the importance of hydrology and conservation is also expected to extend beyond the project lifetime. Hydrological management is also expected to create benefits that last beyond the project's lifetime, by reducing fire risk and allowing vegetation and peat to build up over the project lifetime.
Evidence Used to Assess Conformance:	Sections 2.1.19 and 2.1.11 of the PD
Findings:	Education and instilling a conservation ethic would last beyond the project lifetime. Some of the carbon sequestered and protected should last beyond the project lifetime, provided management is not drastically changed. Item closed.
Date Closed:	12 August 2019

Indicator G1.12 - Demonstrate that financial mechanisms adopted, including actual and projected revenues from GHG emissions reductions or removals and other sources, provide an adequate actual and projected flow of funds for project implementation and to achieve the project's climate, community and biodiversity benefits.	The PD states that the project has received 5.6 million Euros from the Althea Climate Fund and the Belantara Foundation, which is said to be "sufficient to cover project costs until it [the project] has secured the needed revenues to develop a sustainable revenue source." Althelia is said to have a proven track record in investing in conservation projects. The project proponents are said to have proven track records in supporting projects until they pass VCS/CCB certification, and they've been in business for a number of years. Further, the PD states documents supporting these claims can be produced for inspection.
Evidence Used to Assess Conformance:	Section 2.1.20 of the PD.
Findings:	While the auditors do not doubt these claims, no evidence in support of them were provided. The costs of implementing and running the project, through the years, were not provided, nor revenues expected in each year.
Non-conformance Request (NCR):	Please provide costs for project implementation and the amount and sources of funding through the crediting period (project lifetime) to demonstrate the project can sustain itself.
Date Issued:	12 August 2019

Project Proponent Response/Actions and Date:	The project has secured financing for the project through an investment contract with Althelia and also a forward option agreement with the Belantara Foundation. The contract documentation is provided along with sales contracts with credit buyers.
	1. Althelia Agreements (Agency, Loan and Project Agreements) 2. Belantara Agreements (Call Option Agreement, with amendment) 3. Chanel Credit Purchase (Letter of Intent - Ecosphere.pdf) 4. L'Oreal Credit Purchase (Letter of intent Signed 20181009.pdf; Onsale Agreement - Ecosphere+ and L'Oreal.pdf) 5. SMPP Financial Model – NPV (Althelia NPV v2.xlsx) 6. SMPP 5 Years Althelia Investment Budget.xlsx 7. Althelia - SMPP Investment Confirmation Letter.pdf 8. Ecosphere plus - Credit Marketing Capacity.pdf
Evidence Used to Close NCR:	The evidence provided is sufficient to support the secured funding. Finding closed.
Date Closed:	31 October 2019

Indicator G1.13 - Specify the Project Area(s) and Communities that may be included under the programmatic approach, <i>and identify any new Project Area(s) and Communities that have been included in the project since the last validation or verification against the CCB Standards.</i>	This is not a grouped project. No additional lands will be added.
Evidence Used to Assess Conformance:	Section 2.1.2.1 of the PD, discussion with project management.
Findings:	This indicator is N/A.
Date Closed:	12 August 2019

Indicator G1.14 - Specify the eligibility criteria and process for project expansion under the programmatic approach <i>and demonstrate that these have been met for any new Project Areas and Communities that have been included in the project since the last validation or verification against the CCB Standards.</i>	N/A
Evidence Used to Assess Conformance:	
Findings:	

Date Closed:	12 August 2019
Indicator G1.15 - Establish scalability limits, if applicable, and describe measures needed and <i>taken</i> to address any risks to climate, community and biodiversity benefits if the project expands beyond those limits.	N/A
Evidence Used to Assess Conformance:	
Findings:	
Date Closed:	12 August 2019

10.2 G2 Without-project Land Use Scenario and Additionality

Indicator G2.1 - Describe the most likely land-use scenario within the Project Zone in the absence of the project, describing the range of potential land-use scenarios and the associated drivers of land use changes and justifying why the land-use scenario selected is most likely. It is allowable for different locations within the Project Zone to have different without-project land use scenarios.	The PD describes the condition of the land at the start of the project as highly degraded peatland, due to illegal logging and fires, over the last 2 decades. It states the CDM Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities was used to identify the baseline scenario. The most likely land use in the absence of the project was determined to be the establishment of an industrial acacia plantation grown for pulp. The fires of 2015 are said to have made the area more attractive to acacia growers. Table 21 constitutes a list of possible land uses compared to determine the most likely scenario in the absence of the project: 1. <i>Acacia plantations – a rapidly growing land use in Indonesian peatlands that have been established on lands surrounding the project area. Applications for more land were made in 2007 and 2011. Peat drainage is crucial to acacia establishment.</i> 2. <i>Industrial oil palm – another expanding land use, found west and south of the project area. Considered a less likely land use scenario because it has taken place, legally, outside the forest estate, or inside the estate, marked for conversion, and the project area has no such designated land uses.</i> 3. <i>Forest with commercial logging – while commercial logging was widespread, changes to the industry make it less profitable, like long-term management requirements.</i> 4. <i>Unexploited forest – This is not the norm in Sumatra, and the few such forests are typically in transition to a form of exploitation.</i>
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	5. <i>Protected forest – conversion to protected forest can happen, but it is rare and considered unlikely.</i> 6. <i>Small holder agriculture – Not a major activity in the region, due to unsuitable soils and high risk of fire. Two small farms exist on the project lands, but this is not considered a likely scenario for the project area.</i> 7. <i>Mining and natural gas extraction – While these activities occur in the area, it is not considered likely, because the land was surveyed for gas and coal many years ago, and promising concessions were awarded and have been in existence for a long time.</i> Then the possible land uses were considered in light of laws and regulations. The land is said to be designated as production forest, according to Map 23 in section 3.1.5 of the PD. These are the effects on the listed land uses: <i>Acacia plantation is allowed.</i> <i>Palm oil is not allowed without removing the land from the forest estate, which is difficult for land in the current designation.</i> <i>Commercial logging is allowed.</i> <i>Unexploited forest can remain if it is not subject to a license application for logging or conversion to agriculture. It can also be converted to other, more conservation-like land management scenarios.</i> <i>Conversion to protected forest can happen, but it has many hurdles, requiring significant time.</i> <i>Small holder agriculture is not allowed, legally, though it happens illegally.</i> <i>Mining and gas extraction can only be done with an appropriate license. The area is restricted and compensation must be paid to existing concession holders. There are no active or exploratory mining concessions overlapping the project area.</i> Barrier analysis found that commercial logging is unlikely, due to the lack of commercial sized timber. For several reasons, unexploited forest is unlikely to remain so for an extended period of time. Protected forest does not have the required local political support, for cost reasons. Small holder agriculture is unlikely to be widespread, due to the difficulty of draining peat soils on a small-scale basis and fire danger.
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	The area lacks suitable coal deposits and previous surveys show there are no gas deposits overlapping the project area. Only acacia plantations were not eliminated at this point in the analysis. Investment analysis was deemed unnecessary, since only one land use scenario remained. Common practice analysis concluded the most likely, business-as-usual scenario was conversion to industrial acacia plantation.
Evidence Used to Assess Conformance:	Sections 2.2.1, 2.2.2, 3.1.4, 3.1.5, public comments.
Findings:	Assuming all is as said, the most likely land use scenario in the absence of the project was conversion to industrial acacia plantation. However, a public comment claims the land was removed from the possibility of conversion to acacia, the government has a moratorium on new licenses on forested peatlands, and the project area is in the moratorium area, and the RAP/PAN carbon license, issued in 2013, also prevents conversion to acacia. Further, a regulation legally prohibits acacia plantations from being developed in "peatland protection function zones," which is said to prohibit the development of large parts of the peat dome. This indicator will remain open, pending successful responses and closure of the related public comment.
Non-conformance Request (NCR):	See public comments
Date Issued:	12 August 2019
Additional findings:	The project proponents explained, backed by a legal opinion from R. Ayu Mary Osmond SH, LLM Member of Indonesia Bar Association, that presidential instructions do not carry the weight of law, but offers only guidance to the Ministry of Environment and Forestry. Infringements cannot be prosecuted. The moratorium on peatland development was declared unconstitutional by the Supreme Court of Indonesia. The project also points out that over 2.7 million ha of land that was supposedly protected under the policy instructions were developed for palm oil and other land uses. Finding closed

Date Closed:	4 November 2019
Indicator G2.2 - Document that project benefits including climate, community and biodiversity benefits would not have occurred in the absence of the project, explaining how existing laws, regulations and governance arrangements, or lack of laws and regulations and their enforcement, would likely affect land use and justifying that the benefits being claimed by the project are truly 'additional' and would not have occurred without the project. Identify any distinct climate, community and biodiversity benefits intended for use as offsets and specify how additionality is established for each of these benefits.	Assuming the most credible baseline is an industrial acacia plantation, the PD states biodiversity would suffer, compared to the project scenario, because the land would be cleared and only about 10% would be set aside as conservation area. The communities of fishermen and farmers would lose access to livelihood resources. Though industrial land users have corporate social responsibility programs, the project intends to invest at higher levels. The PD goes on to say that the project does not intend to generate community or biodiversity benefits to use as offsets
Evidence Used to Assess Conformance:	Section 2.2.3 and 2.2.4 of the PD, site visit interviews.
Findings:	Assuming acacia plantations are the baseline, the community and biodiversity benefits lost are reasonably described. Local community members commented that while industrial operations do give funds to local communities, they never ask the communities what they want. The project is the first outside group of land users who have asked. No mention of how the climate benefits of the project would be affected, or how additionality is established.
Non-conformance Request (NCR):	Please address the effect of the baseline scenario on climate benefits and show how additionality is established. The closing of this indicator is also pending the response to the public comment regarding the baseline scenario.
Date Issued:	12 August 2019
Project Proponent Response/Actions and Date:	
Additional findings:	Re-issued finding: Please address the effect of the baseline scenario on climate benefits and show how additionality is established.
Project Proponent Response/Actions and Date:	Section 2.2.3 of the PD (SMPP PD Submission Version Final 20191106) has been updated.

	(06 November 2019)
Evidence Used to Close NCR:	PD now states “In terms of climate, the baseline scenario would emit millions of tons of CO₂ further causing climate change. As a result of the project activities such as canal blocking, the SMPP will prevent CO₂ emissions from occurring as compared to the baseline scenario as outlined in section 2.1.17.” While this language is brief, it is accurate based on the supporting information reviewed in the referenced section and throughout the PD. Item addressed.
Date Closed:	10 November 2019

10.3 G3 Stakeholder Engagement

Indicator G3.1 - Describe how full project documentation has been made accessible to Communities and Other Stakeholders, how summary project documentation (including how to access full documentation) has been actively disseminated to Communities in relevant local or regional languages, and how widely publicized information meetings have been held with Communities and Other Stakeholders.	The PD states that the project field office will maintain a full, printed copy of the PD in English for public viewing. A summary was also translated into Bahasa and given to community leaders to make available in public places in the surrounding villages. The PD and executive summaries are also available on social media and other websites. Informational meetings were held with stakeholders between 2016 and 2019
Evidence Used to Assess Conformance:	Sections 2.3.1 and 2.3.2 of the PD, site visit interviews in local villages.
Findings:	The PD states and interviews with stakeholders confirm that the executive summaries were distributed in the surrounding villages and meetings between project staff and the villages and communities occurred. Item closed.
Date Closed:	12 August 2019
Indicator G3.2 - Explain how relevant and adequate information about potential costs, risks and benefits to Communities has been provided to them in a form they understand and in a timely manner prior to any decision they may be asked to make with respect to participation in the project.	The PD states that the most effective way of communicating with communities has been direct meetings, due to the lack of mobile devices and cell coverage. Further, the PD states the project has been in regular communication with the fisherman and farmer communities.

	Other stakeholders in the settlements were informed via group meetings.
Evidence Used to Assess Conformance:	Section 2.3.4 of the PD., site visit interviews.
Findings:	Site visit interviews confirmed that meetings had taken place and people are aware of the project. Most of the fishermen seemed to have been informed of activities that could affect them, but they didn't realize how the canal blocks would affect them until after they were installed. They are apparently difficult to pass with a small boat, especially when a fisherman is alone. The farmer who was interviewed said he first met project staff when they were placing property boundary markers across the land he uses. An understanding was developed that he would still be allowed to farm the land. He said that he was not informed about the canal blocks, one of which is on the land he uses. It has prevented him from subsistence fishing, which he depended on prior to the installation of the canal block. He is afraid that he has no rights and the project does not care about him, so he has not complained to project personnel. In general, stakeholders and fishermen in the villages of Merang and Kepayang wanted more regular communications with the project (meetings 4X per year were requested), more involvement and more updates on the project. In Merang, fishermen and other stakeholders specifically mentioned that they appreciate the amount of communications with the project, because no surrounding land users (plantations, mining, gas) has ever bothered to get their input before or cared to keep them informed.
Clarification Request (CL):	See findings. It appears that, in spite of efforts, not all activities that affect the communities were fully envisioned by them or, in the case of the farmer, known at all. Please discuss ways communications with the fishermen and farmers can be improved so that they

	can discuss impacts the project is having on their livelihoods with project staff/management, with the intention of implementing these increased contact efforts.
Date Issued:	12 August 2019
Project Proponent Response/Actions and Date:	The communication with the fishermen and farmers can be improved through more consistent meetings. The project will therefore conduct quarterly meetings with the fishermen and farmers and discuss project activities and potential impacts on them. The project will also conduct quarterly meetings with stakeholders in Merang and Kepayang to provide updates on the implementation of the community development program. If any concerns are highlighted by the communities and stakeholders, these will be addressed with follow up meetings and plans to mitigate any negative impact.
Evidence Used to Close CL:	Implementation of quarterly meetings with communities and nearby stakeholders will improve communications and likely satisfy their desire to keep up-to-date on project news that could affect them. A forward action request is not required, since verifiers for future monitoring periods will undoubtedly interview the same community groups and stakeholders interviewed during this validation and request their opinions regarding communications with the project. Item closed.
Date Closed:	29 October 2019

Indicator G3.3 - Describe the measures taken, and communications methods used, to explain to Communities and Other Stakeholders the process for validation and/or verification against the CCB Standards by an independent Auditor, providing them with timely information about the Auditor's site visit before the site visit occurs and facilitating direct and independent communication between them or their representatives and the Auditor.	The PD states that the project will provide the PD at project HQ and distribute summaries to the surrounding villages. The summaries include details on how to comment. The PD further states that staff met with communities and residents to inform them of the auditor's visit, the reason for the audit and the audit process.
Evidence Used to Assess Conformance:	Sections 2.3.5 and 2.3.6 of the PD, site visit interviews.

Findings:	The site visit confirmed that the other stakeholders, fishermen and at least one of the two farmers were informed of the audit site visit and the purpose of the visit. Item closed.
Date Closed:	12 August 2019
Indicator G3.4 - Describe how Communities including all the Community Groups and Other Stakeholders have influenced project design and <i>implementation</i> through Effective Consultation, particularly with a view to optimizing Community and Other Stakeholder benefits, respecting local customs, values and institutions and maintaining high conservation values. Project proponents must document consultations and indicate if and how the project design and implementation has been revised based on such input. A plan must be developed and <i>implemented</i> to continue communication and consultation between the project proponents and Communities, including all the Community Groups, and Other Stakeholders about the project and its impacts to facilitate adaptive management throughout the life of the project.	The project has had meetings with the stakeholders dating back to 2016 and considers the feedback they receive to be important to the project's success. A tally of meetings is provided in Table 7 of the PD. The PD further states that the project intends to continue these direct lines of communication and will use them to inform their adaptive management plans. No description of how stakeholders influenced project design and implementation was provided. However, in village meetings during the site visit, villagers said they had strong input into benefits and potential benefits the project might provide.
Evidence Used to Assess Conformance:	Sections 2.3.7 & 2.3.8 of the PD, site visit interviews.
Findings:	The stakeholders appear to have influenced the project a bit in regard to benefits. There is opportunity to demonstrate stakeholder influence in project design/implementation by addressing the problems canal blocks are causing the two communities.
Clarification Request (CL):	Please include mention in the PD about how stakeholder input has influenced stakeholder benefits. Please discuss a plan to take input from the fisherman community to help overcome the difficulties they are now having in passing the canal blocks with small boats, with the intent of implementing the plan.

	Please discuss a plan to take input from the farmer who is no longer able to carry on subsistence fishing due to a nearby canal block, with the intent of implementing the plan.
Date Issued:	12 August 2019
Project Proponent Response/Actions and Date:	Stakeholders were consulted on the development of the community development program. During a series of meetings, communities requested support on improving the education of the nearby villages, supporting the health facilities that exist, and supporting them on improved livelihoods. As a result, these programs have been included in the design of the program. The project will host a meeting and site visit with the impacted fisherman to assess the impact of the dams on his ability to pass with a small boat and receive input on how to improve conditions for him. The project will look for solutions that meet the fisherman's needs and work to implement them. The project will host a meeting and site visit with the impacted fisherman to assess the impact of the dams on his ability to continue subsistence fishing and receive input on how to improve conditions for him. The project will look for solutions that meet the farmer's needs and work to implement them. These results of these impact mitigation activities will be reviewed in the quarterly meetings.
Findings:	The auditors could not find the part of the updated PD mentioning how stakeholder input influenced project benefits, as described above. The second and third paragraphs of the project proponent response are identical. Discussing the specific problems, the communities are having directly with them may result in a better understanding between parties and fewer negative impacts.
Clarification Request (CL):	Please include mention in the PD about how stakeholder input has influenced stakeholder benefits or direct the auditors to the part of the PD where it can be found.
Date Re-Issued:	29 October 2019
Project Proponent Response/Actions and Date:	The approved text has been added to section 2.3.7 and 2.3.8 related to G3.4 (06 November 2019)

Evidence Used to Close NCR:	The language added to section 2.3.7 and 2.3.8 now indicates the elements resulting from stakeholder consultation. This along with the evidence from the site visit are sufficient to consider this finding closed.
Date Closed:	10 November 2019

Indicator G3.5 - Demonstrate that all consultations and participatory processes have been undertaken directly with Communities and Other Stakeholders or through their legitimate representatives, ensuring adequate levels of information sharing with the members of the groups.	The PD states the project has conducted a number of stakeholder engagement meetings. A tally of 141 is provided in table 7. The PRA process was also used as part of the consultation process.
Evidence Used to Assess Conformance:	Sections 2.3.9, 2.3.7 and 2.3.8 of the PD, site visit interviews.
Findings:	The project has conducted numerous meetings with stakeholders, which was confirmed during the site visit. Site visit meetings included village leaders. The communities identified in this project do not have leaders, but all fishermen and one of the two farmers was visited by the project for consultations. Item closed.
Date Closed:	12 August 2019

Indicator G3.6 - Describe the measures needed and <i>taken</i> to enable effective participation, as appropriate, of all Communities, including all the Community Groups, that want and need to be involved in project design, implementation, monitoring and evaluation throughout the project lifetime, and describe how they have been implemented in a culturally appropriate and gender sensitive manner.	The PD states that the project engages in regular consultations with all stakeholder groups, including women, and has had several meetings exclusively for women.
Evidence Used to Assess Conformance:	Sections 2.3.7 – 2.3.10, site visit interviews.
Findings:	The project has met many times with stakeholder groups, including village officials, educators, fishermen, farmers, other villagers and made special accommodation to include more women. The people at the village meetings were happy with the way the project has consulted with and informed them, and only requested that meetings with the project be made on a regular schedule, about 4X per year. Item closed

Date Closed:	12 August 2019
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Indicator G3.7 - Describe the measures needed and <i>taken</i> to ensure that the project proponent and all other entities involved in project design and implementation are not involved in or complicit in any form of discrimination or sexual harassment with respect to the project.	The project states they will abide by all Indonesian labor laws and has an equal opportunity policy to ensure the project is not complicit in any form of harassment. A grievance system is in place to protect employees, community members and other stakeholders.
Evidence Used to Assess Conformance:	Section 2.3.11 of the PD, site visit interviews.
Findings:	The project staff is mixed, in relation to gender and many of the staff were interviewed. All stated they were not harassed in any way. From the interviews it is clear a grievance system is in place, though it does not appear to have been provided to the auditors (see G3.8). To confirm the lack of harassment women working at the project camp were interviewed individually by our female interpreter, outside the presence of men, and they confirmed there was no sexual harassment or harassment of any kind. Item closed.
Date Closed:	12 August 2019

Indicator G3.8 - Demonstrate that a clear grievance redress procedure has been formalized to address disputes with Communities and Other Stakeholders that may arise during project planning, implementation and evaluation with respect but not limited to, Free, Prior and Informed Consent, rights to lands, territories and resources, benefit sharing, and participation. The project shall include a process for receiving, hearing, responding to and attempting to resolve Grievances within a reasonable time period. The Feedback and Grievance Redress Procedure shall take into account traditional methods that Communities and Other Stakeholders use to resolve conflicts. The Feedback and Grievance Redress Procedure shall have three stages with reasonable	The PD states that a grievance procedure is in place and can be found in a document called "Sumatra Merang Peatland Project Grievance Redress Mechanism."
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time limits for each of the following stages. First, the Project Proponent shall attempt to amicably resolve all Grievances, and provide a written response to the Grievances in a manner that is culturally appropriate. Second, any Grievances that are not resolved by amicable negotiations shall be referred to mediation by a neutral third party. Third, any Grievances that are not resolved through mediation shall be referred either to a) arbitration, to the extent allowed by the laws of the relevant jurisdiction or b) competent courts in the relevant jurisdiction, without prejudice to a party's ability to submit the Grievance to a competent supranational adjudicatory body, if any. The Feedback and Grievance Redress Procedure must be publicized and accessible to Communities and Other Stakeholders. Grievances and project responses, including any redress, must be documented and made publicly available.	
Evidence Used to Assess Conformance:	Section 2.3.12 of the PD. Site visit interviews
Findings:	It seems a grievance procedure exists, because during staff interviews, staff seemed to be aware of it. None have needed to use it. All stated that if there is a problem, they know who to contact and that has been sufficient. The file, "Sumatra Merang Peatland Project Grievance Redress Mechanism," was not provided to the auditors.
Clarification Request (CL):	Please provide a copy of the Sumatra Merang Peatland Project Grievance Redress Mechanism and a copy of any records of grievances and resolutions, if any were logged.
Date Issued:	12 August 2019

Project Proponent Response/Actions and Date:	The project provides copies of the Sumatra Merang Peatland Project Grievance Redress Mechanism in both English and Bahasa Indonesia, along with formal statement that there have been no reported grievances.
	1. Grievance Redressal Mechanism - EN.doc 2. Grievance Redressal Mechanism - ID.doc 3. No Grievance Statement.pdf
Evidence Used to Close NCR:	The Grievance Redress Mechanism documents were provided to the auditors, along with a statement that no grievances were received 2017 – 2019. Item closed. In the future, the statement regarding grievances can be included in the monitoring reports.
Date Closed:	29 October 2019

Indicator G3.9 - Describe measures needed and <i>taken</i> to provide orientation and training for the project's workers and relevant people from the Communities with an objective of building locally useful skills and knowledge to increase local participation in project implementation. These capacity building efforts should target a wide range of people in the Communities, with special attention to women and vulnerable and/or marginalized people. Identify how training is passed on to new workers when there is staff turnover, so that local capacity will not be lost.	The PD states that the project provides all staff with orientation, direction in SOPs and policies, with attention to health and safety. Other training is also provided, regarding GPS, computers, solar energy, firefighting, etc. The goal is to employ 80% of staff from the local population.
Evidence Used to Assess Conformance:	Section 2.3.14, site visit interviews.
Findings:	Site visit interviews of project field staff revealed that most had received about 3 months training on various aspects of their work, with the exception of a driver and a manager, who had been previously employed in such positions and said they knew their work. About half the staff interviewed were from nearby villages. The others were from Sumatra, but at somewhat longer distances from the project area. It appears the project trains its staff, as needed. There is also evidence that the project is hiring local people. Item closed.
Date Closed:	12 August 2019

Indicator G3.10 - Demonstrate that people from the Communities are given an equal opportunity to fill all work positions (including management) if the job requirements are met. Explain how workers are selected for positions and where relevant, describe the measures needed and <i>taken</i> to ensure Community members, including women and vulnerable and/or marginalized people, are given a fair chance to fill positions for which they can be trained.	The PD states the project is dedicated to hiring 80% of its staff from local areas and to have a workforce of around 25% women. To create opportunities for marginal groups, there are jobs for those without high school diplomas. Job opportunities are advertised on community boards and announced by community leaders and through meetings convened with stakeholders. There is also a standing recruitment drive from forest patrollers. Applicants are selected for interviews based on experience, then selected according to the equal opportunity policy, giving local people a preference when two applicants are about equal.
Evidence Used to Assess Conformance:	Section 2.3.15 of the PD, site visit interviews.
Findings:	Site visit interviews confirmed the methods job announcements are made and the process of interviewing and being hired. All available staff were interviewed at the project camp for a total of 8 employees. Three of the 8 were women. All indications, including at the office in Jakarta, are that the project is actively trying to hire local people and women. Item closed.
Date Closed:	12 August 2019
Indicator G3.11 - Submit a list of all relevant laws and regulations covering worker's rights in the host country. Describe measures needed and <i>taken</i> to inform workers about their rights. Provide assurance that the project meets or exceeds all applicable laws and/or regulations covering worker rights and, where relevant, demonstrate how compliance is achieved.	The PD states that the project complies with all national and provincial laws related to worker's rights and mentions Law 13/2003 regarding Manpower is an umbrella law on labor relations in Indonesia, stipulating working conditions and rights and obligations of employees and the company. The project has its own human resources policies which are explained to staff during orientation and are available for review.
Evidence Used to Assess Conformance:	Section 2.3.16 of the PD. Site visit interviews, review of the similar section from other verified projects in Indonesia.
Findings:	Law 13/2003 appears to be the umbrella law for worker's rights in Indonesia.

