SUMMARY OF PUBLIC CONSULTATION

VM0047 Afforestation, Reforestation, and Revegetation, v1.1

A draft of *VM0047 Afforestation, Reforestation, and Revegetation, v1.1* was open for public consultation between May 23, 2024 and June 24, 2024. This document includes a list of all comments received for the proposed methodology revision and the developer's response.

GENERAL FEEDBACK

Section 2 - Summary Description of the Methodology

Section 2 - Summary Description of the Methodology			
#	Organization	Comment	Developer's Response
1	Shell	We support allowing area based approach to take place within existing forests to enhance carbon stocks, this may be harder to quantify using SI due to the existing forests and clarification would be welcome how Verra proposes to measure SI in enhancing existing forests.	Thank you for the comment. VM0047 v1.1 expands applicability of the area-based approach to include activities that enhance carbon stocks within existing forests not managed for wood products in the past 10 years (Section 4.2). Section 8.2.1.2 clarifies that in all area-based projects — including those in existing forests — the stocking index (SI) must demonstrate a significant correlation with aboveground biomass (AGB). The methodology requires project proponents to establish this relationship using remote sensing approaches appropriate to the forest structure (Appendix 1, Section A1.4). We acknowledge that SI detection in existing forests may

Section 2 - Summary Description of the Methodology			
#	Organization	Comment	Developer's Response
			present challenges due to lower sensitivity of remote sensing indices in closed-canopy or mature forests. However, the methodology currently allows flexibility for proponents to select the most appropriate SI metric. Additional clarification on recommended SI selection methods and remote sensing approaches will be considered in the next major revision of VM0047.
2	Shell	We support leakage being set at 0 for census based approach	Thank you for the comment. VM0047 v1.1 sets leakage (LK_t) to zero for projects applying the census-based approach (Section 8.4), consistent with the applicability conditions in Section 4.3 which require maintenance of pre-project land use (e.g., continued agricultural production) and limit planting density to avoid land use displacement.
3	Intellecap Advisory Services	How to combine both area and census based methodology in the same project	Thanks for your question. VM0047 v1.1 allows the combination of area-based and census-based approaches within the same project, provided they are applied to non-overlapping areas (Section 4.1(2), and Section 5).
4	EP Cabon	The methodology provides a summary stating "The methodology provides two quantification approaches: area-based and census based. It applies to afforestation, reforestation, and revegetation (ARR) activities: that establish, increase, or restore vegetative cover in non-forest areas (both approaches) and activities that enhance forest carbon stocks in existing forests (area-based approach: only)."	Thank you for the comment. In VM0047 v1.1, the area-based approach for existing forests requires quantification of carbon stock changes using the stock difference method — meaning removals are generated from the difference between the carbon stock at the start of the project (t=0) and subsequent measurements (Section 8.2.1.1). This includes biomass growth from both pre-existing trees (standing biomass at t=0), and new biomass (planted or naturally regenerated) established due to project activities. There is no methodological restriction limiting crediting only to new trees or biomass released solely because of project interventions. However, any

Section 2 - Summary Description of the Methodology

#	Organization	Comment	Developer's Response
		For the methodology being applied to non-managed existing forests for carbon stock enhancement, the methodology does not clarify whether removals are only to be generated by woody biomass that is new (or released) due to the project activity or if removals are also generated from growth in trees existing before the project activity. We ask that the methodology developer clarify this subject.	biomass already existing at t=0 is part of the stock change calculation — meaning only incremental growth from that starting value is creditable. This approach is consistent with the VCS Program rules and ensures that the project is credited only for additional carbon sequestration beyond the pre-project baseline condition. Additionally, projects must be matched to control plots with similar starting conditions. As such the project intervention must outperform the dynamic baseline set with control that have similar starting condition. Please refer to Appendix A1 of VCS Standard 4.7, and also refer the definitions related to ARR in the VCS Program Definitions.
5	Cirrus	The explanation of project boundaries in Section 2 (paragraph 2c), Section 4 (paragraph 11) and Section 5 (page 12), may be confusing. Whereas, in a census-based approach, biomass is estimated per planting unit not per unit area, is the project boundary defined by the individual planting units or by the boundary of the project instance in which trees are located (that are monitored using a census-based approach)? Reading paragraph 2c, the project boundary is defined by the individual planting units / trees. Why would one then have an additional "project instance" boundary? If an additional "project instance" boundary needs to be defined, how far can trees be apart within an instance? And why would one establish tree boundaries (using the 10-meter radius buffer), project instance boundaries, as well as a greater project	Thanks for your questions. In VM0047 v1.1, for census-based projects, biomass is quantified per planting unit, but project proponents must also define instance boundaries for administrative and applicability condition purposes. We have clarified that the 10-meter buffer is not require between planting units within the same instance. Rather is serves as a buffer to prevent double counting of trees in adjacent instances. Please refer to section 4.3 (Census-based approach applicability conditions) and to the updated section 5.2 (Project Boundary) under census based approach.

Section 2 - Summary Description of the Methodology

#	Organization	Comment	Developer's Response
		boundary? More guidance on this topic would be helpful.	
6	Cirrus	Section 2, 2a, p6. Include Silvo-pastoral. Silvo-pastoral practices refer to the integrated management and use of trees, and pastureland for the simultaneous production of wood, forage, and livestock.	Thanks for the comment. While silvo-pastoral practices — the integration of trees, forage, and livestock — are not explicitly listed, these systems are generally considered applicable under the methodology if they meet the general applicability condition of increasing vegetative cover and comply with the requirements of either the area-based or census-based approach (e.g., direct planting, appropriate stratification, and monitoring).
7	Cirrus	Section 2, 2a, p6.. This is a country specific definition. Please refer to Section 4. Applicability conditions, point 13. Contradiction with 10% statement	Refer to updated definition of 'Forest' added in the definitions section.
8	Cirrus	Section 2, 2b, p6.Why? In a silvo-pastoral area, once herbivory exclosures are included to promote Assisted Natural Regeneration (ANR). The census-based approach is predicated on the fact that a census of individual Planting Units can be identified and assigned unique co-ordinate's. Trees that resprout, coppice or reshoot in protected silvo-pastoral areas can easily be identified. In the listed project, Under Development (ID4481) on 22 July 2023 developed by GEA in the Project Area of Baringo and Kitui County, Kenya approximately 80% of the area of 32,500 ha in a patchwork mosaic of farmsteads will entail ANR in silvo-pastoral conditions. Tree	Sections 1.2 (summary of census-based approach) and Section 4.3 (Census-based approach applicability conditions) clearly state that the census-based approach is applicable only where project activities involve direct planting of woody biomass. Under current rules, the scenario presented would probably have to use the area-based approach because the biomass increase is driven by natural regeneration, regardless of how sparse or identifiable.

Section 2 - Summary Description of the Methodology			
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		regeneration stocking/density will not exceed 250 trees per hectare and can easily be measured by GPS. Suggest defining individually regenerated trees as Regenerated Units	
9	Cirrus	Section 2, 2c, p6.This requires clarification as it confusing. e.g., A Planting Unit is an individual tree. A number of Planting Units such as a boundary planting or shelterbelt would construe a Project Activity Instance ("A particular set of implemented technologies and/or measures that constitute the minimum unit of activity necessary to comply with the criteria and procedures applicable to the project activity under the methodology applied to the project" - VCS Pgm Definitions v4.4) . Suggest: Scales biomass of Planting Units within Project Instances to the project level using a complete census of planting units. Suggest: Scales biomass of Planting Units or Regenerative Units within Project Instances to the project level using a complete census of planting units.	A Planting Unit in the census-based approach is defined as an individual tree, shrub, or bamboo clump. A group of Planting Units managed together (e.g., a shelterbelt, boundary row, or agroforestry system) would align with the Project Activity Instance definition in the VCS Program: "*A particular set of implemented technologies and/or measures that constitute the minimum unit of activity necessary to comply with the criteria and procedures applicable to the project activity under the methodology applied to the project*". In VM0047, the project-level carbon stock is calculated by scaling the average biomass per planting unit across all planting units (parameter N) within a census-based project instance.
10	American Forest Foundation	We support the clarification of VM0047's applicability to ARR activities on existing forests. We believe this will unlock scaling project activities that previously could not accurately be quantified by other VCS methodologies.	Thanks for the note

Section 3 - Definitions

Section 3 - Definitions			
#	Organization	Comment	Developer's Response
11	Shell	The definition for managed forest should be excluded and made the same as existing forest on page 5 so that there is no confusion where area based can be applied, IFM methodologies rules out some ARR enrichment activities and allowing some enrichment in managed forests would close this loop hole	Thank you for the comment. VM0047 v1.1 defines "managed forests" in Section 3 as forest lands actively managed for wood products (e.g., timber, pulp, fuelwood), and excludes projects using the area-based approach from being applied in such areas within the past 10 years (Section 4.4.1). This is intended to maintain a clear delineation between ARR and IFM methodologies under the VCS Program (per VCS Standard v4.7, Section 3.2.1). The methodology does not currently allow the area-based approach within managed forests as defined, to avoid overlap with IFM applicability. Your suggestion to align the definition of managed forest with existing forest to expand ARR applicability for enrichment planting in previously managed areas will be considered in the next major revision of VM0047 for potential clarification or alignment across methodologies.
12	Atmosphere Alternative	Each of the definitions is better explained, especially the pre-existing woody biomass, and the definition of site preparation important for management, it would be important to mention some conventional types of preparation generally used for plantation establishment.	Thank you for the comment. VM0047 v1.1 indeed improves clarity of key definitions, including "pre-existing woody biomass" and "site preparation" (Section 3), which are critical for ensuring consistent project implementation and management. Currently, "site preparation" is defined broadly as activities undertaken prior to planting that remove or disturb pre-existing biomass or soil. As the methodology covers various land use types this was intentionally kept open.

Section 3 - Definitions

#	Organization	Comment	Developer's Response
13	Varaha ClimateAG Pvt. Ltd.	Stock Indices - NDFI is a good indicator for one time assessment and also for forest. When it comes to plantation, due to multiple factors NDFI couldn't able to produce the best results. For Stock index calculation, we could use index or features such as FPAR, NPP or Biomass proxy as a parameter.	Stocking index (SI) is defined as an unspecified remote sensing metric with demonstrated correlation with terrestrial aboveground carbon stocks (e.g., normalized difference fraction index from Landsat imagery, average canopy height derived from light detection and ranging (LiDAR)). VM0047 v1.1, Appendix 1 (Section A1.4) allows flexibility in selecting the Stocking Index (SI) used for area-based quantification, provided it meets the core requirement of demonstrating a statistically significant correlation with terrestrial aboveground biomass (AGB) in the project ecoregion. The methodology explicitly allows project proponents to select any remote sensing-derived metric (or combination of metrics) — such as FPAR (Fraction of Photosynthetically Active Radiation), NPP (Net Primary Productivity), or other biomass proxies — for SI calculation, provided the PP explains detailed explanation about the selected stock indices in the project description report.
14	EP Cabon	Pre-existing woody biomass is defined as "Woody biomass, including aboveground, belowground, and dead wood in the project area prior to the project implementation"

Woody biomass is later defined as "Biomass in plants with hard, lignified stems (e.g., trees, shrubs, palms, and bamboo)"

The definition for woody biomass does not explicitly state whether the "woody biomass" is required to be alive, however quantification in the methodology infers it | Thanks for your comment. In this new version of VM0047, pre-existing woody biomass is defined as " Woody biomass in the project area prior to project implementation, including aboveground, belowground, and deadwood (if included as a relevant pool)". This requires the project to evaluate the significance of deadwood as a pool following Appendix 2. Corresponding equations have been updated to strengthening consistency. |

Section 3 - Definitions

#	Organization	Comment	Developer's Response
		only contains living woody biomass in methodology equation 4. Why would the definition of pre-existing woody biomass include components of biomass that are not included in the definition of woody biomass? Further, the proposed revised methodology states "Pre-existing woody biomass must be measured and extrapolated using Equation (4) at t= 0, immediately prior to initiation of the project activity" on page 22. Equation 4 calculates CWP-woody,t (Average carbon stock in woody biomass in the project scenario in year t (t C/ha)) using the inputs of aboveground woody biomass (CWP-woody-AB,t) and the Root-to-shoot (R). CWP-woody-AB,t only includes live biomass within the parameter table for this variable. This raises an issue as the definition of "pre-existing woody biomass" includes deadwood but the equations used for estimating pre-existing woody biomass do not include any deadwood within them. The methodology should consider removing "Deadwood" from the definition of "pre-existing woody biomass" to avoid being contradictory to the definition of "woody biomass". The methodology is also not explicit to confirm whether measurements	

Section 3 - Definitions

#	Organization	Comment	Developer's Response
		of deadwood at t=0 are a required measurement. If the methodology wishes to include deadwood measurements at t=0, this should be explicitly stated in the methodology instead of needing to infer from (as written currently) contradictory definitions of woody biomass and pre-existing wood biomass. However, it is of my opinion that by mandating measurements of deadwood at t=0, the deadwood pool in table 1 of the methodology needs to updated as the deadwood pool would no longer be "optional".	
15	Cirrus	Section 3: Definitions p.6. Census-based is not defined here or in Programme Definitions v4.4. It is predicated on the ability to identify and measure each Planting Unit	Thanks for the suggestion. Please refer to section 1.2 for a clear definition and summary of the census-based approach
16	Cirrus	Section 3: Definitions. P.7. This may be applicable when you have a contiguous forest block as a Project Area and it is buffered by a 100 km boundary. However this is impractical if the Project Area is defined as an administrative boundary e.g., county, district, province where a Grouped Project occurs and additional instances of the project activity, which meet pre-established eligibility criteria, may be added subsequent to project validation. Please refer to diagram of two Project Areas in Uganda and the impracticality of	Selection donor pool and control plots is a result of multiple parameters defined in the Appendix 1 of the Methodology. We assume that the suggested 100 km buffer shall be sufficient to identify such plots.

Section 3 - Definitions

#	Organization	Comment	Developer's Response
		implementing Control Plots within a Donor Pool Area. In the ARR project (ID4481) we are dealing with a patchwork mosaic of 26 to 40, 000 Project Instances mostly less than 1 ha over a landscape encompassing approximately 789,000ha. This may increase as further instances are added.	
17	American Forest Foundation	We appreciate the additional clarity provided by the added definitions. More clarity is needed for the "managed forests" definition, particularly in clarifying how it aligns with the existing definitions of ARR and IFM in Appendix 1 of both the VCS v4.7 and VCS Methodology Requirements, v4.4, which state: "Note – Tree planting activities on forest lands managed for wood products (i.e., with a forest management plan) are categorized as IFM project activities." Is the "managed forests" definition drafted in VM0047 v1.1 inclusive of the note quoted from VCS v4.7 and VCS Methodology Requirements, v4.4, above? Does a forest without legal restrictions against timber harvest indicate a "managed forest" in VM0047? For example, in the US, forests without such restrictions tend to have been managed for wood products at some point; is there a temporal component to determining a "managed forest"? This could significantly restrict applicability of VM0047 where it could be used to quantify	Thanks for the comment. The definition of managed forests in VM0047 v1.1 is intended to be consistent with existing VCS Program rules. Specifically: a) ARR applies to lands that were non-forest or forest not managed for wood products in the 10 years prior to the project start date; b) IFM applies to pre-existing forest lands managed for wood products (e.g., timber harvesting) — as indicated in VCS Standard v4.7. VM0047 v1.1 applies the 10-year look-back period for determining whether land has been managed for wood products — aligning with VCS Standard v4.7, Section 3.19 (Safeguards for Degraded Ecosystems). Thus, forests without evidence of active management for wood products in the last 10 years — even if historically managed — could be eligible under VM0047 area-based approach.

Section 3 - Definitions

#	Organization	Comment	Developer's Response
		regeneration activities that are not currently feasible in existing VCS methodologies. This will help support clarity on which activities can use VM0047 (because they are ARR) vs. those that cannot (because they are IFM). There are multiple safeguards within VM0047 (financial additionality and the dynamic performance benchmark) that prevent this from being misused by managed forests not in need of climate finance to perform such project interventions.	

