SUMMARY OF PUBLIC CONSULTATION

VM0048 Reducing Emissions from Deforestation and Forest Degradation, v1.0

A draft of *VM0048 Reducing Emissions from Deforestation and Forest Degradation, v1.0* was open for public consultation between 31 March 2022 and 30 May 2022. This document includes a list of each comment received and the developer's response.

KEY QUESTIONS

Q1: Do you see any opportunities to simplify or improve the efficiency of the AUDD methodology application process?

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1	BioCarbon Partners (BCP)	Yes, we feel the AUDD methodology application process would be simplified and more efficient if project proponents were permitted to apply and validate all the modules themselves. In many cases project proponents have done a large amount of preparatory work, in assessing the feasibility or potential projects, and this local knowledge and data would enable better application of the modules. In addition, local project proponents are likely to have existing ties with national stakeholders, and could help to incorporate national strategies more	This process aims to ensure harmonizing and comparability of key results such as activity data. It is therefore not envisioned that projects will apply Annex 1, jurisdictional activity data collection, risk mapping and allocation, but there is ample opportunity for projects to apply or submit for consideration their project level data or work with local governments to supply data or register JNR programs. Because the methodology and tools will be public, project developers can approximate a plausible range of baseline AD allocation based on simulation of the development of jurisdictional datasets. We have already seen project developers cost-effectively undergo this feasibility work. It will not produce 100% agreement with

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		effectively into baseline design.	the final official allocated AD, but there are numerous sources of risk in the financial projections of a carbon project, and Verra does not believe there should be an expectation that projects have 100% guarantee of baseline AD, when a close approximation is readily achievable. Furthermore, once jurisdictional AD, forest cover benchmark maps (FCBMs) and risk maps are established, they will last for six years, giving projects six years of assurances in developing financial models. Third-party validation is required for all projects in the VCS Program.
2	Biofilica Ambipar Environment & NBS Brazil Alliance	One of the most sensible stages of the REDD+ project development is the definition of the Reference Region, as its choice is relatively subjective and has a major impact in the baseline emission estimates. Allowing for the reference region to be based on jurisdictional bounds enclosing the project reduces subjectivity and improves the application process, but only if project proponents can choose the most appropriate jurisdictional level, considering the distribution of deforestation drivers and agents, and project size.Having the entire baseline provided by Verra can greatly simplify the application process, but at least for the Amazon region, the following questions arise: • Will Verra be able to provide baseline and risk maps for new	• We hope to have data available for all jurisdictions where there are current VCS AUDD projects before the end of 2024. Once the first round of allocations are complete, Verra will draft and implement a plan for how these will be updated in a timely manner. We are looking to find efficiencies wherever possible, e.g., by using multiple data service providers and engaging directly with the government as appropriate. • Verra determines jurisdiction boundaries; for a significant majority of countries the jurisdiction will be the national boundaries. As an example, in the first set of countries only DRC and Brazil include subnational jurisdictions, while Colombia, Kenya, Tanzania, Zambia, and Cambodia are national. Verra will seek review from the national government for any jurisdiction with unclear boundaries. AUDef Appendix 4 describes how stakeholders may provide input into the development of data products and clarifies that governments and other stakeholders may

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		projects timely? • Will projects be able to propose more adequate jurisdictional levels (e.g.: Municipalities instead of States; or including neighboring Municipalities) based on their knowledge of the project's region? Will Verra allow for the possibility of multiple baselines for multiple jurisdictional levels? • Will Verra make jurisdictional risk maps available at all times, so that project proponents can evaluate projects prospectively? • How the project jurisdictional level will be selected if a project area or leakage belt encompasses two or more smaller-scale jurisdictions (small scale projects).	provide recommendations on the proposed boundaries. Table 18 identifies that Verra is responsible for making a final determination. Verra has made this choice to minimize the perception that project proponents may be influencing the definition of the jurisdiction to game results in their favor. • Maps will be publicly available once developed. • Data would be developed for multiple jurisdictions, and projects would receive allocations from these separate jurisdictions. Updates will only be needed every 6 years.
3	Conservation International (CI)	We welcome VERRA´s proposal of standardizing components of VCS´s Avoiding Unplanned Deforestation Methodologies, but our first impression is that the application of the process described require more thinking and the testing of the procedure by project proponents. It would be important to ensure that financial and risk barriers are not being created. With these changes, Verra is requiring PPs	We acknowledge that we could generate bottlenecks and are committed to doing our best to avoid them. PPs are welcome to apply to be data service providers or to submit supplementary materials for consideration by data service providers. However, AD collection, risk mapping and allocation need to be done at the jurisdictional level for the *VMD0055* to work.

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		and project developers to pay unknown sums of money and wait unknown periods of time with unknown delays to receive baseline and monitoring activity data. In terms of efficiency, Verra could be generating a bottleneck by relying entirely on unknown third-party data providers for this process. This aspect of the new methodology introduces significant risks, disincentives, and financial barriers for AUD projects to be certified under VCS. Since VERRA's stated goal is to improve consistency by standardizing the production of these data with high quality standards, we suggest that VERRA allow PPs and project developers to follow the published procedures with the same quality standards and oversight by VVBs as would be required of the third-party data providers. We recommend letting PPs and project developers continue to produce high-quality work as they have for years while increasing oversight and instituting scientific, evidence-based processes with high standards for quality. Many PPs and project developers have in-house capacity and cumulative decades of experience analyzing remotely sensed imagery and producing maps of land cover, land use, and land use change. We also have experience performing quality controls and statistical analysis of error and uncertainty	

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		on such products. Such a change would be simple for all parties, including Verra. It would eliminate the new bottleneck Verra is creating and mitigate costs without sacrificing quality or exacerbating differences in the ability of small vs. large PPs and project developers to participate in the voluntary carbon market for AUD projects under the VCS standard.	
4	The Nature Conservancy (TNC)	It might be more interesting for Verra to develop guidelines/requirements so any organization can replicate the process. Project developers often do several assessments to understand the feasibility of a REDD project before submitting a PDD, and it might be unfeasible to request (and pay) for this activity data (for example) at the feasibility stage. There are general concerns about the capacity of Verra to deliver the Activity Data Baseline for AUD in a timely and cost-effective manner. Taking into consideration that there is a backlog of almost 2y of projects and a very ambitious carbon market out there.	1. Current *VMD0055* Appendix 1 sets out the process that Verra will follow to develop AD; UDef-RP and UDef-AP will be publicly available - these things should enable projects to replicate the processes for feasibility studies. 2. Verra is doing our best to use resources effectively to not be a barrier to project development and implementation. Verra is accelerating the process by contracting out the data creation to many different service providers drawn from highly regarded international remote sensing firms. As of Oct 2023, 13 jurisdictions are under development with the goal to complete all by the end of 2024. Verra is exploring ways to accelerate the rollout of these datasets further.
5	Wildlife Conservation Society (WCS)	In the short term, we encourage flexibility and adaptability, this would include allowing project developers to comply with the requirements of a third party, but for this work to be contracted directly by a project developer or country government	Project proponents are not permitted as DSPs. They can contribute data per *VMD0055* Appendix 4.

Q2: Are there particular circumstances and deforestation patterns for which you would recommend alternative risk mapping approaches? If so, which circumstance and deforestation patterns, and what kind of risk mapping approaches have been successfully employed to reliably predict future deforestation?

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6	Biofilica Ambipar Environment; NBS Brazil Alliance & Carbonext	The jurisdictional territories in the Amazon, even the smallest of them - the municipality - are quite extensive. Sometimes even bigger than European countries. This means that there are different deforestation patterns within the same municipal boundary, caused by very different economic drives, and social dynamics in each part. The development of jurisdictional risk maps necessarily needs to be able to capture these local nuances, as they are most responsible for the dynamics of land use change. Over-generalizing risk maps will make areas that really need a lot of resources to be conserved to produce little and vice versa. Local effects are key to understanding the dynamics of deforestation and identifying places with greater or lesser risk of forest conversion.	Please see the procedures in *VT0007*. This fine level variation is considered. Under *VT0007*, it is allowable for alternative risk maps to be developed if they can be shown to achieve a higher accuracy than a benchmark approach. Project proponents will not be allowed to develop the official jurisdictional risk map, but they can develop maps and models and submit them for review by the data service provider (See appendix 4).

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7	Conservation International (CI)	During the consultation for the JNR Risk Mapping tool, we identified several issues and suggested changes to improve the methodology (e.g., statistical analysis for selection of the best risk map). Please refer to those documents for the tests conducted and evidence provided regarding these issues. Please also clarify the contradiction between the JNR Risk Mapping tool and the new Activity data model. The JNR Risk Mapping Tool states: "Users of the JNR Allocation Tool may create risk maps using the approach that they consider most appropriate... The risk map created with the alternative approach must be of similar or better quality than the best risk map produced with this JNR Risk Mapping Tool." The J-ADB-UD document, in contrast, states: "This module shall be applied exclusively by Verra or Verra-selected providers for the purpose of developing and allocating the Jurisdictional Activity Data Baseline for AUD projects. Project Proponents may utilize this module for informational purposes only." The former implies that the PP can produce its own risk map, including other factor maps (e.g., roads, demographics) directly	The commenter is referring to an outdated version of the risk mapping tool. In *VT0007*, this contradiction no longer exists. "Users" of the risk mapping tool are understood to be those who are implementing it to produce the official datasets sanctioned by Verra.

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		related to the agents and drivers of deforestation; however,	
8	Terra Global Capital, LLC	When implementing the risk map tool, we find some important points that must be considered. In the first place, as shown in Map 1, we note that when there are large areas of non-forest and forest areas with little deforestation, the local deforestation rate at the boundaries between forest and non-forest areas is 0 and therefore, the risk of deforestation is low, Map 2. In mathematical terms this is correct, but if we take into account the dynamics of those areas, the risk of deforestation should be much higher since the division between forest and non-forest, in most of the cases, it's agricultural expansion, and a considerable underestimation of the risk of deforestation in these critical areas are made with this tool. Another issue that is not very clear in the tool is what risk category should be assigned to areas with a local deforestation rate of 0. This concern arises, since the tool gives instructions to identify the areas of insignificant risk of deforestation and that these are category 0 in the final deforestation risk map. Therefore, it is assumed that areas with a	1. The current *VT0007 Risk Mapping and Allocation Tool* is different from the version available when this comment was written. Comments about the technical performance of the original Risk Mapping Tool are not likely to bear significant relevance to the new tool. 2. *VT0007* allows for the comparison of various mapping approaches, and there is no restriction on the type of models allowed.

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		local deforestation rate equal to 0 are considered to be in the category immediately above areas of insignificant risk of deforestation. This assumption is based on the fact that the total area with local deforestation zones equal to 0 is greater than the area with insignificant risk, and if we categorize the 0 local deforestation rate to 0 in the final risk map, then the insignificant risk calculation makes no effect in the risk map, as can be seen in Map 3. Additionally, the tool could consider the use of other variables related to the terrain, such as slope and aspect, in this way more weight can be given to areas that have terrain conditions that are more accessible than others. And in our experience using our land-use change model, while often forest density is the most significant variable, there are 2-5 other variables that can explain an additional 30-40%. In the JNR R&R the tool also allows to construct a risk map with a different methodology, as long as the RMSE is lower compared to the map created with the risk map tool proposed by VERRA. The tool creates a static risk map and the JNR allocation tool only works from risk categories defined by a risk map of this	

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		style. However, from models or learning machines, dynamic risk maps can be created over time that may have better adjustments, and the allocations can be made dynamically over time, too. This is something that can be done, but it is not clear if it is allowed by standard since the only alternative they offer for allocation is the JNR Allocation Tool. And in these new proposed rules AUD Methodology Application Guide v1.0 Section 5.3 "Until further notice, the JNR RMT is the only risk mapping approach that can be applied for the allocation of baseline jurisdictional activity data to AUD projects. Alternative risk mapping approaches may be considered by Verra to revise and improve the JNR R MT." For means that less accurate spatial risk models will be used, then there are better available in the market. "	
9	Green Growth Consulting Firm	National circumstances of unplanned deforestation are; hydropower, agriculture, mining, roads. The pattern can be mosaic in a particular landscapes. Definition of "unplanned" and "planned" need to be clear first.	Planned deforestation is defined in the *VCS Standard*. The methodology aims to exclude forms of deforestation that defy the risk modeling approach, including identified exclusions that are large instances of planned deforestation. There is now more specific guidance in the *VMD0055* around identifying certain types of 'identified exclusions', some of which are examples of planned deforestation. There is no requirement to exhaustively differentiate all planned and unplanned deforestation in the historical period.

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10	Clark University	Yes, see https://www.mdpi.com/2073-445X/7/3/105 and what we discussed during summer 2021. The proposed method to select the best risk map has conceptual flaws. The Total Operating Characteristic assesses the risk map in terms of allocation; use the free software at https://lazygis.github.io/projects/TOCCurveGenerator as described in https://www.mdpi.com/2072-4292/13/19/3922 Read the book at https://link.springer.com/book/10.1007/978-3-030-70765-1	*VT0007* now incorporates a new approach to comparing maps, the Median Absolute Deviation.
11	Silvestrum Climate Associates	Mangroves need to be able to be distinguished in the stratification process at some point.	*VMD0055* has been updated to exclude wetlands; new Verra methodologies are under development to supplement UDef in wetland areas.
12	South Pole	"Forest Islands", Projects in the border of the jurisdiction sharing multiple frontiers; particular ecosystems such as wetlands without representative ecosystems in the surrounding areas; protected areas and national parks surrounded by areas with different managements.	It is unclear to Verra what this comment refers to as it is only a list of landscape characteristics. Verra cannot respond.
13	Systemica	The Systemic company aims to develop highly qualified projects, to understand in practice what is being proposed by VERRA, our company developed the risk map with	These concerns were taken into account when revising the *VT0007 Unplanned Deforestation Risk Mapping and Allocation Tool.* The benchmark approach set out in that document does not consider the factors suggested by

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		the new proposed methodology. Concerning this experience, there are a few points that still need to be discussed. 1) Firstly, there was great difficulty in generating the maps, as it requires a high technical level and requires a lot of setting/running time, mainly in large areas, as is the case of regions in Brazil. Although the proposed methodology has a good performance with R^2 greater than 0.85 in the tested areas (Amazonas, Pará, Mato Grosso, Colniza, etc., see figures 1, 2, 3 and 4 in the spreadsheet 'Results'), there is an error dilution owing to vast territory application. In addition, when time is used as a projection reference, there is a problem with areas where the deforestation pattern is unconsolidated. Trancoso R. (2021) emphasizes the change in deforestation patterns in the Amazon with an increase of 61% deforestation polygons comparing the 10-year previous. Moreover, there are high impact deforestation drivers (such as roads and rivers) that are not considered, resulting in underestimated deforestation by the model. In the model, only one driver is used, that is the distance to past deforestation. Roads drive deforestation by attracting migrant workers, resulting in boosting	the commenter, but stakeholders are invited to submit such data for alternative risk maps that will be tested against the benchmark map.

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		investment in previously inaccessible forest areas. In the Amazon, not only do roads stimulate deforestation, which increases the profitability of agriculture and livestock, but also roads influence land speculation and deforestation to establish and defend land tenure. Major highways were accompanied by a network of minor roads built by loggers, miners, and others. Deforestation is spreading outward from the highway and its access roads. Also, there are migration pathways for landless farmers and others, pushing deforestation into adjacent areas (Philip Fearnside, 2015). The herringbone deforestation pattern found in regions of Brazil and Ecuador is attributed to this road impact (Andrés Viña, F. R. E. and Rundquist, D. C., 2004, and Maurano L.E.P. et al., 2019). Aragão L.E.O.C. et al. (2021) emphasize the deforestation hotspots at the margins of the BR-319 in the Amazon about 90% of the direct influence zone of this highway is composed of preserved pristine vegetation. So, deforestation alerts increased significantly and directly influenced the zone of roads. The image is an example of de JNR Risk Map of Colniza-MT, made with PRODES deforestation dataset, that the black color is 0 risk and the red color is the higher risk. There is a calibration map between 2016	

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		and 2019, where the yellow patches are the deforestation from 2019 to 2021, and the pink line is the secondary roads. As pointed out with a red arrow, some deforestation areas correspond to the 0 risk class on the risk map. The gap in the risk map also proves that the roads are a crucial driver of deforestation in the Amazon and necessary to consider. In addition, this city has consolidated deforestation, however, in areas where deforestation is expanding (like the south of Amazonas state), the risk map can be underestimated the deforestation more than this example, as the risk map only considers the historical deforestation. Another risk mapping approach can be used considering drivers, such as (i) Dinamica-EGO (Soares-Filho et al., 2002) uses the weights of evidence method (Bonham-Carter, 1994), which generates a map of change potential based on a set of explanatory variables; (ii) Land Change Modeller (Eastman & Toledano, 2018); (iii) CLUE (Verburg & Overmars, 2009); and (iii) GEOMOD (Pontius Jr et al., 2006). All these models work from ""factor maps"" in which the input variables are used to explain deforestation patterns and make future projections. Trancoso, R. (2021). Changing Amazon deforestation patterns: urgent need to	

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		restore command and control policies and market interventions. Environmental Research Letters, 16(4), 041004. Fearnside, P. M. (2015). Amazon dams and waterways: Brazil's Tapajós Basin plans. Ambio, 44(5), 426-439. Maurano, L. E. P., Escada, M. I. S., & Renno, C. D. (2019). Padrões espaciais de desmatamento e a estimativa da exatidão dos mapas do PRODES para Amazônia Legal Brasileira. Ciência florestal, 29, 1763-1775. Viña, A., Echavarria, F. R., & Rundquist, D. C. (2004). Satellite change detection analysis of deforestation rates and patterns along the Colombia–Ecuador border. AMBIO: A Journal of the Human Environment, 33(3), 118-125. Mataveli, G. A., Chaves, M. E., Brunsell, N. A., & Aragão, L. E. (2021). The emergence of a new deforestation hotspot in Amazonia. Perspectives in Ecology and Conservation, 19(1), 33-36. Soares Filho, C. V., de Andrade Rodrigues, L. R., & Perri, S. H. V. (2002). Produção e valor nutritivo de dez gramíneas forrageiras na região Noroeste do Estado de São Paulo. Acta Scientiarum. Agronomy, 24, 1377-1384.	

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		Bonham-Carter, G. F., & Bonham-Carter, G. (1994). Geographic information systems for geoscientists: modelling with GIS (No. 13). Elsevier. Etemadi, H., Smoak, J. M., & Karami, J. (2018). Land use change assessment in coastal mangrove forests of Iran utilizing satellite imagery and CA–Markov algorithms to monitor and predict future change. Environmental earth sciences, 77(5), 1-13. Verburg, P. H., & Overmars, K. P. (2009). Combining top-down and bottom-up dynamics in land use modeling: exploring the future of abandoned farmlands in Europe with the Dyna-CLUE model. Landscape ecology, 24(9), 1167-1181. Pontius Jr, R. G., & Chen, H. (2006). GEOMOD modeling. Clark University.	
14	The Nature Conservancy (TNC)	Projects that are located in areas where distinct drivers of deforestation are present, (e.g. conversion to rice and coffee which requires different terrain conditions) but only one is occurring inside the project area. The risk map could lead to over or under estimation of the baseline. Social and political context might also change the risk considerably in a very short term (e.g. 1-2 y) invalidating the historical period	Verra acknowledges that a drawback of a jurisdictional risk mapping approach is that certain highly location-specific drivers might be overlooked. Verra has made the strategic choice that consistency of approach across the jurisdiction is a priority and for this process to be led by 3rd party rather than project proponents. Project proponents are encouraged to submit data, information, and models to the data service provider that may assist them in producing better risk maps (see *VMD0055* Appendix 4).

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		trend.	
15	Value for Nature Ltd.	It appears that the JNR Risk Mapping Tool uses distance to historical deforestation as its only criterion to determine deforestation risk, to keep things simple. Proximity to historical deforestation is no doubt an important criterion to determine deforestation risk, but it cannot be the only one. It should only be the single criterion where there is homogeneity in terms of access to forest land by deforestation actors (determined by land ownership type and land management) and interest of accessing forest lands by deforestation actors (determined by forest type, terrain, climate). In other words, there may be boundaries across which access and interest is significantly different. This may lead to over-estimations of deforestation risk, as well as under-estimations. For example, in Madre de Dios, Peru, there are areas of high deforestation that are private lands along main roads and rivers, while further inland there are logging concessions that logging companies lease from the state. While some inactive concessions closest to the road have been steadily encroached upon by squatters, actively logged concessions have not. An active presence in the forest seems to be	Comments have been noted; they reveal a misunderstanding of how the deforestation risk modeling and mapping will be implemented in the consolidated methodology (in *VT0007*). The straightforward model based on the distance to forest edge is not the one that will (necessarily) be adopted as the jurisdictional deforestation risk model and map; it is meant to serve only as a benchmark, initial, or reference model. Project proponents and other relevant stakeholders are prompted to recommend other variables demonstrably related to deforestation risk in the jurisdiction and provide the corresponding data. Those additional data will then be used to construct alternative, information-richer, more complex models that may be better than the benchmark model at predicting deforestation risk across the entire jurisdiction. The predictive ability of the benchmark and alternative models will be compared in purely statistical terms and the one model that shows the best predictive ability will be the one adopted as the jurisdictional model (and map) of deforestation risk. This has been further described and clarified in the latest version of the *VMD0055*.

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		an effective deterrent. Commercial logging groups have the clout and the funds to be a formidable opponent to small-scale opportunistic agents of deforestation. Assuming that deforestation up to the concession boundary would continue unabated into the concession would result in an over-estimation of deforestation. Another example: indigenous reserves in Brazil have been able to keep out the surrounding deforestation on privately owned lands to varying degrees, depending on the strength of their leadership, legal and technical support, and financial resources. Deforestation pressures on indigenous reserves have increased as state support has waned. There are likely to be 'tipping points' beyond which the indigenous tribe is not able anymore to stop the influx of deforestation actors, resulting in a much higher deforestation risk than just that of proximity to historical deforestation. Since the jurisdictional risk mapping is carried out by a specialized consultant only every 6 years, it does not have to be overly simplistic. It would not be too difficult to add additional criteria into the JNR Risk Mapping Tool, based on risk of deforestation agent's access to forests (e.g. high, medium, low) and willingness to	

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		access (e.g. high, low). The Tool could prescribe processes to determine these classes, for example through overlays with cadastral maps, and interactive sessions with the jurisdictional forest authority to determine areas under different management type and management effectiveness, as well as areas with low potential for post-deforestation land uses (e.g. too steep, too wet). The identification of forests at risk would still be driven by proximity to historical deforestation, but would be different in areas with different access and willingness profiles. The proposed risk mapping only uses historical deforestation in the previous 6 years. Successful AUDD projects will therefore, in a sense, shoot themselves in the foot in subsequent baseline periods. Especially frontier deforestation may result in a significantly lower allocation of activity data if most lands outside the project boundary were already deforested before the second baseline period. This might not adequately reflect the risk of deforestation that still exists within the project boundary. This risk would depend on the vulnerability of the project proponents and stakeholders. Again, an indigenous tribe may have been able to keep opportunistic deforestation agents out during the first baseline period, but its efforts could	

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		collapse if carbon finance falters in the second period due to reduced deforestation in proximity to their project boundary and a failure to recognize their vulnerability. Other vulnerable project proponents are poor communities with few resources, influence or capacity to confront deforestation agents. While the project should by design seek to change this situation this may take time. The status of vulnerability of the project proponent could be (re)determined at validation and verifications. A tool could be developed for this assessment. Not only could a high vulnerability status lead to a default allocation of 'high' on the risk of deforestation agent's access to forests, it could also trigger the assumption that in these highly vulnerable projects those areas allocated as activity data in the previous baseline map become observed areas of deforestation in the subsequent baseline map. These then determine where in the project area further deforestation would have taken place based on proximity, which are then allocated to the project. These allocations are then assumed to be the observed areas of deforestation in the next baseline map, and so on. This approach ensures continued support for those forests and people that are literally on the front line	

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		and that face the highest risks of deforestation.	
16	Volkswagen-Climate Partner	The dependence of risk on distance from forest edge isn't as applicable to most protected areas as it is to mosaic types of deforestation in wildernesses or other non-protected areas. Additional factors such as law enforcement capacity and perceived ecosystem value are often the strongest determinants of deforestation risk in protected areas. Any area that can possibly be converted is, therefore, at some level of risk. The current J-ADB-UD module will result in rather few medium to high-risk classes, and a large number of insignificant (zero) risk classes to the core regions in protect areas, which basically lowers the credit generation per ha of such project areas, and could end up discouraging conservation of protected areas through REDD+. This may not reflect realities on the ground. Suggestion: Risk classes should be from minimum to high, not insignificant to high. Develop a standardized baseline allocation for protected areas that use protection parameters, rather than distance alone to create the AD. Rationale: Revenue generation from all	Comments have been noted; they reveal a misunderstanding of how the deforestation risk modelling and mapping is to be implemented in the consolidated methodology (in *VT0007*). The very simple model based on distance to forest edge is not the one that will (necessarily) be adopted as the jurisdictional deforestation risk model and map, it is meant to serve only as a benchmark, initial or reference model. Project proponents and other relevant stakeholders are prompted to recommend other variables that are demonstrably related to deforestation risk in the jurisdiction and provide the corresponding data. Those additional data will then be used to construct alternative, information richer, more complex models that may be better than the benchmark model at predicting deforestation risk across the entire jurisdiction. The predictive ability of the benchmark and alternative models will be compared in purely statistical terms and the one model that shows the best predictive ability will be the one adopted as the jurisdictional model (and map) of deforestation risk. This has been further described and clarified in the latest version of the *VMD0055*.

Q2: Are there particular circumstances and deforestation patterns for which you would recommend alternative risk mapping approaches? If so, which circumstance and deforestation patterns, and what kind of risk mapping approaches have been successfully employed to reliably predict future deforestation?			
#	Organization	Comment	Developer's Response
		convertible areas allows for the protection of the whole protected area as a single unit. Moreover, threat to protected areas is not conversion to agriculture alone (think of biodiversity conservation for the CCB standard).	
17	Wildlife Conservation Society (WCS)	As discussed previously, we strongly encourage that alternative approaches be allowed. It is recommended that guidance be developed by land use change modelling experts which lays out the recommended components to be included in any risk modelling, and procedures for comparing risk maps and choosing the appropriate maps.	*VT0007* has will have all of the elements requested in the original comment: • Alternative approaches are allowed; • Recommended components to be included in a benchmark risk modelling approach; • Procedures for comparing risk maps and choosing the appropriate maps, currently understood to be the TOC curve.

Q3: Regarding sampling vs wall-to-wall mapping, could you point to reliable and accurate wall-to- wall mapping examples?

Q3: Regarding sampling vs wall-to-wall mapping, could you point to reliable and accurate wall-to- wall mapping examples?			
#	Organization	Comment	Developer's Response
18	Biofilica Ambipar Environment; NBS Brazil Alliance & Carbonext	Mapbiomas (http://www.mapbiomas.org) and Prodes (http://terrabrasilis.dpi.inpe.br/downloads/).	Wall to wall, or any other spatial data type may be used in following ways described throughout the module: 1) To develop a stratification approach to image sampling 2) to develop a project-specific forest cover benchmark map

Q3: Regarding sampling vs wall-to-wall mapping, could you point to reliable and accurate wall-to- wall mapping examples?			
#	Organization	Comment	Developer's Response
		National sources such as Mapbiomas and Prodes pay attention to these criteria and therefore have been widely adopted for the development of REDD projects throughout Brazil. We view with caution if there is a need to produce our own FCBMs for new projects because they will make the value of project development too expensive, and at the same time, they will no longer have guarantees of higher quality and accuracy. Brazil has historical and clear difficulties of consistent systematic mapping, especially in the Amazon region. Monitoring the dynamics of land use change in a region that is in constant transformation is extremely costly. Initiatives such as Mapbiomas changed this history substantially. With the use of advanced technology, it is able to quickly map the land use of Brazil through methods that adhere to the requirements of VERRA standards (high accuracy, validation with high resolution images, high availability and free of charge). Wall-to-wall mapping can produce better estimates of land cover (change) areas than sampling, depending on the method used. For example, in the reference bellow we've demonstrated that using the inclusion probabilities of a Randon Forest Classifier for estimating land cover class areas resulted in estmates that were within the confidence bounds of sampling-based	3) to supplement and aid analysts in visual interpretation of high resolution imagery. Project proponents may always generate land cover maps to any standard desired to support their own implementation of emission reduction activities. Following best practices outlined in "GFOI Integration of remote-sensing and ground-based observations for estimation of emissions and removals of greenhouse gases in forests," section 4.2, the estimate of deforestation area from a map must be adjusted using accuracy point samples. In *VMD0055* Appendix 1, highly accurate land cover change maps can be used to define sampling strata for the point samples, and doing so will substantially reduce effort and improve precision. Projects can furthermore make project-specific FCBMs and submit them for comparison to the jurisdictional FCBM.