	During interviews with staff, all said they were made aware of their rights as workers, during orientation. Item closed.
Date Closed:	12 August 2019
Indicator G3.12 - Comprehensively assess situations and occupations that might arise through the implementation of the project and pose a substantial risk to worker safety. Describe measures needed and <i>taken</i> to inform workers of risks and to explain how to minimize such risks. Where worker safety cannot be guaranteed, project proponents must show how the risks are minimized using best work practices in line with the culture and customary practices of the communities.	The PD states that the project has created a comprehensive Health and Safety Plan that addresses all workplace safety risks and the practices to mitigate those risks. A few risks were mentioned in the PD, including risks of heat stroke, etc., fires, transportation accidents, interactions with illegal loggers and wildlife and exposure to mosquito borne illness. Health and safety training addresses these risks.
Evidence Used to Assess Conformance:	Section 2.3.17 of the PD, site visit interviews.
Findings:	The project has mentioned a few of the work-related risks to workers and that health and safety training, as well as training on equipment, addresses the risks. All field staff have said they received training like this. The health and safety plan was not provided to the auditors, so only a few specific risks are mentioned.
Clarification Request (CL):	Please provide the Health and Safety Plan to the auditors for review.
Date Issued:	12 August 2019
Project Proponent Response/Actions and Date:	The project provides copies of the SOPs related to field operations and forest protection activity is included both English and Bahasa Indonesia.
	1. First Aid in the Camp.docx 2. Forest Fire Prevention and Control.docx 3. Forest Protection and Security.docx 4. Handling and Response to Illegal Logging.docx 5. Lightweight Fire Extinguisher.docx
Evidence Used to Close NCR:	An extensive first aid SOP, covering all manner of injuries and ailments, was provided to the auditors. A fire prevention SOP, forest safety (when confronting illegal activities) SOP and instructions for use of a type of fire extinguisher were provided. Item closed.
Date Closed:	29 October 2019

10.4 G4 Management Capacity

Indicator G4.1 - Describe the project's governance structures, and roles and responsibilities of all the entities involved in project design and implementation. For projects using a programmatic approach, identify any new entities included in the project since the last validation or verification against the CCB Standards.	The PD states the project is implemented by the two proponents, PT GAL and Forest Carbon. It is managed by a project management board comprised of representatives from the two proponents and an observer from the investment partner, Althelia Climate Fund. The joint board is responsible for: • <i>Developing and approving strategic plans;</i> • <i>Approving annual budget and large expenditures;</i> • <i>Reviewing key personnel performance;</i> • <i>Evaluating project performance;</i> • <i>Determining project finance needs;</i> • <i>Providing oversight to subcontractors and consultants.</i> PT GAL is responsible for all field activities in line with project design, community stakeholder relations and ensuring compliance with all government regulations. Forest Carbon is responsible for project design, GIS work, remote sensing, biomass inventories, biodiversity monitoring and community engagement.
Evidence Used to Assess Conformance:	Section 2.4.1 of the PD, interviews with staff and management.
Findings:	The entities involved and their roles have been provided. Item closed.
Date Closed:	12 August 2019

Indicator G4.2 - Document key technical skills required to implement the project successfully, including community engagement, biodiversity assessment and carbon measurement and monitoring skills. Document the management team's expertise and prior experience implementing land management and carbon projects at the scale of this project. If relevant experience is lacking, the proponents must either demonstrate how other organizations are partnered with to support the project or have a recruitment strategy to fill the gaps.	The PD provides a table of project activities and the skills required to perform them, in section 2.4.2. Skills required include: 1. <i>Expertise in peatland science, forestry, GIS/remote sensing, statistics and C monitoring and verification.</i> 2. <i>Community organizing, conflict resolution, business management, adult education, and livelihoods.</i> 3. <i>HCV mapping, forest conservation, conservation biology, and biodiversity monitoring</i> 4. <i>Forestry, peatland forest fire management, and community engagement.</i> 5. <i>Hydrology, peatland science, silviculture, forestry, and biodiversity conservation, engineering.</i> 6. <i>Finance and accounting, HR, business management, legal compliance, and administration.</i>
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	The skills are listed by project activity, so some skills are repeated here. The management team's expertise and experiences are then listed. All necessary skills are covered.
Evidence Used to Assess Conformance:	Sections 2.4.2 and 2.4.3 of the PD, discussions with management team during site visit.
Findings:	The project provided a complete list of necessary skills for implementation and has the management staff to supply them. Item closed.
Date Closed:	12 August 2019

Indicator G4.3 - Document the financial health of the implementing organization(s). Provide assurance that the Project Proponent and any of the other entities involved in project design and implementation are not involved in or are not complicit in any form of corruption such as bribery, embezzlement, fraud, favoritism, cronyism, nepotism, extortion, and collusion, and describe any measures needed <i>and taken</i> to be able to provide this assurance.	The PD states that both of the project proponents (PT GAL and Forest Carbon) are financially stable companies that are capable of implementing a project of this size and nature. Further, the project has zero tolerance toward corrupt or unethical behavior and are not involved in any of the corrupt acts listed here. They are compliant with the US foreign Corruption Practice Act.
Evidence Used to Assess Conformance:	Sections 2.4.5 and 2.4.6 of the PD.
Findings:	The auditors have no reason to doubt the financial stability of the project proponents, though no evidence could be located. Assurance against corruption was provided, but there is no mention of any measures needed or taken to provide the assurance.
Non-conformance Request (NCR):	See findings. Please provide evidence of the financial stability of each project proponent and describe any auditing or quality control procedures that might be used to provide assurance against the kinds of corruption described for this indicator.
Date Issued	12 August 2019
Project Proponent Response/Actions and Date:	Financial statements of PT GAL for the last two years and Equator Group are provided along with financial SOPs for the project to demonstrated. The project has financial reviews each month and also provides a quarterly report to its investors for detailed review.
	1. Equator Group Althelia - Main Standard Operating Procedure draft July 2nd 2018.docx 2. Equator Group Althelia Project - Recording and Reporting funds usage in QB Althelia.docx 3. EG Financial Reports 2017-2018

	4. PT GAL Financial Reports 2017-2018
Evidence Used to Close NCR:	Financial documents reviewed. Evidence of financial stability and financial reviews each month and also provides a quarterly report to its investors for detailed review are sufficient to provide reasonable assurance. Item closed.
Date Closed:	

10.5 G5 Legal Status and Property Rights

Indicator G5.1 - Describe and map statutory and customary tenure/use/access/management rights to lands, territories and resources in the Project Zone including individual and collective rights and including overlapping or conflicting rights. If applicable, describe measures needed and <i>taken</i> by the project to help to secure statutory rights. <i>Demonstrate</i> that all Property Rights are recognized, respected, and supported.	The PD states that there are no outside statutory claims on the project area and that the proponents received all statutory rights to manage the area under the PAN/RAP license. Fishermen from nearby villages access the project area and two small farms are within project boundaries. These people have customary usage rights but no statutory rights. Further, the PD states that the project proponents are specifically accommodating these customary rights holders and will not impinge upon these rights or their livelihoods.
Evidence Used to Assess Conformance:	Sections 2.5.1 and 2.5.2 of the PD, site visit interviews and observations.
Findings:	The project area is remote from settlements and no one lives in the project area, save for the farmers when they need to be present on the lands they farm. Site visit interviews confirm the project is not stopping fishermen and farmers from continuing their activities. However, some project activities may be impinging on the livelihoods of these communities. Specifically, fishermen have said that the canal blocks sometimes prevent them from reaching fishing grounds, especially when fishing alone. They understand that the canal blocks are an important project activity, but would like the blocks to include ladders or some other way they can more easily portage their boats around the blocks. Also, the farmer who was interviewed said he depended on subsistence fishing while tending his farm, but a nearby canal block now prevents that. He is not seeking to have the block removed, but would like help in devising other ways of subsistence to replace fishing, like help in clearing a small area for a garden.

Clarification Request (CL):	See findings. Please provide a plan of action for easing the access problems the fishermen are having with canal blocks and in finding a solution for the farmer's loss of the ability to fish for subsistence while present on the farm.
Date Issued:	12 August 2019
Project Proponent Response/Actions and Date:	The project is already working with the impacted fisherman to devise a plan that will ensure his livelihood from fishing isn't negatively impacted. The project has hosted a meeting and will conduct a site visit to assess the impact of the dams on his ability to pass with a small boat. The project will look for solutions that meet the fisherman's needs and work to implement them with possible solutions being assisting him acquire a lighter boat, install ramps to facilitate portaging his boat, and assist him in finding an alternative closer fishing ground. Suggestions and input from the fisherman will be incorporated into the plan and the success of these plans will be reviewed on a quarterly basis with the impacted fisherman. The fisherman isn't currently able to fish due to the low water levels of the dry season. Once the water levels have risen and the fisherman has resumed fishing activities, the project will work on this solution. In the meantime, the project has conducted a meeting to discuss the issue and potential solutions to the farmer's challenges. The project will work with the impacted farmer to devise a plan that will ensure his livelihood from subsistence fishing isn't negatively impacted potentially helping him identify another suitable fishing spot. Suggestions and input from the farmer will be incorporated into the plan and the success of these plans will be reviewed on a quarterly basis with the impacted farmer. The project has conducted a series of meetings with the farmer to discuss the issue and potential solutions to the farmer's challenges. As result of these meetings, the project has also provided the farmer with support in clearing an area for a garden and for clearing weeds in his current palm oil plantation by giving him an automatic weed whacker device to make it easier to clear land in a safe way that doesn't use fire. It has also given him a number of materials to improve his livelihood and living conditions. Documentation: delivery receipt of goods to the farmer and meeting documentation.

Evidence Used to Close CL:	The plan for the fisherman who can no longer access fishing grounds, due to the canal blocks, appears reasonable and is very likely to be revisited during the next verification site visit. The meeting roster and receipt for goods indicates the farmer's problem is getting some attention and equipment for his livelihood. Item closed.
Date Closed:	29 October 2019

Indicator G5.2 - Demonstrate with documented consultations and agreements that a. the project will not encroach uninvited on private property, community property, or government property, b. the Free, Prior, and Informed Consent⁵ <i>has been obtained</i> of those whose property rights are affected by the project through a transparent, agreed process. Free, Prior and Informed Consent is defined as: - 'Free' means no coercion, intimidation, manipulation, threat and bribery; - 'Prior' means sufficiently in advance of any authorization or commencement of activities and respecting the time requirements of their decision-making processes; - 'Informed' means that information is provided that covers (at least) the following aspects a. the nature, size, pace, reversibility and scope of any proposed project or activity; b. the reason/s or purpose of the project and/or activity; c. the duration of the above; d. the locality of areas that will be affected; e. a preliminary assessment of the likely economic, social, cultural and environmental impact, including potential risks and fair and equitable benefit sharing in a context that respects the precautionary principle;	The project does not encroach on private or community property and has the required license to use the land.
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f. personnel likely to be involved in the execution of the proposed project (including Indigenous Peoples, private sector staff, research institutions, government employees, and others); and g. procedures that the project may entail; and - 'Consent' means that there is the option of withholding consent and that the parties have reasonably understood it. - Collective rights holders must be able to participate through their own freely chosen representatives and customary or other institutions following a transparent process for obtaining their Free, Prior and Informed Consent that they have defined. c. appropriate restitution or compensation has been allocated to any parties whose lands have been or will be affected by the project.	
Evidence Used to Assess Conformance:	Section 2.5.3 of the PD, site visit observations.
Findings:	While there is no doubt that the project does not encroach on the property of others, a copy of the land use license was not provided to the auditors
Clarification Request (CL):	Please provide a copy of the license granting the project proponents the right to use the land for the project.
Date Issued:	31 July 2019
Project Proponent Response/Actions and Date:	The project provides copies of license that grants PT GAL the right to the land of the SMPP as well as the formal permanent concession boundary marking report.
	1. Carbon Storage and Sequestration License 2013.pdf 2. Permanent Concession Boundary Marking 2018.pdf
Evidence Used to Close CL:	The signed carbon storage license agreement and a document describing the boundaries of the project area were provided to the auditors. Item closed.
Date Closed:	30 October 2019

Indicator G5.3 - Demonstrate that project activities do not lead to involuntary removal or relocation of Property Rights Holders from their lands or territories, and does not force them to relocate activities important to their culture or livelihood. If any relocation of habitation or activities is undertaken within the terms of an agreement, the project proponents must <i>demonstrate</i> that the agreement was made with the Free, Prior, and Informed Consent of those concerned and includes provisions for just and fair compensation.	The PD states that the project activities did not lead to the involuntary removal or relocation of property rights holders from their lands. If anyone is moved in the future, it would only be after a written agreement was signed that demonstrate FPIC of the parties involved.
Evidence Used to Assess Conformance:	Section 2.5.4 of the PD, site visit interviews.
Findings:	No one lives on project area lands, though two farmers are using about 12 ha along the southern boundary. An interview with one of the farmers indicated that he was not asked to relocate. Item closed.
Date Closed:	31 July 2019

Indicator G5.4 - Identify any illegal activities that could affect the project's climate, community or biodiversity impacts (e.g. illegal logging) taking place in the Project Zone and describe measures needed and <i>taken</i> to reduce these activities so that project benefits are not derived from illegal activities.	Illegal logging and hunting were identified as practices that could affect the project's beneficial impacts. The project has built and staffed several forest patrol posts and has commenced forest patrols for illegal activities. In addition, the project plans to develop other economic activities local area people can participate in to lessen any need for people to become involved in illegal activities.
Evidence Used to Assess Conformance:	Section 2.5.5 of the PD, site visit interviews.
Findings:	Patrol posts were visited during the site visit and they are staffed. There was no evidence of any illegal activities during the site visit and given the small area of dense forest with sizable trees, it is unlikely that much illegal logging could take place. The small area remaining of dense forest is relatively easy to protect. One of the forest patrollers interviewed used to be involved in illegal logging, so it is clear that the project is actively steering people away from making a living via illegal activities that harm the forest resources. Item closed.

Date Closed:	31 July 2019
Indicator G5.5 - Identify any ongoing or unresolved conflicts or disputes over rights to lands, territories and resources and also any disputes that were resolved during the last twenty years where such records exist, or at least during the last ten years. If applicable, describe measures needed and <i>taken</i> to resolve conflicts or disputes. <i>Demonstrate</i> that no activity is undertaken by the project that could prejudice the outcome of an unresolved dispute relevant to the project over lands, territories and resources in the Project Zone.	The PD states there are no ongoing disputes or any unresolved conflicts regarding the project area.
Evidence Used to Assess Conformance:	Section 2.5.6 of the PD, site visit observations
Findings:	It appears there are no disputes regarding rights to the project lands. Only two individuals (the farmers) encroach on project lands, and they have been allowed to stay, in spite of their having no legal right to the land. Item closed.
Date Closed:	31 July 2019
Indicator G5.6 - Submit a list of all national and local laws and regulations in the host country that are relevant to the project activities. Provide assurance that the project is complying with these and, where relevant, demonstrate how compliance is achieved.	The PD states they are in full compliance with all national, regional and local laws regulating forest conservation projects. The PD then provides a list of laws categorized by the project activity in question, including laws, regulations and guidelines involving: 1. <i>Fire prevention</i> 2. <i>Canal Blocking</i> 3. <i>Community development</i> 4. <i>Forest conservation activities</i> 5. <i>PAN/RAP management activities</i> 6. <i>Trading and taxation</i> 7. <i>Labor laws (essentially law 13/2003)</i>
Evidence Used to Assess Conformance:	Section 2.5.7 of the PD, site visit discussions with project management.
Findings:	The PD provides the list of laws, regulations and guidelines governing the project activities and has provided assurance they will be followed. Item closed.
Date Closed:	31 July 2019
Indicator G5.7 - Document that the project has approval from the	The PD includes a list of decrees and approvals from several levels of government and ministries, the name

appropriate authorities, including the established formal and/or traditional authorities customarily required by the Communities.	of the decree/approval and the dates of those decrees and approvals.
Evidence Used to Assess Conformance:	Section 2.5.8 of the PD
Findings:	A list of the necessary approvals and dates of the approvals was provided, though no copies of these documents were provided to the auditors.
Clarification Request (CL):	See findings. Please provide copies of the various approvals and decrees listed in table 9 of the PD.
Date Issued:	31 July 2019
Project Proponent Response/Actions and Date:	The project provides copies of approvals and decrees listed in Table 9.
	1. Business License Recommendation Governor of South Sumatra.pdf 2. Carbon Storage and Sequestration License.pdf 3. Permanent Concession Boundary Marking 2018.pdf 4. Technical Recommendation Musi Banyuasin District.pdf
Evidence Used to Close CL:	The Carbon storage license agreement, document describing the boundaries of the project area, technical recommendation from the Bupati, and the recommendation from the governor of South Sumatra were provided to the auditors. Item closed.
Date Closed:	30 October 2019

Indicator G5.8 - Demonstrate that the Project Proponent(s) has the unconditional, undisputed and unencumbered ability to claim that the project will or did generate or cause the project's climate, community and biodiversity benefits.	The PD states that PT GAL holds the land tenure rights for the project area. A license for the carbon sequestration and carbon sink rights was granted in 2013, and it allows the project to restore the land and sell carbon credits on the international voluntary markets.
Evidence Used to Assess Conformance:	Section 2.5.9 of the PD.
Findings:	It appears the project proponents have the rights to claim carbon credits, but a copy of the license was not provided to the auditors.
Non-conformance Request (NCR):	See findings. Please provide a copy of the IUP PAN/RAP license.
Date Issued:	31 July 2019
Project Proponent Response/Actions and Date:	The project provides a copy of the IUP PAN/RAP license from the Indonesian government.
	1. Carbon Storage and Sequestration License.pdf
Evidence Used to Close NCR:	The carbon storage license and accompanying boundaries document was provided to the auditors. Item closed.
Date Closed:	30 October 2019

Indicator G5.9 - Identify the tradable climate, community and biodiversity benefits of the project and specify how double counting is avoided, particularly for offsets sold on the voluntary market and generated in a country participating in a compliance mechanism.	The PD states the project has not received in form of environmental or social credits nor does it participate under any other program to create such credits. Emissions reductions do not fall under any other emissions trading program. The project only seeks to generate VCUs. It has not applied for nor been received.
Evidence Used to Assess Conformance:	Sections 2.5.10 – 2.5.15 of the PD.
Findings:	The project only seeks to trade in VCUs. Double counting is avoided through registration of VCUs with Verra. Item closed.
Date Closed:	31 July 2019

11 CLIMATE SECTION

Per the Rules for the Use of the CCB Standards (December 2013), a Climate Section Waiver is applicable for projects using the Third Edition.

“The Climate section of the CCB Standards Third Edition is used to demonstrate a project’s net positive climate benefits and not for claiming greenhouse gas (GHG) emissions reductions and removals units for use as offsets. CL1-4 is not required for projects that have met the requirements of a Recognized GHG Program.

“The Validation or Verification Report shall include evidence in the form of a positive validation or verification statement following the procedure of the Recognized GHG Program that the project meets the requirements of the Recognized GHG Program (for the appropriate time period, in the case of verification).

“If a project is not successfully validated or verified to the standards of a recognized GHG program at the time of its validation or verification to the CCB Standards, it shall demonstrate conformance with the CCB Standards Climate Section CL1-4.

“If a Project meets the requirements of a Recognized GHG Program resulting in a waiver of the Climate section of the CCB Standards, the project must be verified to the CCB Standards at the same time and every time that it is verified to the Recognized GHG Program.”

11.1 CL1 Without-Project Climate Scenario

Indicator CL1.1 - Estimate the total GHG emissions inside the Project Area under the without-project land use scenario (described in G2) using an Approved or Defensible methodological approach. The timeframe for this analysis is the project GHG accounting period or the project lifetime. In the without-project	Addressed through VCS Validation and Verification process. Please see VCS findings for greater detail.
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scenario, it is allowable for the analysis to exclude GHG emissions from sources such as biomass burning, fossil fuel combustion, synthetic fertilizers, and to exclude non-CO2 GHG emissions such as CH4 and N2O gases, in cases where this can be justified as conservative. The analysis of GHG emissions or removals must include carbon pools expected to increase significantly under the without-project scenario.	
Evidence Used to Assess Conformance:	N/A
Findings:	N/A
Non-conformance Request (NCR):	N/A
Date Issued:	N/A
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

11.2 CL2 Net Positive Climate Impacts

Indicator CL2.1 - Estimate the total GHG emissions expected from land use activities inside the project area under the with-project land use scenario using an Approved or Defensible methodological approach. This estimate must be based on clearly defined and defensible assumptions about changes in GHG emissions under the with-project scenario over the project lifetime or the project GHG accounting period. The GHG emissions estimate must include non CO2 emissions such as CH4 and N2O (in terms of CO2-equivalent). and GHG emissions from sources such as biomass burning, fossil fuel combustion, use of synthetic fertilizers and the decomposition of Nfixing species, etc., if those GHG emissions sources are cumulatively likely to account for more than 20% of the project's expected total GHG emissions in the with-project scenario.	Addressed through VCS Validation and Verification process. Please see VCS findings for greater detail.
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Evidence Used to Assess Conformance:	N/A
Findings:	N/A
Non-conformance Request (NCR):	N/A
Date Issued:	N/A
Project Proponent Response/Actions and Date:	N/A
Evidence Used to Close NCR:	N/A
Date Closed:	N/A

Indicator CL2.2 - Demonstrate that the net climate impact of the project is positive. The net climate impact of the project is the difference between the total GHG emissions or removals in the without-project scenario (including CO2 and non-CO2 GHG emissions) and total GHG emissions or removals resulting from project activities, minus any project-related negative offsite climate impacts ('Leakage' see CL3).	Addressed through VCS Validation and Verification process. Please see VCS findings for greater detail.
Evidence Used to Assess Conformance:	N/A
Findings:	N/A
Non-conformance Request (NCR):	N/A
Date Issued:	N/A
Project Proponent Response/Actions and Date:	N/A
Evidence Used to Close NCR:	N/A
Date Closed:	N/A

11.3

11.4 CL3 Offsite Climate Impacts ("Leakage")

Indicator CL3.1 - Determine the types of Leakage that are expected and estimate offsite increases in GHG emissions due to project activities using an Approved or Defensible methodological approach. Where relevant, define and justify where Leakage is most likely to take place.	Addressed through VCS Validation and Verification process. Please see VCS findings for greater detail.
Evidence Used to Assess Conformance:	N/A
Findings:	N/A
Non-conformance Request (NCR):	N/A
Date Issued:	N/A

Project Proponent Response/Actions and Date:	N/A
Evidence Used to Close NCR:	N/A
Date Closed:	N/A

Indicator CL3.2 - Describe the measures taken to mitigate Leakage.	Addressed through VCS Validation and Verification process. Please see VCS findings for greater detail.
Evidence Used to Assess Conformance:	N/A
Findings:	N/A
Non-conformance Request (NCR):	N/A
Date Issued:	N/A
Project Proponent Response/Actions and Date:	N/A
Evidence Used to Close NCR:	N/A
Date Closed:	N/A

Indicator CL3.3 - Non-CO2 emissions must be included if they are likely to account for more than 20% of the total Leakage emissions (in terms of CO2-equivalent) following the procedures for including or excluding non-CO2 emissions described in CL 2.1.	Addressed through VCS Validation and Verification process. Please see VCS findings for greater detail.
Evidence Used to Assess Conformance:	N/A
Findings:	N/A
Non-conformance Request (NCR):	N/A
Date Issued:	N/A
Project Proponent Response/Actions and Date:	N/A
Evidence Used to Close NCR:	N/A
Date Closed:	N/A

11.5 CL4 Climate Impact Monitoring

Indicator CL4.1 - Develop and implement a plan for monitoring changes in relevant carbon pools, non-CO2 GHGs and emissions sources and leakage (as identified in CL1, CL2 and CL3) using an Approved or Defensible methodological approach and following the defined frequency of monitoring of defined parameters. Emissions sources to monitor must include any sources expected to	Addressed through VCS Validation and Verification process. Please see VCS findings for greater detail.
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cumulatively contribute more than 20% of total GHG emissions in the with-project scenario (See footnote to CL2.1). Where the methodological approach used to estimate leakage under CL3 requires monitoring, this leakage must be monitored.	
Evidence Used to Assess Conformance:	N/A
Findings:	N/A
Non-conformance Request (NCR):	N/A
Date Issued:	N/A
Project Proponent Response/Actions and Date:	N/A
Evidence Used to Close NCR:	N/A
Date Closed:	N/A

11.6

Indicator CL4.2 - Disseminate the monitoring plan and any results of monitoring undertaken in accordance with the monitoring plan, ensuring that they are made publicly available on the internet and summaries are communicated to the Communities and Other Stakeholders through appropriate means.	Addressed through VCS Validation and Verification process. Please see VCS findings for greater detail.
Evidence Used to Assess Conformance:	N/A
Findings:	N/A
Non-conformance Request (NCR):	N/A
Date Issued:	N/A
Project Proponent Response/Actions and Date:	N/A
Evidence Used to Close NCR:	N/A
Date Closed:	N/A

11.7

11.8 GL1 Climate Change Adaptation Benefits

Indicator GL1.1 - Identify likely regional or sub-national climate change and climate variability scenarios and impacts, using available studies, and identify potential changes in the local land use scenario due to these climate change scenarios in the absence of the project.	The PD states that Indonesia's weather events, like droughts and higher than average rainy seasons, are strongly influenced by ENSO events, with droughts during El Niño events and excessive rain during La Niña events. Temperature is expected to increase with increased duration of heat waves and dry spells. Precipitation patterns are expected to change, with increased rainfall during the rainy season, but the season will
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	start several weeks later. There will be increased frequency and intensity of heavy rainfall events. Longer droughts and fire seasons, along with intense rainy seasons with more intense flooding is expected.
Evidence Used to Assess Conformance:	Section 3.4.1 of the PD, World Bank publication, "Vulnerability, Risk Reduction and Adaptation to Climate Change.
Findings:	Expected climate change in the region was well summarized in the PD. Item closed
Date Closed:	01 August 2019

11.9

Indicator GL1.2 - Demonstrate that current or anticipated climate changes are having or are likely to have an impact on the well-being of Communities and/or the conservation status of biodiversity in the Project Zone and surrounding regions.	The PD states that changes in land use, temperature and precipitation have already caused widespread impacts in the form of wildfires and expected climate change will make things worse. There are food security implications due to changing precipitation patterns and evaporation. Reduced availability of fresh water may cause health problems. Expansion of agriculture and flooding will decrease water quality. Fires will cause a decline in biodiversity. Loss of ecosystem services will affect all forest-dependent livelihoods. Increased exposure to diseases, such as malaria and dengue fever, are expected.
Evidence Used to Assess Conformance:	Section 3.4.2 of the PD, Indonesia Climate Vulnerability Profile from USAID.
Findings:	Expected climate vulnerabilities are well summarized in the PD. Item closed.
Date Closed:	01 August 2019

Indicator GL1.3 - Describe measures needed and <i>taken</i> to assist Communities and/or biodiversity to adapt to the probable impacts of climate change based on the causal model that explains how the project activities will achieve the project's predicted adaptation benefits.	The PD states the project aims to strengthen community and environmental resilience by implementing adaptation options through project activities. Relevant project activities include: 1. <i>Forest patrolling</i> 2. <i>Fire prevention and monitoring</i> 3. <i>Canal blocking and hydrology management</i> 4. <i>Reforestation and assisted natural regeneration</i> 5. <i>Community development</i> 6. <i>Biodiversity management and monitoring</i> 7. <i>Cross-cutting</i> Several activities reduce fire risk. Soil and water quality are improved by hydrological management. Replanting conserves local gene pools. Community
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	development diversifies economic opportunities. Biodiversity activities allows change to be monitored in response to climate change.
Evidence Used to Assess Conformance:	Section 3.4.3 of the PD, knowledge of soils and natural systems.
Findings:	The project activities were related to climate change adaptation measures in a reasonable manner. It is likely the project will ameliorate impacts of climate change to the local ecosystem and communities using the project area. Item closed.
Date Closed:	01 August 2019

Indicator GL1.4 - Include indicators for adaptation benefits for Communities and/or biodiversity in the monitoring plan. <i>Demonstrate</i> that the project activities assist Communities and/or biodiversity to adapt to the probable impacts of climate change. Assessment of impacts of project activities on Communities must include an evaluation of the impacts by the affected Communities.	The PD states the community monitoring plan tracks improved livelihoods, education support and health. Table 26 of the PD includes a detailed summary of the community monitoring plan. Several items are related to adaptation benefits, including the numbers of community members utilizing the area, employment by the project, access to clean water and fire safety. Biodiversity monitoring, including camera traps, SMART conservation software, vegetation surveys, bird surveys and listening posts. Community and stakeholder monitoring has shown there is interest in developing sustainable livelihoods, an increase in income opportunities with the project, fire training and increases in the number of people adopting latrines. Biodiversity surveys show that illegal hunting and species collection is falling. Fire instances have dropped, species counts have increased, and more area is being reforested.
Evidence Used to Assess Conformance:	Sections 4.2.3, 4.4.1, 5.2.3, 5.4.1 of the PD. Sections 4.1.3,
Findings:	Some aspects of the community monitoring plan directly address climate adaptation benefits. The biodiversity monitoring plan should be able to be used to judge the effectiveness of project activities on biodiversity, in general. The monitoring report shows that some key biodiversity indicators have changed in a positive way, as well as indicators that community and other stakeholders are improving their livelihoods as a result of project activities.