Section 4 - Applicability Conditions

Section 4 - Applicability Conditions

#	Organization	Comment	Developer's Response
18	Eden: People+Planet	For the census-based approach, it is necessary to clarify if an area (e.g. 4 ha of future contiguous tree/shrub cover) with the same land-owner can be divided into smaller instances (e.g. 4 instances of 1 ha, the overall future contiguous tree/shrub cover remaining more than 1 ha) so that this area is eligible under this approach.	In the new version of VM0047, the difference between the area and census-based approaches is no longer linked to a specific area size (acreage). In addition to whether there is a land-use change (area-based) or not (census-based), VERRA has implemented a maximum threshold of 50 planting units per hectare to define the threshold between both approaches. Sections 1.1 and 1.2 summarize the characteristics of each approach.
19	Independent Carbon Consultant	According to the applicability condition (9), project activity must not produce	In the new version of VM0047, the difference between the area and census-based approaches is no longer linked to a

Section 4 - Applicability Conditions

#	Organization	Comment	Developer's Response
		continuous tree and/or shrub cover on any contiguous area exceeding one hectare. However, in some cases, the land parcels may be greater than 1 hectare. Suppose in a project activity, 90% plantation is under one hectare, but 10% of land parcels are above 1 hectare. However, for this 10%, the Project Proponent will have to do extra work for area-based approach. Therefore, the condition could be reframed like this - if 80% of land parcels are below 1 ha, then the Project Proponent can follow census-based approach for the rest of 20% land as well.	specific area size (acreage). In addition to whether there is a land-use change (area-based) or not (census-based), VERRA has implemented a maximum threshold of 50 planting units per hectare to define the threshold between both approaches. Sections 1.1 and 1.2 summarize the characteristics of each approach.
20	GreenCollar	A planting unit is defined as "individual woody plants", census-based units can be as much as 0.99 ha, in this area there could be in excess of 1500 trees (planting units) planted. The requirement that all planting units must be "marked with a geolocated GPS waypoint with a 5m accuracy", would be incredibly onerous in this situation. Across a project with smallholders with sites typically less than 1 ha, this could require millions of GPS waypoints. Our suggestion would be to require GPS waypoints for groups of planting units with identification of individual planting units through definition of the planting grid.	In the new version of VM0047, VERRA has implemented a maximum threshold of 50 planting units per hectare to define the threshold between both accounting approaches. Section 4.3 explains the specific conditions for the census-based approach. Where an instance is smaller than one hectare (1 ha), the planting density is scaled proportionally to the size of the instance (e.g., in an instance with a size of 0.50 hectares, no more than 25 planting units may be planted). Regarding the use of GPS points, the census-based approach indicates that individual planting units of woody biomass are clearly defined (e.g., tree, shrub, bamboo clump) and identifiable in the field, and at least one of the following identification approaches must be used: a) GPS points: Project proponents must ensure that the spacing between individual planting units is greater than or equal to the positional accuracy of the Global Positioning System (GPS) units used for geolocating each planting

Section 4 - Applicability Conditions

#	Organization	Comment	Developer's Response
			unit. For example, if the positional accuracy of the GPS is five meters, the minimum spacing between planting units must be greater than or equal to five meters. b) Physical markers: Each planting unit must be marked with a durable, in-field physical identifier bearing a unique ID. These markers must be clearly visible and easily located during verification activities.
21	GreenCollar	The methodology is strong and the majority of changes proposed now are improvements. However, the most significant issue with the methodology remains. This issue is the arbitrary delineation between census-based and area-based sites. A clear value exists for the census-based formulation when applied for example to individual trees around homesteads or lines of trees around homes or fields. However, the methodology makes the arbitrary choice that census-based applies to ALL sites that are less than 1 ha. In low income countries and lower-middle income countries more than 60% of agricultural landholdings are less than 1 ha (Lowder et al. 2016; https://www.sciencedirect.com/science/article/pii/S0305750X15002703). So in this low income country context projects involving smallholders would be obliged to take a census-based approach. This has two real impacts: 1) All such sites are obliged to forego consideration of soil carbon sequestration.	VERRA thank you for the suggestion. In the new version of VM0047, the difference between the area and census-based approaches is no longer linked to a specific area size (acreage). In addition to whether there is a land-use change (area-based) or not (census-based), VERRA has implemented a maximum threshold of 50 planting units per hectare to define the threshold between both approaches. Sections 1.1 and 1.2 summarize the characteristics of each approach.

Section 4 - Applicability Conditions

#	Organization	Comment	Developer's Response
		The large majority will have highly degraded soils and this exclusion profoundly impacts the profitability of a project type which has challenges already due to the large number of farmers and needs to provide strong safeguards and benefit sharing; 2) The applicability condition that the "clearing of pre-existing woody biomass within 10 years of the project start must not have been done to enable the generation of GHG credits" ensures that large numbers of smallholder farms will be stranded and unable to participate in the financial, social and environmental benefits of establishing agroforests or woodlots as part of climate mitigation. Such lands in much of the world have sufficiently poor soils that they have to include fallow periods and fallow periods will almost invariably result in woody biomass cover in scrub and bushes that will cover more than 10% of the area. So the methodology arbitrarily gives benefit to farmers who have cleared fallow in the year prior to discussions on a carbon project and excludes all others. Our suggestion would be either: a) allow an area-based approach to be used for all sites if elected by the developer, this seemingly would have no downside as it would lead to the more stringent requirements on both additionality and accounting; or b) Lower the threshold between census-based and area-	

Section 4 - Applicability Conditions

#	Organization	Comment	Developer's Response
		based to 0.2 ha. In our experience the vast majority of impacted sites are between 0.2 and 0.99 ha.	
22	Shell	Section 7 should not exclude non-native species, it should be clear that non-native species can only be used if there is biodiversity, ecological and social benefits.	Thank you for the comment. VM0047 v1.1 does not explicitly exclude non-native species, but their use is subject to compliance with applicable VCS Program rules, including safeguards (VCS Standard v4.7, Section 3.19). These standard-level guidelines are meant to assure that the use of non-native species must demonstrate that they do not pose a risk of invasive behaviour and must provide environmental, biodiversity, or social benefits.

We agree that clarifying this within VM0047 would improve consistency and transparency. The methodology will continue to defer to the VCS Standard on this matter, and additional clarification on the conditions for using non-native species (i.e., biodiversity, ecological, or social benefits) will be considered in the next major revision of VM0047. |
| 23 | Shell | Section 8 should be changed to include the eligibility of activities of enhancing carbon stocks in existing forests, IFM does not cover all enrichment planting activities so excluding this approach does not allow some ARR activities to take place. Proposed change should be "project activities that enhance carbon stocks with non-commercial species within degraded areas of managed forests shall be permitted. Commercial planting of exotic species shall | Thank you for the comment. Sections 1 (summary description) and 4 (applicability conditions) of VM0047 v1.1 now allows the area-based approach to be applied in existing forests only where the area has not been managed for wood products in the past 10 years. This is intended to avoid overlap with IFM methodologies per VCS Standard v4.7 (Appendix 1 — Eligible AFOLU Project Categories).

The recommendation of distinguishing between non-commercial vs commercial species within degraded lands will be considered for inclusion and further evaluation in the next major revision of VM0047 to ensure clear |

Section 4 - Applicability Conditions

#	Organization	Comment	Developer's Response
		still remain excluded."	guidance on ARR activities in degraded managed forests where IFM methodologies are not applicable.
24	Shell	Section 9 should be incorporated into one section and there should be no minimum size for area based approach regardless of direct planting or indirect establishment.	Thank you for the comment. VM0047 v1.1 currently separates applicability conditions for the area-based and census-based approaches (Sections 4.2 and 4.3). In the new version of VM0047, the difference between the area and census-based approaches is no longer linked to a specific area size (acreage). In addition to whether there is a land-use change (area-based) or not (census-based), VERRA has implemented a maximum threshold of 50 planting units per hectare to define the threshold between both approaches. Sections 1.1 and 1.2 summarize the characteristics of each approach.
25	Shell	Section 10 We are supportive of the removal of the requirement for a physical marker on each planting unit and believe a GPS marker is a step in the right direction however we would like to go further - our recommendation is Individual planting units of woody biomass (such as trees, shrubs, or bamboo clumps) must: a) be clearly defined and identifiable in the field; b) have a unique ID and GPS location. GPS location should be generated by handheld-, smart phone- or drone-mounted GPS, georeferenced photo, 'traditional' mapping survey, RS or GIS-generated map. Accuracy for individual units should aim to be +/- 5m. Planting units that cannot be relocated in the field to this level of accuracy most be treated as assumed	Thank you for the comment. VM0047 v1.1, Section 4.3(6) states that under the census-based approach individual planting units of woody biomass are clearly defined (e.g., tree, shrub, bamboo clump) and identifiable in the field, and at least one of the following identification approaches must be used: a) GPS points: Project proponents must ensure that the spacing between individual planting units is greater than or equal to the positional accuracy of the Global Positioning System (GPS) units used for geolocating each planting unit. For example, if the positional accuracy of the GPS is five meters, the minimum spacing between planting units must be greater than or equal to five meters; b) Physical markers: Each planting unit must be marked with a durable, in-field physical identifier bearing a unique ID. These markers must be clearly visible and easily located during verification activities.

Section 4 - Applicability Conditions

#	Organization	Comment	Developer's Response
		mortality	
26	Atmosphere Alternative	Explain the area-based approach in a specific but not so summarized way, because important explanatory sentences are eliminated.	Thank you for the suggestion. Section 1.1 of VM0047 v1.1 not only provides a summary of the area-based approach (section 1.1) but goes into great detail in sections 4.2 related to applicability conditions under this approach and section 4.4.1 about conditions for exclusion under this approach.
27	Laboratory of Global Forest Environmental Studies, Department of Global Agricultural Sciences, Graduate School of Agricultural and Life Sciences, The University of Tokyo	In 4), definition of "organic soils" is unclear. I can't find it in "Program Definitions v4.5".	Thank you for the comment. Indeed, VM0047 v1.1, Section 4.1(5) refers to "organic soils" but does not define the term within the methodology or in the VCS Program Definitions v4.7. In practice, the term aligns with the IPCC 2019 Guidelines (Volume 4, Chapter 3), where "organic soils" are typically defined based on soil organic carbon content and depth criteria. Any peer reviewed publication or internationally reviewed definition can be used and sufficient evidence shall be provided in the project description document. This clarification will be considered for inclusion in the next major revision of VM0047 to reference the IPCC definition or include a methodology-specific definition for consistency.
28	unique land use GmbH	It is unclear if condition 5) applies exclusively to the dead wood pool. Could you please clarify whether this condition also pertains to pre-existing above-ground biomass (AGB) and below-ground biomass (BGB) carbon pools? The current text states: *"Project activities involve mechanical*	Thank you for the comment. In VM0047 v1.1, Section 5.1(Table 1) specifies that under the Area-based approach Dead wood *"Must be included where the project activity involves removal of dead wood as part of site preparation, or where the project activity significantly reduces the carbon pool as per Appendix 2."*. Pre-existing aboveground biomass (AGB) and belowground biomass (BGB) are addressed separately in Section 8.2.1.2, which allows removal of pre-existing woody biomass (AGB/BGB) under

Section 4 - Applicability Conditions

#	Organization	Comment	Developer's Response
		removal offsite or burning of significant stocks of pre-existing dead wood (e.g., for site preparation). Where project site preparation includes chipping, mastication, or machine piling, all material must remain onsite within the project boundary." This specificity leaves ambiguity regarding the treatment of AGB and BGB carbon pools.	defined conditions (e.g., non-commercial use, proper t=0 stock estimation). This will be considered for clarification in the next major revision of VM0047.
29	unique land use GmbH	The intent of condition 8) seems to be to transition existing plantations to the Improved Forest Management (IFM) approach. There is room for interpretation what the word "actively" means, in some baseline scenarios there might be an abandoned plantations. How long would the plantation need to be abandoned to show its not longer "actively" managed. The current text states: *"Project activities enhance carbon stocks in existing managed forests. Managed forests are <u>managed for wood products</u> under either the baseline scenario or the project scenario."* Please clarify or provide guidance on how this applicability condition should be interpreted in the context of plantations that are not managed actively anymore.	Thank you for the comment. VM0047 v1.1, Section 1 (summary) and 4.4.1 (Area-based approach exclusions) specifies that under the area-based approach only, project activities must enhance forest carbon stocks in areas with existing forest cover that have not been managed for wood products in the past ten years. In general, instances to be considered degraded shall follow the guidance provided both in the methodology and/or VCS Standard 4.7 section 3.19. This will be considered in the next major revision of VM0047 to provide specific guidance for abandoned plantations.

Section 4 - Applicability Conditions			
#	Organization	Comment	Developer's Response
30	unique land use GmbH	The intent of condition 8) seems to be to transition existing plantations to the Improved Forest Management (IFM) approach. It would be beneficial if the condition also explicitly addressed tree plantations that are not actively managed for wood products (e.g., rubber plantations) to make the requirements clearer. The current text states: *"Project activities enhance carbon stocks in <u>existing managed forests</u>. Managed forests are managed for wood products under either the baseline scenario or the project scenario."* Please clarify or provide guidance on how this applicability condition should be interpreted in the context of tree plantations that are not managed for wood products but for non-timber forest products (NTFPs).	We acknowledge that clarification is needed in relation to plantations managed for NTFP. This clarification will be considered in the next major revision of VM0047.
31	unique land use GmbH	Comment on Applicability Conditions 11): The limitation of the census-based approach to areas below 1 hectare causes significant complexity for smallholder projects. Based on our experience with smallholder-based projects, while the majority of parcels are below one hectare, there are often smaller proportions of larger pieces of land (1-30 hectares) that are included, such as	Thanks for your comment. In the new version of VM0047, the difference between the area and census-based approaches is no longer linked to a specific area size (acreage). In addition to whether there is a land-use change (area-based) or not (census-based), VERRA has implemented a maximum threshold of 50 planting units per hectare to define the threshold between both approaches. Sections 1.1 and 1.2 summarize the characteristics of each approach.

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		community land. To avoid increased complexity and additional requirements from the area-based approach, many projects may actively avoid these larger areas. This artificial split based on area size between the two approaches is impractical and disincentivizes restoration efforts on the ground. For smallholder projects, the existing complexity and requirements already pose significant hurdles. Any added complexity increases dependency on external support and financing. Consequently, smaller organizations will struggle to participate or will see reduced benefits due to the lack of scaling advantages. The exclusion of the SOC pool and the requirement to identify every single tree are already deterrents for this approach. The current text states: *"Project or instance area does not exceed one contiguous hectare."* Proposed criteria: "Project or instance area for the census-based approach can be of any size."	
32	unique land use GmbH	In practice, planting holes are often deeper than 25cm. The current applicability approach is not entirely clear regarding	Thank you for the comment. VM0047 v1.1, Section 4.3(9) sets soil disturbance limits for census-based projects — specifying that planting techniques that cause localized

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		whether the digging of planting holes after site preparation (e.g., for re-planting) would be considered soil disturbance. It might be beneficial to include a percentage (%) of the area disturbed, similar to the old CDM tools, in addition to or instead of the disturbance depth. *"Any soil disturbance from the project activity (i.e., from site preparation):* *a) <u>Occurs only once during the project crediting period</u> (i.e., at site preparation; or* *b) Does not involve soil inversion to a <u>depth exceeding 25cm</u> (e.g., that would result from a moldboard plow)."*	soil disturbance, such as pit planting, may exceed a depth of 25 cm.
33	unique land use GmbH	General Comment on Baseline Revision and Switching for ALM Projects: In particular, this concerns large-scale smallholder-based sustainable agricultural land management (ALM) projects transitioning to VM0047 approaches for woody biomass (agroforestry). The current version of VM0042 states that "VCS Methodology VM0047 Afforestation, Reforestation and Revegetation is the recommended methodology for projects cultivating woody biomass as a primary project activity. The woody biomass quantification approach will be updated in a future revision of VM0042 drawing from	Thank you for the comment. This is an important consideration. We agree that the transition from ALM methodologies (with zero-growth baselines) to VM0047 (with area-based performance benchmarks) poses practical challenges, especially for smallholder projects not originally designed with VM0047 applicability conditions in mind. Currently, VM0047 v1.1 does not provide guidance on baseline revision or methodology switching for ALM projects (e.g., VM0017 or VM0042) transitioning to VM0047 approaches for woody biomass quantification, particularly in smallholder agroforestry systems. However, these suggested changes are out of current minor revision scope. We are considering providing guidance on Transition for the projects shifting to VM0047, this shall provide guidance on the use of both approaches for

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		approaches used in VM0047." Many smallholder projects registered under VM0017 or other ALM methodologies require baseline revision after 10 years and must switch to the latest ALM VM0042. Most of these projects have significant agroforestry components, necessitating a switch to VM0047 approaches. This transition poses several challenges: - Projects have implemented an area-based approach for 10 years, despite smallholder areas ranging from <1 ha to >1 ha, where the size of the instances was never a design consideration. - Smallholder baselines were established considering zero stock increase due to degrading land conditions. Introducing VM0047 approaches, such as the area-based baseline benchmark analysis, represents almost a new project design and does not align with the idea of baseline revision. It should be noted that VM0047 was developed for projects not requiring baseline reassessment, making the combination of ALM projects under VM0042 with VM0047 approaches challenging. It is recommended to specifically provide guidance (as part of the revision of both VM0042 and VM0047) for ALM projects that	older/other methodologies.

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		must follow VM0047 approaches for woody biomass. This guidance should clarify which conditions and approaches apply and which do not during the 'switching' process.	
34	Varaha ClimateAG Pvt. Ltd.	The Census-Based Approach may not be ideally suited for mountainous regions like Nepal and Bhutan. In Nepal, for example, the average landholding is only 0.19 hectares, mostly owned by smallholder farmers who face significant challenges due to the severe impact of climate change on agriculture. Carbon finance is crucial in supporting their transition from subsistence agriculture to fruit-based plantations.

However, the Census-Based Approach does not fully accommodate the unique circumstances of smallholder farmers in rugged terrains such as those in Nepal and Bhutan. Section 4, 12(c) states that "Individual planting units of woody biomass (such as trees, shrubs, or bamboo clumps) must: be marked with a geolocated GPS waypoint, with 5m accuracy (Note: Smartphone or handheld GPS may be used)."