Q3: Regarding sampling vs wall-to-wall mapping, could you point to reliable and accurate wall-to- wall mapping examples?			
#	Organization	Comment	Developer's Response
		estimates of higher size sample size (i.e. they are more statistically efficient). (DOI: 10.1109/TGRS.2021.3080083)	
19	Conservation International (CI)	"In its webinars, Verra representatives repeatedly justified the change to the sampling-based mechanism as resulting from best-available evidence from scientific studies. It must be noted, however, that such studies are not referenced in the methodology, and, therefore, Verra provides no basis on which to evaluate this claim. The sampling-based approach has some key advantages in terms of evaluating uncertainty and error, which, as we understand it, is what motivated Verra to make this change. There are also advantages in identifying lower-density forest types (e.g., woodlands, dry forest) where spectral similarity reduces the accuracy of land cover classifications performed using common multispectral datasets (e.g., Sentinel-2, Landsat), which is why a point-based approach is used in VM0009. However, it should be noted that there are many studies that achieve >90% overall accuracy on wall-to-wall maps; these studies should have been identified in the literature reviewed by Verra and contractors in preparing this methodology, can be found by a search of academic literature, and thus will not be mentioned here.	The methodology chooses to follow the best practice as advocated by GFOI, FAO and others. Estimates of area change based on pixel counting without undergoing bias-correction are not credible and overwhelming result in non-conservative estimates of area of change. High resolution imagery must be used wherever possible which will give as much information on tree cover as on the ground visits. Furthermore AD developers are permitted to use ground based data as a supplement as described in Section A1.4.1 "Rules for determining the evidence and interpretation guidance that should be employed must be described in the SOP for image interpretation and may rely on a combination of imagery, secondary remote sensing data and ancillary spatial or non-spatial data." The shortcomings of estimating areas, particularly areas of change, by pixel counting on wall-to-wall maps constructed by classifying remote sensing data have been well identified in the scientific literature; such limitations include the frequent bias of the resulting estimates and the lack of an estimate of the uncertainty of the estimates. To address such shortcomings, the sample-based approach for estimating areas and areas of change from remote-sensing classifications has been advocated as a good-practice. Key references describing such shortcomings and supporting the use of the sample-based approach as a good practice include: 1. Pontus Olofsson, Giles M. Foody, Martin Herold,

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		Considerations: The quality of a sampling-based approach via visual inspection depends on the level of experience and of the person performing the analysis as well as that person's knowledge of the local context. The idea that one or two service providers would be performing all of these analyses exacerbates this issue, because they will be generating activity data for a wide range of forests and geographies and therefore will likely be unfamiliar with many local land covers. Furthermore, there should be consistency in terms of who should be performing the analysis – VM0009 suggests that the same person should interpret the points for all images to avoid introducing additional error by having multiple people interpret these data. Furthermore, the methodology as written does not mention any field data collection to ground-truth and validate what is being produced. Though the sampling-based approach includes equations to estimate uncertainty, this is based on standard error calculated using sample sizes and the area of the strata. The methodology has no method to evaluate the accuracy and error of the data produced, because there is no comparison of the activity data produced via image inspection with data that confirms the actual, on-the-ground land cover. In other words, there will be no	Stephen V. Stehman, Curtis E. Woodcock, Michael A. Wulder, Good practices for estimating area and assessing accuracy of land change, Remote Sensing of Environment, Volume 148, 2014, Pages 42-57, ISSN 0034-4257, https://doi.org/10.1016/j.rse.2014.02.015. 2. Olofsson, P. (2018) Accuracy and Area Estimation. In S. Liang (Ed.), Comprehensive Remote Sensing, vol. 6, pp. 128–135. Oxford: Elsevier.

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		indication as to whether the points were correctly identified. A wall-to-wall map, in contrast, is often evaluated using a confusion matrix to determine error based on the proportion of points that are incorrectly classified. Both methods have their advantages and disadvantages; a middle-ground approach may require sampling-based approaches for contexts where wall-to-wall maps perform poorly and vice-versa. Verra should also consider that the methodology, as it currently stands, requires a blend of wall-to-wall and sampling based approaches for the Forest Cover Benchmark Maps (FCBMs) and Activity Data (AD), respectively. Verra is not ""moving away"" from wall-to-wall approaches, rather, it is simply changing the role of this approach in the methodology. We would also like to see any potential issues that could result from this ""mixed mapping"" method of combining data produced by these two different approaches."	
20	Terra Global Capital, LLC	Accurate classified images come from in depth knowledge of the area and require intimate understanding of the land-use and land-use change dynamics. When developed properly wall to wall mapping will produce more spatially accurate results. Terra Global has completed many wall-to-wall classified images that meet the	1. It is consistent with all other Verra methodologies that datasets are considered valid regardless of the background of the individuals who produced the data, as long as it can be shown the datasets meet requirements laid out in the module. 2. Verra weights local knowledge and connection with local stakeholders in the selection of data

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		rigorous requirements of Verra (including third-party audited products).	service providers. 3. High quality wall-to-wall maps are currently a methodological requirement - see Forest Cover Benchmark Maps.
21	Clark University	See https://www.mdpi.com/1999-4907/6/12/4386/htm	Verra requires a more concrete recommendation to be able to adequately respond.
22	Radicle Group	In Brazil, MapBiomas is an important tool regarding land-use-change and it utilizes a wall-to-wall mapping approach. However, the approach is based on a moisac of different dates imagery.	1) Any existing spatial data type may be used in following ways described throughout the module: 1) To develop a stratification approach to image sampling 2) to develop a project-specific forest cover benchmark map 3) to supplement and aid analysts in visual interpretation of high resolution imagery. 2) Following best practices outlined in "GFOI Integration of remote-sensing and ground-based observations for estimation of emissions and removals of greenhouse gases in forests," Section 4.2, the estimate of deforestation area from a map must be adjusted using accuracy point samples. In Appendix 1, highly accurate land cover change maps can be used to define sampling strata for the point samples, and doing so will substantially reduce effort and improve precision.
23	Silvestrum Climate Associates	For mangroves, the GEM tool (https://www.mdpi.com/2072-4292/12/22/3758) has proven to be globally applicable and accurate.	*VMD0055* has been updated to exclude wetlands; new Verra methodologies are under development to supplement UDef in wetland areas.
24	South Pole	It is important to clarify that independent of the mapping approach, a single approach is not guaranteed to be accurate and	The specific approach to identifying forests using imagery will vary between jurisdictions based on the SOP customized to each landscape. The general approach of

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		reliable, forest ecosystems around the world are so diverse that standardized processes tend to underestimate forest areas.	using high resolution imagery as a primary source will remain the same across jurisdictions, but the interpretation guidelines, forest definitions, and use of ancillary datasets may differ substantially.
25	Systemica	In the context of Amazon biome, there are many approaches that can produce LUCC wall-to-wall maps with good accuracies, like combining artificial intelligence and multiple sources. Several approaches were made last year with SAR images, from Sentinel 1. This sensor is able to obtain ground information on the presence of clouds, which is common in the Amazon during the rainy season. Diniz et. al (2019) produces maps with Random Forest using SAR images, generating maps with 82.7% of accuracy. Dal Molin Jr & Rizzoli (2022) used Sentinel-1 images and a convolutional neural network (CNN) for multi-layer (multitemporal) semantic segmentation, capable of producing maps with 90% of accuracy. The combination of multiple sources such as SAR and multispectral images can promote a better classification since it's possible to obtain more attributes to describe the LUC classes, as Yordanov & Brovelli (2021) got 93% of global accuracy. Some other approaches using multispectral images can produce wall-to-wall maps, like the linear spectral mixture model (LSMM) that decompose the pixel spectrum of an	Following best practices outlined in "GFOI Integration of remote-sensing and ground-based observations for estimation of emissions and removals of greenhouse gases in forests," section 4.2, the estimate of deforestation area from a map must be adjusted using accuracy point samples. In Appendix 1, highly accurate land cover change maps can be used to define sampling strata for the point samples, and doing so will substantially reduce effort and improve precision. Projects can furthermore make project-specific FCBMs and submit them for comparison to the jurisdictional FCBM.

Q3: Regarding sampling vs wall-to-wall mapping, could you point to reliable and accurate wall-to- wall mapping examples?			
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		image on different components (fraction images), the endmembers, like vegetation, water, and bare (KESHAVA, 2003). This approach was used in the TerraClass project (Almeida et. al, 2016) and other papers (Shimabukuro et al, 2019). There are some programs in Brazil that already produces wall-to-wall maps of the Amazon Forest, like PRODES which uses Landsat images, LSMM, and visual interpretation to map the deforestation (Almeida et. al, 2021; Valeriano et. al, 2000). Also can mention the Mapbiomas project, which is formed by universities, NGOs, and companies and developed an automatic classification method to produce a time series of maps of land use and land cover of Brazil, from 1985 to the present, and more recently, in other Latin American countries (MAPBIOMAS, 2021). References: Almeida, C. A. D., Coutinho, A. C., Esquerdo, J. C. D. M., Adami, M., Venturieri, A., Diniz, C. G., & Gomes, A. R. (2016). High spatial resolution land use and land cover mapping of the Brazilian Legal Amazon in 2008 using Landsat-5/TM and MODIS data. Acta Amazonica, 46, 291-302. Almeida, C. A., Maurano, L. E. P., de Morisson Valeriano, D., Camara, G., Vinhas, L., Gomes, A. R., ... & Amaral, S. (2021) Metodologia para monitoramento da	

Q3: Regarding sampling vs wall-to-wall mapping, could you point to reliable and accurate wall-to- wall mapping examples?			
#	Organization	Comment	Developer's Response
		floresta usada nos projetos PRODES e DETER INPE. Diniz, J. M. F. D. S., Gama, F. F., & Adami, M. (2020). Evaluation of polarimetry and interferometry of sentinel-1A SAR data for land use and land cover of the Brazilian Amazon Region. Geocarto International, 1-19. Dal Molin Jr, R., & Rizzoli, P. (2022). Potential of Convolutional Neural Networks for Forest Mapping Using Sentinel-1 Interferometric Short Time Series. Remote Sensing, 14(6), 1381. MAPBIOMAS. Algorithm Theoretical Basis Documente (ATBD), collection 6, version 1.0. 2022. Valeriano, D. M., Mello, E. M., Moreira, J. C., Shimabukuro, Y. E., Duarte, V., Souza, I. M., ... & Souza, R. C. M. (2004). Monitoring tropical forest from space: the PRODES digital project. International Archives of Photogrammetry Remote Sensing and Spatial Information Sciences, 35, 272-274. Yordanov, V., & Brovelli, M. A. (2021). Deforestation Mapping Using SENTINEL-1 and Object-Based Random Forest Classification on Google Earth Engine. The International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences, 43, 865-872.	

Q3: Regarding sampling vs wall-to-wall mapping, could you point to reliable and accurate wall-to- wall mapping examples?			
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26	The Nature Conservancy (TNC)	It is not just a matter of accuracy, but wall-to-wall mapping provides important information to assess contributions and attributions to different parcels/ stakeholder and support benefit-sharing, for example. Sampling does not provide enough information to effectively design the mitigation actions on the ground, and therefore be more targeted in achieving the climate impacts (i.e. carbon credits). It creates a disconnect between the desktop assessment for the sole purpose of estimating AD and informed decision about deforestation mitigation. In addition, PP might opt to develop wall-to-wall mapping for the reasons above, however considering that PP will pay Verra for the AD it will not be an efficient way to optimize resources. Lastly, considering that at least 3 Forest Cover Benchmarks will be developed for the historical period in order to create the Risk Maps, adding deforestation or forest cover change would lead to a full wall-to-wall map.	1) The datasets produced in *VMD0055* Appendix 1 are solely used for the generation and allocation of baseline activity data. Projects are encouraged to generate whatever additional spatial data they may benefit from to guide the implementation of their emission reduction activities. 2) As noted, the FCBMs serve as a form of wall-to-wall land cover change maps. These are utilized in risk modeling, but also will likely be utilized in stratifying the activity data sample design. The FCBMs will be made available to project proponents. Projects may analyze or utilize the FCBMs in any way that benefits implementation of their activities.

Q4: As a project developer, do you foresee yourself submitting Forest Cover Benchmark Maps (FCBMs) for the project area or would you prefer to rely on centrally produced FCBMs?

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#	Organization	Comment	Developer's Response
27	Green Growth Consulting Firm	Applicability conditions is doubtful e.g., where it is applicable? **Proposed Change:** The applicability conditions should be directly relevant to field circumstances.	Applicability conditions have changed; see *VMD0055* Section 4.
28	Biofilica Ambipar Environment; NBS Brazil Alliance; Carbonext	We do prefer to rely on centrally produced FCBMs as long as they have substantial methodological foundation, transparency, time series consistency, recurrence and availability. Others Alliance's member prefer and see their selves producing FCBMp if the centrally produced ones are too coarse. However, we are not opposed to producing our own FCBMs as long as the standards allow the adoption of land use maps from third-party sources such as Mapbiomas and Prodes. Demand that data be collected as they are apparently suggested in the J-ADB-UB draft (use of high resolution images, sample fields, documentation, validation time by Verra, stratification between planned and unplanned deforestation, licensed and unlicensed deforestation, develop the SOPs, among other requirements, as mentioned before, concern us in the sense of making the	This approach relies on there being only one FCBM for the jurisdiction. Project proponents can provide supplemental materials to the data service provider including FCBMs. If a project-scale FCBM is shown to provide a substantially more accurate estimate than the jurisdictional FCBM, the project FCBM must replace the intersecting portion(s) of the jurisdictional FCBM. The section that addresses this (*VMD0055* Appendix 1, A1.4.3 Step 1) has been enhanced to provide clarity around the criteria that a project-level FCBM must meet in order to be incorporated into the jurisdictional FCBM.

Q4: As a project developer, do you foresee yourself submitting Forest Cover Benchmark Maps (FCBMs) for the project area or would you prefer to rely on centrally produced FCBMs?			
#	Organization	Comment	Developer's Response
		development of projects more expensive and increasing the time needed to do so. Once a jurisdiction is implemented, if we understand that regional factors and nuances were not properly captured to generate a risk map, how can we challenge the current jurisdiction? Will we have to develop another one? Who will pay for it? In most cases, it is feasible to make our own maps, mainly due to the possibility of accessing more detailed information, such as the use of high resolution images and local accuracy analysis; within the desired period. In addition, its interesting to make possible the option for proponents to use centrally produced FCBMs, without the obligation to choose one of the options.	
29	Conservational International (CI)	This will depend on the quality (accuracy) and cost of these maps and the level of detail and transparency regarding the process to produce this map. Some have in-house capacity to produce FCBMs and would likely do this if we perceive we could produce a better FCBM than provided by Verra. Please also indicate whether requesting FCBMs from Verra would incur an additional cost or would be included in the cost of producing the activity data.	Allocation of data by Verra will be required and will be at a cost to project proponents, regardless of whether or not they have submitted supplemental data (including FCBMp).
30	Terra Global Capital, LLC	Yes, we believe we will be submitting Forest Cover Benchmark Maps (FCBMs) to	1. This approach relies on there being only one FCBM for the jurisdiction. Project proponents can

Q4: As a project developer, do you foresee yourself submitting Forest Cover Benchmark Maps (FCBMs) for the project area or would you prefer to rely on centrally produced FCBMs?			
#	Organization	Comment	Developer's Response
		Verra but want to be able to do this for the whole jurisdiction. Accuracy of maps includes the incorporation of in-country expertise, as well as ground-truthed datasets. We are concerned that if this expertise is "Farmed out" by Verra, unexperienced AD providers with no local context who will an create LU-LC maps that are inaccurate and miscalculate emissions. For our projects and programs under Verra, we have gone to great lengths to understand LUC conditions and dynamics in our project areas. In order to understand the dynamics of shifting systems and mosaic deforestation, often these processes take years of revisiting area to understand how conditions on the ground relate to conditions seen though remote sensing. In addition, there is not a clear description of how project proponents will access FCBMs. Many project proponents including forest reliant and indigenous communities do not have the funds to pay Verra for FCBMs.	provide supplemental materials to the data service provider regarding FCBM construction. 2. If a project-scale FCBM is shown to provide a substantially more accurate estimate than the jurisdictional FCBM, the project FCBM must replace the intersecting portion(s) of the jurisdictional FCBM. The section that addresses this (Appendix 1, A1.4.1 Step 1) has been enhanced to provide clarity around the criteria that a project-level FCBM must meet in order to be incorporated into the jurisdictional FCBM. 3. Allocation of data by Verra will be required and will be at a cost to project proponents, regardless of whether or not they have submitted supplemental data (including FCBMp). However, this will level the playing field and may enable marginalized groups better access to better quality data. Otherwise, developers with access to large financial resources would be better able to capture and influence the process of data creation for all projects.
31	Kennemer Eco Solutions	The BL-UD Module refers to the necessity to have at least 3 Forest Cover Benchmark Maps (FCBMs) for the baseline period. This requires a timeline of wall-to-wall mapping of the jurisdictional reference region. A change detection between those 3 would already allow to generate observed historic	See updated text in *VMD0055* Appendix 1 Section A1.4.3 Step 1 for the development of FCBMs. The methods required to develop the AD at the jurisdictional level are delineated in the Appendix 1. This requires a sampling based approach.

Q4: As a project developer, do you foresee yourself submitting Forest Cover Benchmark Maps (FCBMs) for the project area or would you prefer to rely on centrally produced FCBMs?			
#	Organization	Comment	Developer's Response
		deforestation. We do not understand why Stratified Sampling (LUC plot visual observation & interpretation) is still mandatory to generate observed historic deforestation when the 3 (or more) FCBMs are already developed and able to provide that.	
32	Radicle Group	Yes, we foresee submitting Forest Cover Benchmark Maps. In Brazil, that are some tools and dataset that can be used to develop those, such as MapBiomas (a very complete platform regarding land cover) and the national inventory (https://www.florestal.gov.br/inventario-florestal-nacional).	Thank you for providing this information to Verra.
33	The Netherlands	As a project developer, do you foresee yourself submitting Forest Cover Benchmark Maps (FCBMs) for the project area or would you prefer to rely on centrally produced FCBMs?	Thank you for providing this information to Verra.
34	South Pole	The project developer has the competences for the generation of the FCB maps. There are uncertainties as to whether there is a cost-benefit relationship for the project developer to centralize the processes in terms of cost, time, access to information and approval facilities.	PPs may always produce project-scale FCBMps. PPs cannot serve as data service providers for the jurisdiction, but they may submit/recommend data to support creation of FCBMj.
35	Systemica	As a project developer, there is interest in submitting Forest Cover Benchmark Maps	See response for comment #28.

Q4: As a project developer, do you foresee yourself submitting Forest Cover Benchmark Maps (FCBMs) for the project area or would you prefer to rely on centrally produced FCBMs?			
#	Organization	Comment	Developer's Response
		(FCBMs) for the project area by themselves. If VERRA centrally conducts FCBMs, some specific area studies can be compromised. According to Xie Y. et al. (2008), a well-fit vegetation classification system should be carefully designed according to the objective of studies to better represent actual vegetation community compositions, based on: (i) refining class definitions to decrease ambiguity, (ii) adding new classes to more adequately describe the complexity of local vegetation patterns and (iii) using a higher level of classification. However, to keep the overall accuracy of the product in large areas such as continental or global scales, it is preferable to conduct vegetation classification using the data acquired from the same sources and at the same period and applying the same processing methods for the entire region. So, the FCBMs can be developed by a project developer if the methods are standardized and pre-established by VERRA. REFERENCES Xie, Y., Sha, Z., & Yu, M. (2008). Remote sensing imagery in vegetation mapping: a review. Journal of plant ecology, 1(1), 9-23.	Please note: the FCBM are not forest type classification maps. These are only forest-non-forest maps. Note: all forest type classification is conducted by the project during forest stratification.
36	The Nature Conservancy (TNC)	TNC and partners have been mapping some areas of interest with great precision (e.g. drone imageries) that would provide	Please note: the FCBM are not forest type classification maps. These are only forest-non-forest maps. Please see *VMD0055* Appendix 4 for procedures to submit project

Q4: As a project developer, do you foresee yourself submitting Forest Cover Benchmark Maps (FCBMs) for the project area or would you prefer to rely on centrally produced FCBMs?			
#	Organization	Comment	Developer's Response
		FCBMs with high precision. It is also a mechanism to ensure that deforestation will be observed only in areas agreed by the PP and therefore minimize errors and inconsistencies. Decentralizing the process also supports Verra in streamlining the process (see comment in the first question).	developed FCBM. Note: all forest type classification is conducted by the project during forest stratification.
37	Volkswagen-Climate Partner	We would prefer to submit our own project-level FCBM. These are expected to be more accurate than at the local scale than centrally produced maps.	Thanks for your comment. This possibility has been incorporated in section A1.4.3 of the Module: During the development of jurisdictional FCBMs, all proponents of projects are allowed to submit project-specific FCBMs, provided these meet the requirements stated therein.
38	Wildlife Conservation Society (WCS)	Yes we would foresee doing so, especially where the jurisdictional map was for a much larger area than the project.	Thank you for providing this information to Verra.

Q5: As a project developer, do you expect that your projects will aim to estimate emission reductions from avoided unplanned degradation using existing procedures, in addition to the new procedures for avoided unplanned deforestation?

Q5: As a project developer, do you expect that your projects will aim to estimate emission reductions from avoided unplanned degradation using existing procedures, in addition to the new procedures for avoided unplanned deforestation?			
#	Organization	Comment	Developer's Response
39	BioCarbon Partners (BCP)	Yes, for projects already under development or at feasibility assessment stage, we are currently estimating emissions reductions using the existing VM15 methodology.	Thank you for providing this information to Verra.
40	Biofilica Ambipar Environment; NBS Brazil Alliance; Carbonext	We hope to adopt procedures that we believe are less costly and that, at the same time, guarantee transparency in the process and quality in the credit generated. We see with good eyes the intention to prepare ourselves for a new moment, which will demand better practices in all aspects. However, it would not be in good form for the new mechanisms and procedures to harm private initiatives that have already matured in this market. We understand that the current procedures have certain flaws and are complex, but they are robust enough to safely estimate the reduction of emissions from avoided deforestation, because they are based on consolidated scientific methods. The implementation of new methodological approaches, especially when they are in order to simplify the process, will always be welcome. However, we understand that it is	Thank you for your comment. Experience will be gained through application of the methodology to the initial batch of 13 jurisdictions, and there will be opportunities to improved based on learnings.

Q5: As a project developer, do you expect that your projects will aim to estimate emission reductions from avoided unplanned degradation using existing procedures, in addition to the new procedures for avoided unplanned deforestation?			
#	Organization	Comment	Developer's Response
		necessary to carry out tests, have a period for the transition and a period for the evaluations to be carried out in a judicious and in-depth way.	
41	Conservation International (CI)	Yes, we consider that a sampling-based approach would be suitable for producing degradation data, and this better captures the situation on-the-ground within project areas as well as opening opportunities for additional emissions reductions and credit generation.	Thank you for providing this information to Verra.
42	Terra Global Capital, LLC	Yes, around the globe conditions exist where emissions from degradation are more significant than deforestation. Having FCBMs only account for deforestation and not degradation, or forest enhancements is an incomplete data set and missing targets of deforestation. Terra Global has been successful in identifying multiple forest strata and the dynamic process of forest degradation. This process is documented in the VCS validated and verified Kulera REDD+ Program in Malawi and our JNR baseline in Myanmar.	*VMD0055* only includes deforestation. It is envisioned that a future module will incorporate unplanned forest degradation. In the VCS Program, planned forest degradation is treated as an improved forest management activity.
43	Radicle Group	Yes. We follow scientific advances on different approaches for those calculations, which could be considered to complement estimates, whenever necessary (e.g. https://www.intechopen.com/chapters/76	Thank you for providing this information to Verra.

Q5: As a project developer, do you expect that your projects will aim to estimate emission reductions from avoided unplanned degradation using existing procedures, in addition to the new procedures for avoided unplanned deforestation?			
#	Organization	Comment	Developer's Response
		307).	
44	South Pole	We do expect to include degradation, however, it is not clear how methodologies (e.g. Methodology VM0009) allow the estimation of degradation baseline independently.	See response for comment #42.
45	Systemica	As a project developer, we are not inclined to estimate emission reductions by avoiding unplanned degradation using existing procedures. However, we are concerned about monitoring degradation in AUD projects where selective logging is taking place with FSC certification. According to the proposed MON-AUD module: "This module is not applicable where selective logging regulated by the project proponent is taking place in the case of the project." In this sense, will AUD projects having FSC certification no longer be eligible? Could Verra clarify this point?	This condition no longer exists.
46	Value for Nature Ltd.	Yes, by necessity. The new procedures do not identify activity data and allocate degradation areas. Even if they did, it would then be difficult to allocate emission factors to them. More promising is the approach of making biomass maps of the project area using lidar combined with Landsat and other remote sensing imagery. These can be made for each monitoring	Thanks for the suggestion. Verra is exploring approaches to avoided degradation accounting and your suggestion will be duly considered in that regard. However, avoided degradation is not part of this methodology, we are not yet in the position to respond to this specific technical recommendation regarding degradation.

Q5: As a project developer, do you expect that your projects will aim to estimate emission reductions from avoided unplanned degradation using existing procedures, in addition to the new procedures for avoided unplanned deforestation?			
#	Organization	Comment	Developer's Response
		date and the deltaC compared. This then picks up degradation.	
47	Volkswagen-Climate Partner	Until the new procedures become clear and transparent, it is likely that developers will continue to estimate ERs using previous methods and models until these can be calibrated to the new methods. This is still necessary to provide investors as well as developers a business case for financing such projects, otherwise they are shooting in the dark and investment could dry up. On the other hand, significant variation in methodological outcomes between old and new methods could have a similar chilling effect on new project development. We strongly believe that the VM0009 approach worked the best for protected areas and we suggest that it be adopted as a special case for AUD projects on protected areas.	Drafts of the new methodology have been made public so that PPs can use it for planning new projects that will ultimately be using the new methodology. PPs will also have access to all validated versions of tools referenced in this module. It is advised that project developers and investors use the draft text rather than any existing methodology (including *VM0009*) which would necessarily give an inaccurate estimation of future ERs. One of the key elements of the allocation approach is to ensure that the activity data baseline is established at the jurisdictional level; therefore, it is inappropriate to have different methodologies used for *VMD0055* projects in the same jurisdiction. The process and timelines to phase out use of all other VCS avoided deforestation methodologies have been published (and updated as necessary) in Verra's website. This process, however, is not part of the methodology under review. Verra will work to keep project proponents continuously updated on the process for transitioning to the new consolidated methodology.
48	Wildlife Conservation Society (WCS)	We strongly encourage additional degradation procedures to be incorporated into a modular methodology. See additional comments	See response for comment #42.

Q6: Are there additional factors that might further restrict activity shifting leakage potential (beyond those listed in the module)?

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#	Organization	Comment	Developer's Response
49	Asociación para la Investigación y Desarrollo Integral - AIDER	No, those mentioned are ok.	Thank you for providing this information to Verra.
50	BioCarbon Partners (BCP)	Yes, cultural differences may restrict migrant agents from moving into areas beyond their traditional tribal land.	Thank you for providing this information to Verra.
51	Conservation International (CI)	Yes. In terms of displacement of activities, the current model is overly simplistic because it assumes a constant willingness, ability, and time investment to travel for deforestation activities. It also assumes a constant distance depending on the amount of time travelled, excluding critically important factors such as topography, vegetation density, land use, land cover, political boundaries/law enforcement, and alternative modes of transportation. The method required by Verra is complex yet provides no source or reference as justification and therefore no means to evaluate its accuracy or validity of its assumptions.	The purpose of the mapping of land available for geographically mobile activity shifting leakage is solely to generate an estimate of the average carbon stocks of land outside the PA and LB where baseline geographically mobile deforestation agents might, in the project scenario, settle. This is expected to only capture the phenomenon that countries with highly forested and accessible unprotected lands are likely to have more geographically mobile leakage emissions than countries where forests are limited in area, highly protected, or inaccessible. There is diminishing gains for adding additional complexity to the model, as the basic trends comparing high to low forest-cover countries are likely to hold regardless of the approach to identifying areas available for geographically mobile leakage.
52	Silvestrum Climate Associates	"The 'outside leakage belt' assessment is done on a national scale. The mobility of deforestation agents will be a significant factor but this doesn't seem to be accounted for. PROPIMM only accounts for	This is a good suggestion, but to follow the logic through, it would really require that the mapping of available land for migrant agents should be constrained by a distance from where they originate, not from the project area. Given they are likely all to be immigrating from different

Q6: Are there additional factors that might further restrict activity shifting leakage potential (beyond those listed in the module)?			
#	Organization	Comment	Developer's Response
		people migrating into the area and doesn't account for WHERE they came from. Maybe all migrants came from the nearby areas, meaning assessing leakage at a national scale is unneccesary? This has significant implications in medium to large countries, particularly given the challenges associated with conducting the required assessment at a national level with data available.	locations, these spatially mapped distance constraints would have to result in separate alternative-migration zones, that have to be weighted among one another based on the proportion of respondents coming from those different locations. This would be a more perfect approach, but would substantially increase the complexity. Given the only function of the map of areas available for geographically mobile leakage is to assess an average emission factor for OLB leakage, rather than the quantity, the impact of a substantially more complex model is likely to be relatively small within the overall project ER accounting.
53	Value for Nature Ltd.	A suggested alternative could be, through the social surveys necessary to establish PROPIMM, to ask migrants in the Leakage Belt and Project Area where they migrated from. This would give an estimate of the maximum distance across which people migrate. This distance could be used as the width of a buffer around the LB within which PPs assess activity leakage outside of the LB. Sampling all people randomly and not only targeting deforestation agents would ensure this distance is conservative."	Verra has made the decision to retain the approach currently employed in several validated VCS AUD methodologies. The idea of a simplified approach does have many advantages, as identified in the comment. The major changes that Verra has focused on in the new methodologies are related to jurisdictional activity data and risk mapping. One principle is that Verra would like to ensure that projects are oriented towards leakage outcomes and not process or box-checking that may not actually address leakage.