	No evaluation of project impacts by the communities could be located.
Non-conformance Request (NCR):	Please provide or direct the auditors to the location of an evaluation of project impacts by the communities (fishermen and farmers).
Date Issued:	1 August 2019
Project Proponent Response/Actions and Date:	The project through a series of interviews with communities who derive their income from the project area have stated that the project has helped increase the abundance of fish and the farmer stated that the prevention of fire has greatly increased his economic well-being as his tree crops are safe from destruction. There are also some negative impacts identified by two people. These evaluations of the project were recorded in direct interviews with the community members and make up the evaluation of the impacts by the affected Communities. Additional Documentation Provided: Minutes of meeting with Matnur the farmer and Sangkut the fisherman.
Evidence Used to Close NCR:	Parts of the minutes from the interview with Nur and his wife describe the issues they are having with climate change related fires, particularly the 2015 fires, and how they welcome the additional fire protection provided by the project. Other meetings with fishermen indicate project activities improve fishing, partly by concentrating fish behind canal blocks. Fisherman are also relieved from some of the concerns about fire. Fire during periods of drought appears to be the main way climate change is affecting the local communities, at this time. The project is helping the communities adapt. Item closed.
Date Closed:	30 October 2019

12 COMMUNITY SECTION

12.1 CM1 Without-Project Community Scenario

Indicator CM1.1 - Describe the Communities at the start of the project and significant community changes in the past, including well-being information, and any community characteristics. Describe the social, economic and cultural diversity within the Communities and the differences and interactions	The PD reiterates that the project area is isolated and the local people have little interaction with it. From the nearest village, it can take 45 minutes – 1.5 hours to reach the project area by road and 2 hours or more by boat. Using the definition of a community, defined in footnote 18 of the third edition of the CCB standard, the communities are the sub-group of people from the
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between the Community Groups.	surrounding villages who fish in and around the project area, as well as the two farmers who were farming a few hectares of the project area, before the project began. Ethnic backgrounds are diverse, from many parts of Indonesia, with no indigenous groups living in the area. The fisherman community is comprised of retired, older men. Nine rely solely on fishing for income, but all consider fishing crucial to their livelihoods. The average net income derived from fishing is \$47 USD per fisherman per month. Average monthly salaries in Merang and Kepayang ranges from \$139-\$209/month. The farmers are of a lower socio-economic bracket than the majority of people in surrounding villages, as small-scale farming is a less attractive way to make a living than the jobs available in the area.
Evidence Used to Assess Conformance:	Section 4.1 of the PD, observations during the site visit.
Findings:	The communities dependent on the project area were adequately described. Item closed.
Date Closed:	31 July 2019

Indicator CM1.2 - Evaluate whether the Project Zone includes any of the following High Conservation Values (HCVs) related to community well-being and describe the qualifying attributes for any identified HCVs: a. Areas that provide critical ecosystem services; b. Areas that are fundamental for the livelihoods of Communities; and c. Areas that are critical for the traditional cultural identity of Communities. Identify the areas that need to be managed to maintain or enhance the identified HCVs.	The PD states there are two community-related HCVs in the project area, based on their being critical to ecosystem services and areas fundamental for the livelihoods of communities. Ecosystem services provided include flood and fire protection, fisheries protection, microclimate regulation, water supply and pollination services. Specific areas within the project area are identified in table 60. Areas fundamental to the livelihoods of communities include the main canals and rivers used by the fishermen, and the two small areas used by the farmers along the southern boundary of the project area.
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Evidence Used to Assess Conformance:	Section 4.1.3 of the PD. Site visit observations
Findings:	The project area has the two HCVs described. As the project progresses, the first HCV will likely include most, if not all, of the project area. Item closed.
Date Closed:	31 July 2019

Indicator CM1.3 - Describe the expected changes in the well-being conditions and other characteristics of Communities under the without-project land use scenario, including the impact of likely changes on all ecosystem services in the Project Zone identified as important to Communities.	The baseline scenario of conversion to acacia plantation would impact both farming and fishing. Drainage would reduce water quality and negatively affect fishing. Canalization would reduce any ecosystem services benefits, like clean water and biodiversity.
Evidence Used to Assess Conformance:	Section 4.1.4 of the PD, site visit observations
Findings:	Community-related HCVs would definitely be adversely affected by the expected baseline scenario. This item will remain open, pending the response to the comment regarding the baseline scenario.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	G2.2 regarding baseline now indicates the effect of the baseline scenario on climate benefits and shows how additionality is established. Item closed.
Date Closed:	10 November 2019

12.2 CM2 Net Positive Community Impacts

Indicator CM2.1 - Use appropriate methodologies to assess the impacts, including predicted and actual, direct and indirect benefits, costs and risks, on each of the identified Community Groups (identified in G1.5) resulting from project activities under the with-project scenario. The assessment of impacts must include changes in well-being due to project activities and an evaluation of the impacts by the affected Community Groups. This assessment must be based on clearly defined and defensible	The PD describes the expected community impacts as direct benefits to fishermen and their families, due to reduced fires, protection of and access to fishing grounds, improved access to clean water, improved access to education, improved waste management and employment opportunities. Those for the farming families are very similar. Since the communities are small, the PD and monitoring report also mention the positive impacts on the other stakeholders in the villages who benefit from project activities. These benefits include job training for both women and youth, job opportunities for those who were in illegal, at-risk occupations and improvements in healthcare for the elderly population.
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assumptions about changes in well-being of the Community Groups under the with-project scenario, including potential impacts of changes in all ecosystem services identified as important for the Communities (including water and soil resources), over the project lifetime.	
Evidence Used to Assess Conformance:	Sections 4.2.1 of the PD, Section 4.1.1 of the MR, site visit interviews
Findings:	Benefits to the fishermen and farmers are reasonably expressed and clear, as these occupations may not be possible or could be severely curtailed in the 'without-project' scenario. One employee of the project who was interviewed was formerly an illegal logger, demonstrating that alternative occupations for at-risk people are being provided. Item closed.
Date Closed:	31 July 2019

Indicator CM2.2 - Describe measures needed and <i>taken</i> to mitigate any negative well-being impacts on Community Groups and for maintenance or enhancement of the high conservation value attributes (identified in CM1.2) consistent with the precautionary principle.	One potential negative impact discussed in the PD is an increase in wildlife-human conflict, as wildlife populations increase with habitat area and quality. The project response to this is training to reduce this risk and maintain direct lines of communication with project communities. The PD further states that in in-person interviews, farmers and fishermen consider any drawbacks cause by higher water levels are offset by lowering fire risk. The monitoring report states that keeping lines of communications open allows consultations regarding negative impacts and ways to avoid them.
Evidence Used to Assess Conformance:	Section 4.1.2 of the monitoring report and section 4.2.2 of the PD, site visit interviews.
Findings:	It makes sense that in the long run, there would be few negative impacts to the communities dependent on the project area. However, two negative impacts were discussed between the auditor and one farmer and the auditor and some of the fishermen. These impacts are in regard to the canal blocks and are mentioned in indicator G3.2. Minor changes to project activities are likely to eliminate them.

	The canal block just upstream from the farmer, Mat Nur, has changed the nature of the canal downstream, and he is no longer able to fish for subsistence purposes. He seeks some replacement for this resource lost to him. The canal blocks, in general, are a problem when fishermen attempt to portage their boats around them. Older fishermen and those who fish alone have particular problems.
Clarification Request (CL):	See findings. Please include a discussion of these negative community impacts and the ways in which they will be addressed.
Date Issued:	1 August 2019
Project Proponent Response/Actions and Date:	The impacted communities have outlined some negative impacts, and these are captured in the project evaluation by project communities. One farmer has indicated that downstream conditions from a canal dam have negatively impacted his subsistence fishing activities. A fisherman has indicated that it is difficult to portage his boat around canal dams. The project will work with the impacted fisherman to devise a plan that will ensure his livelihood from fishing isn't negatively impacted. The project will host a meeting and site visit with the impacted fisherman to assess the impact of the dams on his ability to pass with a small boat. The project will look for solutions that meet the fisherman's needs and work to implement them. Suggestions and input from the fisherman will be incorporated into the plan and the success of these plans will be reviewed on a quarterly basis with the impacted fisherman. Currently the fisherman isn't able to fish due to the low water levels because of the dry season. Once the water levels have risen and the fisherman has resumed fishing activities, the project will work on this solution. In the meantime, the project has conducted a meeting to discuss the issue and potential solutions to the farmer's challenges. The project will work with the impacted farmer to devise a plan that will ensure his livelihood from subsistence fishing isn't negatively impacted potentially helping him identify another suitable fishing spot. Suggestions and input from the farmer will be incorporated into the plan and the success of these plans will be reviewed on a quarterly basis with the impacted farmer. The project has conducted a series of meetings with the farmer to discuss the issue

	and potential solutions to the farmer's challenges. As result of these meetings, the project has also provided the farmer with support in clearing an area for a garden and for clearing weeds in his current palm oil plantation by giving him an automatic weed whacker device to make it easier to clear land in a safe way that doesn't use fire. It has also given him a number of materials to improve his livelihood and living conditions. It was also discussed on supporting the farmer to find a new nearby fishing spot, so he can resume subsistence farming. The conditions of the farmer and fisherman will be monitored on a quarterly basis to ensure that their livelihoods are maintained. Additional Documentation Provided: Minutes of meeting with Matnur the farmer and Sangkut the fisherman.
Evidence Used to Close NCR:	It is clear from interview minutes that the negative impacts reported by one farmer and one fisherman are being addressed and will likely be minimized or eliminated. Item closed.
Date Closed:	30 October 2019

Indicator CM2.3 - Demonstrate that the net well-being impacts of the project are positive for all identified Community Groups compared with their anticipated well-being conditions under the without-project land use scenario (described in CM1).	The PD states the project ensures access to the resources for fishermen and continued access and use of the land for the farmers. Better hydrology management will continue to improve the resource. The likelihood, under the baseline scenario, is that these resources would continue to degrade, have no protection and access could be denied. Benefits to other stakeholders in the villages would not occur in the absence of the project.
Evidence Used to Assess Conformance:	Section 4.2.3 of the PD, section 4.1.3 of the monitoring report, site visit interviews.
Findings:	There is little doubt that the project scenario is more beneficial to the communities and surrounding villages than the baseline scenario. Discussions with the auditor during village meetings revealed that the villages like the benefits provided by the project and prefer the way the project treats them compared to the way the various industrial land users treat them. Item closed
Date Closed:	1 August 2019

Indicator CM2.4 - Demonstrate that no High Conservation Values (identified in CM1.4) are negatively affected by the project.	The PD states that the project ensures HCVs will be protected. The project's objectives are designed to protect and enhance the HCVs. The monitoring report says the project activities have focused on the conservation of the forest and peatlands, which create the HCVs for the communities.
Evidence Used to Assess Conformance:	Section 4.2.4 of the PD, section 4.1.4 of the monitoring report, knowledge and experience with natural systems.
Findings:	The community-related HCVs are dependent on a healthy peat swamp forest/ecosystem. Protecting and enhancing the ecosystem is the project goal and all activities are directly or peripherally related to that. There is little doubt that the community-related HCVs are not negatively affected by the project. Item closed.
Date Closed:	1 August 2019

12.3 CM3 Other Stakeholder Impacts

Indicator CM3.1 - Identify any potential positive and negative impacts that the project activities are likely to cause on the well-being of Other Stakeholders.	The PD reiterates that other stakeholders live at a considerable distance from the project area. However, a number of project activities are designed to benefit them, including: Increasing levels of healthcare available Education initiatives Alternative economic activities. Job opportunities General environmental improvements, like clean water access.
Evidence Used to Assess Conformance:	Section 4.3.2 of the PD, site visit interviews and observations.
Findings:	There are no negative impacts for other stakeholders, and some project benefits have been going their way, including the ones listed. The impact is positive. Item closed.
Date Closed:	1 August 2019

Indicator CM3.2 - Describe the measures needed <i>and taken</i> to mitigate the negative well-being impacts on Other Stakeholders.	The PD reiterates the distance between the project area and other stakeholders, reducing the likelihood of negative impacts. One potential negative impact described is greater wildlife-human conflicts, as biodiversity – especially numbers of bears and tigers – improves. While this impact is unlikely, due to distance, the project is
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	developing training for local stakeholders to reduce risks of these encounters. The monitoring report mentions that no such impacts occurred or are anticipated.
Evidence Used to Assess Conformance:	Section 4.3.2 of the PD, Section 4.2.1 of the monitoring report.
Findings:	The negative impact described is highly unlikely, but as a precaution, training people how to avoid conflict with wildlife or deal with it when it occurs should effectively reduce the risk. Item closed.
Date Closed:	1 August 2019

Indicator CM3.3 - Demonstrate that the project activities do not result in net negative impacts on the well-being of Other Stakeholders.	The PD and monitoring report state that negative impacts to other stakeholders are unlikely and have not occurred during the monitoring period.
Evidence Used to Assess Conformance:	Section 4.3.3 of the PD, section 4.2.2 of the monitoring report, site visit observations, common sense.
Findings:	No negative impacts on the well-being of other stakeholders occurred and are unlikely to occur. Item closed.
Date Closed:	1 August 2019

12.4 CM4 Community Impact Monitoring

Indicator CM4.1 - Develop and implement a monitoring plan that identifies community variables to be monitored, Communities, Community Groups and Other Stakeholders to be monitored, the types of measurements, the sampling methods, and the frequency of monitoring and reporting. Monitoring variables must be directly linked to the project's objectives for Communities and Community Groups and to predicted outputs, outcomes and impacts identified in the project's causal model related to the well-being of Communities (described in G1.8). Monitoring must assess differentiated impacts, including and benefits, costs and risks, for each of the Community Groups and must include an evaluation by the affected Community Groups.	A community monitoring plan was developed, the details of which can be found in table 62 of the PD. The people monitored include the fishermen community, the farmer community and the other stakeholders in the nearby villages. Variables and data collection methods are described. Monitoring frequency for most variables are 12 months, but fire safety/prevention training is monitoring every 3 months.
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Evidence Used to Assess Conformance:	Sections 4.4.1 of the PD, section 4.3.1 of the monitoring report.
Findings:	A monitoring plan which covers the requirements of this indicator, was developed and is in use. Item closed.
Date Closed:	1 August 2019

Indicator CM4.2 - Develop and implement a monitoring plan to assess the effectiveness of measures taken to maintain or enhance all identified High Conservation Values related to community well-being.	The monitoring report states that the monitoring plan assesses the state of 5 different “livelihood assets,” including natural capital, which would encompass the community-related HCVs. Fire prevention is monitored through training and, obviously, fire occurrence. Biodiversity surveys, reforestation progress and rewetting monitoring are included, as are trainings in alternative livelihoods.
Evidence Used to Assess Conformance:	Section 4.3.2 of the monitoring report, section 4.4.1 of the PD, appendix 5 of the PD.
Findings:	The monitoring plan can effectively assess measures to maintain and enhance community-related HCVs. Item closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	1 August 2019

Indicator CM4.3 - Disseminate the monitoring plan, and any results of monitoring undertaken in accordance with the monitoring plan, ensuring that they are made publicly available on the internet and summaries are communicated to the Communities and Other Stakeholders through appropriate means.	The monitoring plan states that the report summary was distributed to villages and posted online. Project team members discussed the report summary at local meetings.
Evidence Used to Assess Conformance:	Section 4.3.2 of the monitoring report, site visit interviews.
Findings:	Monitoring report summaries were distributed and otherwise made available to communities and other stakeholders, according to information gleaned from villagers at the village meetings with the auditor. Item closed.
Date Closed:	1 August 2019

12.5 GL2 Exceptional Community Benefits

Indicator GL2.1 - a. Demonstrate that Smallholders/Community	N/A
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Members or Communities either own or have management rights, statutory or customary, individually or collectively, to land in the Project Area. The Smallholders/Community Members or Communities have rights to claim that their activities will or did generate or cause the project's climate, community and biodiversity benefits. OR b. Demonstrate that the Project Zone is in a low human development country OR in an administrative area of a medium or high human development country in which at least 50% of the households within the Communities are below the national poverty line.	
Evidence Used to Assess Conformance:	Insert Evidence Used
Findings:	Insert Findings
Non-conformance Request (NCR):	Insert NCR/CL
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

12.6

Indicator GL2.2 - <i>Demonstrate</i> that the project generates short-term and long-term net positive well-being benefits for Smallholders/Community Members. Include indicators of well-being impacts on Smallholder/Community Members in the monitoring plan. The assessment of impacts must include changes in well-being due to project activities and an evaluation of the impacts by the affected smallholders/Community Members.	N/A
Evidence Used to Assess Conformance:	Insert Evidence Used
Findings:	Insert Findings
Non-conformance Request (NCR):	Insert NCR/CL
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	

Date Closed:	
Indicator GL2.3 - Identify, through a participatory process, risks for the Smallholders/Community Members to participate in the project, including those related to tradeoffs with food security, land loss, loss of yields and short-term and long-term climate change adaptation. Explain how the project is designed to avoid such tradeoffs and the measures taken to manage the identified risks. Include indicators of risks for Smallholders/Community Members in the monitoring plan.	N/A
Evidence Used to Assess Conformance:	Insert Evidence Used
Findings:	Insert Findings
Non-conformance Request (NCR):	Insert NCR/CL
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

12.7

Indicator GL2.4 - Identify Community Groups that are marginalized and/or vulnerable. <i>Demonstrate</i> that the project generates net positive impacts on the well-being of all identified marginalized and/or vulnerable Community Groups. <i>Demonstrate</i> that any barriers or risks that might prevent benefits going to marginalized and/or vulnerable Smallholder/Community Members have been identified and addressed. <i>Demonstrate</i> that measures are taken to identify any marginalized and/or vulnerable Smallholders/Community Members, whose well-being may be negatively affected by the project, and that measures are taken to avoid, or when unavoidable to mitigate, any such impacts.	N/A
Evidence Used to Assess Conformance:	Insert Evidence Used

Findings:	Insert Findings
Non-conformance Request (NCR):	Insert NCR/CL
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

Indicator GL2.5 - Demonstrate that the project generates net positive impacts on the well-being of women and that women participate in or influence decision-making and include indicators of impacts on women in the monitoring plan.	N/A
Evidence Used to Assess Conformance:	Insert Evidence Used
Findings:	Insert Findings
Non-conformance Request (NCR):	Insert NCR/CL
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

Indicator GL2.6 - Describe the design and implementation of a benefit sharing mechanism, demonstrating that Smallholders/Community Members have fully and effectively participated in defining the decision-making process and the distribution mechanism for benefit sharing; and demonstrating transparency, including on project funding and costs as well as on benefit distribution.	N/A
Evidence Used to Assess Conformance:	Insert Evidence Used
Findings:	Insert Findings
Non-conformance Request (NCR):	Insert NCR/CL
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

Indicator GL2.7 - Explain how relevant and adequate information	N/A
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about predicted and actual benefits, costs and risks has been communicated to Smallholders/Community Members and provide evidence that the information is understood.	
Evidence Used to Assess Conformance:	Insert Evidence Used
Findings:	Insert Findings
Non-conformance Request (NCR):	Insert NCR/CL
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

Indicator GL2.8 - Describe the project's governance and implementation structures, and any relevant self-governance or other structures used for aggregation of Smallholders/Community members, and demonstrate that they enable full and effective participation of Smallholders/Community Members in project decision-making and implementation.	N/A
Evidence Used to Assess Conformance:	Insert Evidence Used
Findings:	Insert Findings
Non-conformance Request (NCR):	Insert NCR/CL
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

Indicator GL2.9 - Demonstrate how the project is developing the capacity of Smallholders/Community Members, and relevant local organizations or institutions, to participate effectively and actively in project design, implementation and management.	N/A
Evidence Used to Assess Conformance:	Insert Evidence Used
Findings:	Insert Findings
Non-conformance Request (NCR):	Insert NCR/CL
Date Issued:	

Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	

13 BIODIVERSITY SECTION

13.1 B1 Biodiversity Without-Project Scenario

Indicator B1.1 - Describe biodiversity within the Project Zone at the start of the project and threats to that biodiversity, using appropriate methodologies.	The PD states that, in spite of the degraded nature of the project area, surveys reveal it still contains many globally significant species, including: Sun bears Agile gibbons Hornbill species and pheasants Sumatran tigers. Table 63 is a more complete list of the species found on the project area, including a number of endangered, threatened and near-threatened species. There are plenty of prey species for the tigers, indicating they may be using the site regularly for hunting grounds. Threats include: Illegal logging Fires Hunting Lack of understanding of rare and threatened ecosystems by communities Peat drainage.
Evidence Used to Assess Conformance:	Sections 5.1.1 and 5.1.2 of the PD
Findings:	The PD has provided a list of species existing on the project area, along with the threats to those species. Item closed.
Date Closed:	1 August 2019

Indicator B1.2 - Evaluate whether the Project Zone includes any of the following High Conservation Values (HCVs) related to biodiversity and describe the qualifying attributes for any identified HCVs: a. Globally, regionally or nationally significant concentrations of biodiversity values; i. protected areas	The PD states: <i>There are no protected areas in the project area.</i> <i>Threatened species are present in the project area or use it during parts of their lives. These include the Wallace's hawk, Sumatran tiger, Sumatran surili, agile gibbon and Malay tapir. Vulnerable species include the sun bear, smooth coated otter and sambar deer.</i> <i>Endemic species include the tiger, the surili and the sambar deer.</i>
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ii. threatened species¹⁰⁹ iii. endemic species¹¹⁰ iv. areas that support significant concentrations of a species during any time in their lifecycle. b. Globally, regionally or nationally significant large landscape-level areas where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance; c. Threatened or rare ecosystems. Identify the areas that need to be managed to maintain or enhance the identified HCVs.	4. <i>The peatland ecosystem is considered a threatened ecosystem</i> Maps 38 and 39 show the areas in the project zone where these HCVs occur.
Evidence Used to Assess Conformance:	Section 5.1.3 of the PD, site visit observations
Findings:	The project zone includes HCV A. ii, A. iii, and C, as revealed by wildlife surveys. During the site visit, the auditor heard the calls of agile gibbons from the base camp, though these animals may have been in the conservation area of the acacia plantation, just outside the project area. In addition, claw marks from sun bears were observed. Item closed.
Date Closed:	1 August 2019

Indicator B1.3 - Describe how the without-project land use scenario would affect biodiversity conditions in the Project Zone.	The land is surrounded by industrial land uses and the area would be at risk of clearance and drainage, which would endanger biodiversity, especially in comparison with the project scenario, due to habitat loss. Habitat loss would eventually be total. Table 1 also identifies internal threats and mitigation actions planned to protect HCVs in the SMPP area.
Evidence Used to Assess Conformance:	Section 5.1.4 of the PD, knowledge of ecosystems, habitat degradation and loss.
Findings:	The PD sufficiently describes the likely effect the without-project scenario would have on biodiversity. Item closed.
Date Closed:	1 August 2019

13.2 B2 Net Positive Biodiversity Impacts

Indicator B2.1 - Use appropriate methodologies to estimate changes in biodiversity, including assessment of predicted and actual, positive and negative, direct and indirect impacts,	The PD states the net benefits to biodiversity will be: 1. <i>Intact, ecologically functioning habitats that are minimally degraded and disturbed.</i> 2. <i>Restoration of drained, burned and degraded peatland into functional forest.</i>
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resulting from project activities under the with-project scenario in the Project Zone and over the project lifetime. This estimate must be based on clearly defined and defensible assumptions.	3. <i>Protection from fire risks</i> 4. <i>Recovery of populations of species of great concern.</i> 5. <i>Augmentation of habitat through restoration</i> 6. <i>Improvement of habitat quality</i> The monitoring report states that during this monitoring period, there was no apparent change in biodiversity. Assumptions are based on the regeneration that has occurred since the fires of 2015 and that regeneration of habitat will be aided by reducing the threats to regenerating the project area. Table 66 provides a list of biodiversity elements, estimates of change and the justification for those elements. The expected changes are: • <i>Constant or increased presence of fish and higher diversity of reptiles and amphibians</i> • <i>Constant or increased presence and diversity of mammal species.</i> • <i>Constant or increased apex predator species.</i> • <i>Constant or increased invertebrate species and diversity.</i>
Evidence Used to Assess Conformance:	Section 5.2.1 of the PD, section 5.1.1 of the monitoring report.
Findings:	It is reasonable to expect that protecting and improving the habitat will either increase biodiversity and species populations or they will not decrease. Item closed.
Date Closed:	1 August 2019

Indicator B2.2 - Demonstrate that the project's net impacts on biodiversity in the Project Zone are positive, compared with the biodiversity conditions under the without-project land use scenario (described in B1).	There are no negative impacts on biodiversity expected. Impacts are likely to be positive or at worst, neutral. The effects of the baseline – conversion to acacia plantation – would deplete or eliminate habitat.
Evidence Used to Assess Conformance:	Section 5.2.3 of the PD, section 5.1.3 of the monitoring report.
Findings:	It is a logical conclusion that habitat protection and improvement will have a net positive effect on biodiversity, compared to a scenario where the habitat would have been altered and destroyed. At this point in the project timeline, there has been no detectible improvement to biodiversity, but under the

	baseline scenario, 23% of the land (habitat) would have been drained and altered or destroyed. Item closed.
Non-conformance Request (NCR):	
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	1 August 2019

Indicator B2.3 - Describe measures needed and <i>taken</i> to mitigate negative impacts on biodiversity and any measures needed and <i>taken</i> for maintenance or enhancement of the High Conservation Value attributes (identified in B1.2) consistent with the precautionary principle.	The PD states that the project is designed to “bring positive impacts and does not anticipate any negative impacts to biodiversity.” No negative impacts on biodiversity was detected during monitoring during this period.
Evidence Used to Assess Conformance:	Section 5.2.2 of the PD, section 5.2.1 of the MR, knowledge of natural systems.
Findings:	Negative impacts to biodiversity due to the specific implemented project activities that improve and protect habitat are unlikely. Item closed.
Date Closed:	1 August 2019

Indicator B2.4 - <i>Demonstrate</i> that no High Conservation Values (identified in B1.2) are negatively affected by the project.	The HCVs are the direct “beneficiaries” of project activities, from protection and patrolling to hydrological management. No negative impacts on HCVs, whether for biodiversity or communities, can be reasonably expected.
Evidence Used to Assess Conformance:	Section 5.2.4 of the PD, section Section 5.1.4 of the MR, an understanding of natural systems.
Findings:	All project activities in the project area are designed to positively impact HCVs. Negative impacts are extremely unlikely. Item closed.
Date Closed:	1 August 2019

Indicator B2.5 - Identify all species used by the project and <i>show</i> that no known invasive species are introduced into any area affected by the project and that the population of any invasive species does not increase as a result of the project.	The PD states that no non-native species will be used in planting/reforestation activities. The MR states that species used in rehabilitation of degraded areas during the monitoring period were native.
Evidence Used to Assess Conformance:	Section 5.2.5 of the PD, section 5.1.4 of the MR.