The primary challenge with this requirement is the limited availability of mobile networks in many areas of these countries, which affects GPS accuracy. Achieving 5-meter precision becomes a significant obstacle in | Thank you for the comment. VM0047 v1.1, Indeed, section 4.3(6) requires geolocation of planting units with 5-meter accuracy for the census-based approach, allowing the use of smartphones or handheld GPS devices. The intent of the 5-meter accuracy requirement is to avoid double counting and enable transparent monitoring. However, when GPS measurements are limited, such as in cases like those cited in the comment, section 4.3.6b allows for the use of physical markers for each planting units to comply with the requirement that individual planting units must be clearly defined and identifiable in the field. |

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		these regions. Additionally, the need to use GPS devices to meet this requirement substantially increases implementation costs, which are already elevated in mountainous terrains. This situation diminishes the benefits that farmers can gain from participating in carbon finance initiatives.	
35	Intellecap Advisory Services	Point 9 Census-based methodology- Project activity must not produce continuous tree and/or shrub cover on any contiguous area exceeding one hectare. --- (In case of smallholder farmers having plots of less than 1 ha but are next to each other. Such cases should be classified as census based as even though the plantation might be contiguous the plot ownership varies.	Thanks for your comment. In the new version of VM0047, the difference between the area and census-based approaches is no longer linked to a specific area size (acreage). In addition to whether there is a land-use change (area-based) or not (census-based), VERRA has implemented a maximum threshold of 50 planting units per hectare to define the threshold between both approaches. Sections 1.1 and 1.2 summarize the characteristics of each approach.
36	Intellecap Advisory Services	point no. 11.a Project activity must occur within an area classified as non-forest for the past ten years with less than 10% percent pre-existing woody biomass cover;--- The non-forest condition is fine but woodymass has to clearly defined.	Thank you for the comment. VM0047 v1.1, Section 4.3(8) specifies that census-based project activities must occur within an area classified as non-forest for the past 10 years and with less than 10% pre-existing woody biomass cover. We have updated section 3 indicating that "woody biomass" is the biomass in plants with hard, lignified stems (trees, shrubs, palms, bamboo), including aboveground and belowground components. We will continue updating these definitions in future revisions.
37	Intellecap Advisory Services	point no. 13 Projects are considered ineligible if woody biomass, which serves a	Thank you for the comment. we have updated section 3 regarding definitions, where "woody biomass" is defined as

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		similar purpose as the planting units in the project, has been removed within the last ten years- is this mean 100% removal of woody biomass? as some plots might had 1-2 trees removed in past by the farmers as they might have achieved their full age. Also, the woody biomass has to be clearly defined (invasive shrubs, bamboo should not be considered as woody biomass) if the indication is only trees	biomass in plants with hard, lignified stems (trees, shrubs, palms, bamboo), including aboveground and belowground components. We will continue updating these definitions in future revisions.
38	Intellecap Advisory Services	Point no. 14.b- does not involve soil inversion to a depth exceeding 25 cm (e.g., that would result from a moldboard plow)- This may differ from location to location based on the soil type, sampling species to be planted. For example fruit trees grafted sapling have to be planted deeper than 25 cm for strong root growth. This has to be scientifically written	Thank you for the comment. We agree that in practice, planting hole depth for certain species — such as fruit trees or grafted saplings — may need to exceed 25 cm for agronomic and ecological reasons (e.g., promoting healthy root establishment), and this is distinct from large-scale soil inversion.

This restriction is intended to apply to mechanical soil inversion (e.g., plowing or ripping over large areas), not to localized planting pits for individual trees. VM0047 v1.1, Section 4.3(9) sets soil disturbance limits for census-based projects — specifying that planting techniques that cause localized soil disturbance, such as pit planting, may exceed a depth of 25 cm. |
| 39 | Varaha ClimateAG Pvt. Ltd. | 12 (d) of Section 4 "Applicability Conditions" of the Census-Based Approach stipulates that "Clearing of pre-existing woody biomass within 10 years of the project start must not have been done to enable the generation of GHG credits" | Thank you for the comment. VM0047 v1.1, Section 4.4.2 specifies that for the census-based approach, clearing of pre-existing woody biomass within 10 years prior to the project start disqualifies the area if the clearing was done to enable the generation of GHG credits (i.e., to artificially lower the baseline). Currently, the methodology does not specify a quantitative threshold (e.g., % area cleared or |

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		What constitutes the threshold for such clearing of pre-existing woody biomass? Given that some extent of existing woody biomass may inevitably be cleared during site preparation, it is imperative to delineate the permissible limits for such activities. What is the minimum area to be considered for tree clearing process?	number of trees) that constitutes disqualifying "clearing.". Carbon pools and GHG emissions sources may be deemed *de minimis* where it is reasonably demonstrated that the combined decrease in carbon stocks or increase in GHG emissions amounts to less than 5% of the total GHG benefit generated by the project. Appendix 2 of this methodology must be applied to demonstrate that the decrease in carbon stocks or increase in GHG emissions together amount to less than 5% of the total GHG benefit generated by the project.
40	Fair Climate Fund	Section 4 - Applicability conditions: Census based approach Geotagging every single planting unit is not feasible for the following reasons: 1. In dense plantations with (such as bamboo plantations) tagging every single tree/shrub/clump in close proximity is difficult in case of small holder farmers, for large scale projects of more than 10,000 hectares. 2. In highland areas, there is cloud cover throughout the year, it will be difficult to achieve a minimum accuracy of 5 metres, using the handheld GPS receivers. It will be a time consuming process for tagging every single tree, with a minimum accuracy of 5 metres in such high dense plantations. 3. Considering the physical marker would be made of the long lasting material for it to survive through the project duration the cost	Thank you for the comment. VM0047 v1.1, Section 4.3(6) requires that individual planting units in census-based projects be geotagged with a unique ID and GPS location (with 5m accuracy) or marked with a durable physical identifier, providing some degree of flexibility and assuring verification rigor. For the next major revision of VM0047, Verra could consider introducing flexibility such as allowing cluster-based geolocation (tagging plot corners or representative points) for dense plantations where individual tagging is not feasible.

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		involved for large scale plantations will end up being extremely high from an investment perspective. 4. The cost for monitoring every single tree on ground, using the GPS coordinates, for a high dense large scale plantations will be exorbitant.	
41	Fair Climate Fund	Census-based approach should adopt traditional two-staged area-weighted sampling. The sampling can include estimation of random samples from the total population and allocation of random samples in various strata. The strata can be categorised based on the species planted, LULC and topography of the area. For better monitoring, the sampling intensity can be increased with higher confidence interval.	Thank you for the comment. VM0047 v1.1, Section 9.2 (Monitoring) for the census-based approach currently requires a complete census only at t=0 to establish the total number of planting units (N). For monitoring of biomass growth and carbon stock changes over time, the methodology already allows sampling-based measurement of planting units.
42	EP Cabon	The methodology states the following " The methodology is applicable under the following conditions 4)Where projects take place on organic soils or wetlands and manipulate the water table, they must be developed using a multiple project activity design applying this methodology to account for above-ground biomass and using a Wetland Restoration and Conservation methodology to account for other carbon pools (e.g., VM0036 Methodology for Rewetting Drained Temperate Peatlands)" but also states the following " This	Thanks for your comment. This condition has been updated in Section 4.1(5) specifying that where projects take place on organic soils or wetlands, ARR activities are developed using a multiple project activity design, applying this methodology to account for aboveground biomass and using a Wetland Restoration and Conservation methodology (e.g., VM0036 Methodology for Rewetting Drained Temperate Peatlands) to account for other carbon pools. In addition, please refer to section 3.11.5 and appendix 1 of the VCS Standard for more clarity.

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		methodology cannot be applied where a project plants on wetland or organic soils and introduces plant species that are not native to wetlands or organic soils within the ecoregion of the project. Planting species that do not naturally occur in organic soils or wetlands is considered a manipulation of the water. There is a need for clarification regarding activities that manipulate the water table but are still eligible under this methodology	
43	Native, a Public Benefit Corporation	Item 8) Does this condition mean that projects that plant trees that will be harvested (managed forests in the project scenario) will no longer be eligible? Would that include agroforestry projects where only a portion of the trees are harvested?	Thanks for the comment. In VM0047 v1.1 we have updated section 3 (Definitions), including the concept of managed forests. Under the area-based approach, VM0047 is not applicable where the project occurs on lands that have met the definition of managed forests in the last 10 years. For agroforestry projects, the census-based approach in VM0047 remains applicable to projects that establish planting units on non-forest lands (<10% woody biomass cover in the past 10 years), even if some trees within the agroforestry system will eventually be harvested. Section 8.7 related to Ex-ante estimation for both Area and Census-based approaches stipulates that any harvest regimes or forest management activities must be incorporated when modelling the project scenario. Where the project activity includes harvesting, the project must also conform to the most recent version of the VCS Standard for applying the long-term average (LTA) GHG benefit as an upper limit on calculated carbon dioxide removals.

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44	Native, a Public Benefit Corporation	Item 9) Suggestion to add the word "or" at the end of the sentence to indicate that the applicability conditions described in 9 and 10 don't necessarily need to be met together.	Thank you for the feedback. Refer updated section 4.
45	Native, a Public Benefit Corporation	A suggestion is to review and add clarity to the sentence in item 10). -Is the "remote sensing necessary for the area-based approach" related to the SI for the dynamic baseline work? -Project activities don't have size, the instances or project areas do.	Yes, remote Sensing is referred to the area based dynamic performance benchmark related activities. Please refer to the updated applicability conditions 4.2.2 (iii).
46	Native, a Public Benefit Corporation	Item 10) To increase clarity, a suggestion is to alter the sentence to "Project activities are indirect establishment (e.g., activities that permit or facilitate natural regeneration, like herbivory exclosures) and project or instances are of any size, as long as they are detectable using remote sensing necessary to install project-plots for the performance baseline work described in Appendix 1".	Thank you for the suggestion. Please refer to the updated section on applicability conditions.
47	Native, a Public Benefit Corporation	"Clearing of pre-existing woody biomass within 10 years of the project start must not have been done to enable the generation of GHG credits.": Is this a standalone comment, part of item 12, or should it be item 13? Is this applicable only to Census-based or all Area-based approaches as well?	Thank you for the feedback. Refer updated section 4.

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48	Native, a Public Benefit Corporation	"Clearing of pre-existing woody biomass within 10 years of the project start must not have been done to enable the generation of GHG credits." How to demonstrate that it was not done to enable the generation of GHG credits? Does this mean that no amount of pre-existing woody biomass may be removed for project implementation (site preparation)?	Thanks for your questions. Regarding site Preparation and Clearing for Project Implementation, VM0047 v1.1 does not prohibit all removal of pre-existing woody biomass for site preparation within the project. VM0047 v1.1 allows for clearing of pre-existing woody biomass for site preparation where: a) A t=0 biomass estimate has been properly established (either through plot sampling or approved remote sensing methods); b) The removed biomass is considered waste with no commercial value; c) The removal does not involve harvesting commercially valuable species or degrading natural ecosystems. Please refer to section 8.2.1.2 for further clarifications.
49	Native, a Public Benefit Corporation	13) b) by not including grasslands as an eligible land-use category, projects that increase vegetative cover in degraded pastureland, for instance, would be excluded. Native grasslands would be protected and not eligible as per the VCS Standard v4.6. section 3.19.29.	Degraded grasslands are eligible under the ARR project activities, while ensuring that these activities are not converting the native ecosystems. Native grasslands are not intended to be eligible under ARR methodologies, consistent with VCS Standard v4.7, Section 3.19.29, which prohibits conversion of native ecosystems for the purpose of generating GHG credits. Please refer to the updated language in the applicability conditions and VCS Standard 4.7 section 3.19 for more information.
50	Native, a Public Benefit Corporation	13) b) "In an area subject to continuous cropping or in "settlements" or "grasslands" or "other lands" land use category categories."	Degraded grasslands are eligible under the ARR project activities, while ensuring that these activities are not converting the native ecosystems. Native grasslands are not intended to be eligible under ARR methodologies, consistent with VCS Standard v4.7, Section 3.19.29, which prohibits conversion of native ecosystems for the purpose of generating GHG credits. Please refer to the updated language in the applicability conditions and VCS Standard 4.7 section 3.19 for more information.

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51	Native, a Public Benefit Corporation	13) Footnote 7) What is the benefit of excluding lands with fallow periods exceeding one season? This could result in a lost opportunity to restore/reforest unproductive land.	Thanks for your comment. This condition is intended to ensure that the census-based approach is applied only to lands that would not naturally regenerate significant woody biomass in the absence of the project. Allowing longer fallow periods would increase the likelihood that woody vegetation could re-establish without project intervention — reducing the conservativeness of setting a zero baseline. Thus, in order to assign conservative zero baseline, fallow lands with tree cover should be excluded. This aligns with the VCS Standard's principle of conservativeness and additionality — ensuring credits are not awarded for carbon stock increases that would have occurred naturally without the project.
52	Native, a Public Benefit Corporation	15) Does this apply where the project activity (financed by carbon) is the planting of trees and where the landowner/communities conduct intercropping and disturb the soil as a consequence? This restriction would exclude the participation of farming communities that wish to integrate trees into their systems.	The restriction on soil disturbance applies specifically to soil disturbance caused by the ARR project activity financed for generating GHG credits — such as planting site preparation. Importantly, intercropping or ongoing agricultural practices (e.g., plowing or tilling for crop production by landowners or communities) is not considered part of the ARR project activity, as long as the pre-project land use (e.g., agriculture) is maintained throughout the crediting period. Footnote 9 on section 4.3 (census-based approach applicability conditions) stipulates that in accordance with Section 4.3(2), the pre-project land use must be maintained throughout the project lifetime. Plowing and other soil disturbance may continue as part of ongoing land use activities (e.g., agricultural production) where they are not associated with the project activity. Only soil disturbance directly related to ARR activities is subject to the restrictions outlined in Section 4.3(9).

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53	Native, a Public Benefit Corporation	15) We recommend allowing soil disturbance where such activity is important for stakeholders and is essential for the project's success, such as intercropping.	See response to comment above and refer to section 4.3(9) related to soil disturbance under the census-bases approach.
54	Carbonext	Regarding non-applicability items, it is not clear whether the methodology would accept the use of exotic species (i.e., it only addresses the issue of exotics in the case of wetlands and organic soils). The non-applicability items of VM0047 should be harmonized with the requirements cited in VCS Standard 4.7, item "Ecosystem Health."	Thanks for your comment. Please refer to the safeguards section in the VCS Standard (which governs the methodology). VM0047 v1.1 methodology does not prohibit the use of exotic species across all land types — but it specifies restrictions in certain conditions aligned with the VCS standard.
55	Varaha ClimateAG Pvt. Ltd.	12 (d) of Section 4 "Applicability Conditions" of the Census-Based Approach stipulates that "Clearing of pre-existing woody biomass within 10 years of the project start must not have been done to enable the generation of GHG credits" What constitutes the threshold for such clearing of pre-existing woody biomass? Given that some extent of existing woody biomass may inevitably be cleared during site preparation, it is imperative to delineate the permissible limits for such activities.	Thanks for the question. The methodology does not specify a numeric threshold (e.g., % cover, biomass tonnage) for permissible clearing under the census-based approach. Instead, project proponents must provide evidence (e.g., pre-project photos, attestations) to demonstrate that any clearing of woody biomass was not conducted for the purpose of ARR project implementation (Section 4.4.2 (1)). Under the census-based approach, in cases where minor or incidental clearing occurs during site preparation (e.g., removal of shrubs or scattered trees in an agricultural field), this is implicitly permissible provided: a) The area has maintained the same pre-project land use (Section 4.3 (2)), and the area meets the applicability condition of having less than 10% pre-existing woody biomass cover at the time of project start (Section 4.3.8(a)).
56	Varaha ClimateAG Pvt. Ltd.	13 (a) of Section 4 "Applicability Conditions"	Section 4.3.8(a) of VM0047 v1.1 (April 10, 2025) specifies

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		of the Census-Based Approach stipulates that "The project activity occurs: Within an area with less than 10% pre-existing woody biomass cover;" Does the pre-existing area under woody biomass discussed above refer to contiguous or non-contiguous areas?	that under the census-based approach, "...the project activity occurs: Within an area with less than 10% pre-existing woody biomass cover".
57	Varaha ClimateAG Pvt. Ltd.	15 (b) of Section 4 "Applicability Conditions" of the Census Based Approach stipulates that "Any soil disturbance from the project activity (i.e., from site preparation): Does not involve soil inversion to a depth exceeding 25 cm (e.g., that would result from a moldboard plow)." Does this is applicable for instruments such as Seed Drill which does not actually perform soil inversion instead the instrument drills the seed inside the soil.	Thanks for your question. The restriction on soil disturbance is specifically targeting soil inversion, i.e., the turning over of soil layers (topsoil moving to subsoil), which has implications for soil organic carbon (SOC) loss and disturbance of ecosystem structure. The use of Seed Drills (or similar direct seeding equipment) is permitted under the census-based approach in VM0047 v1.1, provided that: a) The equipment does not cause soil inversion exceeding 25 cm depth; b) The disturbance is localized to planting pits or lines without overturning the soil profile.
58	Anonymous #1	Problem statement: As per Section 4 applicability conditions, under the "Area-based approach", the project or instance area should exceed one contiguous hectare. Suggestion: We propose to change "project or instance area" to "project plot area" to ensure clarity. This is because the total area might not be contiguous when applying the area-based approach to grouped project activities spanning in individual or multiple	Thanks for your comment. In the new version of VM0047, the difference between the area and census-based approaches is no longer linked to a specific area size (acreage). In addition to whether there is a land-use change (area-based) or not (census-based), VERRA has implemented a maximum threshold of 50 planting units per hectare to define the threshold between both approaches. Sections 1.1 and 1.2 summarize the characteristics of each approach.

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		districts. If individual plots within each district satisfy the one-hectare contiguity requirement, then area based approach should are applicable even if the two land parcels are not contagious.	
59	Anonymous #1	Problem statement: As stated in Section 4 'Applicability conditions', in the case of agroforestry projects using a census-based approach – 'Individual planting units of woody biomass (such as trees, shrubs, or bamboo clumps) must: c) be marked with a geolocated GPS waypoint, with 5m accuracy (Note: Smart phone or handheld GPS may be used)'. It is crucial to include the latitude and longitude of each individual tree in the PDD which seems impractical. In the case of a very large dataset (say 10 million trees), that would significantly increase the PD's size and make it cumbersome to manage.