Q7: Would you be in favor of activity data (i.e., hectares deforested) being monitored centrally by Verra for the entire jurisdiction or do you consider project level monitoring more appropriate?

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#	Organization	Comment	Developer's Response
54	BioCarbon Partners (BCP)	No, we would not. Project level monitoring is essential for effective project implementation, hence we would have to do it anyway.	Current procedures require the project to conduct monitoring; it is possible that in the future Verra will provide data.
55	Biofilica Ambipar Environment; NBS Brazil Alliance; Carbonext	We are in favor of the strategy that finds the best balance between operating costs and quality and sufficient accuracy to represent reality in the best way that technological resources provide us today. Although some members of the Alliance finds that Project level monitoring is more appropriate and accurate others belive that centrally monitored by VERRA makes more sense, otherwise all the effort to stardardize methodologies is not usefull for the monitoring, and might still incur in differences in the VERs. It is interesting that this monitoring is done at both levels. For Verra, as a certifying body that has been taking an increasingly active position in the process of project development, it is important to monitor the jurisdictions, mainly to follow up on the effectiveness of the data developed. Similarly, it is important, within the scope of the project, that the proponents carry out monitoring in order to use the	Current procedures require the project to conduct monitoring; it is possible that in the future Verra will provide data.

Q7: Would you be in favor of activity data (i.e., hectares deforested) being monitored centrally by Verra for the entire jurisdiction or do you consider project level monitoring more appropriate?			
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		information to establish intelligence strategies for the increasingly effective containment of deforestation and degradation, using resources such as the use of high resolution images and precision analysis in local detail. Additional comments on this have been made in the "general comments" sheet.	
56	Conservational International (CI)	"We suggest the potential for flexibility between these two approaches, but we feel that project-level monitoring can be more efficient. That said, there are important questions and considerations: (i) If Verra/third-party produces activity data for the baseline and the PP produces the activity data for the monitoring period, will these two data sets be comparable or compatible? Without clear guidance or requirements, these two data sets could be produced using different sources (imagery, resolution) and may therefore not be comparable/compatible. (ii) If Verra/third-party produce this data, will there be additional costs to the PP? Or will these costs be covered under the initial payment to generate the baseline AD?"	Very detailed guidance on how to estimate activity data for estimating project emissions during the monitoring period has been included in *VMD0055* Section 5.3.2. Such instructions are meant to ensure that AD produced by the project are of at least similar accuracy and quality as those produced and utilized by Verra for constructing the baseline.
57	Terra Global Capital, LLC	No, we do not want Verra to monitoring performance. But how could you require baseline AD to be Verra produced by then allow projects to do their own monitoring AD this does not seem to make sense.	Current procedures require the project to conduct monitoring; it is possible that in the future Verra will provide data, but we would need to work out the issue the commenter raises re: monitoring frequency. Jurisdictional baseline data cannot be produced by

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		Project will need to determine their frequency of monitoring. We would also support that under the existing methodologies, where a standardize reference region is used, the project can develop the Jurisdictional FCBM which is subject to VVB and Verra review, that this would be the same process for the AD for monitoring.	project developers, as this might lead to multiple, likely inconsistent data and maps being produced for the same jurisdiction by the various project developers operating therein. In addition, this would entail a risk (or appearance) of conflict of interest.
58	Green Growth Consulting Firm	Project level monitoring can be more accurate.	Current procedures require the project to conduct monitoring; it is possible that in the future Verra will provide data.
59	Radicle Group	Although we understand the value of having a centralized approach to AUDD projects, this type of monitoring can be monitored by existing tools, in the case of Brazilian projects. For example, the INPE (National Institute of Spatial Research) data available of PRODES (program that monitors deforestation). In addition, depending on the number of projects, Verra could be overwhelmed with different responsibilites and activities, what could jeopardize the overall timeline of projects. It is also important to mention that each jurisdiction has its own particularities, what can be better captured by local developers.	Current procedures require the project to conduct monitoring; it is possible that in the future Verra will provide data.
60	Silvestrum Climate Associates	The estimate of AD data is done through point assessments of high resolution satellite data. This is quite a subjective	Current procedures require the project to conduct monitoring; it is possible that in the future Verra will

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		process. Either the PP is required to closely review the BSL analysis or Verra centralise AD monitoring.	provide data.
61	South Pole	It is necessary to include details about the deliveries that PPs will receive from Verra; e.g. the formats of the Deforestation Risk Map and Allocation Report. As long this information is available in an editable format, monitoring at the project level would more appropriate.	See *VMD0055* Appendix 3.
62	Systemica	As a project developer, project-level monitoring would be more appropriate. The monitoring project is based on an accurate database survey over the years by the project. Monitoring activity data by VERRA may decentralize project data. In addition, when understanding the areas of deforestation and detailing this in the project, it can think about the projection of how this will progress over time and prevention measures. So, monitoring at the project level would be of interest precisely for the simple fact of interconnecting and centralizing information. However, we also consider that the monitoring of projects by Verra can be important to assess the performance of projects over time (for example, after the end of the crediting period) in order to understand the risk of non-permanence of assets, with the objective of ensuring its integrity and	Current procedures require the project to conduct monitoring; it is possible that in the future Verra will provide data. We will also soon be implementing our Long-term Remote Monitoring System.

Q7: Would you be in favor of activity data (i.e., hectares deforested) being monitored centrally by Verra for the entire jurisdiction or do you consider project level monitoring more appropriate?			
#	Organization	Comment	Developer's Response
		permanence over time.	
63	The Nature Conservancy (TNC)	It would be ideal if Verra can centralized the monitoring, however that implies that Verra would need an incredible capacity to develop wall-to-wall mapping of deforestation all over the world in several epochs per year in order to match the project crediting period/start date. They would also need an army of field collaborators to validate on the ground the forest loss. It might be more interesting to Verra invest time in developing the requirements to ensure high quality monitoring and enhance VVB capacities to evaluate the outcomes.	Current procedures require the project to conduct monitoring; it is possible that in the future Verra will provide data.
64	Value for Nature Ltd.	No opinion. Both have pros and cons.	Current procedures require the project to conduct monitoring; it is possible that in the future Verra will provide data.
65	Volkswagen-Climate Partner	We would prefer to see project-level monitoring as this can be more accurate even if it lacks the consistency of centralized monitoring and also justifies the use of a VVB for the project. While we would prefer that qualified project proponents create their own AD, we would also see value in minimizing costs and turnaround time for project registration. Therefore, our view is either to allow qualified project proponents to create their	Current procedures require the project to conduct monitoring; it is possible that in the future Verra will provide data.

Q7: Would you be in favor of activity data (i.e., hectares deforested) being monitored centrally by Verra for the entire jurisdiction or do you consider project level monitoring more appropriate?			
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		own AD, that will be validated by a VVB, or remove the VVB validation component when a verra certified consultant would have provided the AD. Rationale: The suggestion will minimize costs and reduce the turnaround time for AD generation to project feasibility assessment, or validation/verification	
66	Wildlife Conservation Society (WCS)	If these are not monitored centrally, there will need to be a procedure for reconciling project monitored data and jurisdictional data during subsequent baseline validity periods.	After it is allocated, project proponents use their own emission factors to turn activity data into baselines. However, they cannot change the activity data they are allocated. Before it is allocated, stakeholders can submit data to influence activity data, forest cover benchmark maps and risk maps as set out in Appendix 4 of *VMD0055*. This information will be combined to be allocated. The very simple model based on distance to forest edge is not the one that will (necessarily) be adopted as the jurisdictional deforestation risk model to be used for allocating baselines to projects. This is the benchmark model - something that project proponents and other relevant stakeholders will challenged to beat by contributing other variables that are demonstrably related to deforestation risk in the jurisdiction, and provide the corresponding data. Those additional data will then be used to construct alternative, information richer, more complex models that may be better than the benchmark model at predicting deforestation risk across the entire jurisdiction. The predictive ability of the

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			benchmark and alternative models will be compared in purely statistical terms and the one model that shows the best predictive ability will be the one adopted as the jurisdictional model (and map) of deforestation risk, and used for allocating baselines to projects. This has been described and clarified in the latest version of the *VMD0055*. For subsequent Baseline Validity Periods (BVPs) projects will have the opportunity to submit forest cover maps based on their own monitoring of forest cover change over the prior period(s). It will be important for the activity data provider to consider these maps in developing the new Forest Cover Baseline Map (FCBM) for the new BVP. Project-specific data should take precedence where it meets the quality and lack of bias tests.

GENERAL FEEDBACK

Section 2 – Summary Description of the Methodology

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#	Organization	Comment	Developer's Response
67	Quantil	We deeply recommended to VERRA to carry	Verra acknowledges and welcomes that there is interest

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#	Organization	Comment	Developer's Response
		out a case study for J-ADB-UD module (5.5.1 & 5.5.3 Step 1) and socialize is results in a webinar. This in order to guarantee a correct application of the methodology.	in case studies. There is no requirement that new methodologies be accompanied by case studies. However, Verra is pleased that it will be able to share results from some case studies, but cannot promise a timeline. All parties are welcome to test the approaches in the methodology using their own data.

Section 3 – Definitions

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#	Organization	Comment	Developer's Response
68	The Nature Conservancy (TNC)	Mention of degraded forest - in the case of this module only deforestation is acceptable. **Proposed Change:** Consider omitting degradation to avoid confusion.	It was clarified that module *VMD0055* only applies to avoided deforestation. Most references to degradation have been removed. Degradation is monitored under the project monitoring scenario, but there is no degradation baseline and avoided degradation does not on its own generate any emission reductions. Degradation is currently included in *VMD0055* to be conservative; if and when an Avoiding Unplanned Degradation module is developed we will revise *VMD0055* to exclude degradation.
69	Conservation International (CI)	There are new definitions and acronyms in these modules that are absent from the VCS definitions document. **Proposed Change:** New definitions should be included in VCS definitions document as well.	Edits to the methodology and module ensure all uncommonly used terms are now defined in one of those documents or the *VCS Program Definitions.*

Section 3 – Definitions			
#	Organization	Comment	Developer's Response
70	Conservation International (CI)	Activity Data (AD): The definition of AD provided is not sufficient. It excludes other activities, such as removals or forest management. **Proposed Change:** We suggest using the IPCC definition as a base and then add any changes unique to VERRA as necessary. The IPCC defines activity data as: "Data on the magnitude of a human activity resulting in emissions or removals taking place during a given period of time. Data on energy use, metal production, land areas, management systems, lime and fertilizer use and waste arisings are examples of activity data". Land use change indicators such as area, deforestation and degradation rates can be mentioned as well.	The IPCC definition of Activity Data has been added to Section 3.1 Definitions of the methodology. In the module, "unplanned deforestation activity data" (UDef AD) is specified as appropriate.
71	Conservation International (CI)	Deforestation (Def): The guideline states: "If the country definition is not in line with VCS, elements of the country definition that do conform with VCS shall be adopted, while other elements shall be modified to conform to VCS". It is not clear when a country definition is or is not acceptable by VCS, whether this will undergo any validation, and when a list/database of updated country forest definitions will be provided. **Proposed Change:** Please clarify definition based on our question.	The definition of deforestation has been removed, as it is the same as that in the *VCS Program Definitions*. The definition of forest to be used for this module, which is now in *VM0048*, includes specific references to other VCS documents for clarity.

Section 3 – Definitions			
#	Organization	Comment	Developer's Response
72	Conservation International (CI)	Deforestation (Def): The methodology states, "Areas meeting the definition of 'Forest' according to the criteria of minimum area, minimum tree height, and minimum canopy cover but where the trees at the beginning of the historical reference period are not yet 10 years old will be considered 'non-Forest'." Because of this requirement, our interpretation is that additional spatial analysis will be required to identify forest cover by evaluating an additional 10-year period that ends on/around the start date of the historical reference period or (~16-20 years before project start date). This presents a potential contradiction in the methodology that should be clarified: How should the forest age be classified? How are the 6-year baseline and 10-year minimum forest age requirement going to be reconciled? **Proposed Change:** Please clarify definition based on our question.	The 10-year minimum age has been removed from the forest definition. Forest within the project boundary must have qualified as forest for a minimum of 10 years before the project start date (*VM0048* Section 5.1).
73	Systemiq	The module indicates that the reference period should be determined "according to the latest version of the VCS Standard." However, the VCS standard does not yet specify a historical reference period. We understand that VERRA has engaged consultants to explore this question but further clarity is requested, with more	The definition of historical reference period (HRP) for Avoiding Unplanned Deforestation projects is set out in the *VCS Methodology Requirements* (HRP is defined in the methodology by referring to the *Methodology Requirements*). It has not been changed in recent years and will not be affected by the introduction of this methodology since it is a VCS Program level (and out of the scope of this methodology consultation).

Section 3 – Definitions			
#	Organization	Comment	Developer's Response
		specific language in the module. **Proposed Change:** We recommend that a minimum number of years be included as a reference period with the potential to increase that number based on justifiable project circumstances and that VERRA provide guidance on what those circumstances may be (e.g.: a spike in deforestation that is out of the norm over a shorter period). As a longer reference period generally allows for statistically more robust projections and more stability to project developers, we recommend it range from 10 to 15 years.	Section 3.4.15(2) of v4.4 of the *Methodology Requirements* reads: "The criteria and procedures for establishing the baseline scenario shall…set out criteria and procedures to identify where deforestation would likely occur using spatial analysis and projections…based on historical factors over at least the previous 10 years that explain past patterns and can be used to make future projections of deforestation." We have chosen to instruct data service providers to collect data from the 10 years prior to the start of the jurisdictional baseline validity period since for a historical average baseline shorter periods have been found to be more accurate.
74	The Nature Conservancy (TNC)	Forest conversion leads to different emissions factors depending the post-deforestation land use, therefore different climate impacts (i.e. carbon credits). **Proposed Change:** LCT should include different land uses classes.	Project proponents establish forest strata and emission factors in *VMD0055* Section 5.3.2.
75	Silvestrum Climate Associates	Should the definition of AD include degraded forest?	The term Activity Data is defined by the IPCC https://www.ipcc.ch/site/assets/uploads/2019/06/19R_V0_02_Glossary_advance.pdf, and includes a broad range of data types both applicable to and outside of the forestry sector. The applicability conditions state "Where the land use transition in the baseline scenario is forest land to non-forest land, meeting the definition of unplanned deforestation; " so by extension, activity data that describes a forest-to-forest transition is not applicable in this methodology.

Section 3 – Definitions			
#	Organization	Comment	Developer's Response
76	Silvestrum Climate Associates	'...any natural regeneration, afforestation or reforestation occurring on lands that are non-forest at the beginning of a period (HRP or Baseline Validity Period (VP)) cannot be converted to a "forest" during that same period.'. This makes sense for the first baseline validity period but what about the 2nd onwards (e.g. after 12 years)? **Proposed Change:** If a project includes ARR or RWE in its other activities, in next to AUD, then these areas should be excluded from the HRP analysis (similar wording to the exclusion of 'Total AFOLU Project Area' in the leakage module).	No project areas are excluded from the jurisdictional sampling frame for generating activity data, regardless of methodology of project, except in the case where some or all areas of those projects meet the definition of an identified exclusion described in *VMD0055* Table 11.
78	Silvestrum Climate Associates	Definition of forest needs to be expanded to include mangroves. **Proposed Change:** Suggested addition to footnote: Mangrove forests are excluded from any tree height requirement in a forest definition, as they consist of (close to) 100% mangrove species, which often do not reach the same height as other tree species and occupy contiguous areas, and their functioning as a forest is independent of tree height. From BL-UD.	*VMD0055* has been updated to exclude wetlands; new Verra methodologies are under development to supplement UDef in wetland areas.
79	Silvestrum Climate Associates	Include a definition of sampling strata. Nowhere is this detailed in the module. **Proposed Change:** Define sampling strata	Verra does not choose to add "Sampling stratum" as a defined term, because its application within this methodology is in line with the common use of that term in all area sampling. There is now a Table 5 which

Section 3 – Definitions			
#	Organization	Comment	Developer's Response
		here and in the main narrative.	provides an illustrative example of stratification and further description of how they are constructed.

Section 4 – Applicability Conditions

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#	Organization	Comment	Developer's Response
80	Green Growth Consulting Firm	Applicability conditions is doubtful e.g., where it is applicable? **Proposed Change:** The applicability conditions should be directly relevant to field circumstances.	Applicability conditions have been reviewed and confirmed.
81	Biofilica Ambipar Environment	What if forest strata is better assessed during the project lifetime? **Proposed Change:** PP should be able to upload a better stratification, when available.	Forest strata are set for the baseline validity period. Thus, it is recommended that assessment of stratification be conducted prior to validation.
82	Conservational International (CI)	How is "large-scale" defined? How is "natural" defined (e.g., does it consider events where human action has an influence, e.g., overgrazing leading to landslides, human ignition leading to fire, management leading to increased fire severity)? How is "significant degradation of forest carbon stock" defined? What	The section on "Applicability conditions" has been fully rewritten to avoid the use of ambiguous terms. Inconsistencies in the threshold for large vs. small scale has been corrected to 1000 ha

Section 4 – Applicability Conditions			
#	Organization	Comment	Developer's Response
		triggers a monitoring requirement for disturbance, and how does this relate to carbon accounting requirements under the new vs. existing methodologies? **Proposed Change:** Please clarify and provide sources, in-text references, and justification.	
83	Conservation International (CI)	According to the applicability conditions, in section 4, it seems that avoided unplanned grassland/shrubland is not impacted. This presents a potential issue with consistency, for example, with the existing VM0009, where the baseline for forest conversion and the baseline for grassland conversion are produced in very different ways; before, they followed very similar procedures and therefore were compatible and comparable. A project that intends to pursue AUD plus avoided conversion of another ecosystem type would have to use two fundamentally different baseline types (i.e., the old Cumulative Deforestation Model in VM0009). **Proposed Change:** Add text clarifying this issue and propose possible solutions, such as providing activity data and performing an allocation using the same process for unplanned shrubland/grassland conversion.	Grassland conversion would not be covered under the new methodology. Anyone applying an unplanned deforestation project will be required to use the new methodology within 6 months of the activity data being available. A new Avoiding Conversion of Grasslands and Shrublands methodology has been proposed to Verra. Further clarity has been provided in public announcements about the grace period and the possibility to use non-AUD portions of existing methodologies. See for example: https://verra.org/consolidated-redd-methodology-ensures-integrity-of-forest-conservation-credits/ and https://verra.org/methodologies-main/transition-of-redd-projects-to-the-consolidated-redd-methodology-faqs/
84	Green Growth Consulting Firm	Applicability conditions is doubtful e.g.,	The applicability conditions have been revised.

Section 4 – Applicability Conditions			
#	Organization	Comment	Developer's Response
		where it is applicable? **Proposed Change:** The applicability conditions should be directly relevant to field circumstances (forest land conversion to hydropower, roads, govt. buildings, electricity transmission lines which are unplanned by forestry sector but planned by other relevant sectors).	
85	Green Growth Consulting Firm	Applicability conditions is doubtful e.g., where it is applicable? **Proposed Change:** The applicability conditions should be directly relevant to field circumstances.	*VMD0055*'s applicability conditions describe conditions under which the module can and cannot be used.
86	The Nature Conservancy (TNC)	According to the applicability conditions, in section 4, it seems that avoided unplanned grassland/shrubland is not impacted. This should be clarified in the text.	Current applicability conditions in *VMD0055* make it clear that the project needs to be aimed at avoiding unplanned deforestation

Section 5 – Project Boundary

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#	Organization	Comment	Developer's Response
87	Conservation International (CI)	"Activities that land-cover-transition agents would implement inside the AUD ..."	This section has been significantly revised so that this comment no longer applies

Section 5 – Project Boundary			
#	Organization	Comment	Developer's Response
88	The Nature Conservancy (TNC)	It seems that the VVB would be the checks and balances mechanism to oversee Verra's decisions, but would PP have the opportunity to contest/appeal the results? Does Verra plan to have any mechanisms to hear the PP, or it would be accept or leave it?	Allocations will be assessed by an independent expert before being given to projects. We currently don't have plans for a jurisdiction-specific consultation, but may add them in the future. General VCS Program practices apply to stakeholders' opportunities to engage with AD developed and allocated for this methodology: • Clarifications will be addressed on a project by project basis. • The Verra Complaints and Appeals Policy (https://verra.org/programs/complaints-and-appeals-policy/) is available in case of any disagreement.
89	The Nature Conservancy (TNC)	Further guidance is need for the cases where the registered FREL does not cover the project area, historical period or ecosystem type.	In these cases the data service provider will develop the activity data for the jurisdiction. A future FREL would be adopted as and when a JNR registration occurs.
90	Conservation International (CI)	In the case a project proponent doesn't agree with the end product of risk map and allocation produced by VERRA, what would be the procedures for project proponents to request clarification and validate or quality-control what VERRA delivered? Will adjustments be done after a clarification process? There is conflicting text in the JNR Risk Map Tool vs the J-ADB-UD as to whether a project proponent can propose its own risk map if it can show it is better than that produced by Verra. For example:	1. The Verra Complaints and Appeals Policy (https://verra.org/programs/complaints-and-appeals-policy/) is available in case of any disagreement. Cases submitted through this mechanism will be addressed on a project by project basis. 2. The JNR Risk Mapping Tool was designed to be utilized in the context of the JNR Framework. It was never fully published and has been replaced by *VT0007 Unplanned Deforestation Allocation Tool (UDef-AT)*. *VT0007* will be used with JNR and

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		The JNR Risk Mapping Tool states, "Users of the JNR Allocation Tool may create risk maps using the approach that they consider most appropriate," and goes on to state that, "The risk map created with the alternative approach must be of similar or better quality than the best risk map produced with this JNR Risk Mapping Tool". In the original context, this indicated that the PP (the user) could use a risk mapping approach that includes additional variables (e.g., distance to roads) if the map met the criteria listed in the tool. However, the J-ADB-UD tool states, "This module shall be applied exclusively by Verra or Verra-selected providers for the purpose of developing and allocating the Jurisdictional Activity Data Baseline for AUD projects. Project Proponents may utilize this module for informational purposes only." The latter violates the original intention of the Risk Mapping Tool to allow for locally-adapted risk maps with causal frameworks that consider drivers of deforestation to be used if proven to be better than the driver-agnostic, correlation-based risk maps. However, this appears to be taken out of the hands of PP with no assurance that the risk maps generated will be appropriate to the local context and include additional factor maps; there is no process outlined for the PP to challenge the quality of the maps Verra is requiring them to buy or provide a replacement map,	VM0047. 3. The updated version of *VM0048* and its *VMD0055* do clarify the way in which the jurisdictional risk model and map is constructed and adopted. This includes the construction of alternative risk models that include additional variables correlated with deforestation drivers.

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		even if the PP can produce a proven, better map.	
91	Conservation International (CI)	Timeline is missing. This will help Verra and PPs to adjust workplans.	Verra will add an indicative timeline to *VMD0055* when we have established AD for all jurisdictions. Until then, we will communicate proactively about when project proponents can expect data for specific jurisdictions.
92	Conservation International (CI)	If Verra will charge a fee to PPs requesting allocation of activity data, those cost should be mentioned in this document. In addition, Verra must provide a transparent process for justifying any costs incurred via this new revenue stream it has created for itself. There should be a justification provided as to why this centralized solution produces both the most accurate and consistent carbon accounting, given that the product will ultimately undergo quality control by a VVB, a process which could have occurred with a risk map or activity data generated by the PP or the project developer it chose to contract. i. Will the costs have to be paid for every single period (every time they create a new risk map)? Or just for the first period? Will these costs have to be paid for activity data during every monitoring period? If these costs must be paid every time, Verra should consider that this becomes prohibitively expensive and puts net-positive project revenue at risk. ii. There must also be a clear and well-designed cost sharing process, e.g., a	The approach taken (risk allocated approach) is based on the fact that there is greater accuracy at a larger scale, that all accounting in the jurisdiction will not 'add up' to more than the total jurisdictional deforestation, and that a consistent approach to nesting can be assured across the entire jurisdiction. The fee structure is yet to be determined. Verra is sensitive to financial considerations of projects and will work to ensure that costs are dispersed equitably per jurisdiction and in a way that does not burden projects. The fee structure (in summary or in part) will be released with the final methodology. Verra has centralized the approach because requiring every project to do this would 1) cause a huge replication of effort and duplication of cost and disruption to government officials and other projects (as every project sought to collect data); and 2) Result in potentially contradictory data that undermines confidence in quality.

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		means to reimburse a project proponent for the investment it makes to generate the AD and risk map when another project is later established in the same jurisdiction.	
93	Conservation International (CI)	We suggest revising the order of the steps in Figure 1. The graphic shows that "PP contracts project validation of PD (including Allocation tool (AT) output). It is not clear why the PP would request a validation of the AT output again at this stage - Is the idea that the PP will request an audit for a product that a service provider of Verra has/will produce? Is this audit/QC not already part of the AD production and allocation process?	This is not an issue in the current version of the methodology or module since Figure 1 does not exist. Currently, AD allocated to projects is assessed by an independent expert; the project's VVB should not question it.
94	Conservation International (CI)	As stated below: "Verra may choose to contract third-party service providers to develop activity data, map products, and manage application of the JNR-AT and JNR-RMT on its behalf. The selection of such providers is at the sole discretion of Verra".	Verra will publicly publish all RFPs for data service providers, including qualifying criteria and the criteria by which proposals will be assessed.
95	Biofilica Ambipar Environment; NBS Brazil Alliance; Carbonext	Verra doesn't specify estimated costs related to responsibilities of the PP (J-ADB-UD development)	Fee structure is yet to be determined. Verra is sensitive to financial considerations of projects and will work to ensure that costs are dispersed equitably per jurisdiction and in a way that does not burden projects. The fee structure (in summary or in part) will be released with the final methodology.
96	The Nature Conservancy (TNC)	Responsibility of the project proponent includes contracting project validation	The AD for the allocated reference level is NOT subject to validation. This goes through approval by the

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		including allocated AD from JNR-AT - further clarification is needed.	independent expert.
97	Conservation International (CI)	On the "responsibilities of Project Proponent related to J-ADB-UD" a. Project proponents has the option to submit forest cover benchmark maps (FCBM), it will good to specify if this forest benchmark is over the proposed jurisdiction or just for the project area. Also, clarify whether the PP can also submit its own, better risk map, as is suggested by the JNR Risk Map Tool b. Payment of AD generation and allocation fees to Verra. i. Please add information that advise on the cost and mechanism through which the payment will be applied. ii. According to the webinars held by VERRA, this is not yet clear, but it seems that the cost will be divided among project proponents. However, what if only one project is proposed within a given jurisdiction for a long time period? iii. Will there be reimbursements to the PP that originally paid to produce the activity data and risk maps? c. Contracting Project validation including allocated AD from JNR-AT. i. We also suggest revising the procedures and step, as mentioned before in the comment of the order of steps in Figure 1. ii. We think this step as is shown in the Figure 1, could create uncertainty and	a. Project proponents (PPs) may submit jurisdictional- or project-level FCBMs as long as they can be recreated by Verra (see *VMD0055* Appendix 4) b. See response to comment #95. No reimbursement will be provided to stakeholders that submit supplemental materials c. This represents a misunderstanding by the questioner of the process. The PP has no responsibility for the approval of jurisdictional AD or the risk maps. Indeed the VVB has no role in approval of jurisdictional AD and risk maps. Approval is by independent expert.

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		hesitance for the project proponent because the product (risk map and allocation) was done by another party hired by VERRA. So, does this mean that the PP must perform its own internal auditing (an additional investment of time, money, and resources) to ensure that those products were produced and perform well and then must wait for the VVB to do this during the validation? What if it does not pass the approval? Why require the purchase of data products that do not come with quality controls or validation?	
98	Conservation International (CI)	On "Other responsibilities of the Project Proponent" a. Development of project-area-specific Emission Factors (EFs) using an applicable AUD Methodology. i. It is important to clarify whether projects can use existing EFs used by a country to prepare its national or subnational REDD+ FREL, especially if already submitted to the UNFCCC and used as part of national GHG inventories. Alignment with the FREL is critical in order to be ensure aligned with the national data and GHG accounting efforts. ii. In the webinar, it was mentioned that the project could follow national data only if the FREL is registered under Verra's system and approved by a VVB. Does this mean that countries will need to register the FREL before FREL data can be used by	Per Appendix 4, Table 18, data including those developed for the FREL may be submitted by stakeholders. If it is available, DSPs must consider the activity data underlying government FRELs. In this methodology, activity data, rather than carbon stocks, are allocated to projects. Currently, activity data used for FRELs will rarely meet Verra requirements. However, emission factors used in FRELs may be used by project proponents as long as they are appropriate to their project areas. If the statement the commenter refers to as having been made in the webinar was made, it was made in error.