Findings:	The auditors have no reason to believe non-native species were used or will be used. However, this indicator requires that all species used be identified.
Non-conformance Request (NCR):	Please provide a list of all species used in the project and a demonstration that they are native.
Date Issued:	1 August 2019
Project Proponent Response/Actions and Date:	The project provides a copy of the Revegetation Plan along with a list of native species that are being used in the project
	1. Revegetation Plan 20190820.docx
Evidence Used to Close NCR:	The species listed in the revegetation plan, for use as climax, pioneer and canal-blocking species, were checked against the www.issg.org database for invasive species affecting Indonesia. No species used in the project are considered invasive. Item closed.
Date Closed:	30 October 2019

Indicator B2.6 - Describe possible adverse effects of non-native species used by the project on the region's environment, including impacts on native species and disease introduction or facilitation. Justify any use of non-native species over native species.	The PD states that no non-native species will be used in project activities. The MR report states that only species native to Central Kalimantan were used during the monitoring period
Evidence Used to Assess Conformance:	Section 5.2.5 and 5.2.6 of the PD, sections 5.1.5 and 5.1.6 of the monitoring report.
Findings:	Adverse effects of non-native species do not need to be discussed, since none are stated or witnessed during the site visit. The auditors suspect a typo in the monitoring report, since the project area is not in Central Kalimantan, but this is not known with certainty.
Non-conformance Request (NCR):	Please explain whether there is a typo regarding Central Kalimantan, or if the species used are actually native to Central Kalimantan and not southern Sumatra.
Date Issued:	1 August 2019
Project Proponent Response/Actions and Date:	A search was performed in the following documents and no mention of Central Kalimantan is found: 1. SMPP PD Submission Version Final 20190524c.pdf 2. SMPP Monitoring Report Final 20190530.pdf To clarify, the project is only using species native to South Sumatra and this is further documented in the project's Revegetation Strategy.
	1. SMPP PD Submission Version Final 20190524c.pdf

	2. SMPP Monitoring Report Final 20190530.pdf 3. Revegetation Plan 20190820.docx
Evidence Used to Close NCR:	After reviewing project documentation, it is clear the auditors were in error regarding any mention of Central Kalimantan. This NCR is withdrawn.
Date Closed:	30 October 2019

Indicator B2.7- Guarantee that no GMOs are used to generate GHG emissions reductions or removals.	The PD states that no GMOs will be introduced to the project area. The MR states that none were used during the monitoring period.
Evidence Used to Assess Conformance:	Section 5.2.8 of the PD, section 5.1.7 of the MR.
Findings:	The project has guaranteed there will be no GMOs used in the project. Item closed.
Date Closed:	1 August 2019

Indicator B2.8 - Describe the possible adverse effects of, and justify the use of, fertilizers, chemical pesticides, biological control agents and other inputs used for the project.	The PD states that no fertilizers, chemical pesticides or biological control agents will be used for the project. The MR states that organic fertilizer, used to support small scale agriculture within the existing community agricultural zone of the project zone was used, applied to about 6 ha. No adverse effects are anticipated, since the use is restricted to the community farming area, which is about 12 Ha, outside the project area. This mirrors the use of fertilizers in the local area. It replaces stubble burning, so the net effect is expected to be positive in comparison.
Evidence Used to Assess Conformance:	Section 5.2.9 of the PD, section 5.1.8 of the MR, degree in soil fertility.
Findings:	The text of the PD and MR do not agree, as fertilizers were used, though not in the project area. Judicious use of organic fertilizers on a relatively small area of land are unlikely to have a major adverse impact, however fertilizer pollution of waterways can occur, even with organic fertilizers.
Non-conformance Request (NCR):	Please ensure the PD and MR are in agreement regarding the use of fertilizers. Please discuss the potential effects of overfertilization and poor fertilization practices on water quality and biodiversity. How can this hazard be avoided?
Date Issued:	1 August 2019
Project Proponent Response/Actions and Date:	No mention of fertilizer being used was found in the documents: 1. SMPP PD Submission Version Final 20190524c.pdf 2. SMPP Monitoring Report Final 20190530.pdf

	To clarify, the project is not using fertilizer and does not promote its use inside or outside the project area.
	1. SMPP PD Submission Version Final 20190524c.pdf 2. SMPP Monitoring Report Final 20190530.pdf
Evidence Used to Close NCR:	After reviewing project documentation, it is clear the auditors were in error regarding any mention of the application of fertilizers in the project documentation. This NCR is withdrawn.
Date Closed:	30 October 2019

Indicator B2.9 - Describe the process for identifying, classifying and managing all waste products resulting from project activities.	The PD states the project has infrastructure in place for waste management, and briefly describes how organic food wastes are dealt with. Non-organic wastes are landfilled. Plastic recycling and trash collection systems are planned for community development activities.
Evidence Used to Assess Conformance:	Section 5.2.10 of the PD.
Findings:	This indicator requests a description of the process for identifying, classifying and managing waste products. The management of the waste products currently produced by the project (essentially household waste products of various types) is discussed, but this indicator also calls for a general process for waste identification/classification. Consider how the project would assess and deal with waste when a new economic activity that produced a waste stream was incorporated into project activities when responding to this element.
Non-conformance Request (NCR):	See findings and provide a process for identifying, classifying and dealing with wastes.
Date Issued:	1 August 2019
Project Proponent Response/Actions and Date:	Identification and classification of different kinds of waste are performed by the project. Personnel are responsible for determining the type of waste they need to dispose of and following the procedure to ensure it is disposed of properly. Personnel must follow the correct procedures in accordance with the SOP. Waste Management SOP is provided to the auditor. If the project decides to promote a certain economic activity as part of its community development plan, it will perform an internal environmental assessment to identify any potential waste streams from this activity

	and create a mitigation plan to reduce any negative impacts from these potential waste streams.
	1. Waste Management SOP.docx
Evidence Used to Close NCR:	An SOP for the evaluation of waste from a project activity and its safe disposal was provided to the auditors. Item closed.
Date Closed:	30 October 2019

13.3 B3 Offsite Biodiversity Impacts

Indicator B3.1 - Identify potential negative impacts on biodiversity that the project activities are likely to cause outside the Project Zone.	The PD and MR both state that no offsite, negative biodiversity effects are anticipated. None were detected during the monitoring period. The PD does mention that once biodiversity increases, there could be threats like hunting and illegal logging activities.
Evidence Used to Assess Conformance:	Section 5.3.1 of the PD, section 5.2.1 of the MR
Findings:	It is highly unlikely that conserving and improving habitat in the project area would cause negative impacts offsite, beyond those caused, perhaps, by leakage. If hunting were to increase due to the increased presence of wildlife from project activities, the impact is still likely to be net positive. Item closed.
Non-conformance Request (NCR):	Insert NCR/CL
Date Issued:	
Project Proponent Response/Actions and Date:	
Evidence Used to Close NCR:	
Date Closed:	1 August 2019

Indicator B3.2 - Describe the measures needed and <i>taken</i> to mitigate these negative impacts on biodiversity outside the Project Zone.	The PD states that the project will continue to pay close attention to activities and potential threats to biodiversity, dealing with them through adaptive management if threats materialize. The MR states that no measures were used during the monitoring period, because no negative impacts occurred.
Evidence Used to Assess Conformance:	Section 5.3.1 of the PD, section 5.2.1 of the MR.
Findings:	No actions were needed, and none were taken, however the project proponents have stated they will continue to try and detect such negative impacts and deal with them if they occur. Item closed.
Date Closed:	1 August 2019

Indicator B3.3 - Evaluate unmitigated negative impacts on biodiversity outside the Project Zone and compare them with the project's biodiversity benefits within the Project Zone. Justify and demonstrate that the net effect of the project on biodiversity is positive.	The PD states that significant spillover of species outside the project area will occur, extending biodiversity benefits beyond the project boundaries. No negative effects on biodiversity are expected inside or outside the project area.
Evidence Used to Assess Conformance:	Section 5.3.2 of the PD, the nature of the project
Findings:	Since there are no negative impacts to biodiversity outside the project area, and some positive impacts expected, the project will clearly be net positive for biodiversity when impacts within and without the project area are compared. Item closed.
Date Closed:	1 August 2019

13.4

13.5 B4 Biodiversity Impact Monitoring

Indicator B4.1 - Develop and implement a monitoring plan that identifies biodiversity variables to be monitored, the areas to be monitored, the sampling methods, and the frequency of monitoring and reporting. Monitoring variables must be directly linked to the project's biodiversity objectives and to predicted activities, outcomes and impacts identified in the project's causal model related to biodiversity (described in G1.8).	The PD states the biodiversity monitoring plan will use multiple monitoring methods, including: <i>Gibbon and hornbill monitoring protocols using listening posts,</i> <i>Camera traps,</i> <i>Vegetation surveys at camera trap locations</i> <i>Annual site side bird surveys.</i> <i>The use of the SMART system to collect wildlife observations by patrols.</i> Listening post locations are depicted on map 36, all within the intact, closed canopy forest. Only the gibbons and hornbills will be monitored via specific surveys and methods (the listening posts). Camera trapping will be used to provide information on the mammal community. Bird abundance will be measured by the point count method, along transects. The SMART system will be used during patrols, and during the early years of the project it is expected that wildlife monitoring will be one of the main things the patrols do. Gibbons and hornbills will be monitored yearly.
Evidence Used to Assess Conformance:	Section 5.4.1 of the PD, section 5.3.1 of the MR.

Findings:	A lot of detail was provided about the monitoring plan, but sampling frequency was only provided for gibbons and hornbills.
Non-conformance Request (NCR):	See findings. Please ensure the monitoring plan details in the PD includes all information requested in the indicator.
Date Issued:	1 August 2019
Project Proponent Response/Actions and Date:	The monitoring frequency for all methods are outlined in the monitoring plan document (attached). Both camera trapping and bird count surveys will be conducted annually at a similar time each year utilizing the same transects for each method. On the ground vegetation surveys are conducted as part of the camera trap installation methods, the procedures for which are discussed in the Camera Trapping SOPs. Additionally, vegetation surveys of forest cover across the project site will be conducted annually through remote sensing analysis. The project provides a copy of the full biodiversity monitoring plan and a quick reference table on sampling frequency.
	1. <i>Biodiversity Monitoring Plan.pdf</i> 2. <i>Biodiversity Monitoring Plan Quick Reference Table.xlsx</i>
Evidence Used to Close NCR:	The monitoring plan dated October 2019, and the quick reference table both include sampling frequency and all other information required to be in the monitoring plan. Item closed.
Date Closed:	30 October 2019

Indicator B4.2 - Develop and implement a monitoring plan to assess the effectiveness of measures taken to maintain or enhance all identified High Conservation Values related to globally, regionally or nationally significant Biodiversity (identified in B1.2) present in the Project Zone.	The HCVs in this instance are a number of species of fauna and the habitat, itself. The plan directly monitors the biodiversity HCVs, and indirectly monitors habitat improvement through wildlife monitoring.
Evidence Used to Assess Conformance:	Section 5.4.1 of the PD, various other parts of the PD.
Findings:	The monitoring plan appears capable of assessing the effectiveness of measures taken to maintain and enhance HCVs. This will continue to be tracked with each verification event. Item closed.
Date Closed:	1 August 2019

Indicator B4.3 - Disseminate the monitoring plan and the results of monitoring, ensuring that they are made publicly available on the	The PD states that the monitoring plan and results of monitoring through the same methods other project documentation is made available to stakeholders, including distribution of the summary document and
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internet and summaries are communicated to the Communities and Other Stakeholders through appropriate means.	having copies available at the local camp headquarters and on the VCS website.
Evidence Used to Assess Conformance:	Section 5.4.2 of the PD, site visit interviews and observations.
Findings:	The monitoring plan summaries are distributed to local villages and they are available at the main camp, as well as online. Item closed.
Date Closed:	1 August 2019

13.6 GL3 Exceptional Biodiversity Benefits

Indicator GL3.1 - Demonstrate that the Project Zone includes a site of high biodiversity conservation priority by meeting either the vulnerability or irreplaceability criteria defined below, identifying the 'Trigger' species that cause(s) the site to meet any of the following qualifying conditions and providing evidence that the qualifying conditions are met: 1.1 Vulnerability Regular occurrence of a globally threatened species (according to the IUCN Red List) at the site: a. Critically Endangered (CR) and Endangered (EN) species - presence of at least a single individual; or b. Vulnerable species (VU) - presence of at least 30 individuals or 10 pairs. OR 1.2 Irreplaceability A minimum proportion of a species' global population present at the site at any stage of the species' lifecycle according to the following thresholds: a. Restricted-range species - species with a global range less than 50,000 km² and 5% of global population at the site; or b. Species with large but clumped distributions - 5% of the global population at the site; or	The PD states that the project area is used by 29 species considered endangered, critically endangered and vulnerable, including the Sumatran tiger, agile gibbon and Sumatran Surili. Table 67 provides a full listing of the species, along with IUCN status and range. All 29 are identified as trigger species. Calls of agile gibbon were heard from the project base camp, coming from the direction of a nearby conservation area set aside by an acacia plantation.
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c. Globally significant congregations - 1% of the global population seasonally at the site; or d. Globally significant source populations - 1% of the global population at the site.	
Evidence Used to Assess Conformance:	Section 5.5.1 of the PD, section 5.4.1 of the monitoring report, Appendix 16, site visit observations.
Findings:	Project biodiversity surveys identified the presence many endangered, critically endangered and vulnerable species in the project area, one of which was confirmed to be in the area during the site visit. Item closed.
Date Closed:	1 August 2019

Indicator GL3.2 - Describe recent population trends of each of the Trigger species in the Project Zone at the start of the project and describe the most likely changes under the without-project land use scenario.	The PD and monitoring report provide the population trends of the trigger species at the start of the project, based on the state of the species generally. The monitoring report explains that the project does not have population estimates for these species yet. Trends for the Sumatran tiger are described here. See table 68 of the PD or table 41 of the monitoring report for more. Sumatran tiger is decreasing in numbers. The land is used by the tiger, though likely as a corridor rather than a permanent resident. In the without project scenario, the land will continue to degrade. In the with project scenario, tiger prey species will increase, along with forest cover, likely resulting in greater use of the project area by this species. Other species, like the agile gibbon and sun bear, will have degrading habitat under the without project scenario and improved habitat conditions under the with project scenario, which is expected to increase the populations of these species.
Evidence Used to Assess Conformance:	Section 5.5 2 of the PD, section 5.4.1 of the monitoring report.
Findings:	The population trends and reasonable predictions for the future under the with- and without-project scenarios were discussed. Item closed.
Date Closed:	1 August 2019

Indicator GL3.3 - Describe measures needed and <i>taken to</i>	The endangered, critically endangered and vulnerable species that use the project area will all
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maintain or enhance the population status of each Trigger species in the Project Zone, and to reduce the threats to them based on the causal model that identifies threats to Trigger species and activities to address them.	benefit from the restoration of the project area to its natural condition – an undrained peat dome with improving forest vegetation. The main threat to these species is the loss of natural habitat, as well as hunting/collecting pressure. Both habitat will increase/improve through project activities and patrolling is likely to reduce hunting/collecting pressure.
Evidence Used to Assess Conformance:	Section 5.5.2 of the PD, section 5.4.1 of the monitoring report,
Findings:	Project activities will improve habitat conditions and protection against hunting/collecting. Item closed.
Date Closed:	1 August 2019

Indicator GL3.4 - Include indicators of the population trend of each Trigger species and/or the threats to them in the monitoring plan and demonstrate the effectiveness of measures needed and taken to maintain or enhance the population status of Trigger species.	The PD states that monitoring of gibbons and hornbills will be based on listening posts, which are said to be able to measure the full extent of the gibbon population. Additional information regarding biodiversity survey methods are also provided. The SMART conservation software tool will be used to monitor project activities, threat levels (amount of hunting, logging, etc.) and make wildlife observations. The data collected will be used to measure population trends with time.
Evidence Used to Assess Conformance:	Section 5.4.1 of the PD, section 5.3.1 of the monitoring report.
Findings:	Population trends and threats to wildlife are monitored through the surveys and data collection procedures involved in the SMART system. It appears the monitoring plan is appropriately designed to monitor wildlife, assess threats and demonstrate whether or not project activities are benefiting wildlife populations. Item closed.
Date Closed:	1 August 2019

Validation/Verification Report Requirements For Public Comment Period

CCBA 30 Day Public Comment Period Dates:	10 June – 10 July 2019
Please describe all ways in which the 30 day comment period was publicized, especially in regard to	Notices in Bahasa Indonesia advertising the public comment period and field validation were posted in communities throughout the project area

local stakeholders. Supply copies (newspaper ads, emails, etc.) when possible.	
How many comments were received?	Via CCBA Website: 3 multi-tier comments Via local stakeholder meetings/direct contacts: None
Supply copies of all comments submitted to the auditors, if any were received during the comment period.	[Copies of all comments will be included in the validation/verification report appendix.]
Respond to all comments appropriately, and show whether these comments caused modifications in some aspect of the project or PDD.	Please see the addendum to this document titled "Public Comments on the Sumatra Merang Peatland Project and Validator Response"

APPENDIX C: PUBLIC COMMENT FINDINGS

Public Comments	Project Response to Public Comments	Aster Global Findings - Preliminary Round 1	Round 1 NCR/CL/OFI	Round 1 Response from Project Proponent	Aster Global Findings
RMU Comment 1. Baseline: The project's baseline selection does not follow the procedures given in the "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities: Version 1", in particular those in "Sub-step 1b. Consistency of credible land use scenarios with and regulations". We do not consider the selected baseline of commercial acacia plantation to be consistent with enforced mandatory applicable laws and regulations on the basis that: In 2011 Indonesia issued a Moratorium on the issuance of new forest licenses on primary forest and peatland (INPRES No. 10/2011, renewed by INPRES No. 6/2013 and No. 8/2015). The SMPP project area has been included in the moratorium area from the outset, meaning any application for commercial	1. INPRES No. 10/2011, renewed by INPRES No. 6/2013 and No. 8/2015 are classified as Presidential Instructions. Under Indonesian law a presidential instruction on peatland protection does not qualify as "enforced mandatory applicable law". 1) Presidential Instructions are not an enforceable law within the Indonesian Legal System: INPRES No. 10/2011, renewed by INPRES No. 6/2013 and No. 8/2015 are classified as Presidential Instructions. In Indonesian courts, the Presidential Instructions that declare or extend a moratorium for peatland development are a "policy instruction" that gives direction and guidelines to the Ministry of Environment and Forestry (MoEF) on the issuance of new licenses in peatland and primary forest areas. However, a moratorium does not grant an area legal protected status and is limited to providing direction and guidance for the implementing Ministry. Presidential instructions are a policy rule or beleidregels, which is not an ordinary form of legislation. Presidential Instructions are not part of the hierarchy of laws and regulation in Indonesia (refer to Law No.12 of 2011	While the literature referenced appears to support this argument that presidential decrees are not an enforceable law, this would be further buoyed by an attestation from the Indonesian lawyer who conducted the research. Additionally given the possible impact of the outcome, clarity is being sought from VERRA on the detail required to close public comments.	NCR: Please provide an English language version of the presidential decrees in question (INPRES No. 10/2011, renewed by INPRES No. 6/2013 and No. 8/2015) CL: Please provide an attestation from the Indonesian attorney who conducted the research supporting the argument. * Additionally, this is pending clarification being requested from VERRA on public comments.	INPRES English language translation was provided. Letter of attestation from R. Ayu Mary Osmond SH, LLM, Member of Indonesia Bar Association providing arguments and references that the legal research confirms that presidential instructions are not legally and mandatory enforceable law and can be seen as policy guidelines. Further the area of the SMPP is classified as Production Forest, Hutan Produksi, and therefore can be legally converted into an	An INPRES English language translation was provided. Item closed. The argument and support provided appears to provide substantial evidence to reasonably assure that the presidential instructions are not legally and mandatory enforceable law. Item closed.