Suggestion: To balance data needs with manageability in the PD document, we propose that after capturing the coordinate details of all the plants under census-based approach, to only include the location data for a representative sample of these plants (e.g., 1%, 5%). These trees included in the PD will be either be stratified by species type or the planting date to ensure representativeness. This approach would provide location data while keeping the PD | Thanks for your suggestion. Per Section 9.1 of the methodology, detailed planting unit data (including GPS coordinates) is to be maintained in project monitoring records, made available for review by the Validation/Verification Body (VVB) during validation and verification. The methodology does not require that the full GPS dataset for all planting units be included in the PDD. It is sufficient to provide a representative sample in the PDD to demonstrate project design and planting structure. However, complete GPS data must be maintained in project monitoring records and made available for validation and verification. This approach balances transparency, practicality, and compliance with VM0047 v1.1 requirements. |

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		manageable. We believe this method accurately reflects the species planted in the project while adhering to VM0047 guidelines.	
60	One Acre Fund	*#11 under census-based approach: Project activity must be direct planting (i.e., must not involve facilitated natural regeneration)* >> This disincentives programs to distribute & monitor more trees because the ongoing re-censusing for each new planting is difficult and expensive (especially for a small number of incremental trees. However, planting more trees would be most beneficial to the farmer/system. Would there be a way to use remote sensing to include additional trees, if they are picked up by RS after the census? >> Is there any room for flexibility, if the natural regeneration is as a result of program training? Or (below) is a smaller land size possible to qualify under the area-based approach?	Thanks for your comment. Section 4.3 (1) of VM0047 v1.1 establishes that under the census-based approach, project activity must be direct planting. This is intended to ensure that lands enrolled in the census-based approach would have been unlikely to regenerate trees or other vegetation without the project interventions. With the updates to VM0047 v1.1, projects may not enrol instances under 1 hectare in the area-based approach, thus using remote sensing to monitor the "indirect" expansion of vegetation attributable to the project intervention.
61	One Acre Fund	*# 6 under area-based approach: Project activities ~~produce continuous tree and/or shrub cover on any contiguous area exceeding one hectare.~~* >> The land size has been greenlined. Does this mean that the land size is no longer a requirement?	Thanks for your comment. In the new version of VM0047, the difference between the area and census-based approaches is no longer linked to a specific area size (acreage). In addition to whether there is a land-use change (area-based) or not (census-based), VERRA has implemented a maximum threshold of 50 planting units per hectare to define the threshold between both approaches. Sections 1.1 and 1.2 summarize the

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		>> Is the minimum land size going to change? This inhibits programs of FMNR on small land sizes, and is a particular constraint for East African countries like Rwanda and Burundi where average land size is 0.2-0.3 hectares >> Can you more clearly define continuous cover? Would an intercrop/alley crop agroforestry system qualify?	characteristics of each approach and section 4 details all applicability conditions.
62	One Acre Fund	occur within an area classified as non-forest for the past ten years with less than 10% percent ~~Clearing of pre-existing woody biomass cover~~; *and/or within 10 years of the project start must not have been done to enable the generation of GHG credits.* >> Thank you for this clarification on the clearing of land for the purpose of GHG credits. In our case, land was cleared within the past 10 years but before the project start date. >> Is it enough to demonstrate this check using publicly available data like Global Forest Watch? Or, what is required to prove that the land was not cleared for GHG, even if it is within the last 10 years (but before project start date)? What kind of documentation would be sufficient?	Thanks for the comment. This would be better addressed through email correspondence, as it is a project specific question.
63	Cirrus	Section 4: Applicability. Pt 2, p8. Using an "a priori" selection of approaches at the	Same land parcel cannot be under both approaches in a project area. In cases where group project is applied then

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		Startr Date for areas cannot be applied in a Grouped Project approach where the project will have additional instances of the project activity. "Where the two approaches are used together, they must be applied in non-overlapping areas defined at the project start" …. Again not appropriate in a Grouped Approach. Suggestion: Non-overlapping areas should be defined by the Project Instance buffer radius.	all such project design parameters shall be followed as illustrated in the VCS Standard Section 3.6.
64	Cirrus	Section 4: Applicability. Pt 9) , p9.Suggest the following rewording. Project activities are direct planting (e.g., manual planting, broadcast seeding). The project instance area exceeds one contiguous hectare.	Refer to updated section 4.
65	Cirrus	Section 4: Applicability. Pt 7, p9. Suggest: Project activities that permit or facilitate natural regeneration, like herbivory exclosures. Project instance area is unrestricted.	Refer to updated applicability conditions.
66	Cirrus	Section 4: Applicability. Pt 8, p9.Please refer to previous comments. Propose: 8). Project activity is direct planting or assisted natural regeneration.	Refer to updated applicability conditions.
67	Cirrus	Section 4: Applicability. Pt 9, p9.

Propose: 9). Project instance must not exceed one contiguous hectare | Refer to updated applicability conditions. |

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68	Cirrus	Section 4: Applicability. Pt 12, p9. Propose 12) Individual Planting Units or Regenerated Units of woody biomass (such as trees, shrubs, or bamboo clumps) must:	Refer to updated applicability conditions.
69	Cirrus	Section 4: Applicability. Pt 12a, p9. Agree for both Planting Unit and Regenerative Unit	Refer to updated applicability conditions.
70	Cirrus	Section 4: Applicability. Pt 12b, p10 Delete : Smart phone or handheld GPS may be used). To watch detail. What about smart watches etc	Refer to updated applicability conditions.
71	Cirrus	Section 4: Applicability. Pt 13, p10 Replace project activity with Project Instant	VCS Program definitions already contains a definition for Project Activity Instance
72	Cirrus	Section 4: Applicability. Pt 13a, p10 Reconcile with Section 2: 2 SUMMARY DESCRIPTION OF THE METHODOLOGY. Point 2a. Why 10%? For instance in Kenya according to the Forest Conservation and Management Act, 2016, the definition of a forest is as follows: Area: A minimum area of land of 0.5 hectares (5,000 square meters). Total Crown Cover: At least 15% tree canopy cover.	Thanks for your suggestion. The 10% figure reflects international-based (e.g., FAO/UNFCCC) definitions of forests, which often set the lower limit for forest canopy at 10%, and a conservative eligibility rule — ensuring that areas applying the census-based approach represent non-forest land use prior to ARR project activities.
73	PUR	In the document, it is stated on page 6 that "The census-based approach: a) is applicable where the project activity does not result in a change in land use and where	Thanks for your comment. In the new version of VM0047, the difference between the area and census-based approaches is no longer linked to a specific area size (acreage). In addition to whether there is a land-use

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#	Organization	Comment	Developer's Response
		a complete census of plantings is practical (e.g., urban forestry, agroforestry, forest shelterbelts, plantings directed to rural homesteads, revegetation not meeting the forest definition)." On page 9, it is mentioned for the area-based approach: "Project activities produce continuous tree and/or shrub cover on any contiguous area exceeding one hectare." This means that for parcels of less than one hectare where full plantation has occurred on degraded land (thus resulting in a change of land use from degraded land to forest), neither approach is applicable. This poses a significant limitation when working with smallholder farmers, who often have parcels of less than one hectare and are interested in converting their unused parcels into forests.	change (area-based) or not (census-based), VERRA has implemented a maximum threshold of 50 planting units per hectare to define the threshold between both approaches. Sections 1.1 and 1.2 summarize the characteristics of each approach and section 4 details all applicability conditions. This update is focused on facilitating small-scale ARR projects using the census-based approach while allowing examples like those cited to use the area-based approach.
74	PUR	Either: In the document, it is stated on page 6 that "The census-based approach: a) is applicable where the project activity a complete census of plantings is practical (e.g., urban forestry, agroforestry, forest shelterbelts, plantings directed to rural homesteads, revegetation not meeting the forest definition)." --> remove no change of land use --> or accept a methodology deviation that allows for the use of a census based approach on parcels less <1ha with	Thanks for your comment. In the new version of VM0047, the difference between the area and census-based approaches is no longer linked to a specific area size (acreage). In addition to whether there is a land-use change (area-based) or not (census-based), VERRA has implemented a maximum threshold of 50 planting units per hectare to define the threshold between both approaches. Sections 1.1 and 1.2 summarize the characteristics of each approach and section 4 details all applicability conditions. This update is focused on facilitating small-scale ARR projects using the census-

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#	Organization	Comment	Developer's Response
		change of land use Or :"Project activities produce continuous tree and/or shrub cover on any contiguous area ." --> remove exceeding one hectare	based approach while allowing examples like those cited to use the area-based approach.
75	PUR	For the census based approach it is said that c) be marked with a geolocated GPS waypoint, with a 5m accuracy (Note: Smart phone or handheld GPS may be used) face some barrier Similarly, capturing a unique GPS point for each tree would present difficulties. To achieve a satisfactory level of accuracy, it would be necessary to invest in high-precision GPS devices, as many farmers live in rural areas where satellite coverage is poor even such high precision GPS might not be sufficient. Plus the time spent by team to localised with GPS Point all trees would increase significantly the cost. Such a process would be logistically complex and costly for projects involving 10-20 million planted trees per year.	This requirement is not intended to mandate the use of high-precision GPS devices or significantly increase project costs. The 5 m accuracy threshold was set recognizing practical constraints in rural areas and to provide flexibility for the use of smartphones or handheld GPS units commonly available to field teams. Importantly, as indicated in section 4.3(6), the methodology allows the use of physical markers as an alternative to GPS points — this may be more cost-effective and operationally feasible for large-scale agroforestry projects (e.g., painted tags, durable labels, or other field identifiers).
76	PUR	We suggest adopting a more flexible approach on the way we locate the planted trees, such as by marking trees planted with a physical marker but no coordinate or by automatically determining where the trees are within a GPS track based on a pre-defined planting model accepting a higher	Thanks for the suggestion, please see comment above and section 4.3(6) of VM0047 v1.1.

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#	Organization	Comment	Developer's Response
		level of uncertainty.	
77	PUR	On pg. 15 it states "within an area with less than 10% pre-existing woody biomass cover" for the census-based approach It is not defined how we should assess the existing 10% - could Verra add assessment criteria? We propose that if the project is part of an agroforestry system, the threshold for the census-based approach is more flexible depending on the type of commodity that may be contributing to existing woody biomass cover on the land that the agroforestry system will implemented with (i.e. implementing new agroforestry systems on existing coffee or cacao parcels). Another option would be for Verra to stipulate that pre-existing cover of over 10% is allowed as long as any pre-existing woody biomass is not removed by the project.	Thanks for your comments. Currently, the methodology does not prescribe a specific procedure for assessing the 10% woody biomass threshold. It is left to project proponents to transparently document and justify their approach (e.g., remote sensing, field measurements, or secondary data) during validation. The threshold of less than 10% pre-existing woody biomass cover for applying the census-based approach aligns with conservative assumptions to ensure that the census-based approach is used in non-forest or highly degraded areas.
78	American Forest Foundation	More clarity is needed for the new condition (8) under which VM0047 is not applicable regarding existing managed forests. The current draft language that "managed forests are managed for wood products under either the baseline scenario or the project scenario" could be interpreted as excluding ARR activities that create forests to be managed for wood products from pre-existing non-forest using VM0047 (because	VM0047 v1.1 clarifies that the exclusion condition regarding managed forests (Section 4.4.1(1) is intended to prevent the application of VM0047 to pre-existing forest lands that have been managed for wood products within the last 10 years — consistent with the scope of ARR activities under the VCS Program. Projects that establish forests on pre-existing non-forest lands — even if the new forest is intended for future management for wood products — remain eligible under VM0047.

Section 4 - Applicability Conditions

#	Organization	Comment	Developer's Response
		they would be managed for wood products under the project scenario). This should be clarified by adding a sentence such as "Project activities performed on pre-existing non-forest that create managed forests are applicable to VM0047."	
79	American Forest Foundation	The addition of the applicability condition (3) that "the project start date is no later than the commencement of any site preparation activities" creates challenges for grouped projects of small landowners. Grouped projects often require enrolling landowners over a multi-month period, as small landowners often take variable timelines to come to a decision to enter into a carbon project. These projects then begin site preparation on those lands as they enrol. Care should be taken, and language made clear, to ensure this applicability condition does not preclude grouped projects from beginning site preparation for some enrolees prior to a full cohort being enrolled, which puts pressure on site preparation within a limited timeframe, pushing projects out of operability or feasibility, and/or creating worse conditions for site preparation that hinder survivability. Site preparation should be allowed to occur before a full cohort of land has enrolled in a project, so long as all site preparation is fully accounted for within the project.	Thanks for the comment. Section 4.1 (4) of the methodology (applicability conditions) states that the project start date is documented as either: a) the date on which site preparation activities began, or b) the land use change date, whichever occurred first. This condition is consistent with existing VCS Program rules (VCS Standard v4.7, Section 3.6) and aims to ensure that site preparation is accounted for as part of project implementation — preventing pre-project activities from generating non-additional emission reductions or removals.

Section 4 - Applicability Conditions

#	Organization	Comment	Developer's Response
80	American Forest Foundation	We recommend that this applicability condition not exclude existing forest areas applying project activities under VM0047 that are currently precluded from managing for wood products due to pre-existing hindrances that cap growth, such as competing vegetation. This would enable accounting for the benefits of project activities that release managed forests from competing vegetation where they otherwise would have been stunted or degraded from such vegetation and blocked from reaching merchantable quality. While those forests may have forest management plans that include wood production, if physical conditions exist that prevent them from producing those wood products, ARR activities quantified via VM0047 could support both climate benefits and wood product production. The existing safeguards within VM0047 for financial additionality and the dynamic performance benchmark already prevent this from being misused by managed forests not in need of climate finance to perform such project interventions. Suggested language edit to allow this (italics = additions): Project activities enhance carbon stocks in existing managed forests, except where wood product production and forest growth and health are hindered without the project	This methodology applies to ARR activities that establish, increase, or restore vegetative cover. Eligible project activities may involve direct planting, seeding, or assisted natural regeneration techniques, provided they lead to a measurable increase in vegetative cover. Section 4.4.1(1), excludes projects in existing managed forests — consistent with VCS Program rules that categorize such activities under IFM methodologies. This is a thoughtful and well-justified recommendation to expand the applicability of VM0047 that will be better addressed in the next major revision of the methodology.

Section 4 - Applicability Conditions

#	Organization	Comment	Developer's Response
		intervention (e.g., where supplemental planting would support regeneration that otherwise would not be achieved). Managed forests are managed for wood products under either the baseline scenario or the project scenario. Footnote: Projects in areas with existing forest cover managed for wood products are considered under the VCS Program Improved Forest Management category; such activities are not eligible under this methodology, except where forest health, growth, and/or regeneration is precluded without an ARR intervention, as demonstrated by evidence of competing vegetation or other barriers to regeneration and described in peer-reviewed literature or by expert attestation.	
81	Global Evergreening Alliance	For area-based approach that only allow direct planting of exceeding 1 ha may cause challenges for many project in Africa, for example, woodlots (planting) are very common with area of less than 1 ha. It is challenged to apply census for every single trees in woodlots because of high density and remote sensing may not work with very close planting units.	Thanks for your comment. In the new version of VM0047, the difference between the area and census-based approaches is no longer linked to a specific area size (acreage). In addition to whether there is a land-use change (area-based) or not (census-based), VERRA has implemented a maximum threshold of 50 planting units per hectare to define the threshold between both approaches. Sections 1.1 and 1.2 summarize the characteristics of each approach and section 4 details all applicability conditions. Section 4.3(6) requires geolocation of planting units with 5-meter accuracy for the census-based approach, allowing the use of smartphones or handheld GPS devices. The intent of the 5-meter accuracy requirement is to avoid double counting and

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#	Organization	Comment	Developer's Response
			enable transparent monitoring. However, when GPS measurements are limited, section 4.3.6b allows for the use of physical markers for each planting units to comply with the requirement that individual planting units must be clearly defined and identifiable in the field. Updates on this and other aspects related to georeferencing will be considered in the next revision of the methodology.
82	Conservation International	Condition 4 - change so that only rewetting of drained wetlands are allowed, no manipulation to drain wetlands, as it stands it is ambiguous	Refer to updated section 4.
83	Conservation International	Condition 8 - Why restrict eligible managed forests to those managed only for wood products? That would seem to exclude arbitrarily exclude a number of land covers, including agroforestry systems (e.g., shade grown coffee), rubber, other tree crops, etc. Proposed change: :"Managed forests are managed for wood or non-timber forest products under…"	Comment acknowledged. The intent of Condition 8 (Section 4.4.1(8), p.11) in VM0047 v1.1 is to exclude pre-existing forest areas that have been actively managed for commercial extraction purposes — aligning with the VCS Program's differentiation between ARR and IFM categories. The inclusion of non-timber forest products (NTFPs) like shade coffee, rubber, or fruit trees is not necessarily excluded unless these areas also meet the definition of a forest and are actively managed for wood products.
84	Conservation International	Condition 10 - detectable by remote sensing - What remote sensing? Vague and confusing terminology.	The phrase refers to the ability to monitor changes in vegetative cover or stocking index (SI) over time using geospatial tools as part of the performance benchmark methodology (Appendix 1). Specifically, remote sensing must allow for: Detection of change in canopy cover, vegetation density, or structural biomass indicators, and Compatibility with stocking index metrics such as NDVI or equivalent vegetation indices. "Remote sensing" ultimately refers to satellite or aerial imagery with sufficient spatial and temporal resolution to detect

Section 4 - Applicability Conditions			
#	Organization	Comment	Developer's Response
			changes in canopy structure or vegetative cover needed to calculate a valid stocking index as defined in Appendix 1.
85	Conservation International	Condition 10 - Why disallow the use of field-based measurements for the performance benchmark? E.g., if donor pool area for control plots are owned/managed by government or private land owners that authorize the establishment and measurement of forest inventory plots, why would you not allow a performance benchmark based on ground data, which will have much lower uncertainty than a remotely sensed SI? Since project after project is having trouble demonstrating additionality and avoiding a 100% performance benchmark discount, allow for field plots as an alternative to a remote sensing benchmark, even if many projects will not be able to do so. This is the obvious path if the goal is to credit as accurately as possible.	The approach ensures standardized, scalable, and low-cost benchmarking that can be applied consistently across different regions and landholder types. It enables ex post crediting based on observed vegetative change while avoiding reliance on field access to offsite lands, which may not always be feasible.
86	Re-Green	As stated in item 2, "activities that enhance forest carbon stocks in existing forests (area-based approach only)," item 4 should include a condition of applicability to make this possibility clearer. Suggested wording: "Only in the area-based approach, project activities that enhance forest carbon stocks in existing forests have set the starting date when project activities protected the forest	Please refer to updated applicability conditions.