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		stand-alone projects?	
99	The Nature Conservancy (TNC)	1) If Verra will charge a fee to PPs requesting allocation of activity data, those costs should be mentioned somewhere in this document. In addition, Verra must provide a transparent process for justifying any costs incurred via this new revenue stream it has created for itself. 2) There should be a justification provided as to why this centralized solution produces both the most accurate and consistent carbon accounting, given that the product will ultimately undergo quality control by a VVB, a process which could have occurred with a risk map generated by the PP or the project developer it chose to contract. 3) Will the costs have to be paid for every single period (every time they create a new risk map)? Or just for the first period? If they must be paid every time, Verra should consider that this becomes prohibitively expensive. 4) There must also be a clear and well-designed cost sharing process, e.g., a means to reimburse a project proponent for the investment it makes to generate the AD and risk map when another project is later established in the same jurisdiction.	1) There will be fees for projects to receive the allocated activity data. Projects no longer have to bear costs of data generation, thus offsetting this new expense. Methodologies and modules do not customarily include information on Verra fees. Such information would be incorporated into separate application guidance, once the fee structure is finalized. 2) The move to a jurisdictional nested approach was a foundational decision made by Verra three years ago and has been extensively communicated in numerous fora. Verra accepts that for individual projects, the baselines may now differ from what they were under previous methodologies. The controls put in place against the perception over crediting are viewed by Verra as critically important to the continued existence of REDD in the voluntary carbon market. 3) Fee structure is yet to be determined. Verra is sensitive to financial considerations of projects and will work to ensure that costs are dispersed equitably per jurisdiction and in a way that does not burden projects. 4) Agreed - Verra will work to ensure the fee structure is equitable. The use of a shared dataset is designed to level the playing field for small and large projects, and Verra believes it will facilitate more participation in the VCM, rather than push projects out.

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100	The Nature Conservancy (TNC)	We suggest revising the order of the steps in figure 1. The graphic shows that ""PP contracts project validation of PD (including Allocation tool (AT) output). It is not clear why validating AT, at this stage again, is the idea that the PP will request for auditing a product that a service provider of Verra did or is going to do? It seems more logical that the AT for the project is validated by VERRA previously.	See response to comment #93.
101	The Nature Conservancy (TNC)	As stated below: "Verra may choose to contract third-party service providers to develop activity data, map products, and manage application of the JNR-AT and JNR-RMT on its behalf. The selection of such providers is at the sole discretion of Verra". It would be good to add a description on how Verra is going to ensure transparency in the process, including what checks and balances will be in place to oversee decisions made by Verra	See response to comment #94.
102	The Nature Conservancy (TNC)	On the "responsibilities of Project Proponent related to J-ADB-UD": a. PP has the option to submit forest cover benchmark maps (FCBM), it will good to specify if this forest benchmark is over the proposed jurisdiction or just for the project area. b. According to the webinars held by VERRA, this is not yet clear, but it seems that the cost will be divided among project	a) As described in Appendix 4, Step 1, project proponents may submit FCBM's encompassing the PA and LB. Such maps will be accuracy assessed and incorporated where they are more accurate than the jurisdictional FCMB. Project proponents may additionally submit jurisdictional FCBMs for review by the data service provider, however it is not expected that such maps will be automatically incorporated as the FCBMj. b) The cost structure is not yet finalized and cannot

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		proponents. However, what if only one project is proposed within a given jurisdiction for a long time period? c. Will there be reimbursements to the PP that originally paid to produce the activity data and risk maps? d. Contracting Project Validation including allocated AD from JNR-AT. e. We also suggest revising the procedures and step, as mentioned before when commented of the steps of figure 1. f. We think this step as is shown in the figure, could create uncertainty to the project proponent because the product (risk map and allocation) as it was done by another party hired by VERRA. So, does this mean that the PP is performing its own internal auditing to ensure that those products were produced and perform well and then must wait for the VVB to do this during the validation? What if it does not pass the approval?	therefore be detailed. Yes, there will be cost-sharing by all PPs in a jurisdiction. Verra will prioritize a cost structure that equitably distributes costs within each jurisdiction and in a way that doesn't burden projects. c) At the time of the original comment, Verra was considering allowing project proponents to develop jurisdictional datasets. This is no longer the case. Verra does not expect to reimburse project proponents for data creation that was not contracted through Verra's process for engaging with 3rd party data developers, as such data will not be applicable to the methodology. d) Unclear what the proposal in this comment is. e) This figure no longer exists. f) Approval of the AD is not the responsibility of the PP. Once baseline data has been allocated to a project, the PP can have the confidence to use this data. AD, once allocated to a project, does not require further validation.
103	The Nature Conservancy (TNC)	On "Other responsibilities of the Project Proponent": a. Development of project-area-specific Emission Factors (EFs) using an applicable AUD Methodology. i. If exists, it is important to clarify if projects can use EFs used for a country to prepare national or subnational REDD+ FREL, especially if already submitted to the UNFCCC and used as part of national GHG inventories. Recurring to the FREL is	If a jurisdiction has a registered FREL under the JNR it must be used. Otherwise, the only relevant baseline and allocation will be derived by Verra (potentially using or adapting an existing FREL). See Section 2 of *VMD0055*.

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		critical in order to be aligned with the national data, ii. In the webinar it was mentioned that the project could follow national data only if the FREL it is registered into Verra system and approved by a VVB. Does this mean that countries will need to register the FREL before being used by stand-alone projects?	
104	Biofilica Ambipar Environment & NBS Brazil Alliance	Although the importance of Verra's and the proponents' performance in monitoring at the jurisdictional and project level, respectively, has been raised, some questions remain concerning the monitoring performed by Verra: - What is the purpose of this monitoring? Will Verra try to have some kind of influence or contact with the jurisdiction to be able to make articulations focused on stopping deforestation and degradation? - If Verra conducts this monitoring, will any quality standards be established for the proponents based on the method that will be applied to the projects?	Monitoring procedures and guidance have been clarified in the latest version of *VM0048* and its *VMD0055*.
105		(Section 5.1) What if the project developer can demonstrate that part of the activity shifting in the leakage area is not associated with the project activities in the project area?	The module takes the conservative assumption that all monitored deforestation in the leakage belt in excess of the baseline is attributable to activity shifting leakage. *VMD0055* Section 5.3.3.2 Step 1 "project sampling frame" describes instances where certain types of disturbances caused by drivers unrelated to project activities may be removed from project monitoring. All other disturbances observed in the monitoring period are

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			to be accounted for. Activities removed from project accounting must also be removed from being factored into the baseline.
106	The Nature Conservancy (TNC)	(Section 5.1) The information from bullets 1 to 7, will this project information requirement be part of the template to be provided by VERRA?	Yes, as currently set out in *VMD0055* Appendix 1 A1.4.3 Step 3 and Appendix 3 A3.3.1.
107	Ecológica Assessoria	(Section 5.1) What is the deadline for defining annual deforestation rates by Verra? What will be the costs of extra steps that were previously carried out by the PP? Who will be responsible for paying these costs?	It is outside of the scope of this methodology to include Verra's fees. Verra will charge a fee for allocation of activity data. Verra is sensitive to financial considerations of projects and will work to ensure that costs are dispersed equitably per jurisdiction and in a way that does not burden projects. The fee structure (in summary or in part) will be released with the final methodology. Projects will cover the usual validation and verification fees but will benefit from the fact that the activity data does not need additional validation or verification.
108	South Pole	(Section 5.1) "...The J-ADB-UD Description Report shall identify the spatial boundaries of any registered AFOLU carbon Projects and associated Leakage Belts, proposed VCS projects in the VCS Project Pipeline, and any additional forthcoming (where known) VCS AUD projects..." What would be the process required to identify the spatial boundaries of pipeline and additional forthcoming projects? **Proposed Change:** Once a new J-ABD-UD is requested there should be an open period	1) The term "AD Baseline Allocation Report" is now used in place of "J-ADB-UD Description Report" and is described in *VMD0055* A1.1 and A3.1. 2) Because AD allocation is undertaken by Verra's selected data service provider, all spatial information regarding pipeline projects will be made available to the exercise by Verra. For unlisted 'forthcoming' projects, Verra can only possibly know the details of those projects that have previously indicated to Verra that they intend to list in the registry. Forthcoming projects not yet listed, are encouraged in section *VMD0055* A3.1 to list with Verra as "under development" as early as possible in the process to ensure that they are eligible to receive

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		(e.g. 30 days) and a webpage/site in which developers can submit areas for projects in early stages, this would allow for submitting forthcoming and early development projects and also to divide the costs of doing the J-ABD-UD in multiple developers.	AD allocation. Verra therefore expects that all projects making clear progress towards validation will actively provide their spatial information in time to receive AD allocation for the forthcoming baseline validity period.
109	The Nature Conservancy (TNC)	(Section 5.1) Clarify if AD will be automatically updated or only upon request of a Project Developer.	Verra will update jurisdictional data at the end of the baseline validity period (currently six years). Project proponents must submit an AD Allocation Request Form to be allocated new data for their project areas.
110	Conservation International (CI)	(Section 5.1) As mentioned above, Verra should provide timelines for responses and closure on fee structures. Also, will the information listed in this section (item 1 through 7) be part of the template that Verra will provide to PPs for submitting the activity data requests? **Proposed Change:** Please provide a timeline for this process to increase confidence that Verra can deliver the required AD in a timely and efficient manner. Please provide a draft template for requesting activity data.	See response for comment #91. Current *VMD0055* Appendix 3 Section 3.1 describes the information that must be submitted in the AD Baseline Allocation Request form. We will provide this form in the coming months.
111	Quantil	(Section 5.1) We kindly ask Verra for a historical geographic data base (polygons) of the VCS projects (including year of initiation) in order to identify size areas. This information will allow us to analyze	We note this request!

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		satellite imagery availability, cost and demand of the service.	
112	Conservation International (CI)	(Section 5.1) The methodology mentions two classes of agents for leakage accounting: (1) Local deforestation and degradation agents, who are assumed to be displaced to the leakage belt, and (2) Non-geographically constrained Deforestation Agents, "who, under the baseline scenario would be expected to migrate to near the project area and cause deforestation within the project area". What about a third category: local, non-geographically-constrained agents who could be displaced from the project area to relatively far-away areas beyond the leakage belt. These would be people being driven from the project area to distant locations (distinct from those being driven to the project area, as described in group 2 above)? Based on the calculations in section 5.4, it sounds like the group 2 agents described here are, in practice, considered to be those driven away from the project area (as we suggest) rather than those driven to the project area. **Proposed Change:** Please review and clarify. The methodology is inconsistent throughout in the way it discusses the migrant agent population – sometimes talking about agents who migrated to the project area and in other cases talking	Additional clarifications have been made (e.g., in *VMD0055* Section 5.2.1) regarding the assumptions under the baseline and project for both geographically constrained and geographically mobile agents. Only two kinds of agents are considered, those who already live locally and shift their activities from one local area to another local area, and those who are living remotely at the start of the project and decide to relocate to areas outside of the PA+LB rather than migrating into the PA.

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		about agents displaced from the project area; this must be thoroughly reviewed and clarified. In addition, it is not a safe assumption that those who migrated to the PA would necessarily be willing/able to migrate away from once displaced by project implementation.	
113	Biofilica Ambipar Environment & NBS Alliance Brazil	(Section 5.1.1) It is not clear how J-ADB-UD Section 5.5.1, Steps 1-5 shall be replicated for the AUD Project Area and LB Monitoring Period. **Proposed Change:** The text should specificy if the project proponent should replicate the same approach used by the VVB that produced the J-ADB-UD and the FCBMj or if it is suffice to follow a different approach, as long as it follows what is in J-ADB-UD Sections 5.5.1, steps 1-5. Furthermore, it makes sense that the VVB that created the FCBMj and the J-ADB-UD would produce yearly monitoring for the entire JNR and these be provided to project proponents.	*VMD0055* Section 5.3.2.2 Steps 1-5 cover all that is needed to parallel Appendix 1 A1.4.1 for the project case. Current procedures require the project to conduct monitoring; it is possible that in the future Verra will provide data.
114	Conservational International (CI)	(Section 5.1.1) How will Verra ensure the timely delivery of activity data? Right now, there is no assurance that activity data will be produced in a timely manner and with a high level of quality. This evaluation of the methodology is being completed with no knowledge of the third-party provider that Verra will choose - we do not know their capacity, delivery times, reputation,	Several points of concerns that were raised during the public consultation have been addressed later on as the process of methodology development and implementation have progressed further. In particular, concerns about the quality and timeliness of activity data production have been addressed through, first, the call for expressions of interest from data service providers, which allowed an initial screening and selection of those that showed to possess suitable qualifications (including

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		credibility, or level of experience, and we do not know how much this data generation will cost. What safeguards will Verra introduce to ensure that successful AUD projects (those that demonstrate reduced deforestation and generate VCUs) do not end up losing money due to the potentially high cost and long delays for third-party produced activity data? Keep in mind that using third parties with no local knowledge can be particularly problematic especially in heterogenous dry forests and savannahs, something to consider when experts are hired. **Proposed Change:** Please clarify details and respond to these concerns.	experience, personnel, familiarity with the VCS, etc.). Secondly, the Terms of Reference formulated for the actual Request for Proposals included a number of specifications and quality requirements that data service providers have to meet for the activity data production process, the final deliverables, and timeframe. Finally, the full proposals that were submitted (by the previously screened data service providers) in response to the Request for Proposals were carefully examined in order to select the most suitable ones.
115	Biofilica Ambipar Environment; NBS Brazil Alliance; Carbonext	(Section 5.1.1) Intensifying the sampling density might not be feasible if the data provider have many samples for that jurisdiction. **Proposed Change:** When possible, sampling density should be done.	Comment is unclear. Were it not for physical inaccessibility, sampling density can always be increased.
116	Biofilica Ambipar Environment & NBS Brazil Alliance	(Section 5.1.1) Text before Equations (1) and (2) says such equations would replace Equations 20 and 21 of the J-ADB-UD. However, there are no Equations (20) and (21) in J-ADB-UD. **Proposed Change:** It seems the correct equation numbers are (15) and (16).	Equation numbering has completely changed.

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117	Silvestrum Climate Associates	(Section 5.1.1) Error in DFDef in equations 1&2. Should there also be DFDef-LB? Are the accuracies of the PA and LB analyses separated or combined? **Proposed Change:** Should be DFDef-PA.	These equations no longer exist.
118	Quantil	(Section 5.1.1) Has radar imaging been considered to resolve cloud obstruction? Radar images are more expensive due to high processing. In areas with high cloud cover it would not otherwise be possible to have a Historical Reference Period (HRP).	Radar or any other spatial data type may be used in following ways described throughout the module: 1) To develop a stratification approach to image sampling 2) to develop a project-specific forest cover benchmark map 3) to supplement and aid analysts in visual interpretation of high resolution imagery.
119	Biofilica Ambipar Environment & NBS Brazil Alliance	(Section 5.1.1.1) AUD Project Area must be only forest. How it is possible to send the AUD project area without having access to the FCBMj to see what is forest? **Proposed Change:** The Section 5.1.1.1 (or other more appropriated section) must include some additional guidance on the process of receiving the FCBMj in advance before sending the AUD Project Area.	Per *VMD0055* Appendix 3 Section A3.1, the project proponent must include a KML file with its AD Baseline Allocation Request Form. However, the jurisdictional FCBM will be made public to aid in project area selection.
120	South Pole	(Section 5.1.1.1) Does the AUD project area include forest lands with a risk 0 of deforestation? If it does not, what happen if, in the baseline revalidation, a forest area previously in risk class 0 has evolved to a risk class different?	The UDef project area is defined by the project proponent, and thus can include areas with a risk class of 0.

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121	Volkswagen-Climate Partner	(Section 5.1.2) The short-term baseline validity period for projects that register after a particular baseline area has already been validated creates investment uncertainty for new projects. **Proposed Change:** New projects that join mid-way into a baseline validity period should be allowed to carry over their first baseline allocation into one new validity peroid and only change after they have issued credits for at least one full baseline validity period. Rationale: This would allow new projects to maintain their first baseline for enough time to promote investor confidence, while also allowing them to transition to the standardized validity period in due course.	While going an entire BVP in addition to the one that the project joined in was considered by many stakeholders to be too long, roject proponents may elect to update to the second jurisdictional BVP up to two years after that BVP begins (see *VMD0055* Section 5.3.1).
122	Terra Global Capital, LLC	(Section 5.1.2) This allows from gaps from the end of the historical reference period to the project start, which is poor practice. **Proposed Change:** This should require a new JFCBM is the gap is more then 2 years.	Because of the need to have only one set of activity data for a given baseline validity period in a jurisdiction, it will be the case that the project start date can not align with the start of the baseline validity period for most projects. Every year of a baseline validity period after the first year presents a gap from the end of the HRP. The AD allocated to projects in every year following the first year of the BVP is therefore equally 'out of date', regardless if their start date is within this BVP, or if the project began in a previous BVP. Verra is now requiring 6-year baseline renewals for *VMD0055* projects in the *VCS Standard*, which is itself already a substantial improvement on the previous use of 10 years by most existing *VMD0055*

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			methodologies.
123	Conservational International (CI)	(Section 5.1.3) Again, please provide sources and justifications for the equations and parameters used to ensure the scientific integrity of carbon accounting under VCS. **Proposed Change:** Please clarify and provide sources, in-text references, and justification.	The latest version of the *VMD0055* clearly states that carbon stock changes are to be estimated using methods described in the VCS modules
124	Asociación para la Investigación y Desarrollo Integral - AIDER	(Section 5.2) Regarding the definition of limits, when referring to the specialization of the area outside the leakage belt (OLB), does it refer to what remains of the reference region, that is, the OLB would be within the RR or is it a different area?	The definition of the area for OLB leakage is described at the end of *VMD0055* Section 5.1.4. It is the entire country, which may include areas outside of the jurisdiction in the case of subnational jurisdiction
125	Conservation International (CI)	(Section 5.2) Geographically Constrained Agents - AUD Leakage Belt Based on experiences with projects under the existing methodologies, there are cases where there are no suitable forests directly surrounding an AUD project area (i.e., no forests with the necessary or desired characteristics for the agents of deforestation). They may not have the structural (size, shape, density) or composition (species) characteristics required by the agents and/or may not be suitable for the drivers motivating the agents. In landscapes under heavy	Projects are conservatively assumed to be responsible for all unplanned deforestation in excess of the baseline within the leakage belt. There are provisions to excluded areas not subject to the same drivers as the AUD PA (*VMD0055* Appendix 1 Section A1.4.1 Step 1).

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		deforestation pressure, this can be expected because the AUD project area is, in some cases, the last remaining forest area of its kind; in fact, this is sometimes the impetus for conservation efforts. In general, the effort to standardize leakage belts and replace Reference Areas with Jurisdictions may produce more consistency and ease of accounting, but it may do so at the cost of producing accounting with decreased accuracy and reliability. Existing methodologies have many criteria to define a leakage belt that is similar to the project area (e.g., topography, forest strata, demographics, agents and drivers); these criteria serve to create a defensible argument that agents could be reasonably expected to shift their activities from the project area to the leakage belt. Furthermore, the leakage belt, as defined with a fixed buffer distance under this new methodology, does not account for variability in mobility and willingness/necessity to travel for activities that cause deforestation/degradation. While these data are not always known with a high degree of certainty, the methodology should allow this data to be used when available (e.g., when agent mobility exceeds the 10-km maximum buffer distance). **Proposed Change:** Please review and modify the methodology appropriately.	

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		Alternative approaches allowed under the new methodology could draw from the existing methodologies, including similarity criteria. This module requires a contingency plan in case no suitable forest exists in the buffer distance Verra requires, otherwise projects will not be able to generate a leakage belt.	
126	Biofilica Ambipar Environment; NBS Alliance; Carbonext	(Section 5.2) What about areas of multiple AUD project near each other? Wouldn't it difficult the LB allocation? **Proposed Change:** Give some possibilities of LB soprepossition between different AUD projects. Consider the possibility that qualified project proponents create their own AD and that it´s validated by a VVB, otherwise remove the need of VVB validation when a VERRA certified consultant has provided the AD.	Section 5.4.4 has been rewritten as Appendix 2 Section 2.1. Section 5.1.3 in the updated version of *VMD0055* addresses this possibility.
127	The Nature Conservancy (TNC)	(Section 5.2) Need further clarification of how Planned Deforestation will be delineated considering the disparate use of land registries and environmental agencies process to authorize and document the planned forest conversion.	1) Verra acknowledges that there are many examples of deforestation that straddle the definition between planned and unplanned deforestation. In the current version of the module, there is no requirement that planned deforestation be exhaustively differentiated from unplanned. Rather, what exists is a requirement that where deforestation is observed in the sample dataset, that additional record is made if that area unambiguously meets a definition of planned deforestation. Verra supports 3rd party data developers in the use of ancillary datasets

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			such as government records in making this determination. Interested parties are also encouraged to provide such information to data developers. With this guidance, areas where the identity as planned vs unplanned cannot be determined, the plot is recorded simply as deforestation. See *VMD0055* A1.4.1 Step 1 Data Collection, condition(b) 2) Guidance on planned deforestation is now provided in section A1.4 Step 1: Jurisdictional Sampling Frame and Areas of Identified Exclusion; and Data Collection 3) Data service providers are required to develop standard operating procedures for differentiating unambiguous examples of planned deforestation, that are calibrated to the specific jurisdiction.
128	Terra Global Capital, LLC	(Section 5.2) This statement refers the Project submitting FCBMP "Verra will reach a decision on whether or not to integrate an FCBMp into the Jurisdictional FCBM based on a validation dataset. Details on this are provided in module J-ADB-UD, Section 5.5.3." **Proposed Change:** The Project should be able to submit the Jurisdictional FCBM which will be used subject to VVB approval and Verra approval. Verra will not create a Jurisdictional FCBM unless requested by the Project.	See comment #166

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129	Asociación para la Investigación y Desarrollo Integral - AIDER	(Section 5.2.1) It is indicated that the leak belt cannot intersect with the area or leakage belt of another project. Would this indication be applied from the moment the module comes into force, that is for new projects or, also for already existing projects and would they have to recalculate areas?	Section 5.1.3 in the updated version of *VMD0055* addresses this possibility.
130	Asociación para la Investigación y Desarrollo Integral - AIDER	(Section 5.2.1) For the case of "Agents not geographically restricted: national limit of the country", the estimation of the displacement of land cover transitions towards the area outside the AUD Project area and leakage belt by agents not geographically restricted, should it be national or jurisdictional? Because, for example, Peru has been working on its reference level for the Amazon, not for the entire country.	The area for creating these maps is national, because the jurisdiction is solely an artefact of carbon accounting. Geographically mobile will not recognize or constrain themselves based on a Verra-defined jurisdiction.
131	Ecológica Assessoria	(Section 5.2.1) How will the displacement of land cover transitions to the area outside the Project AUD Leakage Area and Belt by non-geographically restricted agents at the national administrative boundary be estimated. **Proposed Change:** In the case of Brazil, with large territorial extensions it should be done either through the state administrative division or depending on the state up to the municipal level.	Described in *VMD0055* Section 5.3.4.4.

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132	South Pole	(Section 5.2.1) This paragraph does not explain why using 4 km as the distance between boundaries of forest patches for the procedure. As stated earlier in the module, if 10 km is the maximum buffer for the leakage belt, in some cases that distance can range between 4 to 10 km and the patches will be involved in the same leakage belt.	4 km has been retained (*VMD0055* Appendix 1 Section A1.2.2) as a practical threshold. However, further actions have been detailed in Section 5.1.3 to properly account for (and discount) potential overlaps between project areas and leakage belts of other VCS AFOLU registered and active projects.
133	South Pole	(Section 5.2.1) In the case of projects from different project developers, is this subdivision a result of an agreement between them? Why would a project proponent modify its leakage belt favouring a new project in the region?	Section 5.1.3 in the updated version of *VMD0055* addresses this situation.
134	South Pole	(Section 5.2.1) "made available publicly available"	Thank you for your comment. The sentence has been removed.
135	Systemica	(Section 5.2.1) There is some concern regarding the topic: "1. Wherever the LB from an AUD project intersects with the PA of a different AUD project, this intersecting area shall be excluded from the LB." There are many certified AUD projects without LB information available in the Verra Registry (e.g. Florestal Santa Maria Project, Agrocortex REDD Project, Fortaleza Ituxi REDD Project, etc). How will Verra ensure that all projects make their respective LB and PA available? **Proposed Change:** As a suggestion, Verra	Verra will improve its data management practices to ensure that project proponents and data service providers have access to the spatial boundary definitions required to make the assessments of overlapping leakage belts. To begin, this will only be possible for projects using *VMD0055*.

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		could be centralized LB and PA area data on a single file to facilitate access. Or alternatively, it is check the missing data for each project and make its available.	
136	Conservation International (CI)	(Section 5.3) It is not clear how the accuracy of the Non-AUD area will be assessed. **Proposed Change:** Please add an explanation or modify the module.	If the project includes non-AUD project areas, the delineation of such areas is the responsibility of the project proponent. All areas within the AUD project area must meet the additionality criteria set by the application of the additionality tool. The spatially mapping of such areas will be assessed during project validation.
137	Conservation International (CI)	(Section 5.3) It's not clear why no accuracy target is required for the Forest Stratification Map, and no justification is provided. Uncertainty in the inventory can be reduced with more intense sampling, but the potential for a low-accuracy stratification map will remain, and, therefore, there will be no guarantee the inventory plots will be classified within the correct stratum. **Proposed Change:** Please add an explanation or modify the module.	As stated in *VMD0055* Section 5.3.2.1, no accuracy standard applied as the spatial accuracy of classes will be reflected in the calculation of uncertainty around inventoried carbon stocks for each mapped stratum.
138	Biofilica Ambipar Environment; NBS Brazil; Carbonext	(Section 5.3) Will it only be possible to create a Forest Stratification Map by carrying out on-site inventories or is it possible to use secondary data? The cost of carrying out a forest inventory is high, and it is difficult to justify carrying it out before receiving the activity data to know the productivity of the project area.	As delineated in the module, forest stratification be based on forest inventories which encompass the UDef project area and leakage belt. As stated, the sampling should be representative of the areas expected to be included in the UDef project area over the project baseline validity period. The specific carbon pool delineates the time period in which data must have been collected. For example, CP-AB Live Biomass states

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		Proposed Change: Statification should be possible to be done using secundary data or reassess over the life of the project.	"Measurements of initial stocks employed in the baseline must take place within ±5 years of the project start date, for simplicity referred to here as stocks at t=0." Please note: the text does not state that the forest inventory must have been completed by the project proponent for the given project. Thus, it is allowable for this data to have been developed for other purposes, as long as it complies with all aspects of the methodology.
139	The Nature Conservancy (TNC)	(Section 5.3) On alternative risk mapping approaches - This is an important process that needs to be considered urgently, some PP are working with governments to develop Jurisdictional Risk maps and reconciliation of maps would benefit all PP and facilitate the nesting process.	The procedure will be set out clearly in *VT0007* UDef-AT.
140	The Nature Conservancy (TNC)	(Section 5.3) "FCBMs cannot be submitted to Verra to adjust Deforestation Risk Maps during a J-ADB-UD Validity Period" - This kind of contradicts the sentence above that using FCBMs will be included to improve accuracy.	Project-level FCBMs may be submitted at any time but will only affect the jurisdictional risk map when it is developed prior to the beginning of a new baseline validity period.
141	Silvestrum Climate Associates	(Section 5.3) Typo: In the event that a large-scale natural disturbance2 is identified during Monitoring to [take] have taken place within the AUD Project area and/or AUD leakage belt over the baseline validity period. **Proposed Change:** Remove the word take.	This typo has been removed (see the last paragraph of *VMD0055* Section 5.3.2.1).

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142	South Pole	(Section 5.3) "Within the leakage belt (but not within the PA)..." Why not in the PA? Also, in the PA, the type of forests described in the paragraph could be considered as "non-AUD".	This section has been removed. However, UDef project area is defined by the project proponent, and thus is assumed to only include areas under the unplanned deforestation baseline scenario.
143	Conservation International (CI)	(Section 5.3) When will Verra set up the process to periodically consider alternative risk mapping approaches submitted by Project Proponents or other stakeholders. Would this be every 6 years? See further questions and comments in the J-ADB-UD section of this document and Key Question #2. **Proposed Change:** Clarify whether this process would occur, and whether it will be aligned with the rest of the tools and validity periods (every 6 years).	This process is set out in current *VMD0055* Appendix 3 A3.3.4 and *VT0007*. It will occur every six years.
144	Conservation International (CI)	(Section 5.3) It is a good idea to allow PPs to have the option of creating their own FCBMs for the Project Area and the Leakage Belt for submission to and consideration by Verra. In the case a PP produces a PA+LB FCBM with demonstrated higher accuracy than that of the Verra map, project-level maps shall be integrated into the jurisdictional FCBMs. In such a case, how will different techniques (i.e., supervised classification with X algorithm used by jurisdiction PPs) be reconciled with the technique used by Verra/third-party and how will the level of	The approach to incorporating project-developed FCBMp is defined in *VMD0055* Appendix 1 A1.4.3. Remote sensing techniques for generating forest cover maps are constantly evolving, and Verra does not wish to limit the range of techniques that project and data service providers can employ. A universal test of accuracy is applied to all maps, whether produced by DSPs or project proponents. The maps performing best on this standard, described in A1.4.3 Step 1 in the subsection "Where Relevant, Integrate Project FCBMs into Jurisdictional FCBMs." Maps are assessed only by their accuracy, not by the techniques used to produce them.