acacia plantation would be (and has been) automatically rejected. It was only removed from the moratorium area when it was granted as a RAP/PAN carbon license to PT. GAL in 2013. The issuance of the RAP/PAN carbon license also fully prevented any other company from being granted a commercial acacia plantation license.	regarding Forming of Laws and Regulation). A policy is required to be implemented by the Party that is given the instruction, but infringements cannot be prosecuted in the Indonesian court system, thus limiting its true efficacy. For reference, there have been a number of policy instructions, starting in 2011, with periodic revisions to the policy in 2013, 2015, and 2017. The most recent policy in 2017 stated that public moratorium maps need to be updated every six months, which have undergone 11 revisions thus far. The data below show these instructions are a weakly-enforced forest governance tool, with multiple loopholes that are regularly exploited for economic development purposes.			industrial forest plantation."	
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(Above comment continued)	2. There is an established precedent under the VCS, as the Katingan Peatland Restoration and Conservation Project area also fell under a moratorium in 2012 – before its Ecosystem Restoration Concession (ERC) license was granted. 2) Clear evidence of HTI and palm oil plantation development in moratorium areas at a massive scale: Based on research from highly respected environmental groups in Indonesia, including Greenpeace, Mongabay, WAHLI and WRI, areas covered by one or more of the policy instructions on peatland or forest development above have seen massive conversion to commercial plantations. Many of the areas removed from protected status were rezoned for commercial development, even though many were on deep peat similar to SMPP, with Mongabay reporting that as much as 35% of all reclassified areas were on vulnerable peatland. From 2011-2017 at least 2.7m hectares of peatland and primary natural forest were removed moratorium areas. Sources cited extensive loopholes within the system, with government actors submitting revisions to coverage area on average every six months. The moratorium has several, frequently used justifications for reclassification such as designating the area “critical for regional economic development”. The MoEF will also allow licenses to be approved as long as the application process or discussions on the license occurred before the area became a designated moratorium area. This	Pending review of the extensive literature provided.	Pending review of the extensive literature provided.	INPRES English language translation was provided. Letter of attestation from R. Ayu Mary Osmond SH, LLM, Member of Indonesia Bar Association providing arguments and references that the legal research confirms that presidential instructions are not legally and mandatory enforceable law and can be seen as policy guidelines. Further the area of the SMPP is classified as Production Forest, Hutan Produksi, and therefore can be legally converted into an industrial forest plantation."	Closed based on the findings above.
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	evidence clearly demonstrates that despite these presidential instructions, it remained common practice for peatland areas to continue to be converted for commercial production purposes. Further review of the moratorium maps shows a precedent can be established for the application of VM007 by the Katingan Peatland Restoration and Conservation Project itself with respect to a peatland moratorium. The majority of the RMU concession area (97%) was designated as moratorium area based on Indonesia's publicly available Moratorium Map (IMM) versions 2 (Figure 1) and 3(Figure 2), dated May and November 2012 respectively. The RMU project was able to justify its baseline under the VCS additionality tool despite the project area's inclusion in the moratorium, which occurred over a year prior to RMU being granted its ecosystem restoration license in 25th October 2013.				
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RMU Comment: In May 2010 the Governor of South Sumatra issued a decree (No. 522/092/Dishut/ 2010) which allocated the area for a REDD+ demonstration project to be managed by Lalan Forest Management Unit and supported by MRPP-GIZ. From this point on, the area was no longer eligible for any commercial acacia plantation development.	This specific instruction granted operational permission for a donor-funded demonstration project that ended in 2011, and never provided formal protection status to the project area. It is incorrect to say this instruction makes the area no longer eligible for acacia plantation development. We offer the following key points that demonstrate the area was always under imminent threat: 1) This instruction was limited to demonstration activities: The instruction referenced above only granted permission for REDD+ Demonstration Activities (DA REDD+) and expired in 2011 when funding ended for the donor project. The scope of permitted activities under REDD+ Demonstration Activities is defined in Article 2(2) of MoEF regulation P68/Menhut-II/2008, which clearly limits the scope to activities such as data collection and stakeholder mapping within the demarcated area. This does not equate to a full-scale wetland restoration project and the proponent consortium ceased to exist in 2011 after funding expired. For reference, the German federal government's Climate Initiative financed demonstration activities through a grant scheme for EUR 1,445,250, which lasted from 2008 to 2011. 2) Government Forest Classification did not change: The SMPP project area is zoned as production forestry within Indonesia's forestry estate, making it eligible for commercial plantation development. Any change to this	To confirm the intent (and limitations) of the regulation, Aster will need a copy of the regulation in English Language translation. Please provide evidence of the project areas current zoning. Aster attempted to translate the media reports webpage https://walhi-sumsel.blogspot.com/2009/07/pernyataan-sikap-selamatkan-hutan-rawa.html but the results did not yield a readable document.	NCR: Please provide an English language translation of decree No. 522/092/Dishut/ 2010 NCR: Please provide evidence of the project areas current zoning. NCR: Please provide an English language translation of the media reports supporting the ongoing threat of conversion of the project area.	Materials provided: Carbon Storage and Sequestration License 2013 Permanent Concession Boundary Marking 2018 SMPP Zoning Overview Final Maps In response to RMU's reference to Governor's Decree 522 092 Dishut 2010. The project proponents contacted Georg Buchholz, who was the Principal Advisor on the MRPP project and the current Program Director of GIZ's Forclime program in Indonesia. In written email on September 4th, 2019, he said that they did not have a governor's decree but instead had a decision letter from the district head of the forestry department on supporting the MRPP to help them	The argument supports that there was not a governor's decree but instead had a decision letter from the district head of the forestry department on supporting the MRPP to help them develop a master plan for the Forest Management Unit Lalan where the SMPP project is located. Further, none of GIZ's documentation on the MRPP project mention or reference the decree highlighted by RMU.
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	classification not only requires signoff from the district head (bupati) and governor, but also the Minister of Environment and Forestry. The area therefore remained an unused asset that remained under the classification of production forest which is legally zoned for HTI development. 3) HTI conversion defined as a significant threat: The GIZ demonstration project identified HTI conversion as a significant threat for the project area, particularly in the absence of follow-on carbon financing to offset the opportunity cost of not developing the area for forest production. The GIZ demonstration project also failed to prevent deforestation in the project area as there was significant illegal logging, an active nearby mill and forest fires in the project area during the demonstration activities. There were several media reports during this period featuring conservation groups that publicly expressed concern that this area was under imminent threat for conversion by companies lobbying to get a license for the area.		develop a master plan for the Forest Management Unit Lalan where the SMPP project is located. Further, none of GIZ's documentation on the MRPP project mention or reference the decree highlighted by RMU. It should be noted that when the term Dishut is written, it refers to a decision letter of Forestry Department (Dinas Kehutanan or DISHUT) for short. This indicates that the RMU team has made a mistake in its comment on their being a governor's decree. The concession license and permanent boundary marking report show that the area was classified as Production Forest which indicates that there was no granting of conservation status to the land. If	from Georg Buchholz, who was the Principal Advisor on the MRPP project and the current Program Director of GIZ's Forclime program in Indonesia. Additional documents were provided in support. the argument appears substantive and well supported. Finding closed.
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				protection had been granted, the license would have indicated this status by showing a conservation land status. The translation of the DISHUT provided to SMPP by GIZ and the MRPP project has been translated for reference. It should be noted that it has another number.	
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RMU Comment: In addition to these spatial designations, Government Regulation PP No. 71/2014 regarding Protection and Management of Peatland Ecosystems, revised by PP 57/2016, legally prohibited acacia plantations from being developed in a Peatland Protection Function Zone (including in top of the dome and deep peat areas). A significant proportion of the SMPP project area would likely qualify as Peatland Protected Function zone.	This specific regulation has been overturned by the Supreme Court of Indonesia as it was ruled a violation both higher-land use laws and workers' rights, as it violated the forestry code of 1999 and would create legal uncertainties. Furthermore, the regulation was challenged in the courts by businesses, elected officials, and workers' groups immediately after it was enacted causing its implementation to never formally start and thus it was never fully enforced. The full details of the final legal decision are outlined below: The Supreme Court canceled MoEF Regulation 17/17 on HTI (Hutan Tanaman Industri) Development which was also known as the peatland regulation. MoEF Regulation 17/17 is an implementation regulation of Peraturan Pemerintah (PP) 57/2016 that specifically references the Peatland Protected Function zone. In 2017, PT RAPP (an Indonesian forestry plantation company) had to stop its operations because its revised management plan was rejected by the Ministry of Environment and Forestry. MoEF Regulation 17/17 required HTI companies to cease operating its concessions in areas categorized as a Peatland Protected Function Zone. Subsequently, the Labor Confederation of Riau Province ("Dewan Pimpinan Daerah Propinsi Riau-Konfederasi Serikat Pekerja Seluruh Indonesia or DPD Riau-K SPSI") filed an objection to MoEF Regulation 17/17, arguing that the regulation caused the workers to lose their jobs and suffer lost income from the termination of HTI	The Monga Bay article referenced refers to the cancellation of MoEF Regulation 17/17, but does not appear to cancel the Government Regulation PP No. 71/2014 regarding Protection and Management of Peatland Ecosystems (item referenced in the Katingan finding). It's possible we are missing context - need clarification regarding how the response provided addresses the public comment regarding GR 71/2014.	CL: Please clarify how the cancellation of MoEF Regulation 17/17 negates GR 71/2014 which was the specific regulation referenced in the public comment.	Legal opinion provided by R. Ayu Mary Osmond SH, LLM, Member of Indonesia Bar Association The legal research confirms that the implementation regulations of Government Regulation No. 71 of 2014 regarding Protection and Management of Peatland Ecosystems, revised by PP 57 of 2016, namely the MoEF Regulation 17/17 that specified the Protected Peatland Zone is not legally enforceable in Indonesia based on the Supreme Court Decision 2017 because it violated the higher laws namely Law No. 41 of 1999 on Forestry and Law No. 26 of 2007 on Spatial Planning. Therefore, HTI companies would not be restricted to cultivate on peatland areas within their concession areas.	The legal opinion provided by a member of the Indonesian Bar Association provides reasonable assurance that the Government Regulation No. 71 of 2014 is not legally enforceable in Indonesia based on the Supreme Court Decision 2017 because it violated higher laws. Item closed.
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	operations. The Supreme Court agreed with the Labor Confederation and canceled the regulation based on the following arguments: a. Article 1 (15d), Article 7 (d), Article 8A, Article 8B, Article 8C (1), article 8D(a), Article 8E(1) and Article 8G as well as Article 23 A(1) in MoEF Regulation No.17/17 were determined null and void as they were either contrary or violating the authority of higher laws, including Law No. 41 of 1999 on Forestry and Law No. 26 of 2007 on Spatial Planning. The court ruled that Law 41/99 carried precedent and did not provide any stipulations for Protected Peatland Ecosystem zones. Further, law No 26 stipulates that spatial planning in Indonesia (national, province, district) must be carried out in a tiered and complementary manner involving the three levels of government. b. It was also ruled that MoEF Regulation 17/17 did not cite a scientific academic paper ("naskah akademis") which is required based on Law 12 of 2011 regarding Forming laws and Regulations. Therefore, MOEF Regulation 17/17 was not comprehensive enough to answer legal questions identified by the communities affected by it, which in this case was the workers' federation at the HTI.				
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RMU Comment: We do however agree the site is threatened and that without intervention further emissions are likely. We consider a more credible baseline to be the continued oxidation of peat from existing drainage, unplanned deforestation, further unplanned drainage and unplanned fires. We would suggest the proponents reconsider their analysis with respect to baseline selection and justification.	Forest Carbon Response: Based on our description in the PD and further justifications in this document, we have outlined that conversion to HTI is the most likely scenario.	Pending the response to item 4 and completion of the baseline and additionality tool.			Now closed based on closure of item 4.
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RMU Comment: PT. GAL was granted the site's license in 2013 and, per Indonesian law, the license holding company had a legal obligation to manage the area from that time onwards. However, the proposed start date given by the proponents is January 2016. This is not consistent with the proposed baseline, as any commercial conversion would have been blocked by the proponent's own license since 2013 (in fact it was blocked since 2011, as noted above). The start date also seems by design to avoid accounting for the significant project emissions that would have occurred when the project area was heavily affected by fire in 2015. We would suggest the proponents considers revising the start date to the date that the area was first licensed to the proponents, and from which point on they were legally obliged to manage the site.	The project uses a start date that follows the VCS methodology. As outlined in the VCS Standard v3.7, the project start date is "the date on which the project began generating GHG emission reductions or removals." The VCS AFOLU requirements further elaborate by stating "such activities may include preparing land for seeding, planting, changing agricultural or forestry practices, rewetting, restoring hydrological functions, or implementing management or protection plans." Since the SMPP is an ARR and WRC project in a highly degraded peatland area, the main activities that create emission reductions and removals are forest patrolling to prevent fire vectors, hydrology management and forest restoration activities. The SMPP began field operations in the project area in January of 2016 with the construction of the initial base camp and the hiring of full-time staff. Once an operations base was established, SMPP teams began to patrol the project area, construct dams to restore the hydrology of the peatland forest and conduct forest restoration activities. Before field operations can begin in an industrial plantation or a wetland restoration project like SMPP, the license holder must submit a management plan (RKU) for approval to the MoEF, outlining its operational plan for the concession. In the baseline scenario, the process to convert the area to a HTI would require startup capital and multiple approvals from the MoEF before operational rights were granted to clear and plant the land.	As the project proponent indicated, VCS states that the start date "the date on which the project began generating GHG emission reductions or removals." The VCS AFOLU requirements further elaborate by stating "such activities may include preparing land for seeding, planting, changing agricultural or forestry practices, rewetting, restoring hydrological functions, or implementing management or protection plans." The argument provided appears to substantiate a date later than 2013, such as when the base camp was constructed and full time staff were employed to patrol and restore hydrology. Pending item 1 regarding the issuance in 2011 when Indonesia reportedly issued a Moratorium on the issuance of new forest licenses on primary forest and peatland (INPRES No. 10/2011, renewed by INPRES No. 6/2013 and No. 8/2015)			The argument and support provided appears to provide substantial evidence to reasonably assure that the presidential instructions are not legally and mandatory enforceable law. Item closed.
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	Current Indonesian regulations for HTI license holders require that a management plan be submitted to the government for review and approval within 12 months. The approval process by the MoEF for the management plan can take over a year. The next requirement is that a license holder must submit an annual work plan. This approval process can also be lengthy. The regulation also allows a license holder one year of planning after the annual work plan has been approved before having to begin field operations. These regulations demonstrate that a license holder is not able to begin operations immediately after a license and is allowed multiple years for operational planning. Further this is common practice in Indonesia for ground operations to begin a number of years after the license is granted by the government for these reasons. Since the SMPP was the first PAN/RAP license issued in Indonesia, it was subject to significant review within the MoEF which lengthened the approval process to begin field level operations. The Katingan Peatland Restoration and Conservation Project also did not use the date of its license approval (25th October 2013) as its start date which was 1st November 2010.				
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The Drainage Elevation Limit (DEL) map given by the proponents appears irregular. A DEL map is usually an imaginary plane with clearly structured and regular horizontal planes that vary only due (1) water level elevations at the nearest water body, and (2) the distance to the nearest water body. The map given in the draft PD shows anomalies as though it was subject to natural phenomena. We therefore suspect the map contains fundamental errors in its calculation and/or data. An incorrect DEL map has a significant knock-on effect on annual GHG calculations, available carbon stock for emissions and finally on VCUs. As we do not have access to detailed calculations or source data we cannot comment in further detail, but believe the DEL map, and consequently GHG calculations, may contain significant errors.	There are no errors in the calculation. A proven methodology was followed, which is recommended by the Round Table on Sustainable Palm Oil (RSPO) and developed by Wetlands International. Following this methodology, we produced a continuous raster layer, presented in height categories to illustrate a gradient across the project area. In fact, this gradient showed similar gradient and topographic variation observed in the Katingan Peatland Restoration and Conservation Project PD Map 12. Another example of how drainage limit maps can reflect varied topographic and hydrological conditions can be found in a recent report produced by Deltares, which shows categories in the drainage limit with similar height gradients and variation across the study site. We documented in Annex 7 of the DEL calculation. The DEL calculation followed the methodology recommended in common drainage assessments, along with a weighted interpolation technique between the nearest natural rivers and the LiDAR-based DTM, shared by Deltares and described in Annex 4. We first created a buffer of natural watercourses and matched the LiDAR DTM to the extent of natural watercourses plus buffer. We then generated regular points at the resolution of the LiDAR dataset covering the extent of the watercourse buffer. We appended the LiDAR DTM to the points to obtain river level values, and then performed a weighed interpolation. Next, we produced a distance surface raster, and multiplied	The audit team was given a thorough walkthrough for generation of the DEL map and this component was reviewed as part of adherence to the VM0007 methodological modules. No further action is needed.			
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	it by factor (0.0002, from the common methodology mentioned above) to create a distance raster constant. We calculated DEL as the interpolated layer + distance raster constant. Any patterns that appear in our DEL map are indeed based on the natural topographic characteristics of the SMPP concession. Calculations were based on the water level in the closest natural water body and on the distance to this water body. As a result, at every location in the project area the DEL is subject to the closest distance to the natural river and the natural river elevation at that closest distance point. Therefore, the DEL map is affected by the local/regional variation in the topography and hydrology.				
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The draft PD does not mention the size of the project zone and describes it as the formal project area plus “active fishing grounds inside and near the boundaries of the SMPP and the two small farms located on the southeast border of the SMPP” as well as “all settlement areas associated with the villages of Kepayang and Muara Merang” but other stakeholders (such as neighbouring companies) do not appear to be in the project zone. Per the CCB definition, the project zone is defined as “the area encompassing the project area in which project activities that directly affect land and associated resources, including activities such as those related to provision of alternative livelihoods and community development, are implemented.” It therefore appears the project zone may extend to the surrounding land and areas between the project area and aforementioned villages.	The CCBA defines the ‘project area’ as the “land area in which project activities aim to generate net climate benefits.” Our PD clearly defines the SMPP project area and its boundaries. The CCBA defines Project zone’ “as the area encompassing the project area in which project activities that directly affect land and associated resources, including activities such as those related to provision of alternative livelihoods and community development, are implemented.” SMPP is implementing community development activities inside the nearby villages of Muara Merang and Kepayang, and their associated hamlets and settlements which are identified in our project zone map. The SMPP does not have the legal right to operate in the surrounding concessions, as they are commercial concessions for pulp and paper and palm oil production. Further the project does not have plans to conduct project activities in these areas which are between the SMPP and some of these villages. We have no legal basis or right to conduct project activities in the areas between our project area and target villages that will benefit from our community development activities.	The project zone must be specifically delineated and geospatial information (e.g. shapefile) needs to be provided. The appropriateness of these boundaries for project zone will assessed when the final project zone is received.	NCR: Please provide a finite boundary for project zone and provide geospatial information for confirmation.	Please see CCB review under Indicator G1.4 for further details. No further action is needed.
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Subsidence: There is no clear description on how the microbial decomposition rate relates to the subsidence rate. How many cm of subsidence does a tonne of CO2 emissions per year equate to? The draft PD also provides no clear description on how the project calculates/simulates peat compaction/ compression/consolidation.	Subsidence is only used to calculate peat depletion time and not emissions from decomposition. While there is a relationship between subsidence and emissions, this is not relevant for our calculations as we calculated emissions from decomposition using IPCC defaults. We do not use subsidence as proxy, again following the precedent of the RMU project which also uses IPCC defaults. Subsidence was calculated for Acacia plantation and non-acacia areas separately, using reported subsidence factors from Hooijer et al (2012). For calculating subsidence in the Acacia plantations, we used reported subsidence factors stratified by year of drainage (Table 1 below, see PD Annex 11), where compaction/ compression/ consolidation is taken into account in the first 5 years after plantation establishment. For the non-plantation areas, the distance to the plantation edge served as proxy. Table 1. Subsidence rates for quantification of subsidence for PDT calculations in the baseline and project scenarios.	Questions surrounding subsidence were addressed in the relevant sections of the VCS requirements. The responses provided gave additional context for closure of the public comment. See VCS findings for additional information.			
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A range of deforestation/clearance rates are calculated from proxy areas and its average used. While this is justifiable and consistent with the methodologies, this assumption does not come with zero uncertainty. The justification that interviews with plantation managers confirm a higher clearance rate is not sufficient proof for the zero-uncertainty calculation assumption.	This project is a wetland restoration project, relying on ARR and WRC components, and is not a REDD project. We stated clearly in PD, using Module X-UNC as a guideline, that we calculated WRC uncertainty for SMPP in both the baseline and project scenarios. SMPP does not have a REDD component, therefore we are not required to follow that methodology. However, we can provide an answer to your comment by using the proxy areas' deforestation rates of 4.08%, 11.11%, 6.7%, 9.09%, 9.71%, and 6.4% with a mean of 7.85% and standard deviation of 2.35% the 95% confidence interval would range between 5.97% and 9.73%. This range of 3.76% would be the uncertainty associated with activity data, which is very low and even if it were applied as part of a REDD component, following the X-UNC's calculation formula without REDD activity, it would not alter our current uncertainty results or affect the conclusions in the PD.	The commenters concerns were considered when uncertainty was addressed through the relevant modules. Additionally, the PP comments provided additional support for the closure of this finding.			
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The proponent assumes the baseline agent would convert 90% of the site and keep 10% for conservation but it has not been demonstrated that this is common practice. The law states that 70% of the concession could be converted to plantation while 10% is set aside for conservation and 20% for community forest. While drainage could be allowed in this 20% the species planted would not be acacia. The referenced 2017 regulation, reference 46, is no longer active as well.	Reference 46 includes, part of MoEF 12/2015 is now active again, after MoEF Regulation 17/2017 was overturned by the Supreme Court, which we have detailed at length earlier in this document. Therefore, our references to current laws and regulations in the PD are up-to date. MoEF regulations on HTI Development state that 20% should be allocated to community forestry if there are communities located in close proximity or if community land-right conflicts are present in the area. The area does not have current land-rights conflicts or disputes and nearby villages are located very far from the concession area as described in the PD. In these cases, the regulation doesn't require a 20% designated community area, based on proximity and conflict factors. Article 10(3) MoEF Regulation 12/2015 also states a community forestry area within an HTI can legally be planted with forest plantation species such as Acacia. Therefore, we would be justified in the use of this species, if there was a requirement for community forestry, which there is not. As RMU mentions, the area would also be subject to drainage regardless of whether it was allocated for community forestry or not. Further, there are already two large-scale village forests near and bordering SMPP that give the villages of Muara Merang and Kepyang ample land for	The argument and supporting documents provided provide substantial evidence to reasonably assure that the presidential instructions are not legally and mandatory enforceable law.			
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	productive forest management activities.				
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Fire model: There is no clear consistency between the fire risk model (map) and the baseline scenario map. If we overlay the baseline planting block map over the fire risk map we can see that certain planting blocks are more “high risk” than the others, why were these allocated varying fire risks?	To identify areas of greater fire risk in the baseline of the project area, we performed spatially explicit habitat suitability modeling to examine the distribution of fire probability. In Annex 12 of the PD we explained the rationale for performing probability-based fire risk modeling, as opposed to a binary burn/no burn. We assumed that the likelihood of random, uncontrolled, or repeated peatland burnings would be higher in areas with greater probability of fire risks. Based on a set of environmental (e.g. climatic) grids and georeferenced occurrence localities, the model estimates a probability distribution where each grid cell has a predicted suitability of conditions. Previous fire probability models using this technique demonstrated that in general, higher fire likelihood is related to predictor variables of human development activities, climate, topography, vegetation, and ignition. Therefore, our model input variables included a suite of these factors. Further in Annex 13 we detailed the decision-making process for simulating possible annual fire occurrence localities. The fire risk probability model showed that areas with higher predicted fire risks might have greater relevance to certain land-use or land cover types. To identify the land cover types that had the strongest association with fire risk probability, we produced two more	The commenters concerns were considered when fire risk was addressed through the relevant modules. Additionally, the PP comments provided aSee VCS findings for additional information.dditional support for the closure of this finding.			
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	fire risk models using the same set of final predictor variables as in Annex 12 but with land use land cover types consolidated to 1) forest and non-forest classes shown in the MoE&F 2006, 2013 and 2015 data; and 2) plantation (including Acacia, paper and pulp, oil palm, rubber, cacao, etc.) and nonplantation classes shown in the MoE&F 2006, 2013, and 2015 data. When the land cover input variables were based on forest and non-forest status, the environmental variable with the most important model contribution was forest/non-forest status in 2015. In contrast, when the land cover input variables were based on plantation and non-plantation status, whether the land was covered by plantation had very low contribution to the model. The result indicated that distinguishing forest and non-forest lands played a much more significant role than differentiating plantation and non-plantation lands. Since the project area at the baseline scenario had little forest cover at the project start and forest was part of the land set aside for conservation area, there would be no deforestation events to convert forest to non-forest for plantation. The baseline scenario would only be conversion from non-forest to Acacia. Based on the fire risk model comparisons and static forest/non-forest distribution in the baseline scenario, we assumed that converting, harvesting and				
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	replanting Acacia would have little impact on affecting fire risk probability. Therefore, the spatial layout of land parcels in the baseline scenario depended on a suite of criteria described in PD, but not on fire risk probability itself, which was used to simulate potential annual fire occurrences (Annex 13).				
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APPENDIX D: DOCUMENTS FROM CLIENT

Appendix D

Date Rec.	Name
2/28/2019	FW_VCS_CCBA Validation and Verification.msg
3/4/2019	Materials for Auditor.zip
3/4/2019	Carbon Stock Study - Aboveground - LCC.pdf
3/4/2019	Carbon Stock Study - Belowground - Peat SOP.pdf
3/4/2019	Community Development Presentation Final 20190304.pptx
3/4/2019	FC Prospectus SMPP 20180913.pdf
3/4/2019	Travel Guide - From Jakarta via Jambi v0.3.pdf
3/4/2019	Village Profile - Kepayang EN.pdf
3/4/2019	Village Profile - Muara Merang EN.pdf
3/4/2019	VM007 Modules and Tools used for SMPP.pdf
3/4/2019	79 Canal Blocks in 2018.png
3/4/2019	Settlements in Merang Kepayang.png
3/4/2019	SMPP Landscape.png
5/20/2019	SMPP Combined Annexes Submission Version 20190520.docx
5/20/2019	SMPP PD Submission Version 20190520.docx
5/23/2019	SMPP Combined Annexes Submission Version Final 20190523.docx
5/23/2019	SMPP Combined Annexes Submission Version Final 20190523.pdf
5/23/2019	SMPP PD Submission Version Final 20190523.docx
5/23/2019	SMPP PD Submission Version Final 20190523.pdf
5/30/2019	9. SMPP Final Documents.zip
5/30/2019	SMPP Combined Annexes Submission Version Final 20190523b.docx
5/30/2019	SMPP Combined Annexes Submission Version Final 20190523b.pdf
5/30/2019	SMPP Monitoring Report Final 20190530.docx
5/30/2019	SMPP Monitoring Report Final 20190530.pdf
5/30/2019	SMPP PD Submission Version Final 20190524c.docx
5/30/2019	SMPP PD Submission Version Final 20190524c.pdf
7/2/2019	File List.xlsx
7/2/2019	Proposed Canal Blocks.lyr
7/2/2019	Proposed_Canal_Blocks.CPG
7/2/2019	Proposed_Canal_Blocks.csv
7/2/2019	Proposed_Canal_Blocks.dbf
7/2/2019	Proposed_Canal_Blocks.prj
7/2/2019	Proposed_Canal_Blocks.sbn
7/2/2019	Proposed_Canal_Blocks.sbx
7/2/2019	Proposed_Canal_Blocks.shp
7/2/2019	Proposed_Canal_Blocks.shp.xml
7/2/2019	Proposed_Canal_Blocks.shx
7/2/2019	Camp_and_Guard_Posts.CPG
7/2/2019	Camp_and_Guard_Posts.dbf

7/2/2019	Camp_and_Guard_Posts.prj
7/2/2019	Camp_and_Guard_Posts.sbn
7/2/2019	Camp_and_Guard_Posts.sbx
7/2/2019	Camp_and_Guard_Posts.shp
7/2/2019	Camp_and_Guard_Posts.shp.xml
7/2/2019	Camp_and_Guard_Posts.shx
7/2/2019	Canals_2018v3.cpg
7/2/2019	Canals_2018v3.dbf
7/2/2019	Canals_2018v3.prj
7/2/2019	Canals_2018v3.sbn
7/2/2019	Canals_2018v3.sbx
7/2/2019	Canals_2018v3.shp
7/2/2019	Canals_2018v3.shp.xml
7/2/2019	Canals_2018v3.shx
7/2/2019	Canals_2018v3_dissolved.qpj
7/2/2019	Cities_Capitals_SumSel.CPG
7/2/2019	Cities_Capitals_SumSel.dbf
7/2/2019	Cities_Capitals_SumSel.lyr
7/2/2019	Cities_Capitals_SumSel.prj
7/2/2019	Cities_Capitals_SumSel.sbn
7/2/2019	Cities_Capitals_SumSel.sbx
7/2/2019	Cities_Capitals_SumSel.shp
7/2/2019	Cities_Capitals_SumSel.shp.xml
7/2/2019	Cities_Capitals_SumSel.shx
7/2/2019	Districts_Jambi_SumSel.cpg
7/2/2019	Districts_Jambi_SumSel.dbf
7/2/2019	Districts_Jambi_SumSel.lyr
7/2/2019	Districts_Jambi_SumSel.prj
7/2/2019	Districts_Jambi_SumSel.sbn
7/2/2019	Districts_Jambi_SumSel.sbx
7/2/2019	Districts_Jambi_SumSel.shp
7/2/2019	Districts_Jambi_SumSel.shp.xml
7/2/2019	Districts_Jambi_SumSel.shx
7/2/2019	Kepayang_Village_Forest.lyr
7/2/2019	Kepayang_Village_Forest.CPG
7/2/2019	Kepayang_Village_Forest.dbf
7/2/2019	Kepayang_Village_Forest.prj
7/2/2019	Kepayang_Village_Forest.sbn
7/2/2019	Kepayang_Village_Forest.sbx
7/2/2019	Kepayang_Village_Forest.shp
7/2/2019	Kepayang_Village_Forest.shp.xml

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7/2/2019	Kepayang_Village_Forest.shx
7/2/2019	National_Park.lyr
7/2/2019	National_Parks.CPG
7/2/2019	National_Parks.dbf
7/2/2019	National_Parks.prj
7/2/2019	National_Parks.sbn
7/2/2019	National_Parks.sbx
7/2/2019	National_Parks.shp
7/2/2019	National_Parks.shp.xml
7/2/2019	National_Parks.shx
7/2/2019	Palm_Plantations.lyr
7/2/2019	Palm_Plantation.CPG
7/2/2019	Palm_Plantation.dbf
7/2/2019	Palm_Plantation.prj
7/2/2019	Palm_Plantation.sbn
7/2/2019	Palm_Plantation.sbx
7/2/2019	Palm_Plantation.shp
7/2/2019	Palm_Plantation.shp.xml
7/2/2019	Palm_Plantation.shx
7/2/2019	Peatlands.CPG
7/2/2019	Peatlands.dbf
7/2/2019	Peatlands.lyr
7/2/2019	Peatlands.prj
7/2/2019	Peatlands.sbn
7/2/2019	Peatlands.sbx
7/2/2019	Peatlands.shp
7/2/2019	Peatlands.shp.xml
7/2/2019	Peatlands.shx
7/2/2019	Plantation_Forest.CPG
7/2/2019	Plantation_Forest.dbf
7/2/2019	Plantation_Forest.lyr
7/2/2019	Plantation_Forest.prj
7/2/2019	Plantation_Forest.sbn
7/2/2019	Plantation_Forest.sbx
7/2/2019	Plantation_Forest.shp
7/2/2019	Plantation_Forest.shp.xml
7/2/2019	Plantation_Forest.shx
7/2/2019	Proposed_Canal_Blocks.txt.xml
7/2/2019	Provinces_Jambi_SumSel.cpg
7/2/2019	Provinces_Jambi_SumSel.dbf
7/2/2019	Provinces_Jambi_SumSel.lyr

7/2/2019	Provinces_Jambi_SumSel.prj
7/2/2019	Provinces_Jambi_SumSel.sbn
7/2/2019	Provinces_Jambi_SumSel.sbx
7/2/2019	Provinces_Jambi_SumSel.shp
7/2/2019	Provinces_Jambi_SumSel.shp.xml
7/2/2019	Provinces_Jambi_SumSel.shx
7/2/2019	Rivers.CPG
7/2/2019	Rivers.dbf
7/2/2019	Rivers.lyr
7/2/2019	Rivers.prj
7/2/2019	Rivers.sbn
7/2/2019	Rivers.sbx
7/2/2019	Rivers.shp
7/2/2019	Rivers.shp.xml
7/2/2019	Rivers.shx
7/2/2019	Settlement.CPG
7/2/2019	Settlement.dbf
7/2/2019	Settlement.prj
7/2/2019	Settlement.sbn
7/2/2019	Settlement.sbx
7/2/2019	Settlement.shp
7/2/2019	Settlement.shp.xml
7/2/2019	Settlement.shx
7/2/2019	SMPP_Project_Area.lyr
7/2/2019	SMPP_Project_Area.CPG
7/2/2019	SMPP_Project_Area.dbf
7/2/2019	SMPP_Project_Area.prj
7/2/2019	SMPP_Project_Area.sbn
7/2/2019	SMPP_Project_Area.sbx
7/2/2019	SMPP_Project_Area.shp
7/2/2019	SMPP_Project_Area.shp.xml
7/2/2019	SMPP_Project_Area.shx
7/2/2019	Villages_Settlement.lyr
7/2/2019	LiDAR_DTM_2017_100m.tfw
7/2/2019	LiDAR_DTM_2017_100m.tif
7/2/2019	LiDAR_DTM_2017_100m.tif.aux.xml
7/2/2019	LiDAR_DTM_2017_100m.tif.lyr
7/2/2019	LiDAR_DTM_2017_100m.tif.ovr
7/2/2019	LiDAR_DTM_2017_100m.tif.xml
7/2/2019	LiDAR_DTM_2017_100m_Slope_Degree.tfw
7/2/2019	LiDAR_DTM_2017_100m_Slope_Degree.tif

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7/2/2019	LiDAR_DTM_2017_100m_Slope_Degree.tif.aux.xml
7/2/2019	LiDAR_DTM_2017_100m_Slope_Degree.tif.lyr
7/2/2019	LiDAR_DTM_2017_100m_Slope_Degree.tif.xml
7/2/2019	Soil_Type_Jambi.lyr
7/2/2019	Soil_Type_SouthSumatra.lyr
7/2/2019	Soil_Type_Jambi.dbf
7/2/2019	Soil_Type_Jambi.prj
7/2/2019	Soil_Type_Jambi.sbn
7/2/2019	Soil_Type_Jambi.sbx
7/2/2019	Soil_Type_Jambi.shp
7/2/2019	Soil_Type_Jambi.shp.xml
7/2/2019	Soil_Type_Jambi.shx
7/2/2019	Soil_Type_SouthSumatra.dbf
7/2/2019	Soil_Type_SouthSumatra.prj
7/2/2019	Soil_Type_SouthSumatra.sbn
7/2/2019	Soil_Type_SouthSumatra.sbx
7/2/2019	Soil_Type_SouthSumatra.shp
7/2/2019	Soil_Type_SouthSumatra.shp.xml
7/2/2019	Soil_Type_SouthSumatra.shx
7/2/2019	Existing_Canal_Blocks.lyr
7/2/2019	Existing_Canal_Blocks.CPG
7/2/2019	Existing_Canal_Blocks.dbf
7/2/2019	Existing_Canal_Blocks.prj
7/2/2019	Existing_Canal_Blocks.sbn
7/2/2019	Existing_Canal_Blocks.sbx
7/2/2019	Existing_Canal_Blocks.shp
7/2/2019	Existing_Canal_Blocks.shp.xml
7/2/2019	Existing_Canal_Blocks.shx
7/2/2019	Landscape_Boundaries.lyr
7/2/2019	Landscape_Boundaries.CPG
7/2/2019	Landscape_Boundaries.dbf
7/2/2019	Landscape_Boundaries.prj
7/2/2019	Landscape_Boundaries.shp
7/2/2019	Landscape_Boundaries.shp.xml
7/2/2019	Landscape_Boundaries.shx
7/2/2019	Local_Roads.lyr
7/2/2019	Local_Roads.CPG
7/2/2019	Local_Roads.dbf
7/2/2019	Local_Roads.prj
7/2/2019	Local_Roads.sbn
7/2/2019	Local_Roads.sbx