Section 4 - Applicability Conditions

#	Organization	Comment	Developer's Response
		area and/or applied measures to enhance the forest carbon stocks (e.g., seed dispersal, invasive species control, degradation agent control)."	
87	One Acre Fund	P14 - Table 3 - Field burning and N-fertilizer emissions are supposed to be accounted for It's not clear whether this is just for the area-based approach, since these things would be less relevant to specific censused trees. If this is applicable to the census methodology, then how should we compare to the baseline? (i.e. some of these things happen in our program area, but we hope we'd actually see these practices decline among program participants). Ok, looking at p28, field burning is definitely included in the census approach. This part is for calculating the non-CO2 emissions from burning trees. >> I think an important clarification is whether the tree was burned down or just got a little sooty/charred and is still whole / alive. If it was burned down, then it makes sense to account for this. If not, then those additional GHGs wouldn't have been released.	Table 3 is applicable for both approaches. Refer to Figure 1 and 2 in the methodology for clarification.

Section 5 - Project Boundary

Section 5 - Project Boundary			
#	Organization	Comment	Developer's Response
88	Varaha ClimateAG Pvt. Ltd.	The selection of carbon pools within the project boundary using the Census-based Approach does not currently include Above Ground Non-Woody Biomass, which includes shrubs. In regions like Southern India, where smallholder farmers rely on complex agroforestry systems such as Silver Oaks inter-planted with coffee (shrub) plantations, this omission is particularly noticeable. These plantations not only provide livelihoods but also demonstrate mutualistic relationships between these two species.

Despite the significant biomass contribution from coffee (shrubs) in these systems, the current approach does not account for their role. This exclusion can be a limitation for smallholder farmers who rely on such diversified plantations for their sustenance. | Thank you for the comment. Under VM0047 v1.1, Section 5.2 and Table 2, the census-based approach excludes Aboveground Non-Woody Biomass (including shrubs) from the selected carbon pools, following a conservative design assumption focused solely on woody biomass. This recommendation — to consider allowing inclusion of significant non-woody biomass pools (like shrubs in agroforestry) in the census-based approach — will be considered for the next major revision of VM0047. |
| 89 | Native, a Public Benefit Corporation | SOC: Is the inclusion of SOC mandatory where soil disturbance from soil preparation for intercropping activities performed by project stakeholders but not as a result of project activity (e.g. soil preparation for tree planting)? Additionally, how might a PP demonstrate "soil inversion to a depth exceeding 25 cm" did not occur? Would this require an attestation as a declaration of | In VM0047 v1.1, the inclusion of soil organic carbon (SOC) as a required pool for area-based projects is triggered only when soil disturbance from the project activity (i.e., site preparation for tree planting) either: a) Occurs more than once during the crediting period; or involves soil inversion to a depth exceeding 25 cm (e.g., using a moldboard plow) (see Table 1). Only soil disturbance directly attributable to the ARR project activity (e.g., tree planting site preparation) would trigger this requirement. For validation |

Section 5 - Project Boundary

#	Organization	Comment	Developer's Response
		equipment used for the VVB?	purposes, project proponents could provide: a) A description of the equipment and methods used during site preparation; b) An attestation from the project developer or landowner confirming the absence of deep plowing.; c) field verification by the validation/verification body (VVB) during site visits.
90	Carbonext	"Carbon pools and GHG emissions sources may be deemed de minimis…": is this statement valid only for the census-based or also for the area-based approach? It needs to be clarified in the text, as the statement is in the census-based section but seems applicable to both approaches.	Thank you noting this, refer to the updated section 5.
91	Varaha ClimateAG Pvt. Ltd.	The selection of carbon pools within the project boundary using the Census-based Approach does not fully align with the context of smallholder farming in Bangladesh, where the average agricultural landholding is less than a hectare. Bangladesh's agriculture sector is facing significant impacts from climate change, leading to challenges such as migration and land abandonment in several regions.

The current approach tends to overlook important carbon pools like Soil Organic Carbon (SOC). Farmers in Bangladesh are increasingly interested in Afforestation, Reforestation, and Revegetation (ARR) projects and are transitioning to fruit tree cultivation to meet the country's growing | In the new version of VM0047, the difference between the area and census-based approaches is no longer linked to a specific area size (acreage). In addition to whether there is a land-use change (area-based) or not (census-based), VERRA has implemented a maximum threshold of 50 planting units per hectare to define the threshold between both approaches. Sections 1.1 and 1.2 summarize the characteristics of each approach. Regarding this example, high density and ultra high density orchards (e.g., 1100 mango trees per ha) would be ineligible under the census-based approach. The census-based approach in VM0047 v1.1 continues to conservatively exclude SOC and other non-woody biomass carbon pools to maintain quantification simplicity and minimize measurement burden in small-scale, non-forest contexts (see Section 5.2 and Table 2). As stated, SOC is excluded under the census-based approach, regardless of land size, due to challenges in direct measurement and the need to ensure |

Section 5 - Project Boundary			
#	Organization	Comment	Developer's Response
		demands. These trees play a crucial role in enhancing SOC levels. However, due to their small landholdings, these farmers do not qualify for inclusion of SOC carbon pool under the Census-based Approach criteria. Additionally, the approach can be limiting for farmers who use High Density and Ultra High Density plantation methods, which accommodates around 1100 mango plants in an area less than a hectare. Although these densely planted areas significantly contribute to soil health improvement, they are excluded from SOC Carbon Pool consideration. It also becomes challenging to geotag each tree in High Density and Ultra High Density Plantations, where a large number of trees are planted in less than a hectare area. This difficulty adds another layer of complexity for smallholder farmers managing such intensive planting systems.	conservative accounting.
92	One Acre Fund	*Buffer requirement: The relevant spatial boundary for the census-based approach is a 10-meter radius buffer around the recorded GPS location of each planting unit.* >> This is also not possible for plots where agroforestry trees are planted ~3 meters apart on the boundary. May you clarify if this is only applicable to project applying the	Thanks for your comment. Section 5.2 related to the project boundary under the census-based approach specify that the 10-meter buffer is a spatial accounting boundary applicable under the census-based approach, but overlapping buffers are allowed within the same project instance. There is no restriction on tree spacing within an instance, provided individual GPS points are recorded with sufficient accuracy. Of course, it must be noted that this spacing should also comply with the

Section 5 - Project Boundary			
#	Organization	Comment	Developer's Response
		area-based approach or is it also applicable under the census-based approach? >> This will be difficult to achieve when there are bordering agroforestry plots that both have boundary planting. >> Is there room for exemption where we have individual GPS points for each tree, to an accuracy of 3-5 meters?	maximum allowable density of 50 planting units per hectare as part of the applicability conditions of the census-based approach.
93	Cirrus	5. Project Boundary. Please refer to previous comments	Thank you for your note.
94	Cirrus	5. Project Boundary (p12) Under the census-based approach section the wording is confusing especially with respect to the 10 m radius buffer around individual modelling units and then the inserted green section "Planting units in the same census-based project instance may be closer together than ten meters." 5. Project Boundary (p12) Under the census-based approach section the wording is confusing especially with respect to the 10 m radius buffer around individual modelling units and then the inserted green section "Planting units in the same census-based project instance may be closer together than ten meters." As examples. For a single tree at a homestead the Project Instance = the Modelling Unit. For a boundary planting of many trees each tree is a Planting Unit within a single Project Instant. In this case the buffer radius of 10 m applies to the perimeter of the Project	Section 5.2 (Census-based approach carbon pools) of VM0047 v1.1 clarifies that under the census-based approach, the 10-meter radius buffer is applied around each planting unit for accounting purposes but allows overlap of buffers within the same census-based project instance. The restriction on buffer overlap applies only between different project instances or between census- and area-based instances to prevent double counting.

Section 5 - Project Boundary			
#	Organization	Comment	Developer's Response
		Instance (boundary planting) and prevents overlaps	
95	Cirrus	5. Project Boundary (p12) . This is not clear. In the census based approach the scaling approach is based upon the number of planting units within a project instance. In the listed project, Under Development (ID4481) on 22 July 2023 developed by GEA we have 5 Agroforestry Implementation Practices (AIPs). 1) Dispersed planting of trees under annual crops 2) Dispersed planting of trees under perennial crops, 3) Boundary and strip planting 4) Woodlots and 5)assisted natural regeneration (ANR). Tens of thousands of these AIPs will be implemented across the landscape. Each AIP = Project Activity. The trees (planting units) are scaled up within each AIP/Project activity are	Thanks for your comment. In the new version of VM0047, the difference between the area and census-based approaches is no longer linked to a specific area size (acreage). In addition to whether there is a land-use change (area-based) or not (census-based), VERRA has implemented a maximum threshold of 50 planting units per hectare to define the threshold between both approaches. Sections 1.1 and 1.2 summarize the characteristics of each approach and section 4 details all applicability conditions.
96	Global Evergreening Alliance	The requirement on "spatial boundary for the census-based approach is a 10-meter radius buffer around the recorded GPS location of each planting unit" should be deleted as it is confusing. This implies that the minimum distance between trees is 20m? It also confuses with the later statement "Planting units in the same census-based project instance may be closer together than ten meters"	The intent behind the "10-meter radius buffer" requirement in Section 5.2 of VM0047 v1.1 is to ensure that project instances do not overlap, not to prescribe a minimum spacing between individual planting units. The 10-meter radius buffer defines the accounting boundary for each planting unit within the census-based approach. This boundary is applied to prevent overlap between distinct project instances (especially when mixing census- and area-based instances). However, planting units within the same project instance may be closer together than 10 meters — which is explicitly stated in the same section.

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Section 5 - Project Boundary			
#	Organization	Comment	Developer's Response
97	Pachama Inc.	In Table 1 relating to carbon pools in the project boundary, the Justification/Explanation for SOC requires inclusion of the carbon pool if soil disturbance "2) Involves soil inversion to a depth exceeding 25 cm (e.g., that would result from a moldboard plow)." We assume this implies plowing/tilling of soil across the entirety or majority of the project area. However, to clarify this requirement, we propose that certain common activities with very targeted/limited soil impacts below this depth (hand digging or mechanical augering of holes, soil ripping with a shank) are explicitly not considered soil inversion, and/or that a minimum threshold for soil disturbance (e.g. 5% of project area) is required before triggering the SOC inclusion requirement.	Thanks for the feedback. We have made it clear that the depth requirement of 25cm is in reference to plowing. Pit planting activities are allowed to exclude SOC, given that the project does not disturb SOC in other ways.
98	Re-Green	The "Harvested wood products" carbon pool in Table 1 could be optional, as the VCS has the "VMD0005 Estimation of carbon stocks in the long-term wood products pool (CP-W), v1.1"	Refer to latest applicability condition where methodology is not applicable. Project activities enhance carbon stocks in existing managed forest shall be part of IFM.

Section 6 - Baseline Scenario

Section 6 - Baseline Scenario			
#	Organization	Comment	Developer's Response
99	Varaha ClimateAG Pvt. Ltd.	Can we preserve polygon by removing building and waterbodies present inside	This is out of scope for the minor revision. Please refer to VCS Standard 4.7 section 3.11.
100	Cirrus	Section 6: Baseline. P15 Please refer to previous comments on the configuration of In the listed project, Under Development (ID4481) and Project Area. To try and set up control plots outside of the project area will be technically challenging and financial constrained. For small scale ARR, if control plots are used, they should be set up within the Project Area not outside.	Control plots are remotely sensed and is not a requirement for these to be physically laid on ground. Refer to Control plot definition for more clarity. Appendix 1 of VM0047 v1.1 maintain that control plots for the area-based approach must be located outside the project area to avoid bias and to represent the business-as-usual (BAU) conditions in the absence of the project activity.
101	Cirrus	Section 6: Baseline. P15 Please refer to previous comments on this and the national forest definitions. The percentage cut-off should comply with the national forest cover definition,	Thanks for your suggestion. The 10% figure reflects international-based (e.g., FAO/UNFCCC) definitions of forests, which often set the lower limit for forest canopy at 10%, and a conservative eligibility rule — ensuring that areas applying the census-based approach represent non-forest land use prior to ARR project activities.

Section 7 - Additionality

Section 7 - Additionality			
#	Organization	Comment	Developer's Response
102	unique land use GmbH	Comment on Common Practice Analysis: The common practice analysis should consider that smallholder-based projects usually adopt proven field solutions and facilitate scaling. These projects are implemented on small farms across large landscapes and are extension/incentive-driven, often resulting in a high likelihood of 'positive leakage' (where neighbouring farmers adopt good practices observed in the project). This could lead to higher adoption percentages in a common practice analysis. Additionally, the desired goal of these livelihood-driven projects is to scale adopted practices, such as agroforestry systems, which may not be 'new' to the region. Consequently, pre-existing adoption rates in large landscapes might still exceed 15%. It is recommended that the Methodology specifically provides guidance on scaling existing practices, particularly for smallholder landscapes, in relation to the common practice requirements.	Thank you for the comment. VM0047 v1.1, Section 7.3.4 applies a common practice threshold of 15% adoption for census-based projects, consistent with VCS Program precedent (Mathur et al., 2007) and other AFOLU methodologies. We agree this is an important consideration and VERRA will take this recommendation into account for the next major revision of VM0047.
103	Intellecap Advisory Services	Step 4 - Common practice- census based	Thank you for the comment. VM0047 v1.1, Section 7.3.4

Section 7 - Additionality

#	Organization	Comment	Developer's Response
		approach For multiple developing countries like India, many of the farmers are getting some plantation support under government programs but the support is for 3-5 years. These plots should not be considered under common practice as without government programs they are not able to undertake tree plantation	requires common practice analysis for the census-based approach to demonstrate that project activities (e.g., tree planting) are not already widely adopted without carbon finance — applying a 15% adoption threshold. Common Practice analysis shall take into account several factors as illustrated in the methodology. Scope shall be constrained to reflect similar incentives and market conditions as those of project area. Further, refer to VCS methodology requirements section 3.5.6.
104	Earthshot Lab	What defines a common project activity? Broadly as just, for example, agroforestry? Or can the uniqueness of a project's system design or commercial expansion be considered additional, both from a sustainability/biodiversity perspective and/or increased community benefits (i.e. filling gaps in the market with a certain commodity)?	Under VM0047 and the VCS Program, a project activity is considered common practice if similar activities are widely adopted in the geographic and socio-economic context without the support of carbon finance. The assessment typically includes: The type of activity (e.g., agroforestry, tree planting on agricultural land), the geographic scope (e.g., national or sub-national region), the class of landholders (e.g., smallholder farmers, commercial growers), the rate of adoption (threshold: ≥15% adoption = considered common practice). Unique agroforestry or ARR system designs that offer distinct sustainability, biodiversity, or community benefits may be considered not common practice even if the broad category (e.g., tree planting) is common. However, clear evidence must be provided to support this differentiation in the additionality analysis
105	Re-Green	Provide an explanation that the performance benchmark should be stratified by project activities in the field. For example, reforestation in a non-forest area may have a different stock index compared to enhancing	Thanks for the comment. The methodology provides an opportunity to the project developers to choose the appropriate stocking index.

Section 7 - Additionality			
#	Organization	Comment	Developer's Response
		forest carbon stocks in existing forests.	

Section 8.1 - Baseline Emissions

Section 8.1 - Baseline Emissions			
#	Organization	Comment	Developer's Response
106	Native, a Public Benefit Corporation	Should it be Baseline Removals instead of Baseline Emissions?	The term Baseline Emissions is consistent with the standard structure of VCS methodologies across AFOLU project types — including ARR — and is used broadly to refer to changes in carbon stocks in the baseline scenario, whether they are emissions (loss of carbon) or the absence of removals (lack of sequestration).