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		accuracy will be evaluated and compared? **Proposed Change:** Provide clarification on how different techniques applied at jurisdiction and at local level will be matched and reconciled.	
145	Conservation International (CI)	(Section 5.3) Instead of introducing new terms (e.g., "UD Activity Class"), continue using the terms AD-C and LCT from the other modules. Otherwise, there is a risk of introducing additional confusion in a methodology that already has many variables and parameters. **Proposed Change:** Please edit for clarity.	These terms have been eliminated.
146	South Pole	(Section 5.3) The start and end dates of the JBVP and HRP seems to contradict in such paragraphs. You are talking about six months and then one year. **Proposed Change:** Stick to one value so the paragraph does not have a contradiction.	1) The HRP is defined in VMD0055; that definition refers to a relevant section of the *VCS Methodology Requirements*. It is no longer defined in *VMD0055*. 2) Other passages within the *VMD0055* refer to dates associated with the HRP, but these passages focus on the eligibility of data in relation to the HRP. Different standards are used for different purposes: a. Individual high resolution images may be sourced from a temporal window +/- 365 days from the start and end dates of the HRP (A1.4.1). b. The difference between HRP_start and HRP_end (as calculated from average dates of high res imagery observed within

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			sample plots) must be within +/- six months of the nominal length of the HRP (e.g. for a HRP of 10 years, the difference in HRP_start and HRP_end cannot be outside of 9.5-10.5 years)
147	The Nature Conservancy (TNC)	(Section 5.3) On start date - It might be more interesting to use the month of the image that covers the majority of the area of interest (or the average of images that cover 70% ?? of the area).	Guidance for eligibility of imagery is clearly stated in *VMD0055* A1.4.1 Step 1 Data Sources. Verra has made the choice that it is most appropriate to record dates based only on imagery observed within sample plots, because the location of those plots can bias the determination of average imagery date. Areas of high-resolution imagery that are not sampled do not produce any observations of deforestation, so it is inappropriate to use information from those areas to calibrate the start and end dates of the HRP for purposes of generating the historical activity data estimate.
148	Conservational International (CI)	(Section 5.3) There is no reference to disturbance other than a brief mention in Section 4 of this module. **Proposed Change:** Verra should clarify when and how disturbances should be accounted in Section 5 and clearly relate it to this equation. If Verra chooses not to provide specific guidance on when/how disturbances should be accounted, the module should at least state this or require that the PP defer to the requirements of the existing AUD methodologies.	Both, the draft *VM0048* and its module *VMD0055* have been fully reviewed and edited to avoid the use of ambiguous terms. Further guidelines for the use of terms such as natural disturbances, large vs. small scale have been provided throughout the documents, for instance, with regard to identified exclusions in Table 11 of *VMD0055*.
149	The Nature Conservancy (TNC)	(Section 5.3) When will Verra set up the process to periodically consider alternative	See response to comment #19.

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		risk mapping approaches submitted by Project Proponents or other stakeholders. Would it be every 6 years?	
150	The Nature Conservancy (TNC)	(Section 5.3) It is a good idea to allow PPs to have the option of creating FCBMs for the Project Area and the Leakage Belt for submission to and consideration by Verra. In the case that a PP shows higher accuracy of the project map produce, then project level maps shall be integrated into the jurisdictional FCBMs, in this sense, how will different techniques (Jurisdiction of service providers and PP) be matched?	This is defined in current *VMD0055* Appendix 1 A1.4.3. Where project level FCBMs (FCBMp) replace overlapping FCBMj's that replacement is only for the current BVP, and only for the extent of the FCBMp. In future BVPs the PP could submit a new FCBM for consideration by the DSP. The only metric that matters in the selection of FCBMp's is their ability to out-perform the FCBMj in accuracy. Regardless of the remote sensing approach used to develop those competing maps, the maps are presented in the same FCBM format for comparison.
151	South Pole	(Section 5.3.1) "estimated f following" **Proposed Change:** "estimated following."	Thank you for your comment. This is no longer relevant.
152	South Pole	(Section 5.3.1) "The difference in carbon stocks changes" **Proposed Change:** "The difference in carbon stocks" or "The carbon stocks changes."	Corrected (*VMD0055* Section 5.3.3.3).
153	South Pole	(Section 5.3.1) ΔCLK-ASU-LB (as in the description) or ΔCLK-net-LB (as in the equation)? Please, consider this.	Corrected to ΔCLK-net-LB,t (*VMD0055* Section 5.3.3.3).
154	South Pole	(Section 5.3.1) This paragraph does not explain why using 4 km as the distance between boundaries of forest patches for the procedure. As stated earlier in the	4 km has been retained (*VMD0055* Appendix 1 Section A1.2.2) as a practical threshold. However, further actions have been detailed in Section 5.1.3 of the updated version of the module to properly account for (and

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		module, if 10 km is the maximum buffer for the leakage belt, in some cases that distance can range between 4 to 10 km and the patches will be involved in the same leakage belt.	discount) potential overlaps between project areas and leakage belts of other VCS AFOLU registered and active projects.
155	The Nature Conservancy (TNC)	(Section 5.4) Contracting a VVB to validate the boundaries of the Project Area and Leakage Belt might not even be practical - without the baseline allocated, it is not possible to know if it is a viable carbon project, and therefore contracting a VVB at that early stage might be a waste of limited resources. Accordingly, Verra should accommodate the possibility of having revisions along the way. Carbon project design has not been perfect since day one and changes will occur along the way. Maybe Verra could charge some sort of additional small fee, but it should not be one single shot.	VVBs do not have to validate the boundaries in stages - see current *VMD0055* Appendix 3 Figure 6 and Figure 7.
156	Silvestrum Climate Associates	(Section 5.4) During development of the module there was a discussion about including an option for tidal wetlands forest (e.g. mangroves) to limit the analysis to this biome, because drivers, agents and trends may be quite different from the terrestrial situation, and including an entire jurisdiction for just a mangrove conservation project might overburden the project. Can the module allow for this limited analysis, e.g. for just one LCT or AD	*VMD0055* has been updated to exclude wetlands; new Verra methodologies are under development to supplement UDef in wetland areas.

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		Category if it is mangrove?	
157	South Pole	(Section 5.4) Jurisdictions based on administrative boundaries is a simple way to standardize a process and will respond to political actions and not to social dynamics. **Proposed Change:** Jurisdictional boundaries based on watersheds are recommended because they respond to the same ecosystemic, environmental and social dynamics. Likewise, there are proposals that define them at a global level at different scales.	*VMD0055* Appendix 1 A1.2.1: Verra will define all reference regions, in consultation with governments, existing REDD programs, project proponents, and may utilize definitions based on administrative units, or geographic factors such as ecosystems, or watersheds.
158	Systemiq	(Section 5.4) It is our understanding that the jurisdictional reference area exclude existing Verra projects, as including them would go counter to the VCS Baseline Scenario of "activities and GHG emissions that would occur in the absence of the project activity". However, this is not explicitly stated in the module. **Proposed Change:** Explicitly state that the reference area exclude an existing carbon projects to ensure that the reference area provides a counterfactual baseline, i.e.: without project scenario.	VCS project areas will be included in the jurisdiction. In the jurisdictional allocation approach, projects no longer construct a "reference region" (Appendix 1 A1.2.1).
159	The Nature Conservancy (TNC)	(Section 5.4) Geodetic coordinates are points, while the boundary is a polygon.	Clarification to the required format of geographic data on boundary definitions (*VMD0055* Appendix 1 A1.2.1(2)).

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		Proposed Change: Further clarification is needed to identify which point(s) will be included in the report (e.g. centroid, upper/lower corners…).	
160	Quantil	(Section 5.4) In terms of technical specifications, there is no mention of whether the images should be orthorectified (accuracy criteria) and the desired georeferencing scale (e.g. 1:10.000 or 1:5.000). We request clarification on the level of offset and whether orthorectification of the images is required (e.g. from control point processing with the jurisdiction's geodetic network).	Text added in *VMD0055* Section A1.4.1 Step 1 Data Sources to describe requirement to use orthorectified imagery.
161	Conservation International (CI)	(Section 5.4) It is not clear if Verra or PPs are covering any of these costs (e.g., validating the project boundary at a very early stage, before there is activity data, at time before the PP has assurance that the project is feasible). Doing validation in stages is an additional cost to project proponent, especially considering that boundary validation is usually done on site. **Proposed Change:** In the best-case scenario, Verra will make decisions to avoid adding additional costs to projects.	It is outside of the scope of this methodology to include Verra's fees. Verra will charge a fee for allocation of activity data. The fee structure is yet to be determined. Verra is sensitive to financial considerations of projects and will work to ensure that costs are dispersed equitably per jurisdiction and in a way that does not burden projects. The fee structure (in summary or in part) will be released with the final methodology. Projects will cover the usual validation and verification fees but will benefit from the fact that the activity data does not need additional validation or verification.
162	Ecológica Assessoria	(Section 5.4) It was not clear how the jurisdiction will be adopted and the J-ADB-UD Description Report prepared. In the case of Brazil, we have the limits of	This is a good example of why flexibility in jurisdictional definition is needed (per Appendix 1 Section A1.2.1). Verra will define all reference regions, in consultation with governments, existing REDD programs, project

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		Municipality, State, Country and Biome, how will the division be done in case the areas are in more than one jurisdiction. What will be the effect of this on the calculation of avoided emissions? **Proposed Change:** For those cases where there is overlapping jurisdiction, it is necessary to carry out an analysis contemplating two or more jurisdictions because the dynamics of each one may be different. This takes into account how it happens in Brazil and the particularities of smaller administrative boundaries, such as municipalities.	proponents, and may utilize definitions based on administrative units, or geographic factors such as ecosystems, or watersheds. For projects that overlap jurisdictional boundaries, see Appendix 1 Section A1.2.1.
163		(Section 5.4) The general steps to estimating migrant leakage emissions - Regarding Step 3: What is the basis for this approach and calculation? What sources can Verra cite to support its assumptions? If a comprehensive literature review has been conducted, please provide references to support this approach. **Proposed Change:** Please clarify and provide sources, in-text references, and justification.	The approach utilized is modeled on *VMD0010 (LK-ASU)*, specifically the passage "5.1.5.1 Define the total available national forest area (i.e., the total forest area in the country (TOTFOR)). This can be assessed with a coarse-scale imagery (e.g., using MODIS imagery or similar), or with official government statistics on forest area. The total national forest area should be reduced to just the area of forest within 5 km of a road or river that is suitable for conversion to agriculture or raising livestock. If boundaries are available, then area of protected forests (PROTFOR) and the area of managed forests4 (MANFOR) may be excluded from the total forest area calculated in this step."
164	The Nature Conservancy (TNC)	(Section 5.4) Doing validation in stages is an additional cost to project proponent, especially considering that boundary validation is usually done on site.	See response for comment #155.

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165	Terra Global Capital, LLC	(Section 5.4) The requirements that the area needs to be a jurisdiction and meet these new (ARTrees looking) minimum size is problematic in a number of ways. This makes no sense to "If the country is larger than 2.5 million hectares and the second-level administrative Jurisdiction (i.e., one administrative level below the national level) is smaller than 5 million hectares, the boundary of the second-level administrative Jurisdiction may be selected" **Proposed Change:** Again, why should these different from JNR requirements. Make them the same as JNR.	How a jurisdiction is defined has been updated (see *VMD0055* Appendix 1 Section A1.2.1). Because there is no government proponent, the definition can't be exactly the same as it is in JNR.
166	Terra Global Capital, LLC	(Section 5.4) The requirements that the area needs to be a jurisdiction and meet these new (ARTrees looking) minimum size is problematic in a number of ways. This makes no sense to "If the country is larger than 2.5 million hectares and the second-level administrative Jurisdiction (i.e., one administrative level below the national level) is smaller than 5 million hectares, the boundary of the second-level administrative Jurisdiction may be selected." **Proposed Change:** Again, why should these different from JNR requirements. Make them the same as JNR.	See response to comment #84.

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167	Terra Global Capital, LLC	(Section 5.4) The requirements that the area needs to be a jurisdiction and meet these new (ARTrees looking) minimum size is problematic in a number of ways. This makes no sense to "If the country is larger than 2.5 million hectares and the second-level administrative Jurisdiction (i.e., one administrative level below the national level) is smaller than 5 million hectares, the boundary of the second-level administrative Jurisdiction may be selected." **Proposed Change:** Again, why should these different from JNR requirements. Make them the same as JNR.	See response to comment #165.
168		(Section 5.4) It is almost impossible for projects to influence the land-use decision making of non-geographically constrained agents who migrate into the OLB area for reasons not related to the project at all. We are not clear why this would be considered leakage from the project if there is no direct relationship with project activities? **Proposed Change:** "In cases where it can be demonstrated that the migration to the OLB areas is not related to the AUD project, or where the agents in the AUD project have no access to the OLB area, this leakage portion should not be accounted for. **Rationale:** Projects do not have to face ER	The occurrence of leakage by mobile agents is well established and documented and it can rarely be fully excluded. Therefore, the various sources of leakage potentially affecting a given project have to be taken into account in order to attain a conservative account of the project's emissions reductions. Recommendations to manage leakage in general include (1) consideration and reduction of potential leakage in the project and program design, (2) monitoring and accounting of leakage in a sufficiently large monitoring area, and (3) discounting of any leakage from GHG benefits claimed. This is the spirit of this requirement.

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		deductions for actions for which they do not have any control."	
169	Biofilica Ambipar Environment & NBS Brazil Alliance	(Section 5.4) "Activity data will be allocated to the respective portion of each Jurisdiction's AUD project area." How will the division of these jurisdictions in the project be distinguished?	The AUD project area will be submitted by projects using the AD Baseline Allocation Request Form (as currently set out in *VMD0055* Appendix 3 A3.1.
170	Biofilica Ambipar Environment & NBS Brazil Alliance	(Section 5.4) How should "Multiple contiguous subnational administrative Jurisdictions of the same level" be matched? And what will be the effect of this on the calculation of avoided emissions?	Verra will define all jurisdictions at the highest reasonable level per current *VMD0055* Appendix 1 A1.2.1. Avoided emissions will always be accurately and/or conservatively calculated either within a single jurisdiction or across summed jurisdictions. A larger jurisdictional area will produce a higher estimate of historical activity data, but that AD will be allocated back to a larger jurisdiction, thus balancing out the effect of the size of the jurisdiction on a per-hectare basis. From a project perspective, the size of the jurisdiction is irrelevant once AD has been allocated to the PA and LB, as all further calculations and monitoring are done only with the PA and LB. It will, however, be rare for multiple jurisdictions to occur within a single country and will be reserved only for the very largest countries (note that Colombia and Tanzania for example are national level jurisdictions and to date only Brazil and DRC have been subdivided).
171	South Pole	(Section 5.4.1) "Digital Maps of AUD	Error has been updated (*VMD0055* Appendix 1 Section

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		Project area Boundaries" **Proposed Change:** "Digital Maps of AUD Project area and Leakage Belt Boundaries."	A1.4.3 Step 3).
172	South Pole	(Section 5.4.1) ADpa,lct,r,t is a parameter given in ha/year, dividing the result by the JBVP does not seems appropriate. **Proposed Change:** Remove either the JBVP length or the values of AD per year in the equation.	These equations have been updated; the parameters are no longer valid.
173	South Pole	(Section 5.4.1) "non-UD" or "non-AUD"? Is there any difference?	This text has been updated. The leakage now includes guidance for including areas not subject to baseline unplanned deforestation from the leakage belt.
174	South Pole	(Section 5.4.1) "$ADBSL,LB$ ..." What happens with $ADBSL$,PA ...? There is nothing about it. Is there not a "non-UD" or "non-AUD" stratum in PA?	All areas within the *VMD0055* project area should have the baseline scenario of unplanned deforestation. Thus, there shall be no areas within this area subject to other drivers of deforestation, such as planned deforestation.
175	Silvestrum Climate Associates	(Section 5.4.1) Note the limitation of lands available for conversion in case of displacement from Project Areas with tidal wetland forest or peatland forest, in section 5.2.1.'. Unnecessarily unclear language. **Proposed Change:** As per the requirements of section 5.2.1, for tidal wetland or peatland forest projects, the area to be analyzed for activity displacement outside of the leakage belt can be limited to tidal	This comment refers to mapping of the area eligible for outside-leakage-belt migration. The passage in question is no longer included in the methodology. Tidal wetlands are no longer included in this methodology.

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		wetlands or peatlands.	
176		(Section 5.4.2) Was not clear, but the recommendation is that a sampling of households living within the LB and the project area be carried out to determine the proportion of baseline agents in the population residing in the LB and project area equal to or greater than 5 years. Does the project proponent have to sample to be able to do this analysis and at what time should it be carried out?	The text has been clarified that all residents are part of the sampled population, but that PropMIG (formerly PropIMM) is derived from the proportion of that population that have both migrated recently AND engage in deforestation-causing livelihoods (e.g., *VMD0055* Section 5.3.4.4).
177	Silvestrum Climate Associates	(Section 5.4.2) Why include a definition of PROPRES and an indication that it needs to be measured (even if it is implicit from PROPIMM) if it's not needed anywhere in the rest of the module? **Proposed Change:** Remove PROPRES and just say: Randomly sample households living within the Leakage Belt and within the Project Area to determine the proportion of the baseline agents within the population that has migrated into the area in the last 5 years (PROPIMM).	Agreed - Prop_RES removed to simplify.
178	South Pole	(Section 5.4.2) In the case of projects from different project developers, is this subdivision a result of an agreement between them? Why would a project proponent modify its leakage belt favouring a new project in the region?	The text has been corrected and clarified; current text now reads "The minimum sample size must be at least 200 households. Where the total number of households is estimated to be less than 250, the minimum sample size may be reduced to 80 percent of the estimated number of households households."

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179	South Pole	(Section 5.4.2) "made available publicly available"	The current text reads "The minimum sample size must be at least 200 households. Where the total number of households is estimated to be less than 250, the minimum sample size may be reduced to 80 percent of the estimated number of households." Verra is not including in the methodology a standard alternative approach for establishing PropMIG formerly PropIMM). Alternative sources are expected to be too varied and difficult for a VVB to assess their relevance for the project area. For this reason Verra insists on direct sampling of the immediate landscape of the project. Every single element of a module is subject to methodological deviations, and PP's are always welcome to submit requests for deviations if circumstances do not allow adhering to the prescribed approach. However, there is no guarantee such a request for a deviation would be accepted by Verra.
180	South Pole	(Section 5.4.2) ΔCLK-ASU-LB (as in the description) or ΔCLK-net-LB (as in the equation)? Please, consider this.	See response to comment #179.
181		(Section 5.4.2) It sounds like the proportion of migrants that settle in urban vs. rural areas is because activity-shifting leakage will not occur when there is urban resettlement, but this explanation is not explicitly stated in the text. **Proposed Change:** Remove PROPRES and just say: Randomly sample households living within the Leakage Belt and within the Project Area to determine the	The proportion of rural vs urban migration (PropUrban) is no longer estimated.

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#	Organization	Comment	Developer's Response
		proportion of the baseline agents within the population that has migrated into the area in the last 5 years (PROPIMM).	
182	South Pole	(Section 5.4.3) "estimated f following" **Proposed Change:** "estimated following"	The phrase "prior to the end of the project activity" no longer exists in the *VMD0055*.
183	Systemiq	(Section 5.4.3) The approach to develop estimates of rural to urban migration proportion remains unclear. **Proposed Change:** We recommend that further guidane be included in the module and/or that the development of this factor be undertaken by a 3rd party recruited by Verra.	PropRURAL has been eliminated from the document.
184		(Section 5.4.4) If (PROPIMM * (1-PROPurban)) is less than or equal to 0.1 ,... In other words, if PROPrural < 0.1... This text is confusing and could be clearer. Use a verbal description to clarify. **Proposed Change:** Please edit text for clarity.	The proportion of rural vs urban migration (PropUrban) is no longer estimated.
185	Asociación para la Investigación y Desarrollo Integral - AIDER	(Section 5.4.5) For the delimitation of the area of land available for leakage of activity change outside of AP and LB, should they be national or jurisdictional maps? If these maps do not exist, could use be made of the maps produced by local governments?	Per *VMD0055* Appendix 2, Verra will produce this data. Per Appendix 4, stakeholders can provide supplemental materials including any combination of: ancillary spatial data; National carbon stock map; Map of potentially arable land; Map of protection status; and Map of accessibility.

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#	Organization	Comment	Developer's Response
		If maps are to be created, who should map the proponent's proponent or someone designated by Verra?	
186	South Pole	(Section 5.4.5) In the case of projects from different project developers, the use of existing maps, instead of generate new versions, is a result of an agreement between the developers? Why would a project proponent share those datasets favouring a new project in the region?	Jurisdictional and national maps are developed by a 3rd party data service provider and shared to project proponents. This is now clarified in *VMD0055* Appendix 3.
187	Conservation International (CI)	(Section 5.4.5) Since these only need to be produced once by any PP, please confirm they will be publicly available along with a detailed report on how the methods used to develop them to ensure high standards of quality and transparency. Rather than requiring they be made available to Verra upon request, why not make them available to the public along with the PDD? On a separate note: Producing these maps is a large burden for the first PP, which may discourage PPs from being the first in the area. Maybe there's a way to distribute this burden? **Proposed Change:** Please make the appropriate modifications and/or clarifications regarding these concerns.	Per *VMD0055* Appendix 2, Verra will now estimate emissions from deforestation outside the LB using a single emission factor encompassing all lands available for conversion to agricultural land use. This factor will be provided to project proponents in the AD Baseline Allocation Report.
188	South Pole	(Section 5.4.5.1) "The difference in carbon stocks changes"	The passage in question is no longer included in the module.

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#	Organization	Comment	Developer's Response
		Proposed Change: "The difference in carbon stocks" or "The carbon stocks changes."	
189	Asociación para la Investigación y Desarrollo Integral - AIDER	(Section 5.4.5.2) In the item of physical accessibility, for the elaboration of the rasterized national map that indicates the accumulated time that an agent can cover, why not consider another type of transport, such as trimoviles for example, since there are zones in Peru, for example, where this vehicle is widely used to transport their products from the farms to the market/city.	This is a good suggestion, but it would be hard to develop universal criteria that work for all countries. Roads are considered access points in this analysis, so it is only walking time off-road that is used to determine the outer limit of accessibility. Because the map of available land for geographically mobile leakage is only used to develop emission factors, more sophisticated approaches are unlikely to have a large impact on project carbon accounting.
190	Conservation International (CI)	(Section 5.4.5.2) There seems to be a contradiction here. With regard to the risk mapping, Verra recognizes that road data can be difficult to obtain for certain countries & jurisdictions and is often out of date, this the Risk Mapping Tool excludes roads. However, for leakage, Verra suggests that road data must be used to estimate on-foot travel time and considers distance to permanent roads as the only factor. This decision does not account for many other factors that make land difficult or impossible to traverse (e.g., topography, wetlands, vegetation density) and does not consider the willingness or ability of agents to travel father distances, create paths, or use other forms of mobility (e.g., waterways) to achieve such travel. As with the other assumptions in this methodology, we ask, "where is the evidence? Where are	We agree with your assessment that what is presented is a crude approach to approximating accessibility. However, the purpose of this element within the carbon accounting framework is merely to gauge the relative proportion of high and low biomass areas that would be likely to be deforested. The approach presented in *VMD0055* is substantially more robust than the existing validated approach described in *VMD0010*. The risk map is specific to the jurisdiction, not the entire country, so cannot be repurposed to support the estimation of OLB leakage. The map of areas available for leakage will be updated every six years and will capture changes roads and protection status caused by geographically mobile agents themselves.

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		the sources cited for this 2-hour travel time standard?" Without sources or references, many of these assumptions could be considered arbitrary or baseless. **Proposed Change:** Please clarify and provide sources, in-text references, and justification. Consider modifying the methodology to be aligned with a review of scientific literature.	
191	Ecológica Assessoria	(Section 5.4.6.1) It is unclear who should provide the National Carbon Stratification Map to identify the area of each national carbon stratum that falls under each protection category.	Per *VMD0055* Appendix 2, Verra will now estimate emissions from deforestation outside the LB using a single emission factor encompassing all lands available for conversion to agricultural land use. This factor will be provided to project proponents in the AD Baseline Allocation Report.
192	South Pole	(Section 5.4.6.1) the lack of available information would make it difficult to produce a continuous variable biomass map, in addition, the extra cost and time to produce a map with the required standards.	A continuous biomass map is not required. A simple forest-non-forest map with associated average carbon stocks may be used. Furthermore, there are several global carbon stock maps that can be used or adapted for this purpose.
193	South Pole	(Section 5.4.6.1) In the numerator, why do p range from 1 to <5? It should be similar to its range in the denominator.	This section (now *VMD0055* Appendix 2) has significantly changed.
194	South Pole	(Section 5.4.6.1) Why must our verified datasets be available to other AUD projects operating in the jurisdiction if these datasets correspond to our development,	Per *VMD0055* Appendix 2, Verra will now estimate emissions from deforestation outside the LB using a single emission factor encompassing all lands available for conversion to agricultural land use. This factor will be provided to project proponents in the AD Baseline

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#	Organization	Comment	Developer's Response
		which has generated project costs?	Allocation Report.
195	Asociación para la Investigación y Desarrollo Integral - AIDER	(Section 5.4.6.1) Is the module you refer to for obtaining the factors related to the extraction of timber products, is the VMD0005?	Yes. *VMD0005 CP-W* has been added as a parameter and to the Section 3 Sources.
196	Silvestrum Climate Associates	(Section 5.4.6.2) Maybe missing a delta in equation 9. **Proposed Change:** Change the equation to include ΔCNonW-SOC_WP100,I, instead of $CNon{-}W{-}SOC\_WP100,i$.	This section has been significantly revised, so this comment no longer applies.
197	South Pole	(Section 5.4.6.2) These lines should be after the title 5.4.6.2.	This section has been significantly revised, so this comment no longer applies.
198	South Pole	(Section 5.4.6.3) These lines should be after the title 5.4.6.3.	This section has been significantly revised, so this comment no longer applies.
199	Silvestrum Climate Associates	(Section 5.4.7) In equation 12, PROPIMM defined as proportion of area deforested by immigrant agents, not proportion of people as per previous definition. **Proposed Change:** Refine the definition of PROPIMM to be consistent.	Corrected to be proportion of households (*VMD0055* Sections 5.3.4.4 & 6.2).
200	South Pole	(Section 5.4.8) The variable CWP100,OLB,t does not appear in the previous equation. Please, check the correspondence of the variables between the equation and the description.	Thank you for this suggestion.

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#	Organization	Comment	Developer's Response
201	Conservation International (CI)	(Section 5.5) There is a need to better describe how the integration of multiple project activity types (e.g., AUD + ARR) will be carried out under this approach. Based on our present understanding, the allocation tool has built-in capabilities to include "forest enhancement", but we are not sure how it would work, and this part of the tools has not yet been made operational. In addition, for ARR removals, projects must apply specific VCS methodologies that is not included in these new modules under revision. It is not clear how the rules of the ARR methodology would or would not come into play when there are non-forest areas in the baseline that become forest during monitoring (accounted as forest regrowth) if/when the project generate removals credits under this circumstance. **Proposed Change:** Modifying the description based on comments and questions made by CI.	ARR is entirely separate and would not overlap with AUD as the areas subject to (and allowable for ARR) must have been non-forest (in reality, no in a baseline scenario) for a longer period of time. In other words, if you are reforesting non-forest land, this will be accounted for separately. If the question relates to re-growth and removals foregone, i.e. regeneration of degraded forest that would have been deforested in the baseline, this can be accounted for as usual under the AUD methodologies - as and when regrowth is demonstrated in areas expected to be deforested.
202	Ecológica Assessoria	(Section 5.5) Will all the steps described in the figure be developed by VERRA and its collaborators? What is the Project Proponent's role in preparing these? What are the deadline and costs assigned to each step?	Responses set out in Appendix 3. See also response to comment #107.
203	South Pole	(Section 5.5) The steps defined in Page 11 are not developed accordingly in the	Figure 4 in has been updated to reflect the current

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#	Organization	Comment	Developer's Response
		sections of the module. **Proposed Change:** Organize the diagram to align it with the steps explained in the module.	process outlined in *VMD0055* Section A1.4.
204	The Nature Conservancy (TNC)	(Section 5.5) Sampling does not provide enough information to effectively design the mitigation actions on the ground and therefore must be more targeted to achieve climate impacts (i.e. carbon credits). It creates a disconnect between the desktop assessment for the sole purpose of estimating AD and informed decisionmaking about deforestation mitigation. **Proposed Change:** Wall-to-wall mapping provides important information to assess the contribution and attribution to different parcels/ stakeholder and support the benefit sharing, for example.	Wall to wall, or any other spatial data type may be used in following ways described throughout the module: 1) To develop a stratification approach to image sampling 2) to develop a project-specific forest cover benchmark map 3) to supplement and aid analysts in visual interpretation of high-resolution imagery. Project Proponents may always generate land cover maps to any standard desired to support their own implementation of emission reduction activities.
205	South Pole	(Section 5.5) What is the treatment of non-UD (non-AUD?) stratum in the project area?	All areas within the *VMD0055* project area should have the baseline scenario of unplanned deforestation and contain forest at the start date of the project.
206	South Pole	(Section 5.5) If there is no national dataset, nor peer-reviewed published source, must the developer establish sample plots on the ground? In that case, must it accomplish with some statistical criteria?	It allowable for field data to be collected to estimate non-forest carbon pool stocks. As delineated in *VMD0055* Section 5.3.2.3 Step 4, an estimate of uncertainty must be calculated.