7/2/2019	Local_Roads.shp
7/2/2019	Local_Roads.shp.xml
7/2/2019	Local_Roads.shx
7/2/2019	Rivers_outside_SMPP_(Kepayang).lyr
7/2/2019	Rivers_outside_SMPP.lyr
7/2/2019	River_Outside_SMPP.dbf
7/2/2019	River_Outside_SMPP.prj
7/2/2019	River_Outside_SMPP.sbn
7/2/2019	River_Outside_SMPP.sbx
7/2/2019	River_Outside_SMPP.shp
7/2/2019	River_Outside_SMPP.shp.xml
7/2/2019	River_Outside_SMPP.shx
7/2/2019	River_Outside_SMPP_Kepayang.CPG
7/2/2019	River_Outside_SMPP_Kepayang.dbf
7/2/2019	River_Outside_SMPP_Kepayang.prj
7/2/2019	River_Outside_SMPP_Kepayang.sbn
7/2/2019	River_Outside_SMPP_Kepayang.sbx
7/2/2019	River_Outside_SMPP_Kepayang.shp
7/2/2019	River_Outside_SMPP_Kepayang.shp.xml
7/2/2019	River_Outside_SMPP_Kepayang.shx
7/2/2019	Project_Zone_(Community_Plantation).lyr
7/2/2019	Project_Zone_(Fisherman_Activity).lyr
7/2/2019	Project_Zone_(Settlement).lyr
7/2/2019	Project_Zone_Community_Plantation.CPG
7/2/2019	Project_Zone_Community_Plantation.dbf
7/2/2019	Project_Zone_Community_Plantation.prj
7/2/2019	Project_Zone_Community_Plantation.sbn
7/2/2019	Project_Zone_Community_Plantation.sbx
7/2/2019	Project_Zone_Community_Plantation.shp
7/2/2019	Project_Zone_Community_Plantation.shp.xml
7/2/2019	Project_Zone_Community_Plantation.shx
7/2/2019	Project_Zone_Fishermen_Activity.CPG
7/2/2019	Project_Zone_Fishermen_Activity.dbf
7/2/2019	Project_Zone_Fishermen_Activity.prj
7/2/2019	Project_Zone_Fishermen_Activity.shp
7/2/2019	Project_Zone_Fishermen_Activity.shp.xml
7/2/2019	Project_Zone_Fishermen_Activity.shx
7/2/2019	Land_Cover_2016.lyr
7/2/2019	LC_2016.CPG
7/2/2019	LC_2016.dbf
7/2/2019	LC_2016.prj

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7/2/2019	LC_2016.sbn
7/2/2019	LC_2016.sbx
7/2/2019	LC_2016.shp
7/2/2019	LC_2016.shp.xml
7/2/2019	LC_2016.shx
7/2/2019	Peat Depth.lyr
7/2/2019	peat_depth.tfw
7/2/2019	peat_depth.tif
7/2/2019	peat_depth.tif.aux.xml
7/2/2019	peat_depth.tif.xml
7/2/2019	DEL.lyr
7/2/2019	DEL.tfw
7/2/2019	DEL.tif
7/2/2019	DEL.tif.aux.xml
7/2/2019	DEL.tif.xml
7/2/2019	DTM minus DEL.lyr
7/2/2019	DTM_DEL.tfw
7/2/2019	DTM_DEL.tif
7/2/2019	DTM_DEL.tif.aux.xml
7/2/2019	DTM_DEL.tif.xml
7/2/2019	Carbon Stock Difference.lyr
7/2/2019	Carbon Stock in Baseline Scenario.lyr
7/2/2019	Carbon Stock in Project Scenario.lyr
7/2/2019	final_fire_occurrence.CPG
7/2/2019	final_fire_occurrence.dbf
7/2/2019	final_fire_occurrence.prj
7/2/2019	final_fire_occurrence.sbn
7/2/2019	final_fire_occurrence.sbx
7/2/2019	final_fire_occurrence.shp
7/2/2019	final_fire_occurrence.shp.xml
7/2/2019	final_fire_occurrence.shx
7/2/2019	final_peat_decrease_100years.CPG
7/2/2019	final_peat_decrease_100years.dbf
7/2/2019	final_peat_decrease_100years.prj
7/2/2019	final_peat_decrease_100years.sbn
7/2/2019	final_peat_decrease_100years.sbx
7/2/2019	final_peat_decrease_100years.shp
7/2/2019	final_peat_decrease_100years.shp.xml
7/2/2019	final_peat_decrease_100years.shx
7/2/2019	Initial Peat Carbon Stock.lyr
7/2/2019	Year of Depletion.lyr

7/2/2019	Data-Completed Field Plots.lyr
7/2/2019	Peat_mean_depth_rev2.cpg
7/2/2019	Peat_mean_depth_rev2.dbf
7/2/2019	Peat_mean_depth_rev2.prj
7/2/2019	Peat_mean_depth_rev2.shp
7/2/2019	Peat_mean_depth_rev2.shp.xml
7/2/2019	Peat_mean_depth_rev2.shx
7/2/2019	Peat_mean_depth_rev2.xlsx
7/2/2019	WTL_monitor.CPG
7/2/2019	WTL_monitor.dbf
7/2/2019	WTL_monitor.lyr
7/2/2019	WTL_monitor.prj
7/2/2019	WTL_monitor.sbn
7/2/2019	WTL_monitor.sbx
7/2/2019	WTL_monitor.shp
7/2/2019	WTL_monitor.shp.xml
7/2/2019	WTL_monitor.shx
7/2/2019	Water Table Baseline Final 2016.lyr
7/2/2019	Water Table Level Year 1.lyr
7/2/2019	Water Table Level Year 2.lyr
7/2/2019	Water Table Level Year 3.lyr
7/2/2019	Water Table Level Year 4.lyr
7/2/2019	Water Table Level Year 5.lyr
7/2/2019	Water_Table_Baseline_Final_2016.tfw
7/2/2019	Water_Table_Baseline_Final_2016.tif
7/2/2019	Water_Table_Baseline_Final_2016.tif.aux.xml
7/2/2019	Water_Table_Baseline_Final_2016.tif.ovr
7/2/2019	Water_Table_Baseline_Final_2016.tif.xml
7/2/2019	Yr1_wtl_V2.prj
7/2/2019	Yr1_wtl_V2.tfw
7/2/2019	Yr1_wtl_V2.tif
7/2/2019	Yr1_wtl_V2.tif.aux.xml
7/2/2019	Yr1_wtl_V2.tif.ovr
7/2/2019	Yr1_wtl_V2.tif.xml
7/2/2019	Yr2_wtl_V2.prj
7/2/2019	Yr2_wtl_V2.tfw
7/2/2019	Yr2_wtl_V2.tif
7/2/2019	Yr2_wtl_V2.tif.aux.xml
7/2/2019	Yr2_wtl_V2.tif.ovr
7/2/2019	Yr2_wtl_V2.tif.xml
7/2/2019	Yr3_wtl_V2.prj

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7/2/2019	Yr3_wtl_V2.tfw
7/2/2019	Yr3_wtl_V2.tif
7/2/2019	Yr3_wtl_V2.tif.aux.xml
7/2/2019	Yr3_wtl_V2.tif.ovr
7/2/2019	Yr3_wtl_V2.tif.xml
7/2/2019	Yr4_wtl_V2.prj
7/2/2019	Yr4_wtl_V2.tfw
7/2/2019	Yr4_wtl_V2.tif
7/2/2019	Yr4_wtl_V2.tif.aux.xml
7/2/2019	Yr4_wtl_V2.tif.ovr
7/2/2019	Yr4_wtl_V2.tif.xml
7/2/2019	Yr5_wtl_V2.prj
7/2/2019	Yr5_wtl_V2.tfw
7/2/2019	Yr5_wtl_V2.tif
7/2/2019	Yr5_wtl_V2.tif.aux.xml
7/2/2019	Yr5_wtl_V2.tif.ovr
7/2/2019	Yr5_wtl_V2.tif.xml
7/2/2019	Initial_yr1to5_depth_indrain_instrata_WTLID_fireID_join.cpg
7/2/2019	Initial_yr1to5_depth_indrain_instrata_WTLID_fireID_join.dbf
7/2/2019	Initial_yr1to5_depth_indrain_instrata_WTLID_fireID_join.prj
7/2/2019	Initial_yr1to5_depth_indrain_instrata_WTLID_fireID_join.sbn
7/2/2019	Initial_yr1to5_depth_indrain_instrata_WTLID_fireID_join.sbx
7/2/2019	Initial_yr1to5_depth_indrain_instrata_WTLID_fireID_join.shp
7/2/2019	Initial_yr1to5_depth_indrain_instrata_WTLID_fireID_join.shp.xml
7/2/2019	Initial_yr1to5_depth_indrain_instrata_WTLID_fireID_join.shx
7/2/2019	Indonesia Public Mining Licenses (Online).lyr
7/2/2019	MoEF_Forest_Designation.lyr
7/2/2019	MoEF_Forest_Designation.cpg
7/2/2019	MoEF_Forest_Designation.dbf
7/2/2019	MoEF_Forest_Designation.prj
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7/2/2019	MoEF_Forest_Designation.sbx
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7/2/2019	MoEF_Forest_Designation.shx
7/2/2019	MoEF_Forest_Designation_UTM.cpg
7/2/2019	MoEF_Forest_Designation_UTM.dbf
7/2/2019	MoEF_Forest_Designation_UTM.prj
7/2/2019	MoEF_Forest_Designation_UTM.sbn
7/2/2019	MoEF_Forest_Designation_UTM.sbx
7/2/2019	MoEF_Forest_Designation_UTM.shp
7/2/2019	MoEF_Forest_Designation_UTM.shp.xml

7/2/2019	MoEF_Forest_Designation_UTM.shx
7/2/2019	Final_Candidates_for_Proxy_Analysis.lyr
7/2/2019	Final_Candidates_20190123_6candidates_Polygon.CPG
7/2/2019	Final_Candidates_20190123_6candidates_Polygon.dbf
7/2/2019	Final_Candidates_20190123_6candidates_Polygon.prj
7/2/2019	Final_Candidates_20190123_6candidates_Polygon.shp
7/2/2019	Final_Candidates_20190123_6candidates_Polygon.shp.xml
7/2/2019	Final_Candidates_20190123_6candidates_Polygon.shx
7/2/2019	Baseline_Stratification_Based_on_Emission_Characteristics.lyr
7/2/2019	Baseline_Zones.lyr
7/2/2019	Baseline_Scenario_Iteration17_Final.cpg
7/2/2019	Baseline_Scenario_Iteration17_Final.dbf
7/2/2019	Baseline_Scenario_Iteration17_Final.prj
7/2/2019	Baseline_Scenario_Iteration17_Final.sbn
7/2/2019	Baseline_Scenario_Iteration17_Final.sbx
7/2/2019	Baseline_Scenario_Iteration17_Final.shp
7/2/2019	Baseline_Scenario_Iteration17_Final.shp.xml
7/2/2019	Baseline_Scenario_Iteration17_Final.shx
7/2/2019	Eligible_Areas_for_ARR_crediting_(Eligible).lyr
7/2/2019	Eligible_Areas_for_ARR_crediting_(Not_Eligible).lyr
7/2/2019	Eligible_Areas_for_WRC_crediting_(Eligible).lyr
7/2/2019	Eligible_Areas_for_WRC_crediting_(Not_Eligible).lyr
7/2/2019	Initial_Stratification_Based_on_Emission_Characteristics_for_WRC.lyr
7/2/2019	Strata_Change_Summary.xlsx
7/2/2019	Fire_Risk_Probability_Model.lyr
7/2/2019	FireModel.tfw
7/2/2019	FireModel.tif
7/2/2019	FireModel.tif.xml
7/2/2019	HCV_1.lyr
7/2/2019	HCV_3.lyr
7/2/2019	HCV_4.lyr
7/2/2019	HCV_5 - Hygiene.lyr
7/2/2019	HCV_5 - Livelihood.lyr
7/2/2019	HCV_5 - Plantation.lyr
7/2/2019	HCV_6 - Pancuran Site.lyr
7/2/2019	HCV_1.dbf
7/2/2019	HCV_1.prj
7/2/2019	HCV_1.sbn
7/2/2019	HCV_1.sbx
7/2/2019	HCV_1.shp
7/2/2019	HCV_1.shp.xml

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7/2/2019	HCV_1.shx
7/2/2019	HCV_3.dbf
7/2/2019	HCV_3.prj
7/2/2019	HCV_3.sbn
7/2/2019	HCV_3.sbx
7/2/2019	HCV_3.shp
7/2/2019	HCV_3.shp.xml
7/2/2019	HCV_3.shx
7/2/2019	HCV_4.dbf
7/2/2019	HCV_4.prj
7/2/2019	HCV_4.sbn
7/2/2019	HCV_4.sbx
7/2/2019	HCV_4.shp
7/2/2019	HCV_4.shp.xml
7/2/2019	HCV_4.shx
7/2/2019	HCV_5_Kebun.CPG
7/2/2019	HCV_5_Kebun.dbf
7/2/2019	HCV_5_Kebun.prj
7/2/2019	HCV_5_Kebun.sbn
7/2/2019	HCV_5_Kebun.sbx
7/2/2019	HCV_5_Kebun.shp
7/2/2019	HCV_5_Kebun.shp.xml
7/2/2019	HCV_5_Kebun.shx
7/2/2019	HCV_5_MCK.dbf
7/2/2019	HCV_5_MCK.prj
7/2/2019	HCV_5_MCK.sbn
7/2/2019	HCV_5_MCK.sbx
7/2/2019	HCV_5_MCK.shp
7/2/2019	HCV_5_MCK.shp.xml
7/2/2019	HCV_5_MCK.shx
7/2/2019	HCV_5_sumber_pendapatan.dbf
7/2/2019	HCV_5_sumber_pendapatan.prj
7/2/2019	HCV_5_sumber_pendapatan.sbn
7/2/2019	HCV_5_sumber_pendapatan.sbx
7/2/2019	HCV_5_sumber_pendapatan.shp
7/2/2019	HCV_5_sumber_pendapatan.shp.xml
7/2/2019	HCV_5_sumber_pendapatan.shx
7/2/2019	HCV_6_pancuran.dbf
7/2/2019	HCV_6_pancuran.prj
7/2/2019	HCV_6_pancuran.sbn
7/2/2019	HCV_6_pancuran.sbx

7/2/2019	HCV_6_pancuran.shp
7/2/2019	HCV_6_pancuran.shp.xml
7/2/2019	HCV_6_pancuran.shx
7/2/2019	Biodiv_Proposed_Transect_CameraTrap_PatrolPost.CPG
7/2/2019	Biodiv_Proposed_Transect_CameraTrap_PatrolPost.dbf
7/2/2019	Biodiv_Proposed_Transect_CameraTrap_PatrolPost.prj
7/2/2019	Biodiv_Proposed_Transect_CameraTrap_PatrolPost.sbn
7/2/2019	Biodiv_Proposed_Transect_CameraTrap_PatrolPost.sbx
7/2/2019	Biodiv_Proposed_Transect_CameraTrap_PatrolPost.shp
7/2/2019	Biodiv_Proposed_Transect_CameraTrap_PatrolPost.shp.xml
7/2/2019	Biodiv_Proposed_Transect_CameraTrap_PatrolPost.shx
7/2/2019	Biodiv_Proposed_Transect_Line.CPG
7/2/2019	Biodiv_Proposed_Transect_Line.dbf
7/2/2019	Biodiv_Proposed_Transect_Line.prj
7/2/2019	Biodiv_Proposed_Transect_Line.sbn
7/2/2019	Biodiv_Proposed_Transect_Line.sbx
7/2/2019	Biodiv_Proposed_Transect_Line.shp
7/2/2019	Biodiv_Proposed_Transect_Line.shp.xml
7/2/2019	Biodiv_Proposed_Transect_Line.shx
7/2/2019	Gibbon_Listening_Posts.lyr
7/2/2019	Gibbon_Listening_Posts.CPG
7/2/2019	Gibbon_Listening_Posts.dbf
7/2/2019	Gibbon_Listening_Posts.prj
7/2/2019	Gibbon_Listening_Posts.sbn
7/2/2019	Gibbon_Listening_Posts.sbx
7/2/2019	Gibbon_Listening_Posts.shp
7/2/2019	Gibbon_Listening_Posts.shp.xml
7/2/2019	Gibbon_Listening_Posts.shx
7/2/2019	Proposed Camera Trap and Patrol Posts Locations.lyr
7/2/2019	Proposed Transect Line.lyr
7/2/2019	07_union_with_lc_clip.cpg
7/2/2019	07_union_with_lc_clip.dbf
7/2/2019	07_union_with_lc_clip.prj
7/2/2019	07_union_with_lc_clip.sbn
7/2/2019	07_union_with_lc_clip.sbx
7/2/2019	07_union_with_lc_clip.shp
7/2/2019	07_union_with_lc_clip.shp.xml
7/2/2019	07_union_with_lc_clip.shx
7/2/2019	2016 to 2018 Change Detection.lyr
7/2/2019	2016 to 2018 Change Detection.xlsx
7/2/2019	class_names.txt

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7/2/2019	MODIS-VIIRS 2006-2018 SMPP.xlsx
7/2/2019	MODIS_SMPP.qpj
7/2/2019	MODIS_SMPP_2006_2018.dbf
7/2/2019	MODIS_SMPP_2006_2018.lyr
7/2/2019	MODIS_SMPP_2006_2018.prj
7/2/2019	MODIS_SMPP_2006_2018.shp
7/2/2019	MODIS_SMPP_2006_2018.shx
7/2/2019	VIIRS_SMPP.qpj
7/2/2019	VIIRS_SMPP_2006_2018.dbf
7/2/2019	VIIRS_SMPP_2006_2018.lyr
7/2/2019	VIIRS_SMPP_2006_2018.prj
7/2/2019	VIIRS_SMPP_2006_2018.shp
7/2/2019	VIIRS_SMPP_2006_2018.shx
7/2/2019	hti_2016_2017_loss_2016_2018_peat_union.cpg
7/2/2019	hti_2016_2017_loss_2016_2018_peat_union.dbf
7/2/2019	hti_2016_2017_loss_2016_2018_peat_union.prj
7/2/2019	hti_2016_2017_loss_2016_2018_peat_union.shp
7/2/2019	hti_2016_2017_loss_2016_2018_peat_union.shp.xml
7/2/2019	hti_2016_2017_loss_2016_2018_peat_union.shx
7/2/2019	Peat Loss in 2016 on HTI licensed 2016-2017.lyr
7/2/2019	Peat Loss in 2016-2018 on HTI licensed 2016-2017.xlsx
7/2/2019	Peat Loss in 2017 on HTI licensed 2016-2017.lyr
7/2/2019	Peat Loss in 2018 on HTI licensed 2016-2017.lyr
7/2/2019	PD_Tables_20190528.xlsx
7/2/2019	04b_final_peat_burnscar_decrease_08b_baseline_initial.csv
7/2/2019	04b_final_peat_burnscar_decrease_08b_baseline_initial.xlsx
7/2/2019	Initial_yr1to5_depth_INdrain_INstrata_wtIID_fireID.csv
7/2/2019	Initial_yr1to5_depth_INdrain_INstrata_wtIID_fireID_EFF_CALC.xlsx
7/2/2019	YEAR 0.xlsx
7/2/2019	YEAR 1.xlsx
7/2/2019	YEAR 10.xlsx
7/2/2019	YEAR 11.xlsx
7/2/2019	YEAR 12.xlsx
7/2/2019	YEAR 13.xlsx
7/2/2019	YEAR 2.xlsx
7/2/2019	YEAR 3.xlsx
7/2/2019	YEAR 4.xlsx
7/2/2019	YEAR 5.xlsx
7/2/2019	YEAR 6.xlsx
7/2/2019	YEAR 7.xlsx
7/2/2019	YEAR 8.xlsx

7/2/2019	YEAR 9.xlsx
7/2/2019	Baseline WRC area calculations that incorporates PDT_20190507.R
7/2/2019	Burnt pixel selection process_20190411.R
7/2/2019	Emissions from peat burning calculation_20170507.R
7/2/2019	PDT Calculations GAL_20190507.R
7/2/2019	Project emission from peat oxidation calculation_20190507.R
7/2/2019	burn_drain_matrix_final.csv
7/2/2019	burn_matrix_final.csv
7/2/2019	FIRE_GAL500M_SHP.csv
7/2/2019	ID_Fire_WLT_LUC.csv
7/2/2019	PRJ_emission_oxidation_20190430.csv
7/2/2019	PRJ_emission_oxidation_20190508.csv
7/2/2019	PRJ_WTL_Effectiveness_20190420.csv
7/2/2019	YEAR00.csv
7/2/2019	YEAR01.csv
7/2/2019	YEAR02.csv
7/2/2019	YEAR03.csv
7/2/2019	YEAR04.csv
7/2/2019	YEAR05.csv
7/2/2019	YEAR06.csv
7/2/2019	YEAR07.csv
7/2/2019	YEAR08.csv
7/2/2019	YEAR09.csv
7/2/2019	YEAR10.csv
7/2/2019	YEAR11.csv
7/2/2019	YEAR12.csv
7/2/2019	YEAR13.csv
7/2/2019	PDT_max_year_BSL.csv
7/2/2019	Spreadsheet for ARR calculations_20190507.xlsx
7/2/2019	Spreadsheet for Baseline CO2-CH4 emission_20190520.xlsx
7/2/2019	Spreadsheet for Table 33 (burn_LUC_summary)_20190507.xlsx
7/2/2019	Spreadsheet for table 51 & 53_20190520.xlsx
7/2/2019	Strata Change Summary, v8B.xlsx
7/2/2019	Total_emission_burning.csv
7/2/2019	Total_emission_oxidation_PRJ.csv
7/2/2019	General SMPP References Library.pdf
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7/2/2019	References Without PDFs.xlsx
7/2/2019	SMPP Monitoring Report Annexes Reference List.docx
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7/2/2019	10 Using ecosystem services information to make recommendations for sustainable land use planning at the province and district level-GreenVisionSumatra.pdf
7/2/2019	11 Spatial Prediction of Soil Attributes Using Terrain Analysis and Climate Regionalisation - Böhner, J & Selige, T.pdf
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7/2/2019	17 Brown - 2014 - SDMtoolbox a python-based GIS toolkit for landscape genetic, biogeographic and species distribution model analyses.pdf
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7/2/2019	19 Climate Change in Indonesia Implications for Humans and Nature.pdf
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7/2/2019	20 IPCC AR5 Synthesis Report CC Box 3.2 Table 1 - Contribution of Working Groups I, II and III to the Fifth Assessment Report (AR5) of the Intergovernmental.pdf
7/2/2019	21 Biodiversity monitoring in developing countries what are we trying to achieve.pdf
7/2/2019	22 Pembangunan Kehutanan Dalam RPJMN 2015-2019.pdf
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7/2/2019	71 The World Bank. The cost of fire an economic analysis of Indonesias 2015 fire crisis.pdf
7/2/2019	73 Thomason - 2015 - Modeling burn probability A MaxEnt approach to estimating California's wildfire potential.pdf
7/2/2019	74 AR Calculation of the number of sample plots.pdf
7/2/2019	75 AR Large scale Consolidated except wetlands.pdf
7/2/2019	76 UNFCCC- AR Methodological tool - Combined tool to identify the baseline scenario and demonstrate additionality in AR CDM Project Activities.pdf
7/2/2019	77 Climate Risk and Adaptation Country Profile-Vulnerability, risk reduction and adaptation to Climate change Indonesia.pdf
7/2/2019	79 Modelling the spatial variability of wildfire susceptibility in Honduras using remote sensing and geographical information systems.pdf
7/2/2019	8 Ballhorn et al. - 2009 - Derivation of burn scar depths and estimation of carbon emissions with LIDAR in Indonesian peatlands.pdf
7/2/2019	80 Reducing forestry emissions in Indonesia - CIFOR.pdf
7/2/2019	81 VCS Standard Version 3.pdf
7/2/2019	82 VM0007 REDD+ Methodology Framework (REDD-MF) (v.1.5).pdf
7/2/2019	83 Creating a Lowland and Peatland Landscape DTM from Interpolated Partial Coverage LiDAR Data for Central Kalimantan and East Sumatra.pdf
7/2/2019	84 Wang et al. An Iterative and Targeted Sampling Design Informed.pdf
7/2/2019	85 Wiryono-Aspek Ekologis Hutan Tanaman Indonesia.pdf
7/2/2019	86 Quick Facts about Sumatra - WWF.pdf
7/2/2019	87 Wösten, J H M, et al - Implications of groundwater level fluctuations for a tropical peatland ecosystem in Southeast Asia.pdf
7/2/2019	88 Yeager et al. - 2003 - Effects of forest fires on peat swamp and lowland Dipterocarp forests in Kalimantan, Indonesia.pdf
7/2/2019	89 Zhang et al. - 2003 - A Progressive Morphological Filter for Removing Nonground Measurements From Airborne LIDAR Data.pdf

7/2/2019	9 Barkah - 2009 - Pelaksanaan Rehabilitasi Hutan Rawa Gambut Berbasis Masyarakat di Areal MRPP Kabupaten Musi Banyuasin.pdf
7/2/2019	90 MODIS hotspot validation over Sumatra and Kalimantan based on remote sensing data SPOT-4 in 2012 (Bahasa)..pdf
7/2/2019	91 Land cover distribution in the peatlands of Peninsular Malaysia, Sumatra and Borneo in 2015 with changes since 1990.pdf
7/2/2019	92 USAID Atlas Climate Risk Profile Indonesia.pdf
7/2/2019	93 Peraturan Presiden Republik Indonesia Nomor 1 Tahun 2016- 2012 Tentang Badan Restorasi Gambut.pdf
7/23/2019	File List.xlsx
7/23/2019	Proposed Canal Blocks.lyr
7/23/2019	Proposed_Canal_Blocks.CPG
7/23/2019	Proposed_Canal_Blocks.csv
7/23/2019	Proposed_Canal_Blocks.dbf
7/23/2019	Proposed_Canal_Blocks.prj
7/23/2019	Proposed_Canal_Blocks.sbn
7/23/2019	Proposed_Canal_Blocks.sbx
7/23/2019	Proposed_Canal_Blocks.shp
7/23/2019	Proposed_Canal_Blocks.shp.xml
7/23/2019	Proposed_Canal_Blocks.shx
7/23/2019	Camp_and_Guard_Posts.CPG
7/23/2019	Camp_and_Guard_Posts.dbf
7/23/2019	Camp_and_Guard_Posts.prj
7/23/2019	Camp_and_Guard_Posts.sbn
7/23/2019	Camp_and_Guard_Posts.sbx
7/23/2019	Camp_and_Guard_Posts.shp
7/23/2019	Camp_and_Guard_Posts.shp.xml
7/23/2019	Camp_and_Guard_Posts.shx
7/23/2019	Canals_2018v3.cpg
7/23/2019	Canals_2018v3.dbf
7/23/2019	Canals_2018v3.prj
7/23/2019	Canals_2018v3.sbn
7/23/2019	Canals_2018v3.sbx
7/23/2019	Canals_2018v3.shp
7/23/2019	Canals_2018v3.shp.xml
7/23/2019	Canals_2018v3.shx
7/23/2019	Canals_2018v3_dissolved.qpj
7/23/2019	Cities_Capitals_SumSel.CPG
7/23/2019	Cities_Capitals_SumSel.dbf
7/23/2019	Cities_Capitals_SumSel.lyr
7/23/2019	Cities_Capitals_SumSel.prj
7/23/2019	Cities_Capitals_SumSel.sbn
7/23/2019	Cities_Capitals_SumSel.sbx