Section 8.2 - Project Emissions

Section 8.2 - Project Emissions			
#	Organization	Comment	Developer's Response
107	Independent Carbon Consultant	There should be guidelines on how to do measure and report pre-project woody vegetation including stratification, sampling	Guidance on the measurement and reporting of pre-project woody biomass is provided in VM0047 v1.1, Section 8.2.1.2. It requires establishing t=0 estimates for

Section 8.2 - Project Emissions			
#	Organization	Comment	Developer's Response
		method, and measurement methods, etc. There are three guidelines give regarding the clearing of pre-project vegetation. Under those any of those three scenarios in which removal of pre-existing vegetation is allowed. Are those scenarios still applicable for those cleared vegetation which may be native vegetation as well? It needs to be clarified.	all significant carbon pools, including pre-existing woody biomass, using plot-based sampling prior to site preparation. Remote sensing-based estimates may be used only for aboveground woody biomass when pre-site preparation measurements were not possible (Section 8.2.1.2 and Appendix 1). Regarding clearing of pre-existing vegetation, Section 8.2.1.2 (Area-based Approach) clarifies that removal is permitted if: a) Biomass is a waste product with no commercial value, b) Removal does not involve clearing or harvesting of natural forests, native species, or commercially viable timber species, c) A t=0 estimate has been established. This applies regardless of whether the cleared vegetation is native or non-native — native vegetation may only be cleared if these conditions are met. Guidance on measurement methods is provided in Section 9.2 (Data and Parameters Monitored), which details sampling, stratification, and measurement requirements consistent with VCS best practices. Along with the methodology, refer to section 3.19.29 of VCS standard 4.7, which addresses the concerns related to ecosystem safeguards.
108	GreenCollar	The stocking index applied in the performance benchmark must be significantly correlated with a terrestrial AGB carbon stock. The update to the methodology indicates that this correlation must be validated with direct measurements from the project ecoregion to determine Pre-existing Woody Biomass. While direct	The methodology does require that the stocking index (SI) used in the performance benchmark be significantly correlated with terrestrial aboveground biomass (AGB) carbon stocks, validated with direct measurements from the project ecoregion (VM0047 v1.1, Section 8.2.1.2 and Appendix 1). However, your concern is valid regarding the practical challenges of destructively sampling non-tree woody biomass (shrubs, vines, fallow vegetation) and we

Section 8.2 - Project Emissions			
#	Organization	Comment	Developer's Response
		measurements of trees are relatively simple and estimation of tree biomass stock can be achieved using species identification and allometric equations, other woody biomass such as shrubs or vines in overgrown agricultural areas under fallow periods would require time consuming and expensive destructive sampling that is likely highly variable using biomass clip-plots and the laboratory drying of harvested subsamples to develop wet weight to dry weight ratios biomass in order to estimate non-tree woody biomass stock. The number of the destructive sampling plots in shrub and fallow sites that would be necessary to keep data variability to a reasonable minimum in order to avoid overblowing uncertainty of project carbon stock changes would be incredibly high, given the wide variability in shrub and fallow biomass stocks (e.g., tables 4.7 and 4.12, 2019 IPCC Guidelines V4 Ch4). Our suggestion is to differentiate between tree woody biomass and non-tree woody biomass across the methodology in general, and in the point of Pre-existing Woody Biomass in particular, and for the methodology to require validation of pre-existing stocks with direct measurements for trees while allowing the use of robust and conservative defaults for non-tree or shrub vegetation, such as those provided by the IPCC Guidelines in V4 Ch4 or by regional	will consider this proposed change for the next major revision of the methodology.

Section 8.2 - Project Emissions

#	Organization	Comment	Developer's Response
		peer reviewed studies with fallow and/or shrub biomass stock data.	
109	Shell	We support the introduction that if direct field measurements of pre-existing woody biomass cannot be undertaken, then a stocking index may be used to carry out this assessment that correlates with the project ecoregion.	Thank you for the comment. VM0047 v1.1, Section 8.2.1.2 provides flexibility for estimating pre-existing woody biomass where direct field measurements cannot be undertaken. In such cases, the methodology allows the use of remote sensing-based estimates using a stocking index (SI) that demonstrates a significant correlation with aboveground biomass (AGB) within the project ecoregion (Appendix 1, Section A1.4).
110	Atmosphere Alternative	The estimation of pre-existing woody biomass is better explained.	Thank you for the comment.
111	Laboratory of Global Forest Environmental Studies, Department of Global Agricultural Sciences, Graduate School of Agricultural and Life Sciences, The University of Tokyo	Considering the case that the project meets harvesting activity definition, it is necessary to show the equations for calculating the long-term average as well.	Thank you for the comment. VM0047 v1.1 requires projects with harvesting activities to apply the long-term average (LTA) GHG benefit limit, following VCS Standard v4.7, Section 3.2.28. Equations for calculating the LTA are provided in VCS Standard v4.7, Section 3.2.30. The methodology currently refers projects to follow this standard.
112	unique land use GmbH	The proposed change to the handling of pre-existing biomass is much clearer and straightforward. It helps accommodate retrospective accounting where no inventory data is available while maintaining conservative assumptions. "Pre-existing woody biomass must be measured and extrapolated using Equation (4) at t= 0, immediately prior to initiation of	Thank you for the comment.

Section 8.2 - Project Emissions

#	Organization	Comment	Developer's Response
		the project activity (i.e.., before site preparation); any clearing of pre-existing woody biomass as part of the project activity (e.g., due to site preparation) must be e accounted for. Where direct field measurements of woody biomass are not available for t = 0, CWP-woody-AB,t=0 may be estimated as the upper 90% confidence bound of a stocking index-based (see Appendix 1) model prediction (regression error) of aboveground woody biomass. The model relating aboveground woody biomass to the selected stocking index must meet the requirements listed in the parameter table for stocking index in Appendix 1 (i.e., be significantly correlated with aboveground biomass, substantiated with published or peer-reviewed studies and statistically validated with direct measurements from the project ecoregion, as defined at the biome level)."	
113	Intellecap Advisory Services	How much quantum of fertiliser application could be considered as negligible under both area and census based calculations	Thanks for the comment. Please refer to Appendix 2
114	EP Cabon	In the Pre-existing woody biomass section the methodology states: Pre-existing woody biomass must be measured and extrapolated using Equation (4) at t= = 0, immediately prior to initiation of the project activity (e.g., before site preparation.)	Thank you for the comment. Please refer to Section 8.2.1.2 of VM0047 v1.1 that no longer uses the term "immediately prior" to site preparation when referring to pre-existing woody biomass measurement.

Section 8.2 - Project Emissions			
#	Organization	Comment	Developer's Response
		The use of the word "immediately" is confusing and leads this section to be open to interpretation by audit teams and project developers. Immediately is defined by the English language as: "at once; instantly", this can be interpreted as requiring measurements of pre-existing woody biomass to be conducted the day of or day before site preparation, or within the same calendar year. The methodology should try to limit required interpretation of language in the methodology, and be clear and explicit of when pre-existing woody biomass is required to be measured. A suggested proposed change would be to define how long before site-preparation occurs that pre-existing woody biomass needs to be measured (1 day, 1 month, 1 year, 2 years, etc). Further we would encourage the methodology developer to consider operational components to this requirement. ARR projects often plant over multiple years, and operationally a single initial pre-existing inventory is most cost efficient and operationally feasible to conduct. We would encourage at the minimum clarification on how long measurements are "valid" for between	

Section 8.2 - Project Emissions

#	Organization	Comment	Developer's Response
		measurement and commencement of the project activity.	
115	EP Cabon	Under 8.2.1.1 states when referring to equation 3 the following: The net carbon stock change in <u>tree</u> biomass in the project scenario is estimated as: [Equation 3] Equation 3 estimates the Change in carbon stock in woody biomass in the project scenario through year t (t C). Woody biomass is defined in the methodology as "Biomass in plants with hard, lignified stems (e.g., trees, shrubs, palms, and bamboo) If woody biomass includes biomass components beyond that of trees, why does the description text preceding equation 3 claim that equation 3 only estimates the change in tree biomass? We ask that this is clarified.	Thank you for the note, please refer to the updated description for equation 3. Equation (3) itself estimates changes in woody biomass (not limited to trees), consistent with the definition included in the methodology.
116	Native, a Public Benefit Corporation	Should it be Project Removals instead of Project Emissions?	The term Baseline Emissions is consistent with the standard structure of VCS methodologies across AFOLU project types — including ARR — and is used broadly to refer to changes in carbon stocks in the baseline scenario, whether they are emissions (loss of carbon) or the absence of removals (lack of sequestration).
117	Native, a Public Benefit Corporation	How should SOC at t=0 be measured for projects or instances where project activity has started?	If project activities have already started and include activities that cause disturbance to significant pool (i.e. plowing at a depth greater than 25cms) the project will

Section 8.2 - Project Emissions

#	Organization	Comment	Developer's Response
		Suggestion to maintain the statement: "Where projects establish initial stocks at t > 0, the year of initial measurement is substituted for t=0 in all project stock change equations calculating stock change through year t. Note, this does not affect the project start date which remains as t=0"	ineligible, as there is no way to quantify the emissions from project activities.
118	Native, a Public Benefit Corporation	What evidence do project proponents need to provide to demonstrate that direct field measurements of woody biomass are not available for t = 0?	In VM0047 v1.1, Section 8.2.1.2 (3) (Pre-existing Woody Biomass) stipulates that only when direct field measurements at t=0 are not available, projects can use remote sensing-based estimates of pre-existing woody biomass (using a stocking index model). While the methodology does not prescribe a specific list of evidence, project proponents should provide clear and verifiable justification demonstrating that field-based measurements at t=0 were not possible. Validation/verification bodies (VVBs) will assess whether the justification is reasonable, conservative, and consistent with the VCS Standard v4.7 principle of accuracy and transparency.
119	Native, a Public Benefit Corporation	Please provide guidance on how to statistically validate published or peer-reviewed studies using direct measurements from the project ecoregion.	See the Data and Parameters table in Section A1.5 of VM0047 v1.1.
120	Native, a Public Benefit Corporation	Proposed text change from "Project emissions result from biomass burning and use of fertilizer" to "Project emissions resulting from biomass burning and use of fertilizer".	Thanks for the suggestion. Please see updated section 8.2.2

Section 8.2 - Project Emissions			
#	Organization	Comment	Developer's Response
121	Carbonext	The text provides an alternative for cases where pre-project biomass was not measured in the field (in situ inventory), but the text is quite confusing about the use of permitted secondary data. The text refers to Appendix 1, but vaguely, without indicating exactly which section should be consulted for proper guidance. Note: this alternative is very important for projects that had retroactive plantings without prior inventory.	Please refer to Section 8.2.1.2 that provides guidance for estimating pre-existing woody biomass when direct field measurements at t=0 are not available. For example, the methodology allows the use of a remote sensing-based estimate of pre-existing woody biomass (aboveground) using a stocking index-based model when field data at t=0 are missing.
122	American Forest Foundation	We support this revision to all accounting for clearing of pre-existing woody biomass.	Thanks for the feedback.
123	Conservation International	Why eliminate the requirement that the project proponent must demonstrate that clearing occurred through natural disturbance or by prior land owners? This is a critical point for protecting against bad actors who exploit perverse incentives.	Comment acknowledged. In VM0047 v1.1, the prior requirement is now part of Section 4.4 (Exclusion Conditions) and linked to the VCS Standard: 11 For instance, Section 3.19.29(2) in the VCS Standard, v4.7 stipulates: "Where the ecosystem was degraded within 10 years of the project start date of any ARR, ALM, WRC, or ACoGS activity, evidence shall be provided that the ecosystem was not degraded due to the project activity (e.g., that the degradation occurred in the pre-project land use due to natural disasters such as hurricanes or floods)."
124	Pachama Inc.	We are generally supportive of the approach to use SI to estimate carbon stocks at t=0. However, the proposed language creates two uncertainties with respect to t=0 carbon estimates:	Thanks for the note. Please refer to the updated version of the methodology where we tried to clarify this, including updating uncertainty equations.

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Section 8.2 - Project Emissions

#	Organization	Comment	Developer's Response
		1) When field inventories are conducted either concurrent with or after site preparation (a practical reality on many projects) and there is minimal clearing of woody biomass (i.e. only herbaceous vegetation or trees smaller than what would be included in the field inventory are impacted) we propose that the methodology should allow for the use of the field inventory as the t=0 inventory if it can be demonstrated that there was no change in SI before and after site preparation. 2) It isn't clear how a project would calculate uncertainty under the proposed scenario of using the upper bound of the confidence interval for SI as the t=0 carbon stock estimate. For example, at first issuance the uncertainty calculation in Section 8.4 is based on uncertainty of the t=0 and e.g. t=5 carbon stock estimates, expressed as a percentage of the mean. If using the upper 90% confidence bound as the carbon stock estimate, how could you then derive a 90% confidence interval around your carbon stock expressed as a percentage of the mean? We propose a clarification in this situation, either a) guidance on how to calculate uncertainty or b) assuming that uncertainty is zero given that we are conservatively assuming the uppermost limit of the SI confidence interval.	

Section 8.2 - Project Emissions			
#	Organization	Comment	Developer's Response
125	One Acre Fund	The key phrase is "Where nitrogen fertilizer is applied due to the project activity". How do you determine causality, and also whether they'd determine whether N-application is more than the baseline?	Thanks for the comment. Baseline fertilizer use must be assessed by documenting historical fertilizer application rates on the project land, and/or using regional agronomic data or land-use-specific fertilizer practices. Causality is determined by whether the decision to apply fertilizer is linked to the establishment or maintenance of project vegetation, and whether that use would not have occurred without the ARR activity. All methods used for the project shall be reported in the project description documents and such information must be validated/verified by VVB.

Section 8.3 - Leakage Emissions

Section 8.3 - Leakage Emissions			
#	Organization	Comment	Developer's Response
126	Carbonext	If the census-based approach is used, leakage is set to zero. What is the rationale behind this?	This treatment is based on the applicability conditions and design features of the census-based approach (Section 4.3), which are intended to ensure that: a) The project does not cause activity-shifting leakage — because the census-based approach applies only to small, discrete planting units (trees, shrubs, bamboo clumps) established through direct planting on non-forest lands that remain in the same land use (e.g., cropland, pasture, settlement); b) The project does not cause market leakage — because these small-scale, dispersed plantings do not significantly alter local or regional supply of agricultural or wood products;

Section 8.3 - Leakage Emissions			
#	Organization	Comment	Developer's Response
			c) Land use is maintained — Section 4.3(2) explicitly requires that project activities must not result in land use change or the displacement of pre-existing land use (e.g., continued cropping or grazing is allowed). Thus, it is conservative to assume that the factors leading to leakage in such land parcels would be de-minimus.
127	Re-Green	Consider assuming zero leakage in project activities that enhance forest carbon stocks in existing forests (area-based approach only) if the project proponent proves that there is no shifting of activities (e.g., no grazing and/or no agricultural activity in existing forests).	This is already possible under VMD0054 where a project can demonstrate that it has maintained production within the project area. Further, the project may demonstrate that it has mitigated leakage by increasing production in other locations.

Section 8.4 - Uncertainty

Section 8.4 - Uncertainty			
#	Organization	Comment	Developer's Response
128	Conservation International	Additional clarity is needed to ensure correct calculation of uncertainty. Specifically, since the equation combines values in units of % (e.g., -10%) with values in units of tonnes, the methodology should be 100% clear as to the final units of the portion of the equation that uses the measured parameters (i.e., the terms	Please refer to the updated section 8.5 for Uncertainty

Section 8.4 - Uncertainty			
#	Organization	Comment	Developer's Response
		beginning with the first summation and up to the "- 10%". The implications are significant, as shown here. Interpretation 1: If the calculated value is in units of %, a final calculation of 2 in this section would be 2%; subtracting 10% and applying the bounds would result in 0%. Since the minimum uncertainty discount is 10% (per section 8.6), 10% is the effective UNC discount. Interpretation 2: If the calculated value is not in units of %, a final calculation of 2 in this section would mean propagated uncertainty equal to 200%; subtracting 10% and applying the bounds would result in 100% as the effective UNC discount (i.e., no credits can be claimed). We tested a range of values and assumptions, which suggest that Interpretation 2 is correct (if interpretation 1 were correct, the uncertainty would only begin to exceed 10% once pools have uncertainty values U approaching 100%). Thus, for clarity, we suggest that (a) an additional term " * 100" be added to convert the proportion to a %, or (b) clarify that the calculation value should be treated as a proportion that must be converted to a percent (by multiplying by 100). Following the units, it does seem like the "* 100" step	

Section 8.4 - Uncertainty			
#	Organization	Comment	Developer's Response
		was erroneously omitted, since the value would otherwise be a dimensionless fraction rather than a %. For maximum clarity, the methodology must also provide an example calculation to ensure correct application of the uncertainty measurement; this is critical for all sections with more complex statistics and math. We would also appreciate immediate clarification as to which is the correct interpretation and encourage Verra & TerraCarbon to contact us if we have misinterpreted the calculations.	

Section 8.5 - Estimated GHG Emission Reductions and Carbon Dioxide Removals

Section 8.5 - Estimated GHG Emission Reductions and Carbon Dioxide Removals			
#	Organization	Comment	Developer's Response
129	Laboratory of Global Forest Environmental Studies, Department of Global Agricultural Sciences, Graduate School of Agricultural and Life Sciences, The University of Tokyo	It is necessary to clarify that the long-term average method is applied (instead of the stock difference method) to the project including harvesting.	Thank you for the note. Where the project activity includes harvesting, the project must also follow guidance in conform with the current version of the VCS Standard for applying the long-term average GHG benefit as an upper limit on calculated carbon dioxide removals.
130	American Forest Foundation	We support this removal of language regarding annualization of removals, given	Thanks for the feedback.

Section 8.5 - Estimated GHG Emission Reductions and Carbon Dioxide Removals			
#	Organization	Comment	Developer's Response
		the clarification in the equations above it.	
131	Terra Global Capital	More clarity is required for estimating the Long-term average benefit outlined in the VCS Standard. It would be ideal that Verra develop a guide with calculation examples, similar to the version created in 2011 (https://verra.org/wp-content/uploads/2018/03/VCS-Guidance-Harvesting-Examples_0.pdf). This new guide should include the necessary corrections related to completing the harvest cycles and provide application examples for projects where the Performance Benchmark applies. This clarification is imperative for projects and the document from 2011 is incorrect.	Thanks for the comment. VERRA is currently working on an updated guideline regarding the Long-Term Average. We appreciate your patience.
132	Re-Green	Correct the position of the ")" in the equation "30" and the placement of the parameters PEt and LKt to make the equation clearer.	The equation is updated based on the feedback to provide clarity.
133	Re-Green	Where the project activity includes harvesting activity	Thanks for the comment. VERRA is currently working on an updated guideline regarding the Long-Term Average. We appreciate your patience.
134	Re-Green	When a project activity includes harvesting but does not meet the definition of a harvesting activity, apply an upper limit on the calculated carbon dioxide removals in the final carbon stocks of the crediting period.	Comment acknowledged. Your suggestion pertains to project activities that include some form of biomass removal or tree harvesting, but do not meet the threshold for being classified as a "harvesting activity" under VM0047 v1.1 — and therefore do not trigger the application of the long-term average (LTA) GHG benefit cap. VERRA is currently working on an updated guideline regarding the

Section 8.5 - Estimated GHG Emission Reductions and Carbon Dioxide Removals

#	Organization	Comment	Developer's Response
			Long-Term Average. We appreciate your patience.
135	One Acre Fund	P48 - Calculating biomass requires species, genus, or family-specific allometric equation that has been derived by destructive sampling. So far it's been hard to find this for all species. Can we do this using lidar in order to avoid destructive harvesting for those species that don't have viable allometric equations?	Thanks for the feedback. We shall consider this for the upcoming major revision. For now, we believe that the data parameters table providing following two options should be sufficiently allow the projects to use the allometric equations: i) Equations specific to the forest type within the same ecoregion (defined at the biome level following Olson et al., 2001) or Holdridge (1967) life-zone as the region in which the project is located, or ii) Global equations specific to the forest type.