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207	Conservation International (CI)	(Section 5.5) Step 2: Enter data into JNR Allocation Tool. a. How and where is the risk class applied if the AD is produced using a sampling-based approach and the risk map is a wall-to-wall map? b. There's no mention of producing/obtaining/using a risk map in this section. It should be clearly linked to the process since it is necessary for the allocation tool. It is our understanding that the production of a risk map must occur in order to use the JNR Allocation tool. Please clarify in the document. **Proposed Change:** Please clarify or modify the document based on our question.	The comment is irrelevant as the commenter is referring to outdated versions of the two tools; these tools have now been combined into one (*VT0007*). The content of this tool wasn't under consultation at this time and has changed.
208	Conservation International (CI)	(Section 5.5) Step 1: Estimation of (non-wetland) carbon stocks per forest stratum Methodologies allow many different approaches for carbon stock estimation, ranging from permanent plot-based sampling to IPCC default values. Please confirm which of these approaches are valid under the new methodology. In addition, how will the LTA for non-forest be assessed? Will the PP be required to use space-for-time substitution? Or will ongoing monitoring be required and a moving average then used? **Proposed Change:** Please add an explanation or modify the module.	The procedures for sampling design are delineated in each carbon pool module. Detailed requirements to determine the LTA are not delineated in the methodology, but the methodology does include guidance on the allowable sources of such information. No ongoing monitoring is required.

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209	Conservation International (CI)	(Section 5.5) Step 4: Estimation of an Uncertainty Discount Factor For "forest type map", do you mean forest stratification map? **Proposed Change:** Instead of confusing readers by introducing the new term "forest type map", please choose one term and use consistent language in all modules (e.g., "forest stratification").	This section (*VMD0055* Section 5.3.2.3 Step 4) has been updated to eliminate this error.
210	South Pole	(Section 5.5) Why shall the non-wetland soil carbon pool be set to zero? It is not clear the reason behind it.	This text, and all other references to wetlands, has been removed from the module.
211	Conservation International (CI)	(Section 5.5) Step 5: Conservative Emissions from carbon stock change Estimation The text states, "This shall be undertaken for above-ground biomass, below-ground biomass, litter and deadwood; and soil-organic carbon and carbon stocks entering the wood products pool separately." This sentence is poorly worded and should be edited for clarity. **Proposed Change:** Please edit for clarity.	This section (*VMD0055* Section 5.3.2.3 Step 5) has been edited.
212	The Nature Conservancy (TNC)	(Section 5.5) It would be important to add a more detailed description that allows a better understanding on how the integration of ARR will be reflected under this approach. Our understanding is that the in the allocation tool there is space to	See response to comment #201.

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		fill up forest enhancement, but we are not sure how it would work. Additionally, for removals such as ARR, projects must apply specific VCS methodologies which are not included in these modules.	
213	The Nature Conservancy (TNC)	(Section 5.5 & 5.5.1) Within the advance of remote sensing technology it is crucial to define what Verra's threshold for high resolution images is (<10m of spatial resolution ?).	While <5 m resolution data is available, it is expensive to access and may be a burden to project proponents. We will update this in the future if the situation changes.
214	Clark University	(Section 5.5.1) 1)This should emphasize that the computations must account for the sampling design when estimating the population parameters (Olofsson et al. 2014, Pontius Jr 2022) https://doi.org/10.1016/j.rse.2014.02.015 https://link.springer.com/book/10.1007/978-3-030-70765-1 chapter 5. 2)Either define high-resolution or do not use the phrase high-resolution. 3)Specify what is to be done when the human cannot determine the category from the imagery or when various humans disagree.	1) Parameters ww_ss (used both in 5.3.3.2 and A1.4.1) accounts for the sampling strata weights. in the scaling of all population parameters 2) Addressed via a footnote in Section 5.3.3.2 Step 1. 3) Section 5.3.3.2 Step 1 stipulates that SOPs must include rules for dealing with disagreements on class identification between analysts.
215	Silvestrum Climate Associates	(Section 5.5.1) The procedure states that historical estimates of the area of each LCT and AD Category are developed for the Historical Reference Period within the	While we recognize this challenge, VCS project areas will be included in the jurisdiction. In the jurisdictional allocation approach, projects no longer construct a

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		Jurisdiction´s geographic boundary. For conservation projects that cover all the forested land (e.g. mangrove conservation covering the entire biome within a jurisdiction - examples exist), the first baseline validity period will yield ERs based on the historic deforestation rate. However, for the second VP, the project has become its own baseline and ERs drop to zero. The accounting window of just 6 years may be unattractive for project developers, but more importantly, the loss of carbon finance may undermine the conservation projects viability. **Proposed Change:** At a minimum, the module should recognise and flag this potential situation, if procedures remain as they are. An additional procedure for this situation could involve an assessment of the relative contribution of carbon finance to the change in behaviour (reminiscent of methods in an additionality test). This may include governance, livelihoods, policies in absence of carbon finance at the end of a VP. The outcome will not be a quantitative trend of continued deforestation in the baseline during subsequent VP, but at least a basis for the acknowledgement that ERs will be achieved if the project continues into the next VP. Verra may consider allowing continued ER claims for a number of VPs, with a decline in baseline emission levels towards zero at the end of the final	"reference region" (see *VMD0055* Appendix 1 A1.2.1).

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		eligible VP.	
216	The Nature Conservancy (TNC)	(Section 5.5.1) Step 1 suggests that images can be collected over a period of 2y (+/- 365 days). It would be interesting to align the dates (i.e. 1y).	The images can come from a 2-year wide window as long as the average date of those images is within a 1-year window of the nominal start and end dates of the historical reference period.
217	Conservation International (CI)	(Section 5.5.1) A clear definition of "high-resolution imagery" is required. Characteristics and sources allowed could be described in this section. For example, there should be a specific maximum pixel-size value required here (e.g., 5 meters) and/or a list of possible acceptable sources. **Proposed Change:** Please clarify or modify the document based on our question.	The Data Sources section of *VMD0055* Section A1.4.1 has been edited to include specifications around resolution. Listing potential sources would make the methodology easily outdated and inadvertently limiting, as new sources will arise.
218	Conservation International (CI)	(Section 5.5.1) Under this context, the wording of "plots" is confusing, since this is usually associated with measurements taken in-person in the field. Sample areas, "virtual plots", or sample points would be a better term, since this will be visual inspection of imagery. **Proposed Change:** Please clarify or modify the document based on our question.	Clarified in *VMD0055* A1.4.1 Step 1 that sample plots are generally observed with imagery, but may also be observed in situ if such data exists and meets other requirements.
219	Clark University	(Section 5.5.1) Give the equation to conservatively discount. Give the equation	The equations for these calculations are provided in Appendix 1 Sections A1.4.1 Step 4 and A1.4.2.

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		to annualize. Pontius knows of two equation to annualize; one equation assumes linear decay while the other equation assumes exponential decay (Pontius et al. 2017) https://doi.org/10.1007/s10980-017-0584-x.	
220	Clark University	(Section 5.5.1) Use the word "significant" if and only if the p-value less than alpha for a hypothesis test using inferential statistics. Documents that describe quantitative methods are extremely confusing when significant means statistically significant in some places but means large or important in other places. **Proposed Change:** Changed to "substantially."	1) All instances of the term "significant" have been defined or eliminated. Specifically: The clause in item 3) of the first list in 5.3.2.1 has referring to differences in carbon stocks as a criterion to define stratum, has been deleted. Rules around stratification related to differences in carbon stocks are already provided by X-STR. 2) References in 5.3.2.3 step 3 include citation of T-SIG as test of significance. 3) References in 5.3.3.7 include citation of T-SIG as test of significance. 4) Reference in footnote 7 of 5.3.2.1 has been changed to "unavoidable" to correspond with the VCS Standard. 5) No other uses of term significance in methodology remain.
221	Silvestrum Climate Associates	(Section 5.5.1) Footnote 6 missing.	No longer applies due to revised structure
222	The Nature Conservancy (TNC)	(Section 5.5.1) Further clarification is needed to describe who is responsible for developing the SOPs and validating the approach.	All activities described in *VMD0055* Appendices 1, 2 and 3 are to be carried out by Verra's contracted 3rd party data provider (DSP) (per Appendix 1 A1.4.1). The description of the need to develop SOPs in these appendices should therefore be understood as a responsibility of the 3rd party

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			DSP. The SOPs will not be open for public comment (for expediency) but Verra will review them.
223	The Nature Conservancy (TNC)	(Section 5.5.1) Sampling in the entire jurisdiction - need further clarification (or any consideration) for areas covered by cloud/shade.	It is anticipated that data service providers will experience many challenges with data availability and quality, including cloud cover and shadows. It is the DSP's responsibility to develop and document a workflow that is able to overcome the potential for such issues to bias results. Verra is unable to provide detailed guidance on how to deal with all technical remote sensing challenges in the methodology. The SoP produced by the DSP describes the need to include QA/QC techniques utilized to minimize error. Verra is also currently asking its contracted data service providers to track the analyst confidence around each sample plot observation, and where observations were not possible due to data availability. Verra is not yet able to formally describe how the results of this assessment must be used by DSPs, but hopes that the learnings from this exercise will inform future specifications to the methodology.
224	The Nature Conservancy (TNC)	(Section 5.5.1) Natural disturbances that cause deforestation - Please clarify, are the infrequent large scale natural disturbances required or optional (considering sample data requires a range of 365 days only)?	For project monitoring, delineation of disturbances that result in deforestation is mandatory where minimum size criteria of 100 contiguous hectares are met. Delineation of natural disturbances that do not result in a forest to non-forest transition and assignment to a new forest stratum is optional. See *VMD0055* Sections 5.3.2.1 and 5.3.3.3. For development of the jurisdictional activity data and risk maps, detailed description of the types and size of natural disturbances that must be identified are provided in Table 11 and *VMD0055* A1.4.1 Step 1 Data

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#	Organization	Comment	Developer's Response
			Collection.
225	Conservation International (CI)	(Section 5.5.1) Since the data provider is going to perform the AD analysis, are they also going to create the Standard Operating Procedures mentioned in the module? At what stage will the SOP will be released or shared with the public? Will there be a comment period during which these SOPs are subject to QA/QC and revision? **Proposed Change:** Since this process will be carried out by the data provider chosen by Verra, the SOP should be shared as soon as possible and undergo a review and public comment process as well, seeing at it will be a core part of this methodology.	1) All activities described in *VMD0055* Appendices 1 and 2 are to be carried out by Verra's contracted 3rd party data provider (DSP). The description of the need to develop SoPs in these appendices should therefore be understood as a responsibility of the 3rd party DSP. 2) Verra will work to maximize the release of information developed by the DSP including SoPs to the public. However, Verra also must balance the desire for public comment during the data creation process, with the need to develop the datasets on a strict timeline. The first round of 13 jurisdictional data creation contracts have not allowed time for formal public comment on SoPs. Future revisions to the contracting process may incorporate it, if it can be deemed to have limited impact on the timeline of data generation. 3) Appendix 4 describes the opportunity for project developers and other stakeholders to submit SoPs to the DSP for review and possible adoption/adaptation. Verra explicitly places a premium on adhering to existing SOPs already tested and accepted by national REDD offices. Appendix 4 begins with the statement "Verra is responsible for AD collection, risk map development and AD allocation. It will contract with data service providers (DSPs) to accomplish this. Any stakeholder may provide data products related to AD collection and risk mapping for a given jurisdiction, provided these products meet the requirements set out in Table 18 below." All text in Appendix 4 is therefore understood as related to the optional provision of materials to Verra's contacted data service provider. Reference to SOP in 5.3.3.2 clarified to

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			state "Standard operating procedures (SOPs) must be developed by the project..." Reference to SOP in A1.4.1 clarified to state "SOPs must be developed and employed by the data developer...."
226	Clark University	(Section 5.5.1) Pontius recommends that users submit a map of the sampling points that designates each point as certain, uncertain, or unavailable in the reference data. The methods should report the number of points of certain, uncertain, and inaccessible in the reference data. Certain means the human judges that the reference point is obvious. Uncertain means the human judges that the reference point is not obvious. Unavailable means the human cannot see the reference point. It is important to see a map of the spatial distribution of points because Pontius has seen cases where authors claim the sampling is random, but a map shows clearly that sampling points followed roads.	Verra acknowledges the advice, but chooses not to incorporate it into this version of the methodology because it is A) untested and B) would require an SOP-level of detail about plot sampling that is out of scale to other guidance in the module. The approach proposed by Pontius is currently being tested by Verra's data service providers. If those results are deemed useful in quantifying the uncertainty of the AD estimates, a future version of the methodology may incorporate this approach.
227	Conservation International (CI)	(Section 5.5.1) For the Sample Design, the text states the following: "Deforestation" should meet an uncertainty threshold of a half-width confidence interval that is within 10% ± the estimate at the 90% confidence level, otherwise be subject to conservative discounting. Please confirm that the "estimate" mentioned is the estimate of the mean.	This phrase no longer appears.

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		Proposed Change: Please clarify definition based on our question.	
228	Conservation International (CI)	(Section 5.5.1) In Response Design, please review threshold definition since it implies a longer [10-year + 6-year = 16-year] analysis than the 6-year baseline period. "…i.e., meet the thresholds of the definition of "forest" for at least the 10 previous consecutive years prior to the date observed". (Related to our comment on the definitions of "forest" and "non-forest", as described above. **Proposed Change:** Please clarify definition based on our question.	At the jurisdiction, Verra has removed all requirements related to 10-year persistence to meet the definition of forest at the start of the historical reference period. It was deemed this standard could not be mapped with reasonable confidence, as it would require mapping as far back as 20 years prior to start of the baseline validity period. The exclusion of commercial plantations as 'identified exclusions' helps to capture much of the lands that otherwise would have met this definition. However, a requirement in *VMD0055* Section 5.1.2 has been retained stating "The entire UDef PA must be forest at the project start date and must only include land qualifying as forest for a minimum of 10 years prior to the project start date." This is the only location where there is an explicit reference to a 10-year persistence rule for definition of a land cover as forest.
229	Ecológica Assessoria	(Section 5.5.1) How will analysts differentiate between planned and unplanned deforestation, given that the patterns observed in the images do not irrefutably determine their category? **Proposed Change:** In some regions of Brazil there are specific particularities of unplanned deforestation that, by satellite image, may appear to be planned deforestation, as they drivers who are able to plan to deforest without the authorization of the competent organizations. See	DSPs will need to utilize on-the-ground sources or other documentation to distinguish planned from unplanned deforestation.

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		https://www1.folha.uol.com.br/ambiente/2020/12/quase-90-do-desmatamento-da-amazonia-em-mato-grosso-nos-ultimos-12-anos-foi-ilegal.shtml.	
230	Ecológica Assessoria	(Section 5.5.1) Wouldn't the examples of drivers presented as suggestive elements in the analysis of the images be more adequately applied in the analysis of risk mapping and allocation?	The text referred to in the original comment related to identification of planned deforestation in high resolution imagery does not exist in revised draft. Information on drivers may be used in developing an alternative risk model under VT0007. Project developers may also submit information on drivers to the DSP for consideration in risk mapping.
231	Systemica	(Section 5.5.1) It's known that mostly deforestation in Brazil is unplanned, such as Mato Grosso state which had 97% of deforestation was illegal and the land conversion to soybean plantation (Trase et. al, 2020). More than 99% of deforestation alerts does not have vegetation suppression authorization registered by the government, and authorization is mandatory for activity legal in Brazil. Besides 39% of the deforestation alerts are overlapping with preservation areas, like permanent protection areas or legal reserve (MAPBIOMAS, 2021). In countries that have problems with governance, i.e. Brazil, distinguishing planned deforestation is difficult because the illegal deforestation increases every year. The are many reasons for this, one of them is the extension of the country that allows illegal deforestation of larges areas due a lack of surveillance. These areas can be classified	Verra acknowledges that there are many examples of deforestation that straddle the boundary between planned and unplanned deforestation, and that this is a particular challenge for countries with large scale illegal clearing for commercial agriculture like Brazil. In the current version of the module, there is no requirement that planned deforestation be exhaustively differentiated from unplanned. Rather, what exists is a requirement that where deforestation is observed in the sample dataset, that additional record is made if that area unambiguously meets a definition of planned deforestation. Verra supports 3rd party data developers in the use of ancillary datasets such as government records in making this determination. Interested parties are also encouraged to provide such information to data developers. With this guidance, areas where the identity as planned vs unplanned cannot be determined, the plot is recorded simply as deforestation. See *VMD0055* A1.4.1 Step 1 Data Collection, condition (b).

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		as planned deforestation if is considering only the visual interpretation of satellite images, even if this interpretation is refined. A report by initiatives that used open data to monitor deforestation in Brazil shows that it is a huge difficulty to distinguish legal deforestation from illegal deforestation using geospatial data of government institutions (such as permits and fines for deforestation) because they are missing or incomplete (Velho et. al., 2020). It's necessary considerate that to distinguish unplanned deforestation of planned deforestation the analyst needs an expertise of laws, properties and dynamics of the territory, and in the case of Amazon all these factors are very complex. REFERENCES Velho, B., Morgado, R., Bezerra, M., Siqueira, L., & Silva, J. (2020). Uso de dados abertos na prevenção, no monitoramento e no controle do desmatamento. Imaflora, Piracicaba. TRASE; IMAFLORA; ICV. 2020. "Desmatamento ilegal e exportações brasileiras de soja: o caso de Mato Grosso". André Vasconcelos , Paula Bernasconi, Vinícius Guidotti3, Vinícius Silgueiro, Ana Valdiones, Tomás Carvalho , Helen Bellfield , Luis Fernando Guedes Pinto. Trase Issue Brief, v. 4. **Proposed Change:** A suggestion is to uses	

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		governmental open data to help and ensure that unplanned deforestation will not be classified as planned deforestation, otherwise will not reflect the jurisdiction reality. Even that data are incomplete, the use of these it's better than classification only with visual interpretation of pattern and proprieties of a satellite image, that is too subjective and depends to much of the interpreter.	
232	The Nature Conservancy (TNC)	(Section 5.5.1) It will be challenging for a Remote Sensing Provider to know where the private land or government concessions are, but PP, who usually understands the reality on the ground and is engaged with many stakeholders (including government), might be able to access such information more easily.	Project proponents are encouraged to submit supplemental information to aid the data service provider (*VMD0055* Appendix 4).
233	Conservation International (CI)	(Section 5.5.1) Data Sources: "Assessment of land cover for years after 2020 is expected to always use 5m or better resolution." Please clarify what Verra means by "expected" - Will the use of 5-m resolution imagery be required for years after 2020 or will it simply be suggested? Why was 2020 selected as a cut-off for using imagery of this resolution? **Proposed Change:** Please clarify definition based on our question.	The section on Data Sources in *VMD0055* 5.3.3.2 Step 1 and A1.4.1 Step 1 is revised to be more explicit on the definition of high-resolution imagery, and under what circumstances exceptions can be made.

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234	Conservation International (CI)	(Section 5.5.1) Planned vs Unplanned Deforestation: Regarding the definition of planned deforestation and the clearing of land for large-scale commodity agriculture on private land: Do forestry plantations for wood or pulp production count as "commodity agriculture"? Can/should existing spatial datasets like forest concessions or forest plantations be used/referenced? **Proposed Change:** Please clarify the definition. Also, Verra could add more rigor to the process of differentiating between planned and unplanned deforestation using additional data sources (rather than relying 100% on image interpretation with no additional information). The methodology hints at using other sources (e.g., protected area boundaries) but does not specifically suggest or require this.	1) Commercial plantations are now defined in *VMD0055* Appendix 1 A1.4.1 Step 1 Table 11 and called out as an identified exclusion. 2) Any guidance in the methodology on potential sources of information that may be consulted is not to the exclusion other possible source. There is the assumption that data providers are subject matter experts and may use any information at their disposal to construct a convincing justification for the delineation of identified exclusions, as long as the resulting products meet any standards outlined in the methodology. 3) The definition of planned deforestation is provided by the VCS *Methodology Requirements*. However, in application of the definition to the delineation of identified exclusions the most critical factor is the area of contiguous deforestation.
235	The Nature Conservancy (TNC)	(Section 5.5.1) Further clarification is need on how to validate the decision tree in the jurisdictional context and the results/outcomes.	The decision tree is included in the SOP for response design that is part of the DSP's deliverables. It does not need to be addressed by a VVB, but by an independent expert.
236	Conservation International (CI)	(Section 5.5.1) Data Analysis: In the paragraph, "The tallies of sample units are denominated as Count…" a. Language is unclear and needs revision. E.g., for each AD-C (AD-C 1, AD-C 2, …) b. In the column AD-C Activities, the term "AD-C Activities" has not been mentioned	Clarifying edits have been made throughout *VMD0055* Appendix 1 Section A1.4.1 Step 1.

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		until now and is not mentioned elsewhere in this document. This section requires more explanation/clarification and edits for consistency to avoid user confusion. c. The text states, "The sum of all cells must be equal to the proportion of Aj not identified as Excluded Known LCT, representing 100% of the Jurisdiction". Though we understand the concept, the language is unclear. From the context, we understand that "cell" refers to the table(s) above, which have no captions (e.g., Table 1, Table 2) and therefore no clear connection to the text. **Proposed Change:** Edits for clarity are required.	
237	Conservation International (CI)	(Section 5.5.1) Step 4: Assess JNR AT Precision targets for estimates of historical land cover transition area Regarding the calculation of the discount factors, what is the justification and source for this equation? **Proposed Change:** Requires explanation and justification – Cannot be taken on faith and should cite appropriate sources from peer-reviewed literature or published reports.	Footnote added to *VMD0055* Appendix 1 Section A1.4.1 referencing GFOI guidelines, which describe the need for adjusting area estimates using a point sample.
238	Conservation International (CI)	(Section 5.5.1) On the "Illustrative criteria that should be considered in developing Jurisdiction-specific SOP for planned deforestation", it seems the list provided is	Verra's definition of reducing planned deforestation includes any activities that reduce net GHG emissions by stopping or reducing deforestation or degradation on forest lands that are legally authorized and documented

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		a mix of criteria that (a) suggest planned deforestation and (b) suggest unplanned deforestation (point 2a, for example). This should be clearer to avoid confusion. **Proposed Change:** Please clarify/modify the text based on our question.	for conversion. This is clarified in *VMD0055* Appendix 1 Table 9.
239	Quantil	(Section 5.5.2) Taking into account the high costs of acquisition and processing of high resolution satellite images, it is recommended to carry out the FCBM's in the smallest jurisdiction level or even in a project level. In case of performing the analysis at the jurisdiction level, annual request should be considered depending on the start date of projects.	A consistent FCBM is developed for the jurisdiction by the 3rd party data developer. PPs may also develop project specific FCBMs encompassing their own project areas and leakage belts.
240	Clark University	(Section 5.5.3) The last sentence states "The aggregate accuracy (overall agreement) for the binary forest-cover map shall amount to at least 90%", which is a misleading distraction. Section 5.2 on page 8 says that we must estimate four components: Forest Loss, Forest Gain, Forest Persistence, and Non-Forest Persistence. Thus the error assessment must compare those four types. The sampling must designate each point as one of those four types in the map and in the reference data. This is likely to require stratified sampling to include a sufficient number of samples where the map shows persistence and the reference data show	This section (*VMD0055* Appendix 1 ~~A~~ A1.4.3 Step 1 Accuracy Assessment of the Jurisdictional FCBM) has been significantly revised.

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		change. The accuracy at an individual time point is misleading and perpetuates a major misconception in the profession.	
241	Quantil	(Section 5.5.3) In page 8 (section 5.2) it says that "The Deforestation AD-C must be disaggregated into Planned and Unplanned Deforestation". In page 25, it indicates "Deforestation… must be represented with the pixel value 0". Therefore there is no distinction between unplanned and planned FCBMs. We kindly ask for further clarification.	1) This requirement is no longer included in the methodology. It is now replaced with "Deforestation must be disaggregated into at least: small-scale and large-scale UDef. Other categories do not require disaggregation". Guidance on how to make this determination is provided in *VMD0055* A1.4.1 Step 1 Data Collection. 2) Tables 15 and 16 describe how to code various land cover and land cover change classes in the FCBM. There is no requirement to differentiate any sub-classes of deforestation based on driver
242	The Nature Conservancy (TNC)	(Section 5.5.3) Similar comment as for the AD - Further clarification is needed to describe who is responsible for developing the SOPs, and validating the approach.	SOPs will be developed by DSPs and assessed by independent experts.
243	Conservation International (CI)	(Section 5.5.3) In Step 4, clarify whether the "stratification" mentioned is based on forest type or risk class. **Proposed Change:** Please clarify or make appropriate modifications based on our comments and questions.	Step 4 is now described in the initial paragraph of A1.4.3 under the line "Undertaken by project proponent." Text has been revised to clarify that stratification is by project-developed forest strata.
244	Conservation International (CI)	(Section 5.5.3) In Step 5, we think that area-based distribution among forest strata may not reflect reality. Depending on the character of each forest type (e.g., size of	Please see the updated procedures for risk analysis and baseline allocation in *VT0007*. These tools lie outside the methodology.

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		trees, accessibility), these strata may have different deforestation risks. This is why a risk mapping and allocation approach based only on distance to previous deforestation is not necessarily reflective of reality. This concern about different deforestation risk by forest stratum is also discussed in more detail with regard to the leakage module. **Proposed Change:** Please clarify or make appropriate modifications based on our comments and questions.	
245	Conservation International (CI)	(Section 5.5.3) Carry out the Jurisdictional mapping: It is mentioned that "SOPs shall be developed to describe the workflow for mapping". We think it should be provided ASAP and subject to comment since these FCBMs will presumably be produced by the same third-party organization(s). Alternatively, this could be done by PP, eliminating the bottleneck that Verra is creating. **Proposed Change:** Please clarify or make appropriate modifications based on our comments and questions.	1) Additional data has been provided about what the SOPs must contain (Appendix 1 A1.4.1 Step 1 Data Collection). 2) The SOPs will not be open for public comment prior to finalization of jurisdictional datasets but Verra will review them and may choose to release them for public review following data creation. 3) Appendix 4 provides guidance on what kinds of information, including SOPs, that any party, including project proponents, may submit to the 3rd party data service provider for review. This guidance explicitly states in relation to stakeholder submitted SOPs: "Where submissions represent official government data, the DSP should use these data where the data are shown to be of at least comparable fitness for purpose as other available data sources. Except in the case of official government data, DSP is not obligated to use any or all submissions in dataset generation." 4) Reference to SOP in 5.3.3.2 clarified to state "Standard operating procedures (SOPs) must be

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			developed by the project..." Reference to SOP in A1.4.1 clarified to state "SOPs must be developed and employed by the data developer..."
246	Conservation International (CI)	(Section 5.5.3) Accuracy assessment of the Jurisdictional mapping Forest Cover Benchmark Map: The accuracy assessment for these maps should be evidence-based and reflect best practices and state-of-the-art approaches in remote sensing and spatial analysis. These should be described in detail. The methodology does describe some requirements for accuracy assessments on FCBMs produced by PPs - Are these standards also required of Verra's chosen third-party data suppliers? **Proposed Change:** Please clarify or make appropriate modifications based on our comments and questions.	Accuracy assessment requirements for FCBMs are described in *VMD0055* Section A1.4.3.
247	Biofilica Ambipar Environment & NBS Brazil Alliance	(Section 5.5.3) Integrating FCBMp into FCBMj - the Significantly more accurate definition doesn't make sense. If the FCBMj aggregate accuracy has to be at leat 90%, how is that possible that a "significantly more accurate" FCBMp should be higher by at least 10%. FCBMp acccuracy will never be at least 10% higher than FCBMj if the latter needs to be at least 90%. **Proposed Change:** We propose a change of the definition of "significantly more accurate" to reduce the overall accuracy to	The FCMB_p is evaluated on accuracy of Forest class, but the comparison between FCBM_p and FCBM_j is based on the Deforestation class, hence the different accuracy thresholds adopted (*VMD0055* Appendix 1 A1.4.3 Step 1).

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		4 to 5%, and the Kappa coefficient to 2.5%.	
248	Conservation International (CI)	(Section 5.5.3) Re: integrating a project's FCBMs into the Jurisdictional FCBMs. The text states: "During the development of Jurisdictional Forest Cover Benchmark Maps (FCBMs) all proponents of projects either currently active or in the VCS pipeline and anticipating validation within the JBVP will be given the opportunity to submit Project-specific FCBMs (FCBMp)..." Therefore, what happens after the jurisdictional FCBM has been validated? Are PPs allowed to submit their own FCBMs for the project area and leakage belt if they register a project after a Jurisdictional map has been developed and validated? From the text, it sounds like they would have to wait until the next validation period. However, what if a PP produces and submits an FCBMp that is "significantly more accurate" than the "validated" jurisdictional FCBM? **Proposed Change:** Please clarify or make appropriate modifications based on our comments and questions.	The text (*VMD0055* Appendix 1, A1.4.1 Step 1) is clear that PPs may (only) submit these "During the development of jurisdictional FCBM (FCBMj)".
249	Conservation International (CI)	(Section 5.5.3) The J-ADB-UD module states: "The Risk map will contain 31 categorical risk classes ordered from 0 (= no risk) to 30 (=highest risk)". However, the JNR Risk Mapping Tool states: "the JNR Allocation Tool requires a map with up to	Methodology updated to no longer make reference to a specific number of risk classes, as this information is not relevant for this methodology to be implemented. It is set out in *VT0007* that are independent to this document.