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7/23/2019	Cities_Capitals_SumSel.shp
7/23/2019	Cities_Capitals_SumSel.shp.xml
7/23/2019	Cities_Capitals_SumSel.shx
7/23/2019	Districts_Jambi_SumSel.cpg
7/23/2019	Districts_Jambi_SumSel.dbf
7/23/2019	Districts_Jambi_SumSel.lyr
7/23/2019	Districts_Jambi_SumSel.prj
7/23/2019	Districts_Jambi_SumSel.sbn
7/23/2019	Districts_Jambi_SumSel.sbx
7/23/2019	Districts_Jambi_SumSel.shp
7/23/2019	Districts_Jambi_SumSel.shp.xml
7/23/2019	Districts_Jambi_SumSel.shx
7/23/2019	Kepayang_Village_Forest.lyr
7/23/2019	Kepayang_Village_Forest.CPG
7/23/2019	Kepayang_Village_Forest.dbf
7/23/2019	Kepayang_Village_Forest.prj
7/23/2019	Kepayang_Village_Forest.sbn
7/23/2019	Kepayang_Village_Forest.sbx
7/23/2019	Kepayang_Village_Forest.shp
7/23/2019	Kepayang_Village_Forest.shp.xml
7/23/2019	Kepayang_Village_Forest.shx
7/23/2019	National_Park.lyr
7/23/2019	National_Parks.CPG
7/23/2019	National_Parks.dbf
7/23/2019	National_Parks.prj
7/23/2019	National_Parks.sbn
7/23/2019	National_Parks.sbx
7/23/2019	National_Parks.shp
7/23/2019	National_Parks.shp.xml
7/23/2019	National_Parks.shx
7/23/2019	Palm_Plantations.lyr
7/23/2019	Palm_Plantation.CPG
7/23/2019	Palm_Plantation.dbf
7/23/2019	Palm_Plantation.prj
7/23/2019	Palm_Plantation.sbn
7/23/2019	Palm_Plantation.sbx
7/23/2019	Palm_Plantation.shp
7/23/2019	Palm_Plantation.shp.xml
7/23/2019	Palm_Plantation.shx
7/23/2019	Peatlands.CPG
7/23/2019	Peatlands.dbf

7/23/2019	Peatlands.lyr
7/23/2019	Peatlands.prj
7/23/2019	Peatlands.sbn
7/23/2019	Peatlands.sbx
7/23/2019	Peatlands.shp
7/23/2019	Peatlands.shp.xml
7/23/2019	Peatlands.shx
7/23/2019	Plantation_Forest.CPG
7/23/2019	Plantation_Forest.dbf
7/23/2019	Plantation_Forest.lyr
7/23/2019	Plantation_Forest.prj
7/23/2019	Plantation_Forest.sbn
7/23/2019	Plantation_Forest.sbx
7/23/2019	Plantation_Forest.shp
7/23/2019	Plantation_Forest.shp.xml
7/23/2019	Plantation_Forest.shx
7/23/2019	Proposed_Canal_Blocks.txt.xml
7/23/2019	Provinces_Jambi_SumSel.cpg
7/23/2019	Provinces_Jambi_SumSel.dbf
7/23/2019	Provinces_Jambi_SumSel.lyr
7/23/2019	Provinces_Jambi_SumSel.prj
7/23/2019	Provinces_Jambi_SumSel.sbn
7/23/2019	Provinces_Jambi_SumSel.sbx
7/23/2019	Provinces_Jambi_SumSel.shp
7/23/2019	Provinces_Jambi_SumSel.shp.xml
7/23/2019	Provinces_Jambi_SumSel.shx
7/23/2019	Rivers.CPG
7/23/2019	Rivers.dbf
7/23/2019	Rivers.lyr
7/23/2019	Rivers.prj
7/23/2019	Rivers.sbn
7/23/2019	Rivers.sbx
7/23/2019	Rivers.shp
7/23/2019	Rivers.shp.xml
7/23/2019	Rivers.shx
7/23/2019	Settlement.CPG
7/23/2019	Settlement.dbf
7/23/2019	Settlement.prj
7/23/2019	Settlement.sbn
7/23/2019	Settlement.sbx
7/23/2019	Settlement.shp



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7/23/2019	Settlement.shp.xml
7/23/2019	Settlement.shx
7/23/2019	SMPP Project Area.lyr
7/23/2019	SMPP_Project_Area.CPG
7/23/2019	SMPP_Project_Area.dbf
7/23/2019	SMPP_Project_Area.prj
7/23/2019	SMPP_Project_Area.sbn
7/23/2019	SMPP_Project_Area.sbx
7/23/2019	SMPP_Project_Area.shp
7/23/2019	SMPP_Project_Area.shp.xml
7/23/2019	SMPP_Project_Area.shx
7/23/2019	Villages_Settlement.lyr
7/23/2019	LiDAR_DTM_2017_100m.tfw
7/23/2019	LiDAR_DTM_2017_100m.tif
7/23/2019	LiDAR_DTM_2017_100m.tif.aux.xml
7/23/2019	LiDAR_DTM_2017_100m.tif.lyr
7/23/2019	LiDAR_DTM_2017_100m.tif.ovr
7/23/2019	LiDAR_DTM_2017_100m.tif.xml
7/23/2019	LiDAR_DTM_2017_100m_Slope_Degree.tfw
7/23/2019	LiDAR_DTM_2017_100m_Slope_Degree.tif
7/23/2019	LiDAR_DTM_2017_100m_Slope_Degree.tif.aux.xml
7/23/2019	LiDAR_DTM_2017_100m_Slope_Degree.tif.lyr
7/23/2019	LiDAR_DTM_2017_100m_Slope_Degree.tif.xml
7/23/2019	Soil Type Jambi.lyr
7/23/2019	Soil Type South Sumatra.lyr
7/23/2019	Soil_Type_Jambi.dbf
7/23/2019	Soil_Type_Jambi.prj
7/23/2019	Soil_Type_Jambi.sbn
7/23/2019	Soil_Type_Jambi.sbx
7/23/2019	Soil_Type_Jambi.shp
7/23/2019	Soil_Type_Jambi.shp.xml
7/23/2019	Soil_Type_Jambi.shx
7/23/2019	Soil_Type_SouthSumatra.dbf
7/23/2019	Soil_Type_SouthSumatra.prj
7/23/2019	Soil_Type_SouthSumatra.sbn
7/23/2019	Soil_Type_SouthSumatra.sbx
7/23/2019	Soil_Type_SouthSumatra.shp
7/23/2019	Soil_Type_SouthSumatra.shp.xml
7/23/2019	Soil_Type_SouthSumatra.shx
7/23/2019	Existing Canal Blocks.lyr
7/23/2019	Existing_Canal_Blocks.CPG

7/23/2019	Existing_Canal_Blocks.dbf
7/23/2019	Existing_Canal_Blocks.prj
7/23/2019	Existing_Canal_Blocks.sbn
7/23/2019	Existing_Canal_Blocks.sbx
7/23/2019	Existing_Canal_Blocks.shp
7/23/2019	Existing_Canal_Blocks.shp.xml
7/23/2019	Existing_Canal_Blocks.shx
7/23/2019	Landscape Boundaries.lyr
7/23/2019	Landscape_Boundaries.CPG
7/23/2019	Landscape_Boundaries.dbf
7/23/2019	Landscape_Boundaries.prj
7/23/2019	Landscape_Boundaries.shp
7/23/2019	Landscape_Boundaries.shp.xml
7/23/2019	Landscape_Boundaries.shx
7/23/2019	Local Roads.lyr
7/23/2019	Local_Roads.CPG
7/23/2019	Local_Roads.dbf
7/23/2019	Local_Roads.prj
7/23/2019	Local_Roads.sbn
7/23/2019	Local_Roads.sbx
7/23/2019	Local_Roads.shp
7/23/2019	Local_Roads.shp.xml
7/23/2019	Local_Roads.shx
7/23/2019	Rivers outside SMPP (Kepayang).lyr
7/23/2019	Rivers outside SMPP.lyr
7/23/2019	River_Outside_SMPP.dbf
7/23/2019	River_Outside_SMPP.prj
7/23/2019	River_Outside_SMPP.sbn
7/23/2019	River_Outside_SMPP.sbx
7/23/2019	River_Outside_SMPP.shp
7/23/2019	River_Outside_SMPP.shp.xml
7/23/2019	River_Outside_SMPP.shx
7/23/2019	River_Outside_SMPP_Kepayang.CPG
7/23/2019	River_Outside_SMPP_Kepayang.dbf
7/23/2019	River_Outside_SMPP_Kepayang.prj
7/23/2019	River_Outside_SMPP_Kepayang.sbn
7/23/2019	River_Outside_SMPP_Kepayang.sbx
7/23/2019	River_Outside_SMPP_Kepayang.shp
7/23/2019	River_Outside_SMPP_Kepayang.shp.xml
7/23/2019	River_Outside_SMPP_Kepayang.shx
7/23/2019	Project Zone (Community Plantation).lyr

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7/23/2019	Project Zone (Fisherman Activity).lyr
7/23/2019	Project Zone (Settlement).lyr
7/23/2019	Project_Zone_Community_Plantation.CPG
7/23/2019	Project_Zone_Community_Plantation.dbf
7/23/2019	Project_Zone_Community_Plantation.prj
7/23/2019	Project_Zone_Community_Plantation.sbn
7/23/2019	Project_Zone_Community_Plantation.sbx
7/23/2019	Project_Zone_Community_Plantation.shp
7/23/2019	Project_Zone_Community_Plantation.shp.xml
7/23/2019	Project_Zone_Community_Plantation.shx
7/23/2019	Project_Zone_Fishermen_Activity.CPG
7/23/2019	Project_Zone_Fishermen_Activity.dbf
7/23/2019	Project_Zone_Fishermen_Activity.prj
7/23/2019	Project_Zone_Fishermen_Activity.shp
7/23/2019	Project_Zone_Fishermen_Activity.shp.xml
7/23/2019	Project_Zone_Fishermen_Activity.shx
7/23/2019	Land Cover 2016.lyr
7/23/2019	LC_2016.CPG
7/23/2019	LC_2016.dbf
7/23/2019	LC_2016.prj
7/23/2019	LC_2016.sbn
7/23/2019	LC_2016.sbx
7/23/2019	LC_2016.shp
7/23/2019	LC_2016.shp.xml
7/23/2019	LC_2016.shx
7/23/2019	Peat Depth.lyr
7/23/2019	peat_depth.tfw
7/23/2019	peat_depth.tif
7/23/2019	peat_depth.tif.aux.xml
7/23/2019	peat_depth.tif.xml
7/23/2019	DEL.lyr
7/23/2019	DEL.tfw
7/23/2019	DEL.tif
7/23/2019	DEL.tif.aux.xml
7/23/2019	DEL.tif.xml
7/23/2019	DTM minus DEL.lyr
7/23/2019	DTM_DEL.tfw
7/23/2019	DTM_DEL.tif
7/23/2019	DTM_DEL.tif.aux.xml
7/23/2019	DTM_DEL.tif.xml
7/23/2019	Carbon Stock Difference.lyr

7/23/2019	Carbon Stock in Baseline Scenario.lyr
7/23/2019	Carbon Stock in Project Scenario.lyr
7/23/2019	final_fire_occurrence.CPG
7/23/2019	final_fire_occurrence.dbf
7/23/2019	final_fire_occurrence.prj
7/23/2019	final_fire_occurrence.sbn
7/23/2019	final_fire_occurrence.sbx
7/23/2019	final_fire_occurrence.shp
7/23/2019	final_fire_occurrence.shp.xml
7/23/2019	final_fire_occurrence.shx
7/23/2019	final_peat_decrease_100years.CPG
7/23/2019	final_peat_decrease_100years.dbf
7/23/2019	final_peat_decrease_100years.prj
7/23/2019	final_peat_decrease_100years.sbn
7/23/2019	final_peat_decrease_100years.sbx
7/23/2019	final_peat_decrease_100years.shp
7/23/2019	final_peat_decrease_100years.shp.xml
7/23/2019	final_peat_decrease_100years.shx
7/23/2019	Initial Peat Carbon Stock.lyr
7/23/2019	Year of Depletion.lyr
7/23/2019	Data-Completed Field Plots.lyr
7/23/2019	Peat_mean_depth_rev2.cpg
7/23/2019	Peat_mean_depth_rev2.dbf
7/23/2019	Peat_mean_depth_rev2.prj
7/23/2019	Peat_mean_depth_rev2.shp
7/23/2019	Peat_mean_depth_rev2.shp.xml
7/23/2019	Peat_mean_depth_rev2.shx
7/23/2019	Peat_mean_depth_rev2.xlsx
7/23/2019	WTL_monitor.CPG
7/23/2019	WTL_monitor.dbf
7/23/2019	WTL_monitor.lyr
7/23/2019	WTL_monitor.prj
7/23/2019	WTL_monitor.sbn
7/23/2019	WTL_monitor.sbx
7/23/2019	WTL_monitor.shp
7/23/2019	WTL_monitor.shp.xml
7/23/2019	WTL_monitor.shx
7/23/2019	Water Table Baseline Final 2016.lyr
7/23/2019	Water Table Level Year 1.lyr
7/23/2019	Water Table Level Year 2.lyr
7/23/2019	Water Table Level Year 3.lyr

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7/23/2019	Water Table Level Year 4.lyr
7/23/2019	Water Table Level Year 5.lyr
7/23/2019	Water_Table_Baseline_Final_2016.tfw
7/23/2019	Water_Table_Baseline_Final_2016.tif
7/23/2019	Water_Table_Baseline_Final_2016.tif.aux.xml
7/23/2019	Water_Table_Baseline_Final_2016.tif.ovr
7/23/2019	Water_Table_Baseline_Final_2016.tif.xml
7/23/2019	Yr1_wtl_V2.prj
7/23/2019	Yr1_wtl_V2.tfw
7/23/2019	Yr1_wtl_V2.tif
7/23/2019	Yr1_wtl_V2.tif.aux.xml
7/23/2019	Yr1_wtl_V2.tif.ovr
7/23/2019	Yr1_wtl_V2.tif.xml
7/23/2019	Yr2_wtl_V2.prj
7/23/2019	Yr2_wtl_V2.tfw
7/23/2019	Yr2_wtl_V2.tif
7/23/2019	Yr2_wtl_V2.tif.aux.xml
7/23/2019	Yr2_wtl_V2.tif.ovr
7/23/2019	Yr2_wtl_V2.tif.xml
7/23/2019	Yr3_wtl_V2.prj
7/23/2019	Yr3_wtl_V2.tfw
7/23/2019	Yr3_wtl_V2.tif
7/23/2019	Yr3_wtl_V2.tif.aux.xml
7/23/2019	Yr3_wtl_V2.tif.ovr
7/23/2019	Yr3_wtl_V2.tif.xml
7/23/2019	Yr4_wtl_V2.prj
7/23/2019	Yr4_wtl_V2.tfw
7/23/2019	Yr4_wtl_V2.tif
7/23/2019	Yr4_wtl_V2.tif.aux.xml
7/23/2019	Yr4_wtl_V2.tif.ovr
7/23/2019	Yr4_wtl_V2.tif.xml
7/23/2019	Yr5_wtl_V2.prj
7/23/2019	Yr5_wtl_V2.tfw
7/23/2019	Yr5_wtl_V2.tif
7/23/2019	Yr5_wtl_V2.tif.aux.xml
7/23/2019	Yr5_wtl_V2.tif.ovr
7/23/2019	Yr5_wtl_V2.tif.xml
7/23/2019	Initial_yr1to5_depth_indrain_instrata_WTLID_fireID_join.cpg
7/23/2019	Initial_yr1to5_depth_indrain_instrata_WTLID_fireID_join.dbf
7/23/2019	Initial_yr1to5_depth_indrain_instrata_WTLID_fireID_join.prj
7/23/2019	Initial_yr1to5_depth_indrain_instrata_WTLID_fireID_join.sbn

7/23/2019	Initial_yr1to5_depth_indrain_instrata_WTLID_fireID_join.sbx
7/23/2019	Initial_yr1to5_depth_indrain_instrata_WTLID_fireID_join.shp
7/23/2019	Initial_yr1to5_depth_indrain_instrata_WTLID_fireID_join.shp.xml
7/23/2019	Initial_yr1to5_depth_indrain_instrata_WTLID_fireID_join.shx
7/23/2019	Indonesia Public Mining Licenses (Online).lyr
7/23/2019	MoEF Forest Designation.lyr
7/23/2019	MoEF_Forest_Designation.cpg
7/23/2019	MoEF_Forest_Designation.dbf
7/23/2019	MoEF_Forest_Designation.prj
7/23/2019	MoEF_Forest_Designation.sbn
7/23/2019	MoEF_Forest_Designation.sbx
7/23/2019	MoEF_Forest_Designation.shp
7/23/2019	MoEF_Forest_Designation.shx
7/23/2019	MoEF_Forest_Designation_UTM.cpg
7/23/2019	MoEF_Forest_Designation_UTM.dbf
7/23/2019	MoEF_Forest_Designation_UTM.prj
7/23/2019	MoEF_Forest_Designation_UTM.sbn
7/23/2019	MoEF_Forest_Designation_UTM.sbx
7/23/2019	MoEF_Forest_Designation_UTM.shp
7/23/2019	MoEF_Forest_Designation_UTM.shp.xml
7/23/2019	MoEF_Forest_Designation_UTM.shx
7/23/2019	Final Candidates for Proxy Analysis.lyr
7/23/2019	Final_Candidates_20190123_6candidates_Polygon.CPG
7/23/2019	Final_Candidates_20190123_6candidates_Polygon.dbf
7/23/2019	Final_Candidates_20190123_6candidates_Polygon.prj
7/23/2019	Final_Candidates_20190123_6candidates_Polygon.shp
7/23/2019	Final_Candidates_20190123_6candidates_Polygon.shp.xml
7/23/2019	Final_Candidates_20190123_6candidates_Polygon.shx
7/23/2019	Baseline Stratification Based on Emission Characteristics.lyr
7/23/2019	Baseline Zones.lyr
7/23/2019	Baseline_Scenario_Iteration17_Final.cpg
7/23/2019	Baseline_Scenario_Iteration17_Final.dbf
7/23/2019	Baseline_Scenario_Iteration17_Final.prj
7/23/2019	Baseline_Scenario_Iteration17_Final.sbn
7/23/2019	Baseline_Scenario_Iteration17_Final.sbx
7/23/2019	Baseline_Scenario_Iteration17_Final.shp
7/23/2019	Baseline_Scenario_Iteration17_Final.shp.xml
7/23/2019	Baseline_Scenario_Iteration17_Final.shx
7/23/2019	Eligible Areas for ARR crediting (Eligible).lyr
7/23/2019	Eligible Areas for ARR crediting (Not Eligible).lyr
7/23/2019	Eligible Areas for WRC crediting (Eligible).lyr

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7/23/2019	Eligible Areas for WRC crediting (Not Eligible).lyr
7/23/2019	Initial Stratification Bsaed on Emission Characteristics for WRC.lyr
7/23/2019	Strata Change Summary.xlsx
7/23/2019	Fire Risk Probability Model.lyr
7/23/2019	FireModel.tfw
7/23/2019	FireModel.tif
7/23/2019	FireModel.tif.xml
7/23/2019	HCV 1.lyr
7/23/2019	HCV 3.lyr
7/23/2019	HCV 4.lyr
7/23/2019	HCV 5 - Hygiene.lyr
7/23/2019	HCV 5 - Livelihood.lyr
7/23/2019	HCV 5 - Plantation.lyr
7/23/2019	HCV 6 - Pancuran Site.lyr
7/23/2019	HCV_1.dbf
7/23/2019	HCV_1.prj
7/23/2019	HCV_1.sbn
7/23/2019	HCV_1.sbx
7/23/2019	HCV_1.shp
7/23/2019	HCV_1.shp.xml
7/23/2019	HCV_1.shx
7/23/2019	HCV_3.dbf
7/23/2019	HCV_3.prj
7/23/2019	HCV_3.sbn
7/23/2019	HCV_3.sbx
7/23/2019	HCV_3.shp
7/23/2019	HCV_3.shp.xml
7/23/2019	HCV_3.shx
7/23/2019	HCV_4.dbf
7/23/2019	HCV_4.prj
7/23/2019	HCV_4.sbn
7/23/2019	HCV_4.sbx
7/23/2019	HCV_4.shp
7/23/2019	HCV_4.shp.xml
7/23/2019	HCV_4.shx
7/23/2019	HCV_5_Kebun.CPG
7/23/2019	HCV_5_Kebun.dbf
7/23/2019	HCV_5_Kebun.prj
7/23/2019	HCV_5_Kebun.sbn
7/23/2019	HCV_5_Kebun.sbx
7/23/2019	HCV_5_Kebun.shp

7/23/2019	HCV_5_Kebun.shp.xml
7/23/2019	HCV_5_Kebun.shx
7/23/2019	HCV_5_MCK.dbf
7/23/2019	HCV_5_MCK.prj
7/23/2019	HCV_5_MCK.sbn
7/23/2019	HCV_5_MCK.sbx
7/23/2019	HCV_5_MCK.shp
7/23/2019	HCV_5_MCK.shp.xml
7/23/2019	HCV_5_MCK.shx
7/23/2019	HCV_5_sumber_pendapatan.dbf
7/23/2019	HCV_5_sumber_pendapatan.prj
7/23/2019	HCV_5_sumber_pendapatan.sbn
7/23/2019	HCV_5_sumber_pendapatan.sbx
7/23/2019	HCV_5_sumber_pendapatan.shp
7/23/2019	HCV_5_sumber_pendapatan.shp.xml
7/23/2019	HCV_5_sumber_pendapatan.shx
7/23/2019	HCV_6_pancuran.dbf
7/23/2019	HCV_6_pancuran.prj
7/23/2019	HCV_6_pancuran.sbn
7/23/2019	HCV_6_pancuran.sbx
7/23/2019	HCV_6_pancuran.shp
7/23/2019	HCV_6_pancuran.shp.xml
7/23/2019	HCV_6_pancuran.shx
7/23/2019	Biodiv_Proposed_Transect_CameraTrap_PatrolPost.CPG
7/23/2019	Biodiv_Proposed_Transect_CameraTrap_PatrolPost.dbf
7/23/2019	Biodiv_Proposed_Transect_CameraTrap_PatrolPost.prj
7/23/2019	Biodiv_Proposed_Transect_CameraTrap_PatrolPost.sbn
7/23/2019	Biodiv_Proposed_Transect_CameraTrap_PatrolPost.sbx
7/23/2019	Biodiv_Proposed_Transect_CameraTrap_PatrolPost.shp
7/23/2019	Biodiv_Proposed_Transect_CameraTrap_PatrolPost.shp.xml
7/23/2019	Biodiv_Proposed_Transect_CameraTrap_PatrolPost.shx
7/23/2019	Biodiv_Proposed_Transect_Line.CPG
7/23/2019	Biodiv_Proposed_Transect_Line.dbf
7/23/2019	Biodiv_Proposed_Transect_Line.prj
7/23/2019	Biodiv_Proposed_Transect_Line.sbn
7/23/2019	Biodiv_Proposed_Transect_Line.sbx
7/23/2019	Biodiv_Proposed_Transect_Line.shp
7/23/2019	Biodiv_Proposed_Transect_Line.shp.xml
7/23/2019	Biodiv_Proposed_Transect_Line.shx
7/23/2019	Gibbon Listening Posts.lyr
7/23/2019	Gibbon_Listening_Posts.CPG

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7/23/2019	Gibbon_Listening_Posts.dbf
7/23/2019	Gibbon_Listening_Posts.prj
7/23/2019	Gibbon_Listening_Posts.sbn
7/23/2019	Gibbon_Listening_Posts.sbx
7/23/2019	Gibbon_Listening_Posts.shp
7/23/2019	Gibbon_Listening_Posts.shp.xml
7/23/2019	Gibbon_Listening_Posts.shx
7/23/2019	Proposed Camera Trap and Patrol Posts Locations.lyr
7/23/2019	Proposed Transect Line.lyr
7/23/2019	07_union_with_lc_clip.cpg
7/23/2019	07_union_with_lc_clip.dbf
7/23/2019	07_union_with_lc_clip.prj
7/23/2019	07_union_with_lc_clip.sbn
7/23/2019	07_union_with_lc_clip.sbx
7/23/2019	07_union_with_lc_clip.shp
7/23/2019	07_union_with_lc_clip.shp.xml
7/23/2019	07_union_with_lc_clip.shx
7/23/2019	2016 to 2018 Change Detection.lyr
7/23/2019	2016 to 2018 Change Detection.xlsx
7/23/2019	class_names.txt
7/23/2019	MODIS-VIIRS 2006-2018 SMPP.xlsx
7/23/2019	MODIS_SMPP.qpj
7/23/2019	MODIS_SMPP_2006_2018.dbf
7/23/2019	MODIS_SMPP_2006_2018.lyr
7/23/2019	MODIS_SMPP_2006_2018.prj
7/23/2019	MODIS_SMPP_2006_2018.shp
7/23/2019	MODIS_SMPP_2006_2018.shx
7/23/2019	VIIRS_SMPP.qpj
7/23/2019	VIIRS_SMPP_2006_2018.dbf
7/23/2019	VIIRS_SMPP_2006_2018.lyr
7/23/2019	VIIRS_SMPP_2006_2018.prj
7/23/2019	VIIRS_SMPP_2006_2018.shp
7/23/2019	VIIRS_SMPP_2006_2018.shx
7/23/2019	hti_2016_2017_loss_2016_2018_peat_union.cpg
7/23/2019	hti_2016_2017_loss_2016_2018_peat_union.dbf
7/23/2019	hti_2016_2017_loss_2016_2018_peat_union.prj
7/23/2019	hti_2016_2017_loss_2016_2018_peat_union.shp
7/23/2019	hti_2016_2017_loss_2016_2018_peat_union.shp.xml
7/23/2019	hti_2016_2017_loss_2016_2018_peat_union.shx
7/23/2019	Peat Loss in 2016 on HTI licensed 2016-2017.lyr
7/23/2019	Peat Loss in 2016-2018 on HTI licensed 2016-2017.xlsx