Section 8.6 - Ex-Ante Estimation

#	Organization	Comment	Developer's Response
136	Shell	We support ex ante calculation at project start date and no loner require 10 year ex ante calculations at each verification event	Thank you for the comment. VM0047 v1.1, Section 8.7 clarifies that ex-ante estimation of carbon removals is required only at validation for the length of the crediting period.
137	Shell	Clarification on the time limit required on how long harvesting interventions must be considered in ex ante calculations, is this for	Thank you for the comment. VM0047 v1.1, Section 8.7 requires that ex-ante estimations of carbon removals model any harvest regimes or forest management

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Section 8.6 - Ex-Ante Estimation

#	Organization	Comment	Developer's Response
		the same project period	activities planned within the crediting period for which the ex-ante estimate is being prepared. Harvesting interventions are only required to be included in ex-ante calculations for the duration of the crediting period (minimum 20 years per Section 3.9.3 of the VCS Standard v4.7 for ARR projects). There is no requirement to model harvesting activities beyond the crediting period in ex-ante estimates.
138	unique land use GmbH	The proposed change to apply the performance benchmark for the entire project duration, instead of just the first ten years, is a good suggestion. It provides clarity on how to include the benchmark deduction in the ex-ante calculations beyond the initial ten years. " $\Delta SIcontrol$: modelled based on performance between t and t- – 10 assuming a linear relationship (e.g., if $\Delta SIcontrol$ is equal to the slope from t-10 to t0 assumed over entire crediting period)."	We appreciate your feedback and have added further clarification to the ex-ante section of the methodology.
139	Intellecap Advisory Services	For a mixed project (using both area and census approach). Ex ante estimations should be done using either area or number of trees for ER estimations or there has to be separate Ex ante estimations?	Thank you for the comment. VM0047 v1.1, Section 8.7 clarifies that where a project applies both the area-based and census-based approaches, separate ex-ante estimations must be conducted for each approach. Each approach has distinct quantification methods: a) Area-based: Ex-ante estimation is based on projected biomass growth per hectare across the project area; b) Census-based: Ex-ante estimation is based on the number of planting units (trees/shrubs) multiplied by projected biomass per unit. For each approach, respective scaling

Section 8.6 - Ex-Ante Estimation

#	Organization	Comment	Developer's Response
			parameters shall be used to estimate Ex ante and both estimation shall be reported separately in the project description report.
140	Conservation International	The methodology is clear that, "A minimum uncertainty deduction of 10% must be applied." In the ex-ante estimation section. However, the methodology does not specify whether the same is true for ex-post estimates during monitoring/verification. This must be clarified, e.g., in Section 8.5 Example calculations would do much to improve the accuracy of calculations and make project developers less dependent on the responsiveness of Verra and TerraCarbon for clarifications to the final ex-post calculations	The requirement for a minimum 10% uncertainty deduction is clearly stated in Section 8.6 (Ex-Ante Estimation) of VM0047 v1.1, but there is no parallel statement in Section 8.5 (Estimated GHG Emission Reductions and Carbon Dioxide Removals) regarding whether this same minimum applies ex-post. Yet, updated uncertainty equations already include a 0.10 (10%) minimum uncertainty embedded in the calculations.
141	Terra Global Capital	More clarity is required for estimating the Long-term average benefit outlined in the VCS Standard. It would be ideal that Verra develop a guide with calculation examples, similar to the version created in 2011 (https://verra.org/wp-content/uploads/2018/03/VCS-Guidance-Harvesting-Examples_0.pdf). This new guide should include the necessary corrections related to completing the harvest cycles and provide application examples for projects where the Performance Benchmark applies.	Thanks for the comment. VERRA is currently working on an updated guideline regarding the Long-Term Average. We appreciate your patience.
142	Terra Global Capital	In general, we have observed that there is a poor correlation between the Stocking Index	Thank you for your note. We are in continuous process of improving approaches and methods to enhance

Section 8.6 - Ex-Ante Estimation			
#	Organization	Comment	Developer's Response
		(and other similar indices) and the above-ground biomass, especially on degraded areas. Therefore, greater clarity is needed in calculating the Performance Benchmark for Ex-Ante Estimations.	conservativeness of the estimates. Appendix 1 (Section A1.4, Table A1) of VM0047 v1.1 requires that the selected Stocking Index (SI) must demonstrate a statistically significant correlation with aboveground biomass using: Peer-reviewed literature, or Validation with field data from the project's biome/ecoregion. As better approaches are developed we will continue updating this and other related elements of VM0047 in the next major revision.

Section 9.1 - Data and Parameters Available at Validation

Section 9.1 - Data and Parameters Available at Validation			
#	Organization	Comment	Developer's Response
143	EP Cabon	In section 8.4 "Uncertainty", under the subheading "Area-based quantification", the methodology states "Uncertainty in area estimation is assumed to be zero and is addressed via complete (and accurate) GIS boundaries of the project area, and by applying QA/QC procedures specified in the parameter table for A." However, in section 9.1 "Data and Parameters Available at Validation", the parameters do not contain a box for QAQC procedures to apply. Further review of the monitoring parameters reveals that the QAQC procedures for A are contained in the "Justification of choice of	In the process of updating the methodology VERRA prioritized other more important revisions. We will consider this suggestion for the next major revision of VM0047

Section 9.1 - Data and Parameters Available at Validation			
#	Organization	Comment	Developer's Response
		data or description of measurement methods and procedures applied" box for Validation parameters. This is in contrast to section 9.2 "Data and Parameters Monitored" starting on page 44, which contains QA/QC procedures to be applied to those parameters. It would be clearer if the Validation parameters had their required QAQC procedures delineated in a specifically labelled box as the Monitoring parameters do.	

Section 9.2 - Data and Parameters Monitored

Section 9.2 - Data and Parameters Monitored			
#	Organization	Comment	Developer's Response
144	EP Cabon	The parameter for Average aboveground woody biomass stocks in the project scenario in year t (area-based quantification) states that "Aboveground woody biomass of each sampled woody plant (e.g., tree, shrub) is estimated using published allometric equations applied to one or more measured attributes"	Thanks for the feedback. We shall consider this for the upcoming major revision. For now, we believe that the data parameters table providing two options should be sufficiently allow the projects to use the allometric equations: i) Equations specific to the forest type within the same ecoregion (defined at the biome level following Olson et al., 2001) or Holdridge (1967) life-zone as the region in which the project is located, or ii) Global

Section 9.2 - Data and Parameters Monitored

#	Organization	Comment	Developer's Response
		In the case where there are no applicable equations meeting the requirements laid out (which we believe will often be the case for shrub biomass), the methodology does not provide any alternative procedures to estimate biomass. Guidance on how to handle the situation where no published equations exist or can be located that meet the requirements found in the table should be provided to project developers. For example, allowing projects to validate the applicability of other allometric equations could be re-allowed, as it was in VM7, or, guidance and requirements for creating new equations. Further, the usage of requiring for the use of "published" allometric equations eliminates the opportunity for projects to develop site specific allometric equations, is this the intention of the methodology?	equations specific to the forest type.
145	Native, a Public Benefit Corporation	Average aboveground woody biomass stocks in the project scenario for year t (area-based quantification): Please clarify what is involved in field measurement and plot-based sampling. Specifically, would data collected via drones, smartphones, or LIDAR be accepted?	Thank you for the comment. This is an ongoing discussion with our DMRV Working Group. At this time, VT0005 cannot be used. Section 9.2 clarifies that field measurement for the parameter "Average aboveground woody biomass stocks in the project scenario for year t (area-based quantification)" must be based on plot-based sampling using standard forest inventory practices.
146	Native, a Public Benefit Corporation	Average aboveground woody biomass stocks in the project scenario in year t (area-based quantification): we suggest that	The methodology is currently exploring all potential forest mensuration techniques to improve conservative estimates of project scenario. While LiDAR shows

Section 9.2 - Data and Parameters Monitored

#	Organization	Comment	Developer's Response
		geospatial data, such as vegetation height collected through LIDAR, be accepted as a proxy for carbon where the project proponent can provide evidence of good correlation between the proxy and carbon stock. This would significantly lower the MRV costs and enable scaling up ARR initiatives.	promising results, use case in replacement of direct measurement is still widely unclear, also the case of cost effectiveness and wide scale upscaling is still in question. To understand this potential, the methodology allows the use of remote sensing techniques such as LiDAR only to explore the Stocking index for now. Further, this is out of scope for the minor revision and shall be explored and considered in the next major revision.
147	Native, a Public Benefit Corporation	We suggest that attributes (e.g. total tree height) incorporated as independent variables in allometric equations may be collected using geospatial data, such as LIDAR.	Thanks for your suggestion. Please see responses above.
148	Re-Green	In the "Description of measurement methods and procedures to be applied" for the parameter CWP-woody-AB,t include the option of allometric equations from scientific literature applicable to the forest type, as well as allometric equations developed by the project proponent that meet the conditions of the "AR-TOOL17 Demonstrating appropriateness of allometric equations for estimation of aboveground tree biomass in A/R CDM project activities." The list of possibilities should not be "in descending order of preference"; therefore, it should be listed as acceptable options.	Comment acknowledged. Your recommendation highlights a valid concern regarding the description of measurement methods for the parameter CWP-woody-AB,t. VERRA maintains that having an order of preference for these allometric equations is appropriate.
149	Re-Green	In the "Description of measurement methods and procedures to be applied" for	Comment acknowledged. Your recommendation highlights a valid concern regarding the description of measurement

Section 9.2 - Data and Parameters Monitored

#	Organization	Comment	Developer's Response
		the parameter BWP-woody-AB,pu,,t include the option of allometric equations from scientific literature applicable to the forest type, as well as allometric equations developed by the project proponent that meet the conditions of the "AR-TOOL17 Demonstrating appropriateness of allometric equations for estimation of aboveground tree biomass in A/R CDM project activities." The list of possibilities should not be "in descending order of preference"; therefore, it should be listed as acceptable options.	methods for the parameter CWP-woody-AB,t. VERRA maintains that having an order of preference for these allometric equations is appropriate.
150	Re-Green	In the "Description of measurement methods and procedures to be applied" for the parameter BSDW,t include the option of allometric equations from scientific literature applicable to the forest type, as well as allometric equations developed by the project proponent that meet the conditions of the "AR-TOOL17 Demonstrating appropriateness of allometric equations for estimation of aboveground tree biomass in A/R CDM project activities." The list of possibilities should not be "in descending order of preference"; therefore, it should be listed as acceptable options.	Comment acknowledged. Your recommendation highlights a valid concern regarding the description of measurement methods for the parameter CWP-woody-AB,t. VERRA maintains that having an order of preference for these allometric equations is appropriate.
151	Re-Green	Include the parameter to be monitored for HWP as described in the "VMD0005 Estimation of carbon stocks in the long-term	The projects using the methodology shall refer only to VMD0054 unless other wise stated.

Section 9.2 - Data and Parameters Monitored			
#	Organization	Comment	Developer's Response
		wood products pool (CP-W), v1.1"	

Appendix 1 - A1.1 - Applicability Conditions

Appendix 1 - A1.1 - Applicability Conditions			
#	Organization	Comment	Developer's Response
152	Global Evergreening Alliance	Change to allow project activities of any size, indirect establishment to compatible with Section 4. Applicability Conditions (pp. 8-9)	Thanks for your comment. In the new version of VM0047, the difference between the area and census-based approaches is no longer linked to a specific area size (acreage). In addition to whether there is a land-use change (area-based) or not (census-based), VERRA has implemented a maximum threshold of 50 planting units per hectare to define the threshold between both approaches. Sections 1.1 and 1.2 summarize the characteristics of each approach and section 4 details all applicability conditions. This update is focused on facilitating small-scale ARR projects using the census-based approach while allowing examples like those cited to use the area-based approach.
153	Terra Global Capital	In conditions where the baseline contains woody vegetation, such as in shrublands or sparse plantations, the ex-ante SI control would grow indefinitely if dSI_control is set as a constant. This is problematic, because it sets the unrealistic baseline scenario of	Where the project proponent wishes to add additional constraints to the ex-ante modelling of the deltaSI_control we would encourage providing clear justification for the change. Such changes will need to be reviewed and approved by a VVB and Verra on a case by case basis.

Appendix 1 - A1.1 - Applicability Conditions			
#	Organization	Comment	Developer's Response
		indefinite growth and does not consider (1) biomass removal by anthropogenic activity or (2) saturation in growth. How could the Performance Benchmark be estimated in this type of case?	

Appendix 1 - A1.2 - Baseline Scenario

Appendix 1 - A1.2 - Baseline Scenario			
#	Organization	Comment	Developer's Response
154	Intellecap Advisory Services	If some the control plots selected might be considered by government or other project developer then the project based quantification has to be taken from the remaining control plots. Otherwise there will be significant risk of reduced ER generation. The paragraph states that- The application of the performance benchmark, as explained below, effectively excludes crediting of project activities that may be expected to be implemented without carbon incentives, based on comparative outcomes. Does this means the increase in the biomass due to project not implemented with carbon credit incentive is not calculated?	Thank you for the comment. VM0047 v1.1, Section 6.1 and Appendix 1 clarify that the area-based approach uses a performance benchmark based on observed changes in stocking index (SI) between project plots and matched control plots to set the crediting baseline. Selection of an appropriate donor pool and control plots is a result of different parameters defined in the Appendix 1 of the Methodology, which is further used to prove additionality.

Appendix 1 - A1.2 - Baseline Scenario			
#	Organization	Comment	Developer's Response
155	Carbonext	What criteria should be evaluated to determine the similarity of control plots compared to project areas? (Although described in Appendix 1 "A1.2", the indicators and tolerance limits are not clear.)	Please refer to Appendix 1 (Section A1.4) that describes the control plot matching procedure under the area-based approach. The criteria to determine similarity between control plots and project plots involve both the selection of covariates and evaluation of match quality.

Appendix 1 - A1.3 - Performance Benchmark

Appendix 1 - A1.3 - Performance Benchmark			
#	Organization	Comment	Developer's Response
156	Eden: People+Planet	VM0047 mentions 'Assessing plots using remote sensing, does not involve direct estimation and reporting of carbon stocks. Remote sensing is used only to estimate relative stock change between control and project plots. Accounting of emission reductions and removals is treated in Section 8 and is dependent on direct field measurement.' However, it is unclear if remote project plots (used to establish the performance benchmark) and physical project plots (used to estimate carbon removal) can be the same.	Project plots (remotely sensed) and sample plots (physical measurements of project carbon stocks) may be co-located but are not required to be. For the Performance benchmark, the selection of project plots must follow step 1, A1.4. For the sample plot, refer to the data parameters under CWP-woody-AB,t.
157	Cirrus	Whereas one understands the use of remote	The Stocking Index (SI) serves two main functions: a)

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Appendix 1 - A1.3 - Performance Benchmark

#	Organization	Comment	Developer's Response
		sensing and ground-truthing to generate a stocking index, unless we are missing it, further information on the process would be appreciated. The stocking index is essentially a model of the relationship between an estimate of canopy cover (e.g. from Sentinel imagery), canopy height (e.g. from Lidar) and measured carbon stocks on the ground. Firstly, how accurate does the modelled relationship need to be (e.g. r2 value)? Secondly, does the model need to cover the full range of carbon stock values that can be expected in the project scenario - from open bare land, through each successional stage, to mature forest? Thirdly, is the stocking index established once at the start of the project and applied throughout the project period (40 years), or are there fixed field plots (and additional new plots) that are remeasured once every 5 years and the stocking index is calibrated accordingly?	monitoring vegetative change in both project and control plots and b) Calibrating SI to field-based biomass through model development using project plot data. VM0047 v1.1 does not specify a mandatory R^2 threshold for the regression model used to relate the SI to field-measured biomass. However, it requires that the model must be significantly correlated with aboveground biomass, and be supported by peer-reviewed or published literature, or statistically validated using direct measurements from the same ecoregion (defined at the biome level). Yes, the model should be calibrated across the full expected range of carbon stock values — from low/zero vegetative cover (e.g., bare land or pasture) through successional stages to mature vegetation. Appendix 1 requires representative control plots to reflect similar covariates and stocking index histories, which implies that the model's calibration must span the expected variation in SI values across the landscape. The stocking index is not static — it is recalibrated or validated over time using newly collected project plot data. This ensures that remote sensing estimates continue to reflect ground-based carbon dynamics as the project matures.