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		31 discrete 'risk classes'," (i.e., there must be 31 or less risk classes). The presenters in the webinars also confirmed that risk maps should less than or equal to 31 categorical risk classes. Please modify this document to ensure consistency with the JNR Risk Mapping Tool. **Proposed Change:** Please clarify or make appropriate modifications based on our comments and questions.	
250	Conservation International (CI)	(Section 5.6) The methodology provides a decay rate for wood products and soils without providing a reference/source or justification. **Proposed Change:** Please provide a reference or justification for this assumed 1/20 decay rate for wood products and soils.	Decay rates are justified in Section 3.6.4 of the *VCS Methodology Requirements.*
251	South Pole	(Section 5.6.1) Does "living biomass" refers to AGB and BGB? Please, specify.	Text clarified (see *VMD0055* Section 5.3.2.3 Step 6).

Section 6 – Baseline Scenario

Section 6 – Baseline Scenario			
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252	Conservation International (CI)	Additional transparency is needed regarding the data produced by Verra. **Proposed Change:** As mentioned above, it would be important to add timelines for when responses can be expected, processes for addressing PP's data quality concerns, cost/fee structures, and whether data products are charged a la carte (per product), with a flat fee, based on project area or jurisdiction size, and with a single up-front cost vs. costs charged during credit generation.	Verra will publicly publish all RFPs for data service providers, including qualifying criteria and the criteria by which proposals will be assessed. Verra is sensitive to financial considerations of projects and will work to ensure that costs are dispersed equitably per jurisdiction and in a way that does not burden projects. The fee structure (in summary or in part) will be released with the final methodology. Verra recognizes the desire for project proponents to have better clarity on timelines and cost structure. However, such procedures are not part of the texts of this methodology/module and will be addressed through other channels as soon as they are finalized.
253	The Nature Conservancy (TNC)	Further clarification is needed. Is the deforestation risk map for the entire jurisdictional or only for the project and leakage belt area?	The deforestation risk map is for the entire jurisdiction.

Appendix 1

Appendix 1			
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254	The Nature Conservancy (TNC)	GIS consideration - Considering that the activity data is not spatially explicit, would	Yes, see procedures in current *VMD0055* Appendix 1.

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		be possible to calculate activity data per forest stratum?	

General Comments

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255	BioCarbon Partners (BCP)	(AUD Methodology Application Guide v1.0) There is no indication of what will happen if there is a JNR FREL in place, but not one that is registered with Verra. Also there is no timeline for this process.	A note has been added to Section 2 of *VMD0055* stating that where a project is to be nested in a registered Jurisdictional and Nested REDD+ (JNR) Scenario 1 or 2 program, the jurisdictional proponent is responsible for generating and allocating the project this information. An indicative timeline has been added in *VMD0055* Appendix 3.
256	BioCarbon Partners (BCP)	(AUD Methodology Application Guide v1.0) There are no details about the cost of AD generation and allocation fees, or who will be responsible to pay them if two separate PPs apply for the same area at the same time.	Fee structure is yet to be determined. Verra is sensitive to financial considerations of projects and will work to ensure that costs are dispersed equitably per jurisdiction and in a way that does not burden projects. This will be published (in summary or in full) at the time the methodology is released.
257	BioCarbon Partners (BCP)	(AUD Methodology Application Guide v1.0) How will baseline allocation requests be treated for new instances in grouped projects? If a new instance is added during a monitoring period will the PP be expected	The fee structure is yet to be determined. Verra is sensitive to financial considerations of projects and will work to ensure that costs are dispersed equitably per jurisdiction and in a way that does not burden projects. The fee structure will clarify cost implications of adding

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		to contract a VVB to validate the boundaries of the new instance before allocation, or can this be done at verification of that MR? Will grouped projects be limited to one jurisdiction or can they span more than one?	or editing instances of grouped projects.
258	BioCarbon Partners (BCP)	(AUD Methodology Application Guide v1.0) Will new templates be released for the PDD?	VCS project description templates will not need to be altered due to this new methodology.
259	N/A - Anonymous	(Baseline Validity Period) The short-term baseline validity periods for projects that join during an already allocated baseline creates investment uncertainty. It would give projects better decision- making opportunities in terms of investment projections if all new projects can start with at least one full baseline validity period (6 years). **Proposed Change:** We therefore suggest that new projects that join mid-way of a baseline validity period be allowed to carry over their first baseline allocation into the next baseline validity period and only change after they have had at least 6 years of a uniform baseline. This would allow new projects to maintain their first baseline for enough time to promote investor confidence.	See response to comment #260.
260	Biofilica Ambipar Environment & NBS Brazil	(BL-UD) Short term baseline validity period creates investment uncertainty.	Out of practical considerations, Verra has made an allowance for projects during their first baseline validity

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		Proposed Change: New projects that join halfway of a baseline validity period should be allowed to carry over their first baseline allocation and only change it after they have had one full baseline validity period. This promotes investor´s confidence.	period to carry over their AD allocation into a subsequent BVP under certain circumstances, as described in *VMD0055* Section 5.3.1. Project proponents may elect to update to the second jurisdictional BVP up to two years after that BVP begins.
261	N/A - Anonymous	(Costs of Data Acquisition) Since Verra proposes to assign VVBs to validate activity data allocated to projects, we don't understand the rationale of having only verra consultants generate this data. It could cut costs and time if qualified proponents are allowed to create their own AD, which will then be validated by the verra-assigned VVBs. **Proposed Change:** We therefore suggest that either qualified project proponents be allowed to create their own AD, or Verra removes the VVB validation requirement when a verra certified consultant would have provided the AD. The shortened process will minimize costs and reduce the turn-around time for AD generation to project feasibility assessment, or validation/verification.	Activity data needs to be consistent. Allowing projects to develop their own AD would go against a basic principle of this module, which is to better facilitate nesting of project baselines into a jurisdictional accounting system. Having different projects creating their own baselines would result in incompatible baselines among projects within the same jurisdiction.
262	South Pole	(Definitions) "The AUD-PA remains fixed for the duration ..." **Proposed Change:** Should be "The AUD-LB remains fixed for the duration ..."?	The typo has been eliminated.

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263	N/A - Anonymous	(Grace Period and Transition Phase) There is a lot of uncertainty about the timeline of the new modules. Verra has put the validation and verification of new or existing nested projects on hold, which is holding up project development and impacting investment. Historically, Verra hasn't been firm with deadlines and has often taken too long to implement new methodologies/procedures. Projects cannot afford the extra waiting time. **Proposed Change:** We therefore suggest that verra establishes a transition period and allow all new projects and baseline reevaluation projects to register under the old methodologies and only update to the new methodologies at their next baseline reevaluation time.	The transition to the new methodology has been projected for over two years. As explained in this announcement: https://verra.org/consolidated-redd-methodology-ensures-integrity-of-forest-conservation-credits/, appropriate time will be allowed for projects to transition once the meth is able to be implemented in their jurisdiction. Continued use of the current methodologies would result in lack of alignment at the jurisdictional level. We understand the transition impacts project development and finance, however, it is our belief that it is essential to ensuring the integrity of the market to push the transition to the new methodology.
264	Biofilica Ambipar Environment & NBS Brazil Alliance	(J-ADB-UD) Would it be possible that Proponents create their own AD, given the fact that it will be audited by a VVB? Why does it need to be developed by VERRA 3rd party Consultant? On the other hand, if a VERRA consultant develops the AD for a project why does it needs to be validated by a VVB, isn´t it enough that a Certified VERRA Consultant has developed it? **Proposed Change:** Consider the possibility that qualified project proponents create their own AD and that it´s validated by a	1) Project proponents can submit proposals to be data service providers or submit supplemental information (per *VMD0055* Appendix 4). 2) There is no validation of baseline AD by VVB

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		VVB, otherwise remove the need of VVB validation when a VERRA certified consultant has provided the AD.	
265	Asociación para la Investigación y Desarrollo Integral (AIDER)	(J-ADB-UD and BL-UD) Are the methodologies applied only for deforestation? In the case of determining and monitoring degradation, how will data on jurisdictional activity and the baseline of the project area be determined?	*VMD0055* is only applicable to deforestation. An unplanned forest degradation module is envisioned at a later stage. In the VCS Program, planned forest degradation is an improved forest management activity.
266	Asociación para la Investigación y Desarrollo Integral (AIDER)	(J-ADB-UD and BL-UD) How will the activity data be determined, in case a methodology has been developed to determine the data at the jurisdictional level but only in one type of ecosystem? Will the proponent themselves continue to determine the activity data for their project area?	This methodology establishes procedures for Verra to collect and allocate activity data for all project proponents (except those in JNR programs, who will get baseline emissions data from their jurisdictional proponent).
267	Asociación para la Investigación y Desarrollo Integral (AIDER)	(J-ADB-UD and BL-UD) If a methodology is being worked out at the jurisdictional level that considers different classes of risk than those indicated in the J-ADB-UD methodology, can that activity data be considered?	This methodology establishes procedures for Verra to collect and allocate activity data for all project proponents (except those in JNR programs, who will get baseline emissions data from their jurisdictional proponent).
268	Asociación para la Investigación y Desarrollo Integral (AIDER)	(J-ADB-UD and BL-UD) For projects that are already underway, the next baseline to be established, what process will take place? following the new J-AUDB-UD and BL-UD methodologies?	See the Verra website post Consolidated REDD Methodology Ensures Integrity of Forest Conservation Credits (https://verra.org/consolidated-redd-methodology-ensures-integrity-of-forest-conservation-credits/) for information on projects' transition to the new methodology.

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269	Asociación para la Investigación y Desarrollo Integral (AIDER)	(J-ADB-UD and BL-UD) How do you proceed if the necessary buffer to delimit the Jurisdictional FCBM covers another Jurisdiction?	The jurisdictional FCBM doesn't need a buffer.
270	Asociación para la Investigación y Desarrollo Integral (AIDER)	(J-ADB-UD and BL-UD) What happens when I want to apply different emission factors, but the FCBM generated by the proponent is not accepted by Verra?	The FCBM is only a forest/non-forest map. A forest stratification map is developed by the project. In addition, all emission factors are developed at the project level.
271	Biofilica Ambipar Environment & NBS Brazil Alliance	(LK-UD-AS) It is difficult for projects to influence land-use decisions from non-geographically constrained agents who may have migrated into the belt for different reasons unrelated to the project. Why should this be considered project leakage? **Proposed Change:** Projects should not have ER deductions for actions outside and beyond their control.	It is conservative to account for leakage even in the case that the project might have had limited capacity to mitigate it. Leakage caused by non-geographically constrained agents is not feasible to monitor directly or directly attribute to a single project. Only through rough assumptions about national levels of migration and available of forested land can the relative impact of migrant leakage be approximated between countries.
272	BioCarbon Partners (BCP)	(BL-UD, v1.0) 'The entire AUD project boundary must be contained within Jurisdiction(s) with an approved J-ADB-UD Description Report prior to the project start date.' This statement is confusing. Does it mean the project boundary must be contained prior to the start date, or does it mean there must be an approved report prior to the start date. If it is the later, this presents a massive problem for projects under development at present. We would request some clarity on this and also request that the AD be generated for time	Text has been changed to clarify that this module cannot be employed for validation until activity data has been allocated to the project (see *VMD0055* Section 5.3.2~~1~~.2).

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		periods previous to the release of these modules, to include projects already under development.	
273	BioCarbon Partners (BCP)	(BL-UD, v1.0) Can we please have a solid definition of what constitutes as wetland soils, and if there is to be a minimum parcel size for their delineation.	As described in the "2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands", many different types and conditions of wetland soils exist, so that no single "solid" definition of them can be issued. It is, in fact, the purpose of Section 1.2 of such reference to provide guidance and criteria for identifying such various types and conditions. A minimum parcel size of 2 ha for the delineation of strata (including forested wetland soils) has been added to the introductory paragraph of *VMD0055* Section 5.3.2.1.
274	BioCarbon Partners (BCP)	(J-ADB-UD, v1.0) Will the PP have any input to the choice of LCT classes within each AD category? This will be important because we will be collecting our own EF data per class.	Data service providers acting on behalf of Verra will define all LCTs. DSPs may not be project proponents.
275	BioCarbon Partners (BCP)	(J-ADB-UD, v1.0) Will the AD provider always choose a third level administrative unit as the JNR boundary if the second level unit is greater than 5 million ha? Does the national authority have any input to the choice of boundary? And if so what if the national authority chooses a boundary of greater than 5 million ha – can the PP request a smaller JNR boundary?	Verra will define all reference regions, in consultation with governments, existing REDD programs, project proponents, and may utilize definitions based on administrative units, or geographic factors such as ecosystems, or watersheds

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276	BioCarbon Partners (BCP)	(J-ADB-UD, v1.0) As with the choice of LCT classes, will the PP have any input to the land cover map used for generating the stratified sampling design? How will Verra approach the situation that this map contains classes that do not agree with a stratified FCBM provided by the PP? We note that the map used will have a significant impact on the estimated confidence of the AD results, hence the potential confidence deduction, and feel it is unfair and inefficient to not allow the PP input at this stage.	If a project-scale FCBM is shown to provide a substantially more accurate estimate than the jurisdictional FCBM, the project FCBM must replace the intersecting portion(s) of the jurisdictional FCBM. The section that addresses this (Appendix 1, A1.4.1 Step 1) has been enhanced to provide clarity around the criteria that a project-level FCBM must meet in order to be incorporated into the jurisdictional FCBM.
277	BioCarbon Partners (BCP)	(J-ADB-UD, v1.0) We suspect that the interpretation of LCT through high resolution imagery will introduce significant error to AD analysis. Our experience is that even experienced remote sensing analysts are not always able to detect LCT through imagery alone, and that first-hand knowledge of what the LCT looks like on the ground, at the same location and seasonal stage, is necessary to ensure imagery is correctly interpreted. This is particularly important in dryland forests, where significantly fewer studies concerning the accuracy of this method have been conducted, and seasonal, and inter annual differences have a large impact on the visual interpretation of imagery. In addition, PPs who conduct extensive field studies to determine the	Project proponents may not serve as data service providers. PPs ~~and~~ are encouraged to submit supplemental information to aid the data service provider (Appendix 4). FCBMs are subject to accuracy assessment (Appendix 1 A1.4.3.Step 1).

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		feasibility of potential AUD project activities through analysis of the drivers and agents of deforestation particular to a specific area, will often have field data and experience that far exceeds that of remote sensing experts from other regions. It seems inefficient not to allow these PPs to determine and implement the best possible sampling and response designs themselves. In addition, we would suggest some sort of accuracy assessment it carried out on the interpretation of imagery, using field data.	
278	BioCarbon Partners (BCP)	(J-ADB-UD, v1.0) The criteria described for identifying planned deforestation through imagery raise multiple concerns. Patterns of clearing (e.g. geometric shapes that indicate professional land survey techniques were employed) do not mean that clearing was planned. The production of certain commodities also does not mean that clearing was planned. More importantly, the actual definition of planned vs unplanned deforestation is ambiguous and is unlikely to be consistent across jurisdictions. This could introduce unintended consequences, particularly leakage into neighboring jurisdictions where national planning and policing differs.	Text has been edited since the version on which these comments were made. The methodology does not now create its own definition of planned deforestation. Where planned deforestation is used in identified exclusions this is done based on a minimum area deforested in a short period of time clearly indicating a systematic overtly or in overtly sanctioned deforestation which is the form of deforestation that risk mapping is unlikely to accurately capture. (See also comment #385)
279	BioCarbon Partners (BCP)	(LK-UD-AS, Version 1.0) The method for assessing whether geographically	Additional guidance on the definition of the sampled population is provided in *VMD0055* S ~~s~~ection 5.3.~~3~~4.4.

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		unconstrained agents (migrants) of deforestation are applicable presents a number of issues. Firstly, the metric of the proportion of immigrant people living inside the project or leakage area, as measured by sampling at least 1100 households, or 80% of all households, may be subject to a very low confidence if there are very few households in the project area or leakage belt. This is highly likely in our experience, as project areas are intact forest, and leakage belts are usually a mosaic of forest and agricultural land, which is often a fair distance from settlements. Secondly there are no clear guidelines on what represents a household (people often live in extended family groups of more than one house) or how to treat migration of individuals in and out of households. Also the metric for the proportion of people nationally migrating from rural to urban areas is thought to be very hard to calculate with any certainty measurement, and may vary widely between and within jurisdictions.	Namely, it is those living in the "Project Activities Region". Verra believes that it should be possible to provide substantiated estimates of this value based on existing datasets. 1) For areas with few households, the 'population' is the households residing in the Project Activities Region, not the population of houeholds in the jurisdiction. Sampling 80% of these estimated households would usually generate a very precise confidence interval of that sampled population. 2) Verra cannot provide exhaustive guidance on what constitutes a household in all cultural contexts globally. Verra advises project proponents to describe their sampling methodology, including the consistent definition of household applied for their project. Additional text has been added to *VMD0055* S~~s~~ection 5.3.3.4 stating "Projects should describe how the definition of household applied in survey design is justified given local context, and demonstrate how it is consistently applied in survey administration. 3) PropUrban is no longer included in most recent draft of the module
280	BioCarbon Partners (BCP)	(LK-UD-AS, Version 1.0) The method for delineating the area of land available for migrant leakage nationally involves an excessive amount of work. To produce the required maps across the entire country is surely in appropriate also, particularly for	1) Per Appendix 2, Verra will now estimate emissions from deforestation outside the LB using a single emission factor encompassing all lands available for conversion to agricultural land use. This factor will be provided to project proponents in the AD Baseline Allocation Report.

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		very large countries. We would imagine that it even migrant agents would not cause leakage in areas that are many 100s of kms from the jurisdiction.	2) Geographically mobile leakage does not model local agents migrating to other locations, but rather agent already living far from the project that might in the baseline move into the PA. In some countries, long distance migration is not uncommon.
281	BioCarbon Partners (BCP)	(MON-AUD, v1.0) We imagine that using sample points will be a less accurate method compared to that which we currently employ – digitizing actual areas of deforestation from medium resolution imagery. In addition, the use of sample points by PPs is very open to manipulation.	Section 4.2.3 of the GOIF document "Integration of remote-sensing and ground-based observations for estimation of emissions and removals of greenhouse gases in forests, Edition 3.0" clearly explains that activity data should not be estimated by pixel-counting on wall-to-wall maps but by sampling-based methods to satisfy the IPCC criteria of good practice. While wall-to-wall maps can be used for stratification, and thus reduce the uncertainty of activity data estimates, activity data (e.g., deforestation area) should be estimated by means of sample-based area estimation (SAE) methods. The SAE reduces the bias introduced by counting pixels on wall-to-wall maps stemming from map classification errors, provides estimates of such bias, and estimate the uncertainty of the activity data estimates, as required by the IPCC guidelines.
282	Equinor	(Phased approach to introducing new changes, including commercial pilots) Verra proposes complex changes at a time when the industry is capacity constrained. Activities like creating the FCBM's, Risk maps, Forest Strata and Substrata maps and allocating jurisdictional baseline activity data over a wider range of jurisdictions – in addition to building the capacity in the sector to audit the resulting	Verra has tested individual elements of the methodology and the UDef-AT extensively. Verra is currently developing activity data for 12 initial jurisdictions; these will be the first to have projects with allocated data. In other jurisdictions, projects may continue to use the existing methodologies, as the commenter suggests, until AD is available for six months. It has been concluded that this is the most robust option at this time that also ensures harmonization with

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		products – will take significant time and adaptation. The comprehensive nature of the changes also adds significant risk for project developers as the outcome of the certification process will be (at least initially) very uncertain, making it difficult to commit to new investments, delaying urgent action on deforestation and forest degradation. **Proposed Change:** We recommend a commercial pilot of the revised methodology in one or two jurisdictions (one with a pre-existing FREL and one where Verra generate the jurisdictional activity data), which would incorporate degradation measurements. We also suggest that during the roll-out, the changes are phased over different jurisdictions, to allow sufficient time for development and audit of the necessary tools. The outcomes of the pilots and each phase of the roll-out should be communicated transparently to the entire stakeholder group, to minimize the uncertainty faced by project developers; feedback from each of the pilots should be considered for potential refinements to the new methodology (example process illustrated below). Until the new methodology is final and fully rolled out, we suggest project developers are enabled to continue implementing projects using existing methodologies, with credits from	national accounting. The new methods are designed to prevent inflation in the sector. Further testing will happen via comparison of risk maps as part of the process. The transition to this new methodology has been underway for more than two years. We will not be changing the grace period, as it is essential for market credibility to shift to the new approach.

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		projects developed in this interim period treated on par with credits from projects developed using the new approach.	
283	Equinor	(Potential conflicts between Verra and National FREL estimates) New baselines which Verra create for the revised AUDD standard may conflict with existing jurisdictional FRELs (e.g., as part of their NDC). Existing FRELS are not created using standard methodology and may not be compliant with Verra's requirements, but nevertheless continue to be used by the jurisdictions in question. This will cause clear issues for any projects nested within those jurisdictions (conflicts with local authorities, tax authorities; unclear credit contributions) which could lead to delays and increased investor uncertainty associated with these projects. **Proposed Change:** We would be interested in hearing Verra's proposed solution here. Will there need to be delay in applying Verra's revised guidelines until FREL's are aligned?	AD that meets Verra's criteria from official FRELs will gladly be used or adapted (where it is accessible), and this will be used for allocation (where possible). Verra recognizes that this may result in slightly different results from the official FREL. Where governments have determined not only a FREL but also an allocation approach (or other benefit sharing that would determine a project baseline/allocation or "maximum mitigation potential"), the Verra allocation and the derived project-developed baseline will serve as a cap to what Verra will issue the project. Should a government approach result in higher crediting, they may handle that as the government sees fit (through additional sharing of benefits or credits), but this will not raise the number of VCUs that can be issued. Where a government crediting level would be lower than the Verra crediting level, and there are clear policies/regulations that establish this, such government maximum credit issuance will be respected by Verra. It is not credible for Verra to simply take whatever the jurisdiction has done without ensuring that it meets standards.
284	Terra Global Capital, LLC	(RS method sections) These methods promote sampling approaches which are often less accurate than wall to wall. And then by applying a simplified risk map onto a sampled baseline creates more uncertainty.	'Following best practices outlined in "GFOI Integration of remote-sensing and ground-based observations for estimation of emissions and removals of greenhouse gases in forests," section 4.2, the estimate of deforestation area from a map must be adjusted using accuracy point samples. In *VMD0055*, highly accurate

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		Proposed Change: Require wall to wall mapping, it can be done and we have successfully done this in numerous areas.	land cover change maps can be used to define sampling strata for the point samples, and doing so will substantially reduce effort and improve precision. Projects can furthermore make project-specific FCBMs and submit them for comparison to the jurisdictional FCBM.
285	Equinor	(Use of factor maps in areas of accelerating deforestation) History-based risk maps will generally have validity, at least over relatively short time periods in predicting future forest destruction. However, there is also strong evidence that accelerating rates of encroachment into forests will not be captured by such a standardized approach, especially when the standard is based on deforestation risk maps in which the main input will be historical deforestation rates. While there have been cases of misuse of factor maps to predict deforestation and degradation and that has impacted market credibility, it is also clear that mapping and addressing future threats is an essential part of forest protection. Brazil provides an illustration, where hidden roads, water access, illegal logging/mining activities and illegal land claims in the **Proposed Change:** We believe Verra should remain open to the use of factor maps in areas of accelerating degradation. Use should be audited by high quality independent auditors.	Stakeholders can submit altnerative mapping approaches. The benchmark approach in the revised UDef-AT is based on distance to nearest forest edge. However, competing maps may be generated and can include other factors (including those submitted by stakeholders, as set out in *VMD0055* Appendix 4).

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286	IETA	(METHODOLOGY ADAPTATION PROCESS) VCS/JNR Alignment: According to the consultation documents and materials, the methodological adaptation process will align the AUDD methodologies with the principles of VCS JNR to determine nested reference levels for all VCS Projects. Some governments have already established an approach to determine nested reference levels, and some countries are not implementing VCS/JNR, however in these proposed updates, the VCS JNR approach will be applied everywhere. IETA accepts that moving to a nested system is necessary, and that consolidating the methodologies will support consistency across project baselines, however we do have concerns with the approach outlined by Verra. Timeline & Potential Transition Period: Verra has put the validation and verification of ALL VCS nested projects on hold until they formally release their methodological consolidation guidelines. This is holding up the development of projects right now, and the uncertainty about nested project baselines in the future is already impacting investment in the sector. This also impacts local communities and stakeholders. Verra has recently indicated that the consolidation process will not be complete until October	See response to comment #268. Verra understands that there may be financial impact on projects. One of the things the methodology does is restrict the potential for unconservative baseline assumptions, which is essential for long-term credibility of this market. It is anticipated that with lower supply and higher credibility (that should be eligible for ICVCM CCPs), prices will rise. While updates will affect financial feasibility (both positively and negatively, depending on the project), this will help prevent inflation in the sector.

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		2022. **Proposed Change:** Verra should allow for a "transition period" until the updated methodologies are ready to be implemented, especially considering the delays which have taken place to date. Project reference levels establish the maximum possible performance of any project and have been widely used as the most important metric in establishing project financing in the VCM. Therefore, after a long period of discussing with Verra these significant changes for the construction of the baselines, existing and new proponents have been trapped in limbo regarding the financial feasibility of their projects. Projects currently operating are at risk of no longer having a viable business, which impacts both climate goals and commitments to local communities.	
287	IETA	(VCS / JNR ALIGNMENT: RISK MAP, BASELINE, RFEFERENCE PERIODS) One of the concerns, first outlined above, is Verra's proposal to apply their JNR approach to countries that have already established their own nesting approach. This raises a few concerns and complications, see below. Risk Map. Verra had initially indicated that they might allow countries to develop their own deforestation risk maps, but only if the countries could prove they were of higher quality than Verra's default. However, there does not seem to be clear comparison	Thanks for the suggestion. Text describing this possibility is included in the appropriate location (Section A4.3.4 Stakeholders' contribution to jurisdictional approach of *VMD0055*). No need to also include it in Table 18.

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		criteria for alternatives to Verra's default risk mapping methodology. This makes it challenging to propose an alternative to the default, unless the alternative shares Verra's design approach. An additional complication is that there could be a scenario where there are multiple projects in a jurisdiction and one of the projects provides a risk map, but the others do not. In this scenario, how will Verra reconcile the risk across the jurisdiction? Baseline Calculation / Allocation. Additionally, in all cases, countries must use Verra's JNR baseline calculation / allocation tool to allocate nested project baselines. This applies even if a national REDD+ program has a high-quality baseline calculation and allocation tool of their own. This guarantees that Verra's VCS JNR allocation approach, which includes discounting for uncertainty and bias, will always be out of sync with national REDD+ results. While we agree with the importance of applying the highest quality jurisdictional baseline to nested REDD+ projects, Verra has to date been unable to successfully demonstrate a quality comparison of any alternative jurisdictional / national baseline to its VCS JNR defined default, essentially leading to a situation where the Verra-calculated baseline is assumed to be the most accurate option, without validating this assumption. We feel that denying the use of National REDD+ program data in VCM nested projects is sending the wrong message to host countries	

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		and not encouraging them to improve the quality of their data in order to be able to participate in the VCM. We therefore request that Verra include the option to allocate national / jurisdictional FRELs should the baselines, risk maps, and allocation tools meet a specifically defined quality threshold. Furthermore, IETA is concerned that by focusing the baseline on the historical deforestation inside the site and a small area around it, REDD+ will become focused largely on areas that are actively being cleared and less focus or financing will flow to those areas where damage is likely or imminent but not yet active. Data. IETA requests Verra to provide more clarity on the proposal for third party consultants to provide the forest cover and activity data. There is insufficient detail on how this data will be paid for and this is likely to further constrain project development and lead to duplication of analysis. Reference Periods. The module indicates that the reference period should be determined "according to the latest version of the VCS Standard." However, the VCS standard does not yet specify a historical reference period. We understand that VERRA has engaged consultants to explore this question, but further clarity is requested, with more specific language in the module.	