7/23/2019	Peat Loss in 2017 on HTI licensed 2016-2017.lyr
7/23/2019	Peat Loss in 2018 on HTI licensed 2016-2017.lyr
7/23/2019	PD_Tables_20190611.xlsx
7/23/2019	04b_final_peat_burnscar_decrease_08b_baseline_initial.csv
7/23/2019	04b_final_peat_burnscar_decrease_08b_baseline_initial.xlsx
7/23/2019	Initial_yr1to5_depth_INdrain_INstrata_wtIID_fireID.csv
7/23/2019	Initial_yr1to5_depth_INdrain_INstrata_wtIID_fireID_EFF_CALC.xlsx
7/23/2019	YEAR 0.xlsx
7/23/2019	YEAR 1.xlsx
7/23/2019	YEAR 10.xlsx
7/23/2019	YEAR 11.xlsx
7/23/2019	YEAR 12.xlsx
7/23/2019	YEAR 13.xlsx
7/23/2019	YEAR 2.xlsx
7/23/2019	YEAR 3.xlsx
7/23/2019	YEAR 4.xlsx
7/23/2019	YEAR 5.xlsx
7/23/2019	YEAR 6.xlsx
7/23/2019	YEAR 7.xlsx
7/23/2019	YEAR 8.xlsx
7/23/2019	YEAR 9.xlsx
7/23/2019	Baseline WRC area calculations that incorporates PDT_20190507.R
7/23/2019	Burnt pixel selection process_20190411.R
7/23/2019	Emissions from peat burning calculation_20170507.R
7/23/2019	PDT Calculations GAL_20190507.R
7/23/2019	Project emission from peat oxidation calculation_20190507.R
7/23/2019	burn_drain_matrix_final.csv
7/23/2019	burn_matrix_final.csv
7/23/2019	FIRE_GAL500M_SHP.csv
7/23/2019	ID_Fire_WLT_LUC.csv
7/23/2019	PRJ_emission_oxidation_20190430.csv
7/23/2019	PRJ_emission_oxidation_20190508.csv
7/23/2019	PRJ_WTL_Effectiveness_20190420.csv
7/23/2019	YEAR00.csv
7/23/2019	YEAR01.csv
7/23/2019	YEAR02.csv
7/23/2019	YEAR03.csv
7/23/2019	YEAR04.csv
7/23/2019	YEAR05.csv
7/23/2019	YEAR06.csv
7/23/2019	YEAR07.csv

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7/23/2019	YEAR08.csv
7/23/2019	YEAR09.csv
7/23/2019	YEAR10.csv
7/23/2019	YEAR11.csv
7/23/2019	YEAR12.csv
7/23/2019	YEAR13.csv
7/23/2019	ER, IPCC, and Uncertainty_20190519.xlsx
7/23/2019	PDT_max_year_BSL.csv
7/23/2019	Spreadsheet for ARR calculations_20190507.xlsx
7/23/2019	Spreadsheet for Baseline CO2-CH4 emission_20190520.xlsx
7/23/2019	Spreadsheet for Table 33 (burn_LUC_summary)_20190507.xlsx
7/23/2019	Spreadsheet for table 51 & 53_20190520.xlsx
7/23/2019	Strata Change Summary, v8B.xlsx
7/23/2019	Total_emission_burning.csv
7/23/2019	Total_emission_oxidation_PRJ.csv
7/23/2019	General SMPP References Library.pdf
7/23/2019	Mendeley SMPP References Library.bib
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7/23/2019	SMPP Monitoring Report Annexes Reference List.docx
7/23/2019	SMPP Monitoring Report Reference List.docx
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7/23/2019	10 Using ecosystem services information to make recommendations for sustainable land use planning at the province and district level-GreenVisionSumatra.pdf
7/23/2019	11 Spatial Prediction of Soil Attributes Using Terrain Analysis and Climate Regionalisation - Böhner, J & Selige, T.pdf
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7/23/2019	17 Brown - 2014 - SDMtoolbox a python-based GIS toolkit for landscape genetic, biogeographic and species distribution model analyses.pdf
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7/23/2019	2 Pendugaan Kandungan Karbon pada Acacia crassiparva di Hutan Rawa Gambut (Studi Kasus di IUPHHK-HT PT . RAPP , Kabupaten Pelalawan).pdf

7/23/2019	20 IPCC AR5 Synthesis Report CC Box 3.2 Table 1 - Contribution of Working Groups I, II and III to the Fifth Assessment Report (AR5) of the Intergovern.pdf
7/23/2019	21 Biodiversity monitoring in developing countries what are we trying to achieve.pdf
7/23/2019	22 Pembangunan Kehutanan Dalam RPJMN 2015-2019.pdf
7/23/2019	23 Devisscher et al. - 2016 - Increased Wildfire Risk Driven by Climate and Development Interactions in the Bolivian Chiquitania, Southern Amazonia.pdf
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7/23/2019	25 Dommain, Couwenberg, Joosten - 2010 Hydrological self-regulation of domed peatlands in south-east Asia and consequences for conservation and restoration.pdf
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7/23/2019	69 The HCS Approach Toolkit 2017 - Putting no Deforestation into Practice.pdf
7/23/2019	7. Advances and applications of occupancy models.pdf
7/23/2019	70 Tacconi - 2015 - Fires in Indonesia causes, costs and policy implications.pdf
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7/23/2019	72 The World Bank - Vulnerability, risk reduction and adaptation to Climate change Indonesia.pdf
7/23/2019	73 Thomason - 2015 - Modeling burn probability A MaxEnt approach to estimating California's wildfire potential.pdf
7/23/2019	74 AR Calculation of the number of sample plots.pdf
7/23/2019	75 AR Large scale Consolidated except wetlands.pdf

7/23/2019	76 UNFCCC- AR Methodological tool - Combined tool to identify the baseline scenario and demonstrate additionality in AR CDM Project Activities.pdf
7/23/2019	77 Climate Risk and Adaptation Country Profile-Vulnerability, risk reduction and adaptation to Climate change Indonesia.pdf
7/23/2019	78 USAID - Indonesia climate vulnerability profile.pdf
7/23/2019	79 Modelling the spatial variability of wildfire susceptibility in Honduras using remote sensing and geographical information systems.pdf
7/23/2019	8 Ballhorn et al. - 2009 - Derivation of burn scar depths and estimation of carbon emissions with LIDAR in Indonesian peatlands.pdf
7/23/2019	80 Reducing forestry emissions in Indonesia - CIFOR.pdf
7/23/2019	81 VCS Standard Version 3.pdf
7/23/2019	82 VM0007 REDD+ Methodology Framework (REDD-MF) (v.1.5).pdf
7/23/2019	83 Creating a Lowland and Peatland Landscape DTM from Interpolated Partial Coverage LiDAR Data for Central Kalimantan and East Sumatra.pdf
7/23/2019	84 Wang et al. An Iterative and Targeted Sampling Design Informed.pdf
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7/23/2019	91 Land cover distribution in the peatlands of Peninsular Malaysia, Sumatra and Borneo in 2015 with changes since 1990.pdf
7/23/2019	92 USAID Atlas Climate Risk Profile Indonesia.pdf
7/23/2019	93 Peraturan Presiden Republik Indonesia Nomor 1 Tahun 2016- 2012 Tentang Badan Restorasi Gambut.pdf
7/26/2019	Public Comments on SMPP by Katingan Mentaya Project.pdf
7/26/2019	Public Comments on the Sumatra Merang Peatland Project Final.docx
2019-08-05 from lab	Hasil analisa PT Forest Carbon.pdf
8/27/2019	99. Submitted.zip
8/27/2019	DTM_quality_20190827.docx
8/27/2019	Fire_risk_and_occurrence_20190827.docx
8/27/2019	GWR_Peat_Depth_model_2019_0827.docx
8/27/2019	Hydrological_Modeling_20190827.docx
8/27/2019	Land_cover_Accuracy_Assessment_20190827.docx
8/27/2019	PD technical workflow 20190827b.pptx
8/27/2019	VO19026_00_VCS_Preliminary Round1 Findings_Response_SP_20190821.xlsx



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9/23/2019	0. SMPP Public Comments Response File List.docx
9/23/2019	Public Comments on SMPP by Katingan Mentaya Project.pdf
9/23/2019	Public Comments on the Sumatra Merang Peatland Project Final.docx
9/23/2019	Inpres 10_2011 eng.docx
9/23/2019	Inpres 6_2017_eng.docx
9/23/2019	Inpres 8_2015 eng.docx
9/23/2019	Letter of Attestation Moratorium Final 20190821.pdf
9/23/2019	Letter Musi Banyuasin Translation.docx
9/23/2019	Overview of the MRPP Decision Letter.docx
9/23/2019	P_68_2008.pdf
9/23/2019	Carbon Storage and Sequestration License 2013.pdf
9/23/2019	Carbon Storage and Sequestration License 2013.pdf
9/23/2019	Permanent Concession Boundary Marking 2018.pdf
9/23/2019	SMPP Zoning Overview.docx
9/23/2019	1013.png
9/23/2019	1014.png
9/23/2019	WALHI Sumsel - Standpoint Statement.pdf
9/23/2019	Letter of Attestation Peatland 20190823 signed.pdf
9/23/2019	Carbon Storage and Sequestration License 2013.pdf
9/23/2019	KLHK-Pengendalian Kebakaran Hutan.pdf
9/23/2019	Laporan Semester PT. GAL periode Januari - Juni 2016.pdf
9/23/2019	Laporan Tahunan PT. GAL periode Januari - Desember 2016.pdf
9/23/2019	Laporan Triwulan PT. GAL periode Januari - Maret 2017.pdf
9/23/2019	Laporan Triwulan PT. GAL periode Juli - September 2016.pdf
9/23/2019	Penyampaian laporan GAL 20161010.jpg
9/23/2019	Penyampaian laporan GAL 20170403.jpg
9/23/2019	Start Date Overview.docx
9/23/2019	SMPP_Project_Area.kml
10/1/2019	0. SMPP CCB Response File List.docx
10/1/2019	0. SMPP VCS Response File List.docx
10/1/2019	0. SMPP CCB Response File List.docx
10/1/2019	2. CCB Responses.zip
10/1/2019	VO19026_Sumatra Merang_CCB_NCR Round1_Final_20190812 - FC 20190930 Clean.docx
10/1/2019	Althelia - SMPP Investment Confirmation Letter.pdf
10/1/2019	Ecosphere plus - Credit Marketing Capacity.pdf
10/1/2019	SMPP 5 Years Althelia Investment Budget.xlsx
10/1/2019	Agency Agreement - 27.10.2017.pdf
10/1/2019	Loan Agreement - 27.10.2017.pdf
10/1/2019	Project Agreement - 27.10.2017.pdf
10/1/2019	01a. Amandemen Belantara dan Buminusa_Konsorsium Merang Kepayang.pdf

10/1/2019	Call Option Agreement with Belantara 20170410.pdf
10/1/2019	Letter of Intent - Ecosphere .pdf
10/1/2019	Letter of intent Signed 20181009.pdf
10/1/2019	Onsale Agreement - Ecosphere+ and L'Oreal.pdf
10/1/2019	Althelia NPV v2.xlsx
10/1/2019	Map 8. SMPP Project Zone_inset.png
10/1/2019	Lightweight Fire Extinguisher.docx
10/1/2019	SOP First Aid in the Camp.docx
10/1/2019	SOP Forest Fire Prevention and Control.docx
10/1/2019	SOP Forest Protection and Security.docx
10/1/2019	Alat Pemadam Api Ringan.docx
10/1/2019	Penanganan Pertama Pada Kecelakaan.docx
10/1/2019	Pencegahan dan Pengendalian Kebakaran Hutan.docx
10/1/2019	Perlindungan dan Pengamanan Hutan.docx
10/1/2019	Respons Penanganan Pembalakan Liar.docx
10/1/2019	Grievance Redressal Mechanism - EN.doc
10/1/2019	Grievance Redressal Mechanism - ID.doc
10/1/2019	No Grievance Statement.pdf
10/1/2019	1. Equator Group Althelia - Main Standard Operating Procedure_draft_July 2nd 2018.docx
10/1/2019	2. Equator Group Althelia Project - Recording and Reporting funds usage in QB Althelia.docx
10/1/2019	EG Financial Statements FYE2018 Final.pdf
10/1/2019	Balance Sheet GAL 2018.pdf
10/1/2019	Profit & Loss GAL 2018.pdf
10/1/2019	Carbon Storage and Sequestration License 2013.pdf
10/1/2019	Permanent Concession Boundary Marking 2018.pdf
10/1/2019	Business License Recommendation Governor of South Sumatra.pdf
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10/1/2019	Carbon Storage and Sequestration License.pdf
10/1/2019	Revegetation Plan 20190820.docx
10/1/2019	1. SMPP PD Submission Version Final 20190524c.pdf
10/1/2019	2. SMPP Monitoring Report Final 20190530.pdf
10/1/2019	3. Revegetation Plan 20190820.docx
10/1/2019	1. SMPP PD Submission Version Final 20190524c.pdf
10/1/2019	2. SMPP Monitoring Report Final 20190530.pdf
10/1/2019	Waste Management SOP.docx
10/1/2019	2. Biodiversity Monitoring Plan Quick Reference Table.xlsx
10/1/2019	0. SMPP VCS Response File List.docx
10/1/2019	1. VCS Responses.zip

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10/1/2019	VCS Audit Findings 20190907 - FC 20191001.xlsx
10/1/2019	SMPP_Project_Area.kml
10/1/2019	PT GAL Carbon Storage and Sequestration License - PANRAP KARBON 2013.pdf
10/1/2019	PT GAL Concession Boundary Marking 2018.pdf
10/1/2019	GHG Credit Eligibility.docx
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10/1/2019	Abdul Haris 201705.pdf
10/1/2019	Achmad Susilo 2019.pdf

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10/1/2019	Jeffrey Chatellier 20190912.pdf
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10/1/2019	Ophelia Wang 201909.pdf
10/1/2019	Riza Suarga 20181205.pdf
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10/1/2019	Table Natural Risks Geologic.docx
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10/9/2019	GHG Credit Eligibility.docx
10/9/2019	Carbon Storage and Sequestration License 2013.pdf
10/9/2019	KLHK-Pengendalian Kebakaran Hutan.pdf
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10/9/2019	Grievance Redressal Mechanism - ID.doc
10/9/2019	No Grievance Statement.pdf

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10/9/2019	2. Equator Group Althelia Project - Recording and Reporting funds usage in QB Althelia.docx
10/9/2019	EG Financial Statements FYE2018 Final.pdf
10/9/2019	Balance Sheet GAL 2018.pdf
10/9/2019	Profit & Loss GAL 2018.pdf
10/9/2019	Matnur - Delivery Receipt of Goods.pdf
10/9/2019	MoM Matnur 20190904.docx
10/9/2019	Carbon Storage and Sequestration License 2013.pdf
10/9/2019	Permanent Concession Boundary Marking 2018.pdf
10/9/2019	Business License Recommendation Governor of South Sumatra.pdf
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10/9/2019	Spreadsheet for table 51 & 53_20190927.xlsx
10/9/2019	Strata Change Summary, v9A.xlsx

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10/9/2019	Revised_dams_199blocks.prj
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11/14/2019	10_final_baseline_dissolve.dbf
11/14/2019	10_final_baseline_dissolve.prj
11/14/2019	10_final_baseline_dissolve.sbn
11/14/2019	10_final_baseline_dissolve.sbx
11/14/2019	10_final_baseline_dissolve.shp
11/14/2019	10_final_baseline_dissolve.shp.xml
11/14/2019	10_final_baseline_dissolve.shx
11/14/2019	3.2.1.3.zip
11/14/2019	File List.xlsx
11/14/2019	SMPP Annexes Monitoring Report Final 20191114.docx
11/14/2019	SMPP Annexes Monitoring Report Final 20191114.pdf
11/14/2019	SMPP Monitoring Report Final 20191114.docx
11/14/2019	SMPP Monitoring Report Final 20191114.pdf
11/14/2019	SMPP Combined Annexes Submission Version Final 20191114.docx
11/14/2019	SMPP Combined Annexes Submission Version Final 20191114.pdf
11/14/2019	SMPP PD Submission Version Final 20191114.docx
11/14/2019	SMPP PD Submission Version Final 20191114.pdf
11/14/2019	MR_Tables_revised_20191029.xlsx
11/14/2019	PD_Tables_20191028.xlsx
11/14/2019	Emission Factors_20191101.xlsx
11/14/2019	PDT_max_year_BSL.csv
11/14/2019	PDT_max_year_BSL_end.csv
11/14/2019	Spreadsheet for ARR calculations_20190924.xlsx
11/14/2019	Spreadsheet for Baseline CO2-CH4 emission_20191028.xlsx
11/14/2019	Spreadsheet for Table 33 (burn_LUC_end_summary_area)_20191028.xlsx
11/14/2019	Spreadsheet for table 51 & 53_20190927.xlsx
11/14/2019	Strata Change Summary, v9A.xlsx
11/14/2019	Uncertainty_20191101.xlsx
11/14/2019	Baseline WRC area calculations that incorporates PDT_20190927.R
11/14/2019	Emissions from peat burning calculation_20171028.R
11/14/2019	PDT Calculations GAL_20190926.R

11/14/2019	Project emission from peat oxidation calculation_20191028.R
11/14/2019	burn_drain_matrix_final_20190926.csv
11/14/2019	ID_Fire_WLT_20190926.csv
11/14/2019	PDT_max_year_end.csv
11/14/2019	PRJ_emission_oxidation_20190926.csv
11/14/2019	PRJ_WTL_Effectiveness_20190926.csv
11/14/2019	YEAR01.csv
11/14/2019	YEAR02.csv
11/14/2019	YEAR03.csv
11/14/2019	YEAR04.csv
11/14/2019	YEAR05.csv
11/14/2019	YEAR06.csv
11/14/2019	YEAR07.csv
11/14/2019	YEAR08.csv
11/14/2019	YEAR09.csv
11/14/2019	YEAR10.csv
11/14/2019	YEAR11.csv
11/14/2019	YEAR12.csv
11/14/2019	YEAR13.csv
11/14/2019	WTL0to5_FireID_DrainStatus_Eff_Calc_20190926.xlsx
11/14/2019	YEAR00.csv
11/14/2019	YEAR01.csv
11/14/2019	YEAR02.csv
11/14/2019	YEAR03.csv
11/14/2019	YEAR04.csv
11/14/2019	YEAR05.csv
11/14/2019	YEAR06.csv
11/14/2019	YEAR07.csv
11/14/2019	YEAR08.csv
11/14/2019	YEAR09.csv
11/14/2019	YEAR10.csv
11/14/2019	YEAR11.csv
11/14/2019	YEAR12.csv
11/14/2019	YEAR13.csv
11/14/2019	LC_2016.cpg
11/14/2019	LC_2016.dbf
11/14/2019	LC_2016.prj
11/14/2019	LC_2016.sbn
11/14/2019	LC_2016.sbx
11/14/2019	LC_2016.shp
11/14/2019	LC_2016.shp.xml

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11/14/2019	LC_2016.shx
11/14/2019	Carbon Stock Difference.lyr
11/14/2019	Carbon Stock in Baseline Scenario.lyr
11/14/2019	Carbon Stock in Project Scenario.lyr
11/14/2019	final_peat_decrease_100years.cpg
11/14/2019	final_peat_decrease_100years.dbf
11/14/2019	final_peat_decrease_100years.prj
11/14/2019	final_peat_decrease_100years.sbn
11/14/2019	final_peat_decrease_100years.sbx
11/14/2019	final_peat_decrease_100years.shp
11/14/2019	final_peat_decrease_100years.shp.xml
11/14/2019	final_peat_decrease_100years.shx
11/14/2019	Initial_yr1to5_indrain_WTLID_fireID_join.cpg
11/14/2019	Initial_yr1to5_indrain_WTLID_fireID_join.dbf
11/14/2019	Initial_yr1to5_indrain_WTLID_fireID_join.prj
11/14/2019	Initial_yr1to5_indrain_WTLID_fireID_join.sbn
11/14/2019	Initial_yr1to5_indrain_WTLID_fireID_join.sbx
11/14/2019	Initial_yr1to5_indrain_WTLID_fireID_join.shp
11/14/2019	Initial_yr1to5_indrain_WTLID_fireID_join.shp.xml
11/14/2019	Initial_yr1to5_indrain_WTLID_fireID_join.shx
11/14/2019	Baseline_Scenario_Iteration18_Final.cpg
11/14/2019	Baseline_Scenario_Iteration18_Final.dbf
11/14/2019	Baseline_Scenario_Iteration18_Final.prj
11/14/2019	Baseline_Scenario_Iteration18_Final.sbn
11/14/2019	Baseline_Scenario_Iteration18_Final.sbx
11/14/2019	Baseline_Scenario_Iteration18_Final.shp
11/14/2019	Baseline_Scenario_Iteration18_Final.shp.xml
11/14/2019	Baseline_Scenario_Iteration18_Final.shx
11/14/2019	Strata Change Summary, v9B (Iteration 18).xlsx
11/22/2019	Final Revision Tracker 20191121b.xlsx
11/22/2019	File List.xlsx
11/22/2019	MR_Tables_revised_20191108.xlsx
11/22/2019	PD_Tables_20191108.xlsx
11/22/2019	MR_Tables_revised_20191108.xlsx
11/22/2019	Emission Factors_20191101.xlsx
11/22/2019	PDT_max_year_BSL.csv
11/22/2019	PDT_max_year_BSL_end.csv
11/22/2019	Spreadsheet for ARR calculations_20190924.xlsx
11/22/2019	Spreadsheet for Baseline CO2-CH4 emission_20191028.xlsx
11/22/2019	Spreadsheet for Table 33 (burn_LUC_end_summary_area)_20191028.xlsx
11/22/2019	Spreadsheet for table 51 & 53_20190927.xlsx

11/22/2019	Strata Change Summary, v9A.xlsx
11/22/2019	Uncertainty_20191101.xlsx
11/22/2019	MR_Tables_revised_20191029.xlsx
11/22/2019	PD_Tables_20191028.xlsx
11/22/2019	Baseline WRC area calculations that incorporates PDT_20190927.R
11/22/2019	Emissions from peat burning calculation_20171028.R
11/22/2019	PDT Calculations GAL_20190926.R
11/22/2019	Project emission from peat oxidation calculation_20191028.R
11/22/2019	burn_drain_matrix_final_20190926.csv
11/22/2019	ID_Fire_WLT_20190926.csv
11/22/2019	PDT_max_year_end.csv
11/22/2019	PRJ_emission_oxidation_20190926.csv
11/22/2019	PRJ_WTL_Effectiveness_20190926.csv
11/22/2019	YEAR01.csv
11/22/2019	YEAR02.csv
11/22/2019	YEAR03.csv
11/22/2019	YEAR04.csv
11/22/2019	YEAR05.csv
11/22/2019	YEAR06.csv
11/22/2019	YEAR07.csv
11/22/2019	YEAR08.csv
11/22/2019	YEAR09.csv
11/22/2019	YEAR10.csv
11/22/2019	YEAR11.csv
11/22/2019	YEAR12.csv
11/22/2019	YEAR13.csv
11/22/2019	WTL0to5_FireID_DrainStatus_Eff_Calc_20190926.xlsx
11/22/2019	YEAR00.csv
11/22/2019	YEAR01.csv
11/22/2019	YEAR02.csv
11/22/2019	YEAR03.csv
11/22/2019	YEAR04.csv
11/22/2019	YEAR05.csv
11/22/2019	YEAR06.csv
11/22/2019	YEAR07.csv
11/22/2019	YEAR08.csv
11/22/2019	YEAR09.csv
11/22/2019	YEAR10.csv
11/22/2019	YEAR11.csv
11/22/2019	YEAR12.csv
11/22/2019	YEAR13.csv

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Appendix D

11/22/2019	LC_2016.cpg
11/22/2019	LC_2016.dbf
11/22/2019	LC_2016.prj
11/22/2019	LC_2016.sbn
11/22/2019	LC_2016.sbx
11/22/2019	LC_2016.shp
11/22/2019	LC_2016.shp.xml
11/22/2019	LC_2016.shx
11/22/2019	Carbon Stock Difference.lyr
11/22/2019	Carbon Stock in Baseline Scenario.lyr
11/22/2019	Carbon Stock in Project Scenario.lyr
11/22/2019	final_peat_decrease_100years.cpg
11/22/2019	final_peat_decrease_100years.dbf
11/22/2019	final_peat_decrease_100years.prj
11/22/2019	final_peat_decrease_100years.sbn
11/22/2019	final_peat_decrease_100years.sbx
11/22/2019	final_peat_decrease_100years.shp
11/22/2019	final_peat_decrease_100years.shp.xml
11/22/2019	final_peat_decrease_100years.shx
11/22/2019	Initial_yr1to5_indrain_WTLID_fireID_join.cpg
11/22/2019	Initial_yr1to5_indrain_WTLID_fireID_join.dbf
11/22/2019	Initial_yr1to5_indrain_WTLID_fireID_join.prj
11/22/2019	Initial_yr1to5_indrain_WTLID_fireID_join.sbn
11/22/2019	Initial_yr1to5_indrain_WTLID_fireID_join.sbx
11/22/2019	Initial_yr1to5_indrain_WTLID_fireID_join.shp
11/22/2019	Initial_yr1to5_indrain_WTLID_fireID_join.shp.xml
11/22/2019	Initial_yr1to5_indrain_WTLID_fireID_join.shx
11/22/2019	Baseline_Scenario_Iteration18_Final.cpg
11/22/2019	Baseline_Scenario_Iteration18_Final.dbf
11/22/2019	Baseline_Scenario_Iteration18_Final.prj
11/22/2019	Baseline_Scenario_Iteration18_Final.sbn
11/22/2019	Baseline_Scenario_Iteration18_Final.sbx
11/22/2019	Baseline_Scenario_Iteration18_Final.shp
11/22/2019	Baseline_Scenario_Iteration18_Final.shp.xml
11/22/2019	Baseline_Scenario_Iteration18_Final.shx
11/22/2019	Strata Change Summary, v9B (Iteration 18).xlsx
11/22/2019	SMPP Annexes Monitoring Report Final 20191114.docx

11/22/2019	SMPP Annexes Monitoring Report Final 20191114.pdf
11/22/2019	SMPP Monitoring Report Final 20191121.docx
11/22/2019	SMPP Monitoring Report Final 20191121.pdf
11/22/2019	SMPP Monitoring Report Final 20191114.docx
11/22/2019	SMPP Monitoring Report Final 20191114.pdf
11/22/2019	SMPP Combined Annexes Submission Version Final 20191114.docx
11/22/2019	SMPP Combined Annexes Submission Version Final 20191114.pdf
11/22/2019	SMPP PD Submission Version Final 20191121.docx
11/22/2019	SMPP PD Submission Version Final 20191121.pdf
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11/22/2019	SMPP PD Submission Version Final 20191114.pdf
11/22/2019	._R Scripts and input data
11/22/2019	._Raw data
11/22/2019	._MR_Tables_revised_20191029.xlsx
11/22/2019	._PD_Tables_20191028.xlsx
11/22/2019	._SMPP Annexes Monitoring Report Final 20191114.docx
11/22/2019	._SMPP Monitoring Report Final 20191121.docx
11/22/2019	._SMPP Monitoring Report Final 20191114.docx
11/22/2019	._SMPP Combined Annexes Submission Version Final 20191114.docx
11/22/2019	._SMPP PD Submission Version Final 20191121.docx
11/22/2019	._SMPP PD Submission Version Final 20191114.docx
11/25/2019	SMPP Monitoring Report Final 20191125
11/25/2019	SMPP PD Submission Version Final 20191125
11/26/2019	SMPP Summary Monitoring Report English 20191126
11/26/2019	Summary Monitoring Report Indonesian 20191126
11/26/2019	SMPP Summary PD English 20191126
11/26/2019	SMPP Summary PD Indonesian 20191126
11/26/2019	MR_Tables_revised_20191108
11/26/2019	PD_Tables_20191108
11/26/2019	SMPP Annexes Monitoring Report Final 20191126
11/26/2019	SMPP PD Submission Version Final 20191125