Appendix 1 - A1.4 - Procedure to Define the Performance Benchmark

Appendix 1 - A1.4 - Procedure to Define the Performance Benchmark			
#	Organization	Comment	Developer's Response
158	Atmosphere Alternative	The Procedure to Define the Performance Benchmark is well explained, taking into account its steps and the evaluation of each one of the parameters.	We appreciate your feedback.
159	Laboratory of Global Forest Environmental Studies, Department of Global Agricultural Sciences, Graduate School of Agricultural and Life Sciences, The University of Tokyo	It is necessary to show in what case the long-term average is employed.	Thank you for the comment. VM0047 v1.1 (Section 8.6.1) requires the application of the long-term average (LTA) method for projects with harvesting, consistent with VCS Standard v4.7, Section 3.2.28.
160	PUR	This approach relies on remote sensing to compare the baseline biomass of full sun perennial crops with the biomass of shaded project parcels. We have conducted a remote-sensing pilot on our oldest project faced significant challenges. It becomes crucial to accurately differentiate between the different layers of biomass, which necessitates the use of very high-resolution remote sensing technologies that are often expensive. It's important to note that the overall cost of certification and its impact on funders operating within specific budgets should be taken into account. Moreover separation between planted trees and trees from orchards requires very precise object detection, which especially at closed canopy is a very challenging application.	Thanks for the comment. Just to be clear, VM0047 v1.1 do not ask the project to establish ground surveys during the performance benchmark assessment. The performance benchmark is determined by comparing the average rate of increase in the stocking index (SI) between project and control plots. Assessing plots using remote sensing does not involve direct estimation and reporting of carbon stocks. Remote sensing is used only to estimate relative stock change between control and project plots. Accounting of removals is treated in Section 8 and is dependent on direct field measurement. Please refer to Appendix 1.

Appendix 1 - A1.4 - Procedure to Define the Performance Benchmark			
#	Organization	Comment	Developer's Response
		Moreover, identifying control plots that are truly representative of our baseline proves to be a difficult task. Our baseline extends beyond mere initial land use and must also reflect the socio-economic context and farming practices of the participating farmers. For instance, we need to consider factors such as the same perennial crop in full sun, the same age category of perennials (which affects the probability of land use change), identical agricultural practices (including spacing, species, fertilizers, etc.),the same land tenure, which is very complex to obtain in the case of smallholders, as well as farmers from similar socio-economic backgrounds. Comparing large agribusiness owners with small-scale farmers would be counterproductive. It is not feasible to address these criteria solely through remote observation of satellite images or publicly available data. Field surveys would need to be conducted, but unfortunately, it is challenging to persuade non-beneficiary farmers to spare time and respond to surveys or allow access to their farms. We would need to somehow incentivize them to talk to us, (i.e.: pay them for their time or provide a basket of food), but that might skew what they tell us. Also, they might say they'd prefer to join the	

Appendix 1 - A1.4 - Procedure to Define the Performance Benchmark

#	Organization	Comment	Developer's Response
		program (if they're land is eligible, PUR feels it would be unethical for us to exclude them) and therefore we'd lose our control plot. Not to mention, implementing field surveys would incur significant additional costs.	
161	American Forest Foundation	We support the additional detail to be required in project descriptions. However, this can create barriers to small landowner participation in carbon projects for those for whom data privacy is a concern. Creating mechanisms to keep project plot data available only for those who are interested stakeholders and for the purpose of replication and validation (rather than available publicly) can support small landowner participation. Perhaps this could be achieved by requiring that such data be requested, or some other privacy mechanism to prevent full publicity of locations.	Thank you for your suggestion. All projects shall follow Free Prior Informed Consent from all relevant stakeholders involved in the project. The VCS Program already allows commercially sensitive information (including specific location data) to be treated as non-public — provided the project proponent submits justification and the data remain available to the VVB and Verra for validation, verification, and registry purposes.
162	Earthshot Lab	Step 2: "Any geospatial datasets included must have resolution no coarser than 30 x 30 meters.": Clarify if this requirement only applies to raster data and whether it is permissible to down-scale coarse data.	Where a single remote sensing data product is used, the coarser resolution shall not be more than 30x30 meters. In cases where multiple data products are used, at least one geospatial dataset must have resolution of 30x30 meters. The 30 × 30 m resolution requirement only applies to raster datasets used in the performance benchmark. Downscaling is only acceptable if it involves validated, model-based methods — not mere resampling — and must be transparently documented and justified during validation.

Appendix 1 - A1.4 - Procedure to Define the Performance Benchmark			
#	Organization	Comment	Developer's Response
163	Earthshot Lab	Table A1: Ecoregion: Should this also reference Olson et al 2001 as a required authority for Biomes?	Thanks for noticing this. Olson et al. 2001 is used as a source in section 9 (Monitoring) and also in Table A1.5 when explaining the monitoring of the Stocking Index.

Appendix 1 - A1.5 - Data and Parameters Monitored

Appendix 1 - A1.5 - Data and Parameters Monitored			
#	Organization	Comment	Developer's Response
164	EP Cabon	In section 10.5, under "Data and Parameters Monitored", the SIcontrol,t and SIwp,t parameters state in the "QA/QC procedures to be applied" that the remote sensing metric applied must "2) Be validated with direct measurements from the project region (collected from within the project ecoregion; ecoregion defined at the biome level)". It then states "Processing and analysis of remote sensing data must apply best practices, such as those found in:" and then lists several references.

It is unclear what the term "direct measurements" means. Earlier in the document the term "direct field measurements" are used in section 8.2, which implies that the term "direct | Thanks for the feedback. Regarding the stocking index, the use of *validated* in this section refers to the demonstration that the remote sensing metric has been calibrated and verified using field measurements representative of the project region. |

Appendix 1 - A1.5 - Data and Parameters Monitored

#	Organization	Comment	Developer's Response
		measurements" does not require a field team to perform measurements. Would a different remote sensing metric be a viable "direct measurement" to validate the stocking index metric? Or is a field team required to perform physical measurements on the ground to verify the remote sensing metric? The type of direct measurement required should be clarified. It is also unclear if the term "Validated" is used in the Verra sense of the word that the direct measurements only need to be performed at project validation, or if the direct measurements need to be performed at each monitoring event.	
165	Native, a Public Benefit Corporation	It would be helpful to have a protocol or guidance for validating the remote sensing metrics used for SI control, t and SI wp,t with direct field measurements for SI, such as the minimum number of direct measurements.	Please refer to appendix 1 of the methodology for more information about the project plots and selection of control plots. A representative sample of n = 30 or more project plots, via random or systematic, stratified or unstratified sampling must be selected for the performance benchmark.
166	Earthshot Lab	QA/QC procedures to be applied: At what alpha should significance be tested?	VM0047 v1.1 does not explicitly specify the significance level (alpha, α) to be used for statistical testing in QA/QC procedures. However, for the Z-test (Section A1.4 Performance Benchmark), where the absolute value of Z is equal to or exceeds 1.96, parameters ΔSIcontrol,t and ΔSIwp,t are deemed significantly different. This is consistent with an alpha of 0.05 (95% confidence interval).

Appendix 1 - Performance Method – Overall Feedback

Appendix 1 - Performance Method – Overall Feedback			
#	Organization	Comment	Developer's Response
167	Varaha ClimateAG Pvt. Ltd.	Stock Indices Control plot selection: **Control Plot**: A nearby degraded area without intervention, but with a similar soil type and disturbance history - Investment barrier. **Control Plot:** A nearby land with any plantation left barren not degrading, but with a similar soil type and disturbance history - Investment barrier. **Control Plot:** A nearby land with same/similar species and would not receive the intervention, but with a similar soil type and disturbance history - Performance benchmark.	Thanks for the feedback. Control Plots shall be selected as per the steps illustrated in the Appendix 1. This shall follow several criteria which may include but not limited to soil type, and disturbance history as depicted in each scenario.
168	Varaha ClimateAG Pvt. Ltd.	Can we use our own methodology in assigning weights and model validation for control plot selection. e.g. Bayesian Approach with statistical tests.	Yes — VM0047 v1.1 allows flexibility in selecting the methodology for control plot matching and model validation, provided that: a) The approach meets the methodological requirements of VM0047 v1.1 Appendix 1 (especially Section A1.4 — Procedure to Define the Performance Benchmark); b) The selected approach is scientifically robust, transparent, and conservative and c) The approach must be validated during project validation by a VVB.
169	Terra Global Capital	There are cases where there are contrasting land uses prior to the project, such as bare	Comment acknowledged. VM0047 v1.1 does not explicitly state whether the performance benchmark (PB) can be

Appendix 1 - Performance Method – Overall Feedback			
#	Organization	Comment	Developer's Response
		soil and vegetated areas. Ideally these areas would be identified as different strata with different performance benchmarks, and it is necessary to know if the Performance Benchmark can be calculated separately for each type of prior land use. This is important because the initial biomass values for different strata are highly contrasting, and the methodology does not specify how to handle these situations.	calculated separately by stratum based on differing pre-project land uses (e.g., bare soil vs. sparsely vegetated grassland). However, the methodology is designed to allow stratification were doing so improves accuracy and better represents variation in baseline dynamics
170	Terra Global Capital	It has been observed that when the biomass of project activities does not significantly differ from the biomass of the previous land use, the Stocking Index (and similar indices) may not capture this difference, potentially leading to the project being deemed non-additional. This may be the case where the additional carbon generated is small, but still significant to the Project Proponent, especially for smallholders in cropping systems. In such cases, are there alternative methods available to demonstrate the additionality of the project?	An alternative for smallholders would be to use the census based approach which avoids performance benchmarking. Whereas area based approach shall be applicable where significant change may be detected. We will continue our efforts to improve the applicability of the methodology to multiple conditions.

General Feedback

General Feedback			
#	Organization	Comment	Developer's Response
171	Native, a Public Benefit Corporation	In "Appendix 2: Testing the Significance of Carbon Pools and GHG Emissions," it would be helpful if the procedure provided additional explicit guidance on how to define the 'relative contribution of each source s.' As in, how should the PP assess the relative contribution of an aboveground non-woody biomass varietal. Is it a combination of referenced source s contribution values from peer-reviewed studies or regional ecological literature alongside remote sensing efforts to quantify and extrapolate the relative contribution for each source s? Additional guidance for the PP and the VVB (during assessment) would be appreciated. This may be an addition to consider for VMD0054.	The "relative contribution of source" refers to the expected magnitude of carbon stock change or GHG emission from pool s, relative to the total project GHG benefit. This should be assessed ex-ante, and updated ex-post if field or monitoring data become available. Project proponents should use conservative, literature-based estimates supported by regional data and document assumptions for VVB review.
172	PUR	We appreciate the efforts made to update and improve the methodology, which will undoubtedly enhance the accuracy and credibility of projects. Having worked with the previous methodology for several years in more than 30 countries, we are pleased to see the advancements in the new ARR. Our team is strongly committed to farmer equity in carbon projects, and we have kept this principle in mind while evaluating the new methodology.	Thanks for your kind note. VM0047 v1.1 recognizes the complexity of applying ARR methodologies in smallholder agroforestry systems, particularly where parcel sizes are small, and project designs prioritize farmer equity and diverse planting strategies. Section 4 (Applicability Conditions) and Section 5 (Project Boundary) provide flexibility through the census-based approach, which was designed specifically to enable scaling of projects involving dispersed plantings (e.g., agroforestry with shade trees in perennial crop systems). Scaling is based on a complete census of planting units within each project instance, without reliance on remote sensing or control

General Feedback			
#	Organization	Comment	Developer's Response
			plots.
		Based on our extensive experience in agroforestry projects involving small-scale farmers with parcels of less than 2 hectares, focusing on perennial crops like coffee or cocoa, and incorporating shade trees for additional biomass, we would like to provide valuable feedback. During our review of both approaches, we encountered significant application challenges that we are currently struggling to overcome.	
173	Pachama Inc.	The significance threshold for inclusion of a carbon pool in Appendix 2 is not consistent with the definition in Section 5 (page 14). Section 5 states "Carbon pools and GHG emissions sources may be deemed de minimis where it is reasonably demonstrated that the combined decrease in carbon stocks or increase in GHG emissions amounts to less than 5 percent of the total GHG benefit generated by the project." Appendix 2 states that neglected carbon pools must be "less than 5 percent of the sum total of all decreases in carbon pools and increases in emissions, or less than 5 percent of carbon dioxide removals, whichever is smaller." There are two specific issues to address: 1) Appendix 2 adds an additional stipulation that is not included in Section 5 (<5% of sum total of all decreases in carbon pools and	Thank you for the suggestion. Refer to the updated section 5 and appendix 2.

General Feedback			
#	Organization	Comment	Developer's Response
		increases in emissions) which in many cases (specifically when leakage is 0) will require the monitoring of very small emissions/carbon pools. For example, if leakage is zero and there is no fertilizer usage or biomass burning, any reduction in the herbaceous pool (e.g. from site preparation or loss due to shading from tree cover) becomes significant because the sum of all other emissions/reductions in carbon pools is effectively zero. Since the VM0047 methodology requires the inclusion of potentially very small carbon pools/emissions sources (e.g. targeted fertilizer usage, herbaceous carbon pools) we propose that a consistent definition of 5% of net GHG benefit is used to determine significance and the procedure in Appendix 2 be updated to remove significance testing procedures relative to increased emissions/decreased carbon pools and only test for significance against GHG benefit.

2. The threshold for significance in Section 5 is stated as "5 percent of the total GHG benefit" but the threshold in Appendix 2 is "5 percent of carbon dioxide removals". These are effectively the same since the calculation of removals in the methodology includes emissions and carbon stock changes. However, since the term "removals" often refers to the gross project removals from a project (i.e. tree growth and | |

General Feedback			
#	Organization	Comment	Developer's Response
		increases in other carbon pools only) we propose a consistent definition: either "net GHG benefit, accounting for emissions sources and reductions in carbon pools" or "net project removals, as calculated in Section 8".	
174	Re-Green	Provide an equation that applies to the situation described in Appendix 2: "The GHG emissions, possible decreases in carbon pools, and leakage emissions excluded from the summation are considered insignificant where their sum is lower than 5% of carbon dioxide removals. Otherwise, the procedure described above must be continued beyond the threshold of 0.95 until this condition is met."	Thanks for your comment. This test is performed after the project proponent has ranked carbon pools or emissions sources from least to most significant (i.e., least to most contribution to total impact), and is iteratively summing their contributions while comparing the cumulative included proportion to 95% of total impact. The final check ensures that everything outside the 95% cumulative impact (i.e., the excluded 5%) doesn't exceed 5% of the total net GHG benefit — a safeguard to ensure excluded pools aren't disproportionately important.
175	Native, a Public Benefit Corporation	For an easier read and use of the methodology, we suggest that requirements applicable only to Area-based and Census-based approaches be clearly distinguished in the document (e.g. through the use of color coding).	Thank you for the suggestion, we have done our best to make the distinction between the two approaches clear while ensuring standardization of methodologies across VCS.
176	Laboratory of Global Forest Environmental Studies, Department of Global Agricultural Sciences, Graduate School of Agricultural and Life Sciences, The University of Tokyo	I can't find any "degraded ecosystem" description in the document. For example, the abandoned land where intensive agriculture was conducted in the past 10 years can be regarded as degraded ecosystem?	Thanks for your comment. Please refer to the VCS Program definition for a better understanding of how VCS defines a degraded Ecosystem: https://verra.org/wp-content/uploads/2024/04/VCS-Program-Definitions-v4.5-FINAL-4.15.24.pdf. We will consider expanding this definition inside VM0047 in the next revision.

General Feedback			
#	Organization	Comment	Developer's Response
177	EP Cabon	The methodology would benefit from having general, more reader-friendly conceptual explanations at the beginning of each section, to clarify the intent of the section (however obvious it might seem to the author), and to briefly describe the concept of the approach the methodology is taking. There are numerous examples below. Currently, the methodology is written to be read and understood only be specialists in the subject matter and may be more challenging for non-specialists. Having a bit more set-up text in various places would help the overall clarity, and accessibility of the methodology to a wider range of users.

5. Project Boundary. Briefly describe the overall concept and some example situations when each might be applied for Area vs Census based approaches.

7. Additionality - Clarify to reader that for area-based approached/performance method, additionality is dynamic, that there is No other additionality test other than the requirements listed here. Explain why it is dynamic and what the implications are that it is so. This can all be fairly brief, but would be helpful. Most proponents are still likely adjusting to a performance method, so it couldn't hurt to specifically say something like "because the methodology uses a | This is a valuable suggestion. Since the greenlined version was submitted for public comments, VERRA made substantial changes to improve its readability and wider application. |

General Feedback			
#	Organization	Comment	Developer's Response
		performance method, the VCS Additionality Tool is not applicable to this methodology because it is used by the project method approach to additionality. ". 8.2 Project GHG Quantification- Where ever calculations are present, the methodology uses a mathematical function and definition of variables as the exclusive way to present and explain the process. For improved clarity for the reader, a brief qualitative and conceptual description would make the methods more accessible to more users. For example, in 8.2.1, "project Carbon Stock Changes", an introductory paragraph could be added at the beginning to say: "Project carbon stock change is calculated by the sum of measured carbon sock changes plus the change in soil carbon stocks during the given monitoring period". Although it may seem minor, such adjustments would improve the clarity and accessibility of this methodology. TBD more..	
178	EP Cabon	Common practice for census approach The clarify of the guidance for the common practice assessment is a bit thin and could be increased to give more specificity and guardrails to ensure the assessment is credible, and to ensure a common understanding of what the method entails	Thanks for the comment. VM0047 v1.1provides detailed guidance for the common practice analysis under the census-based approach in Section 7.3.4. The methodology outlines steps for conducting a common practice assessment, including defining the project activity, identifying the geographic domain, identifying the adopter class, surveying a representative sample, and calculating the adoption rate. Your suggestion is valid and will be

General Feedback			
#	Organization	Comment	Developer's Response
		and it's purpose. 1. Guidance on what a "representative" sample would be, would be helpful, to avoid gaming 2. More specificity on the content and purpose of the survey would be helpful as well. For instance, there is no specific requirement to state that the purpose of the survey is, or what the general content should be. Instead currently methodology just jumps to demanding that the adoption rate of project activity implementation without carbon finance revenue be calculated.	considered for the next major revision of VM0047.