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		Jurisdictional Reference Area. IETA requests clarity on what is included in the jurisdictional reference area. In order to ensure that the VCS Baseline Scenario remains "activities and GHG emissions that would occur in the absence of the project activity", the jurisdictional reference area must exclude existing Verra projects. However, this is not currently explicitly stated in the module. Degradation. IETA is concerned that degradation in not required to be included during baseline assessment or project monitoring. Verra's current proposal for the benchmark methodology is based on the JNR Risk Mapping Tool. This will assign the highest risk score to forests closest to areas with high deforestation activity. In practice, this will prioritize avoiding deforestation over forest degradation. While we understand that the proposed revision allows for claiming credits for avoiding forest degradation using existing methodologies, we are concerned that there is a risk that it will create a perverse incentive for preventing deforestation instead of degradation. We are too far along the climate change process and the development of voluntary carbon markets to move forward with sub-optimal methods. Degradation accounts for a significant percentage of land use emissions	

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		and excluding them (and solely referring to the binary forest definition leaves out considerable emissions. Forest degradation is a stepping-stone to deforestation, it is therefore important to protect areas in the forest margin suffering from early-stage degradation to prevent deforestation. Further, the impact of forest degradation on emissions is perceived in many cases to be greater than deforestation; and finally, forest degradation has a major impact on biodiversity. **Proposed Change:** IETA requests that Verra clarify whether a project can provide a risk map and what criteria would need to be meet for that risk map to supersede that of a Verra default risk map. Furthermore, we suggest that universally applicable, objective comparison criteria are used to compare alternative Risk Maps to Verra's default. We recommend that a minimum number of years be included as a reference period with the potential to increase that number based on justifiable project circumstances and that VERRA provide guidance on what those circumstances may be (e.g.: a spike in deforestation that is out of the norm over a shorter period). As a longer reference period generally allows for statistically more robust projections and more stability to project developers, we	

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		recommend it range from 10 to 15 years. We urge Verra to include degradation in the activity maps. The FREL maps and risk allocation tool should also appropriately reflect degradation. In addition, IETA urges Verra to consider the use of factor maps in areas of accelerating forest degradation, in order to map and address future threats to deforestation. The use of factor maps should be audited by high-quality independent auditors.	
288	ICROA	(VCS REVISION TO STANDARDIZE COMPONENTS OF AVOIDING UNPLANNED DEFORESTATION METHODOLOGIES: Problem Statement) Verra embarked on a mission to establish a system of high-quality baselines at all scales. While this is certainly the right ambition, the way Verra goes about this complex task is potentially jeopardizing country sovereignty and putting project viability and market growth at risk. It is widely accepted that one desirable future for REDD+ will involve national REDD+ programs integrated into National AFOLU commitments under the Paris Agreement, with all current and future REDD+ project activity within each country "nested" into the national program. This will ensure the environmental integrity of performance claims at different scales within the country. Some years ago - to	Thank you for providing this information to Verra.

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		address the transition to nested REDD+ - Verra, whose VCS project standard has been used for the great majority of REDD+ projects active in the VCM today, initially developed the VCS Jurisdictional & Nested REDD+ (JNR) Standard as a way to support countries (or sub-national areas such as states) interested in having an independent standard verify performance and create market assets at both jurisdictional and project scales. After several years (in which there have been no implementations of VCS/JNR Programs that we are aware of) and possibly in the face of increasing press criticism of the variety of project approaches allowed under the VCS Standard, Verra has chosen to undergo a process of consolidating project-level methodologies under the VCS Standard (introduction of new modules and adaptation of current methodologies for unplanned deforestation and degradation). We have several concerns about the proposed methodological adaptation process, detailed as follows, along with suggested solutions:	
289	ICROA	(VCS REVISION TO STANDARDIZE COMPONENTS OF AVOIDING UNPLANNED DEFORESTATION METHODOLOGIES: Concern 1.1) <u>Concern 1</u> Verra has proposed that the	With respect to the use of government FREL and allocation, Verra's methods will constrain what Verra is willing to credit; any additional benefit sharing is up to negotiation with government; any policy-based restrictions will also be enforced on top of Verra accounting (e.g., limits on issuance that may be regulated by government.). Clarification will be added to

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		methodological adaptation process will apply the principles of VCS JNR to determine nested reference levels for all VCS Projects, even in countries that are not implementing VCS/JNR, and even if a national government has their own established approach for that process. While we accept the premise of moving to a nested system, and believe that methodological consolidation would lead to higher consistency in project baselines (baselines are the most often contested element of project "quality"), we believe the way Verra is proposing to go about this creates a number of issues that could harm the REDD+ market. 1. This is potentially putting Verra at odds with sovereign national REDD+ nesting systems, especially the more advanced of those systems that have their own nesting approach, sometimes in law. To date, Verra has shown an unwillingness to allow VCS projects to follow sovereign rules/laws for their national nesting systems and instead has decided Verra will calculate their own proprietary default nested reference levels for all VCS projects1, regardless of whether the country implements a VCS JNR program or not. Verra has indicated their reasoning for this decision is: a) To ensure jurisdictional baselines – and by extension nested project baselines - are of sufficient "quality". b) To provide a default nested	the Standard and this is out of scope of the methodology as it will not impact accounting under the methodology. Further elaboration of the risk mapping process will be published soon. The updated *VT0007* will be published with the methodology.

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		baseline for projects in countries that do not have a national nesting approach or lack a national baseline that meets Verra's credibility requirements. Jurisdictional baseline allocation is a 2-part process, involving a risk map and FREL allocation. Verra had initially indicated that they might allow countries to develop their own deforestation risk maps, but only if the countries could prove they were of higher quality than Verra's default. Verra has not, however, provided clear, actionable comparison criteria that allows for meaningful comparison of alternatives to Verra's default risk mapping methodology. For example, Verra requires that all alternative risk maps contain an insignificant Risk Class ("0" Risk Class), which would render any country's Risk Map that did not support this design philosophy ineligible for comparison. We suggest that by not providing objective, universally applicable comparison criteria, Verra has for all intents and purposes made it impossible to propose an alternative to their default, unless the alternative shares Verra's design approach. Additionally, in all cases, countries must use Verra's JNR baseline calculation / allocation tool to allocate nested project baselines. This applies even if a national REDD+ program has a high-quality allocation tool of their own. This guarantees that Verra's VCS JNR	

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		allocation approach, which includes discounting for uncertainty and bias, will always be out of sync with national REDD+ results. While we agree with the importance of applying the highest quality jurisdictional baseline to nested REDD+ projects, Verra has to date been unable to successfully demonstrate a quality comparison of any alternative jurisdictional / national baseline to its VCS JNR defined default, essentially leading to a situation where the Verra-calculated baseline is assumed to be the most accurate option, without validating this assumption. We feel that denying the use of National REDD+ program data in VCM nested projects is sending the wrong message to host countries and not encouraging them to improve the quality of their data in order to be able to participate in the VCM. We therefore request that Verra include the option to allocate national / jurisdictional FRELs should they meet a specifically defined quality threshold. We further suggest that universally applicable, objective comparison criteria are used to compare alternative Risk Maps to Verra's default. 1. Verra could accept the national FRELs approved by UNFCCC (or suggest data quality analysis on top of the current FREL data). Some countries have not disclosed	

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		the underlying data used to calculate their FREL – which means that it is not possible for a third party to calculate and get to the same results. In these situations, Verra tools could be applied to calculate (or adjust) the FREL and allocated baselines. **Proposed Change:** Verra maintains the VCS JNR allocation tool as a default, but Verra establishes an absolute level of accuracy measured using traditional remote sensing methods common to most National REDD+ programs that is acceptable for alternative approaches. If the accuracy of the alternative baseline allocation model is shown to be equal to or exceed the Verra accuracy threshold, it should be authorized by Verra to be used to allocate nested baselines to VCS nested projects, in accordance with the relevant host country's regulations. We further suggest that countries should be able to use their own allocation tools if the above-mentioned accuracy criteria are met.	
290	ICROA	(VCS REVISION TO STANDARDIZE COMPONENTS OF AVOIDING UNPLANNED DEFORESTATION METHODOLOGIES: Concern 1.2) Verra's ability to obtain national scale activity data (e.g. forest loss) and to run their default VCS JNR deforestation risk map and allocation / baseline calculation tool is a possible bottleneck to progress in the VCM:	Verra now understands better both the time and cost of developing activity data and risk maps and is building the capacity to complete this for all current jurisdictions by the end of 2024. We maintain that data is available at a jurisdictional level that meets the requirements set out in *VMD0055* Appendix 1. Where it is not available, we will use appropriate discount factors. Verra will continually

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		a) It is no secret Verra has neither the capacity, nor the expertise to undertake such a task today, and we are concerned that Verra has underestimated both the cost and time required to conduct this work to meet current and future market demand for credit supply. Verra has estimated a cost of approximately $50K for a consultancy to calculate activity data for each Jurisdiction, and that they plan to pass this cost to the project development community. b) Considering the importance of activity data in the construction of jurisdictional and project baselines, projects will only have inputs to assess their feasibility at a very late development stage, only after Verra is able to employ a consultancy to calculate and provide this information triggered by the request of a project. c) We are also concerned that Verra is overestimating the availability of national scale data that meets their JNR requirements today, and if that is true, it may not be possible for Verra to produce default jurisdictional baseline results for many countries. **Proposed Change:** If, on the other hand, the alternative method yields a lower accuracy than the Verra-established	improve on process and timing. Stakeholders are able to contribute data to the process.

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		threshold, and results in a less conservative baseline for a project than that calculated using the Verra default VCS JNR approach, Verra could either require the project baseline be established using their default approach or that the baseline calculated using their default approach be the "maximum mitigation potential (MMP)" for VCS nested projects, above which the projects would be ineligible for VCS crediting. Decisions would have to be made as to how Verra would address the host country authorizing any residual performance of the project above the Verra MMP to be sold under a different standard.	
291	ICROA	(VCS REVISION TO STANDARDIZE COMPONENTS OF AVOIDING UNPLANNED DEFORESTATION METHODOLOGIES: Concern 1.3) Verra has put the validation and verification of ALL VCS nested projects on hold until they formally release their methodological consolidation guidelines. This is holding up the development of projects right now, and the uncertainty about nested project baselines in the future is already impacting investment in the sector. This also impacts local communities and stakeholders. Verra has recently indicated that the consolidation process will not be complete until October, 2022. Verra could create a "transition period" until the updated methodologies are ready to be implemented. Project	The deforestation risk modelling and mapping procedure, as well as the allocation tool, have been thoroughly revised and reformulated as an updated *VT0007* (Unplanned Deforestation Allocation Tool) and they are still being subjected to tests and improvements, prior to their formal publication. An updated timeline for the transition and adoption of the new consolidated methodology has been posted in Verra's website (see response to comment #268).

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		reference levels establish the maximum possible performance of any project and have been widely used as the most important metric in establishing project financing in the VCM. Therefore, after a long period of discussing with Verra these significant changes for the construction of the baselines, existing and new proponents have been navigating with high uncertainty regarding the financing feasibility of their projects. **Proposed Change:** Verra conducts additional testing of their tool, so they are in a position to understand the consequences to the existing market and to their reputation, in the event the tool and new mandatory approach bring substantial changes to existing projects, before requiring the entire market switch to the tool as a default. Verra provides an updated calendar with the expected dates for starting to apply the VCS JNR allocation model and firmly commits with the stakeholders that that calendar will not be modified during the current year. In the meantime, the projects can continue using the current versions of methodologies and developing their reference levels using the methods established at validation.	
292	ICROA	(VCS REVISION TO STANDARDIZE COMPONENTS OF AVOIDING UNPLANNED DEFORESTATION METHODOLOGIES:	Verra and others have now tested the UDef-AT enough to know that while the process is likely to generate lower emission reduction baselines in some cases, in other

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		Concern 1.4) Verra has not road tested the impact of their VCS JNR default risk map and allocation tool on existing VCS projects, and therefore are unaware of the economic impact the VCS JNR methodological consolidation decision could have on the existing VCS REDD+ projects or the financial viability of future projects. This requires project developers to conduct a comparison of the default approach to other project baselines or nesting approaches themselves and at their own cost. To date, we know of very few project developers who have the technical capacity, time or funding to test the VCS JNR risk map and allocation tools. Verra's response has been to tell project developers that they are welcome to hire a consultancy to perform the testing. Verra is a market actor. We are not aware of any other market actors that propose to publish essential tools, that the market is expected to use by default, without first testing them for practicality, viability, and fitness for purpose. We feel it is inappropriate to push the responsibility for testing Verra's tools on to the project development community, at their own expense	cases those baselines will be higher. Verra is pleased that it will be able to share results from some case studies, but cannot promise a timeline.
293	ICROA	(VCS REVISION TO STANDARDIZE COMPONENTS OF AVOIDING UNPLANNED	This policy does allow projects to carry forward the baseline for a longer period (i.e., for the length set out- 6

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		DEFORESTATION METHODOLOGIES: Concern 2) Verra currently allows project baselines to be valid for 10 years before they need to be reassessed. Verra has indicated that it will now require both jurisdictional baselines and nested project baselines to be updated every 4-6 years, after which the current baseline becomes invalid. As such, if a project start date coincides with the beginning of a new baseline period, they would have between 4 and 6 years of baseline certainty with which to establish the economic viability of their project to attract investment. However, if projects have start dates within a given 4-6 year validity period, they could have as little as 1 year of baseline certainty before having to adopt a new baseline. There are a significant number of stakeholders in the developer and investor communities that believe this additional uncertainty in performance potential will significantly dampen investor enthusiasm and slow growth, just when projects require accelerated investment for climate, biodiversity and social reasons alike. Verra's reasoning for the proposed new baseline validity period rule is that: 1. baselines must be updated often to accurately represent rapidly changing emissions trends and 2. baselines become "meaningless" after their defined validity period of 6 years.	years) or adopt the new baseline when it is ready – as suggested by the commenter. Under the VCS Standard, the baseline for AUDD projects is six years. See response to comment #260. As for financial feasibility, Verra recognizes it is may be more difficult to undertake pre-feasibility for projects in this limited phase where data is not available. However, we believe that the new methods will actually increase investment due to higher credibility of the baseline approach.

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		Proposed Change: Verra could maintain the 4-6-year baseline update requirement, but allow a longer baseline validity period for new projects calculating their first baseline This would allow new projects to maintain their first baseline for enough time to support investor needs. We further recommend that Verra consults with major investors and project developers in the space to determine an appropriate duration for the first baseline validity period for new projects.	
294	Quantil	Have you considered using this methodology with UAV platforms (drones) with multispectral sensors?	Drone-based, or any other spatial data type may be used in following ways described throughout the module: 1) To develop a stratification approach to image sampling. 2) To develop a project-specific forest cover benchmark map. 3) To supplement and aid analysts in visual interpretation of high resolution imagery.
295	Terra Global Capital, LLC	The methods and requirements for JNR baselines and under the Verra AD methods should be exactly the same. Why should they be different as JNR already handles this for use with nested projects. **Proposed Change:** Make one baseline module to use under JNR and Verra AD, there is absolutely no rational for these to be different.	JNR baselines next projects in jurisdictional FRELs; *VMD0055* aims to give projects more autonomy than they would have under a jurisdictional program by allocating activity data instead of emissions. *VT0007* can be used for distributing activity data (for this module or FRELs (for JNR) data; otherwise, the tool has the exact same function in either use case.

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296	Clark University	Define of reliably similar. Specify what to do when the sources do not show reliably similar results.	Clarification added that ground data can be used to support visual interpretation, but is not expected to be a primary data source.
297	Clark University	Change from "are only permissible if" to "are permissible only if". Put the word only near the word that only modifies. In this case, only modifies if. Only modifies neither are nor permissible.	Clarification added that ground data can be used to support visual interpretation, but is not expected to be a primary data source.
298	Clark University	Specify what to do when the analyst cannot differentiate planned versus unplanned.	1) The following guidance from *VMD0055* A1.4.1 Step 1 Data Collection applies: "Where the deforestation event does not unambiguously meet the definition of planned deforestation, the plot observation should be recorded as change category deforestation. An additional record must be made for such plots identifying them as "large-scale deforestation." 2) The module describes the use of cross checks as a QA/QC approach. Developing an approach to resolve confusing observations is important for all aspects of plot interpretation.
299	Clark University	Remove any use of kappa becasue kappa is conceptually flawed (Pontius and Millones 2011, Foody 2020) https://www.tandfonline.com/doi/abs/10.1080/01431161.2011.552923 https://doi.org/10.1016/j.rse.2019.111630	References to kappa have been removed from this document; this section (Appendix 1 A1.4.3 Step 1 Where Relevant, Integrate Project FCBMs into Jurisdictional FCBMs) now states "The average of the user's and producer's accuracies of the forest area at the end of the HRP, as calculated from the FCBMp, is greater by at least five ~~5~~ percent than the same average calculated from the same spatial extent of the jurisdictional FCBM; and The average of the user's and producer's accuracies of the area of deforestation over the HRP, as calculated from the FCBMp, is greater by at least five ~~5~~ percent

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			than the same average calculated from the same spatial extent of the jurisdictional FCBM."
300	Clark University	The phrase "by at least 10%" is vague. Does the phrase mean ten percentage points higher than the lower metric or higher than ten percent of the lower metric? For example, if 60% is the lower metric, then 70% is ten percentage points higher while 66% is ten percent higher.	This comment refers to *VMD0055* A1.4.3 Step 1 "Where Relevant, Integrate...." The percentage has be adjusted to five percent. The following example is given to clarify how this works: "For example, where the jurisdictional FCBM, when assessed strictly within the boundaries of the FCBMp, is found to have average user's and producer's accuracies of 65 percent, the FCBMp must achieve average accuracies of 70 percent or greater to be incorporated."
301	Clark University	What is the motivation to make the criterion the sum of user's and producer's accuracy of the deforestation category? Pontius thinks we should think in terms of quantity and allocation. If the less accurate map has 85% for both user's and producer's accuracy, then there is zero quantity error, which might serve our needs well. If the more accurate map has 100% user's accuracy and 85% producer's accuracy, then the map underestimates the quantity of deforestation, while the sum of user's and producer's accuracies are more than 10 percentage points higher than the less accurate map. Please read the first four chapters of the book Metrics That Make a Difference https://link.springer.com/book/10.1007/978-3-030-70765-1	Verra is using the current data service providers to explore the cost/benefits of approaches to accuracy for various forest types. Outcome from this first set of jurisdictions will inform adjustments to the accuracy standard if warranted.

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302	Clark University	Use the word "significant" if and only if the p-value less than alpha for a hypothesis test using inferential statistics. Documents that describe quantitative methods are extremely confusing when significant means statistically significant in some places but means large or important in other places.	Word changed to "substantially."
303	South Pole	Where will the information be stored and in which platform can be download? Will there be free access to the baseline data? If not, what will be the cost to access to the baseline data? What will be the accuracy of the outcome information that will be delivered by Verra? If we are a Verra provider, ¿will the use of the JNR Allocation Tool and JNR Risk Mapping Tool be licensed?¿What different types of licenses will these tools have? ¿What will be the cost of using each of these licenses? ¿What are the specifications of each type of license? What restrictions of use will the information have? What exactly will VERRA deliver together with the allocation report (shapefiles, kml, raster, documents, maps, images)?	1) At the time of the public comments period, Verra had not yet determined the approach to be used for data storage and the access administration scheme. These are now under construction. 2) All datasets will meet minimum accuracy standards specified in the methodology and the module. 3) The *Unplanned Deforestation Risk Mapping and Allocation Tool* will be freely and publicly available to stakeholders. However, production of jurisdictional risk maps and allocation of projects' baselines will be carried out by Verra or its contractors. 4) Verra has not yet drafted contractual language regarding use of intellectual property surrounding tools applied by data service providers. 5) Verra will deliver sufficient spatial and nonspatial data required for project proponents to construct baselines, and broadly speaking will include spatial maps of risk zones in the PA and LB, and an associated table of AD for each risk category.

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			The exact file formats have not yet been finalized but Verra will ensure that all of them are standard, commonly used formats.
304	Systemiq	Risk map It is unclear whether project developers can propose risk maps to inform the AD allocated to their project area. If possible, there could be a scenario where there are multiple projects in a jurisdiction and project A provides a risk map but projects B and C do not. If this is the case, how will VERRA reconcile the risk across the jurisdiction? **Proposed Change:** Request that VERRA clarify whether a project can provide a risk map and what the procedures would need to be followed that risk map to supersede that of a VERRA contracted third party.	A single consistent risk map is produced for the entire jurisdiction by the 3rd party data service provider. Project proponents are encouraged to submit to the data service provide any information, models, or datasets that may assist them in producing higher quality risk maps (see *VMD0055* Appendix 4). The data service provide is not obligated to adopt any community submission of risk maps. Where the data service provider develops multiple competing risk maps, a standard accuracy metric, as defined in *VT0007*, will be applied to select the single risk map shared by all projects.
305	The Nature Conservancy (TNC)	Spatial definition of jurisdiction should be based on government plans for jurisdictional programs, where applicable.	Verra will define all jurisdictions at the highest reasonable level per current *VMD0055* Appendix 1 A1.2.1.
306	The Nature Conservancy (TNC)	Jx baselines should be expanded to include ARR and degradation activities.	Verra plans to include modules for planned deforestation and unplanned degradation by the end of 2024. The new Verra ARR meth should be used with this meth to cover ARR activities.
307	The Nature Conservancy (TNC)	Need clearer guidelines on what Verra considers acceptable data for 3rd party experts to use for AD generation and	See *VMD0055* Appendices 1 and 4 and the RFP for AD.

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		approaches to developing the risk map.	
308	The Nature Conservancy (TNC)	The baseline reassessment procedure and its long-term implications for projects is not clear and it needs substantial work. It seems that the current baseline reassessment approach would significantly penalize successful projects who have protected forest. In many project cases (in Africa) deforestation agents have not disappeared, but rather have been incentives to temporarily protect forest due to the benefits from carbon credits. If payments disappear, then deforestation will commence again. This likely creates boom and bust cycles for projects and will ruin permanence claims and destroy trust with local community where many projects are working. **Proposed Change:** Jurisdictional baseline should exclude surrounding VCS projects.	Verra has extensively considered this question and decided to include projects in the jurisdictional sampling frame. At the stage of activity data development, including projects in the sampling frame actually results in higher allocation to projects, because more deforestation will be calculated within the jurisdiction. The issue raised around self-limiting baselines becomes more salient at the stage of the risk map development. Verra acknowledges that projects that successfully reduce deforestation may under some risk models generate lower baselines. Verra is confident that the approach in *VT0007* has determine the appropriate balance of conservativeness but also not producing perverse incentives for projects. However, this is something we will monitor and work to continually improve.
309	The Nature Conservancy (TNC)	Given these baselines choices will affect multiple projects, there must be some democratic way for selection of the FREL and activity data allocation. There are a number of decisions that are not just of the technical realm, i.e. which risk mapping model approach to use, which becomes a quasi-political decision that political institutions need to take. **Proposed Change:** FRELs should require	1) Verra has provided an avenue for all stakeholders to submit information, models and data to the 3rd party data service provider, to assist in producing better risk maps. 2) Verra has made the strategic choice that for the integrity of the carbon claims, the risk map must be seen as a technical product only, and not as a political agreement. Governments wishing to distribute monetary carbon benefits to stakeholders in a way that does not spatially

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		national government approval / endorsement, along with VERRA's global requirements.	align with the locations credits are generated (per the risk map) must do so through carbon legislation and/or benefit sharing plans.
310	The Nature Conservancy (TNC)	Risk can be allocated using many different risk modelling approaches. **Proposed Change:** Need to provide guidance on how to rationalize different risk maps from different risk mapping approaches. There seems to be a provision for this, but no details of how this would actually happen. To be fair, it's not clear if addressing this issue could ever be possible.	This will be addressed in the new version of the Unplanned Deforestation Risk Mapping and Allocation Tool (UDef-AT). The UDef-AT contains provisions for alternative risk mapping approaches to be utilized. There are no restrictions on the kinds of modeling approaches permitted. Alternative models must demonstrate a higher predictive ability than the default 'benchmark' model provided within the risk mapping tool. A statistical metric is utilized as the metric to identify the best performing risk map among alternatives.
311	The Nature Conservancy (TNC)	The lack of longer-term assurances for projects about credit generation is a significant problem. Preventing deforestation in community takes a lot of trust building and time to change behaviors. These short time periods for baseline assessment will likely result in quick fixes/ short term investment programmes, i.e. temporary enforcement rather than sustainable activities to transitions to deforest free livelihoods and local economies. This further incentivizes low quality projects. **Proposed Change:** Verra should consider the cost/benefits of a shorter vs longer historical reference period.	The requirements for Avoiding Unplanned Deforestation projects' historical reference period (HRP) and baseline reassessment are in sections 3.4.15(2) of the *VCS Methodology Requirements*, v4.43 and 3.2.7 of the VCS Standard, v4.54, respectively (HRP is defined in the ~~methodology~~ module by referring to the *Methodology Requirements*). These are considered at the VCS Program level and are out of the scope of this methodology consultation. Out of practical considerations, Verra has made an allowance for projects during their first baseline validity period to carry over their AD allocation into a subsequent BVP under certain circumstances, as described in *VMD0055* Section 5.3.1 of *VM0048*. Project proponents may elect to update to the second jurisdictional BVP up to two years after that BVP begins.

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312	South Pole	There are no references at the end, nor in the document. Especially important in sections: Estimation of uncertainty in estimating carbon stocks, and Estimation of an Uncertainty Discount Factor	The uncertainty discount reflects the *VCS Methodology Requirements*, so no reference is required.
313	South Pole	To list the project "under development" (VCS Standard), do we need the approved J-ADB-UD Description Report from VERRA? For sure, we must need it for listing "under validation". The time (mostly, the delay) for getting the Description Report has a profound impact on the timeline for starting the listing process timely, based on the new VERRA rules about that.	1) Verra has started to develop baseline activity data for 13 jurisdictions, and this data will be available for projects within the next 4-5 months. We have initiated a process for adding more jurisdictions to the data development list. Verra will make sure that the data for all jurisdictions with VCS REDD projects will be available by the end of 2024. 2) Verra appreciates the interplay between project listing and the eligible start year. Projects may list as "under development" at any time, but will need to submit an AD Baseline Request to recieve the data necessary to complete their project description and list as "under validation."
314	South Pole	"carbon forest carbon" **Proposed Change:** "forest carbon"	The rural:urban proportion parameter is no longer included in the latest version of the *VMD0055*.
315	The Nature Conservancy (TNC)	The leakage requirements to define a leakage belt and other leakage boundaries seem overly onerous for projects. Projects may be held responsible for changes in deforestation that are not truly a result of project leakage. Projects often will have no control over these activities or be able to mitigate them. The hope that projects will collaborate together to assess and monitor	Section 5.1.3 in the updated version of *VMD0055* provides clearer guidance on overlapping leakage belts.

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		leakage seems unlikely. **Proposed Change:** Further rules would seem necessary for projects where there is overlap of leakage belts. Onus should be on third parties to generate outside leakage belt emissions to avoid PD using conflicting datasets.	
316	Asociación para la Investigación y Desarrollo Integral - AIDER	The discounts made in the baseline will be used in the estimates of emissions from deforestation, that is, will the same discount value be used?	Biomass stocks and thus emission factors are set for the baseline validity period and thus the same emission factors are used during monitoring.
317	Asociación para la Investigación y Desarrollo Integral - AIDER	With the conditions of applicability, selective logging is not applicable trhough monitoring. In addition, the forest strada that were established in the baseline can no longer be changed in the crediting period.	Selective logging is no longer prohibited. Biomass stocks and thus emission factors are set for the baseline validity period and thus the same emission factors are used during monitoring.
318	Biofilica Ambipar Environment & NBS Brazil Alliance	What will happen to projects already validated and verified by Verra under the current AUD methodologies? Will projects have the option, if they wish, to continue following the current methodology? When will projects with validated baselines have to adapt to the jurisdictional approach, will they have to wait for the re-evaluation of the baseline or, according to the established deadlines, will they have to adapt?	See response to comment #268.

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319	Carbonext	1. After the PP requests AD data, in case there are no other registered and ongoing JNR or program in the same jurisdiction, how long does Verra have to present the data?	It is anticipated that the production and validation of allocated AD to a given project will take about six months, however, this time period may vary depending on data availability and validation period.
320	Carbonext	2. Will there be a procedure for project developers to question and make additions to allocated activity data, based on more detailed data on the region, such as presence of roads etc.?	After it is allocated, project proponents use their own emission factors to turn activity data into baselines. However, they cannot change the activity data they are allocated. Before it is allocated, stakeholders can submit data to influence activity data, forest cover benchmark maps and risk maps as set out in Appendix 4 of *VMD0055*. This information will be combined to be allocated. The very simple model based on distance to forest edge is not the one that will (necessarily) be adopted as the jurisdictional deforestation risk model to be used for allocating baselines to projects. This is the benchmark model - something that project proponents and other relevant stakeholders will challenged to beat by contributing other variables that are demonstrably related to deforestation risk in the jurisdiction, and provide the corresponding data. Those additional data will then be used to construct alternative, information richer, more complex models that may be better than the benchmark model at predicting deforestation risk across the entire jurisdiction. The predictive ability of the benchmark and alternative models will be compared in purely statistical terms and the one model that shows the best predictive ability will be the one adopted as the jurisdictional model (and map) of deforestation risk, and used for allocating baselines to projects. This has been

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			described and clarified in the latest version of the *VMD0055*.
321	Carbonext	3. Is it possible for current project developers to become Activity Data Providers, and if so what are the procedures and requirements for doing so?	Yes, project developers can be (at present) data service providers A call for Expressions of Interest (https://verra.org/eoi-request-collection-of-jurisdictional-deforestation-data-for-allocation-to-vcs-projects/) with the general description of the tasks to be carried out and the qualifications to be met by activity data providers. RFPs for data service providers for specific jurisdictions will be posted to the Verra website.
322	Carbonext	4. (related to q.3 above) Is it correct that local risk maps can be generated by anyone as long as they meet the minimum requirements and then submit to Verra for validation? This won't be dependent on government investment, right?	Deforestation risk models and maps will be produced by Verra, either directly or through its contractors, at the jurisdictional (not local) level and not by project developers. Nevertheless, project proponents and other relevant stakeholders will be prompted to recommend other variables that are demonstrably related to deforestation risk in the jurisdiction, and provide the corresponding data. Those additional data will then be used to construct alternative, information richer, more complex models that may be better than the benchmark model at predicting deforestation risk across the entire jurisdiction. The predictive ability of the benchmark and alternative models will be compared in purely statistical terms and the one model that shows the best predictive ability will be the one adopted as the jurisdictional model (and map) of deforestation risk, and used for allocating baselines to projects. This has been described and clarified in the latest version of the *VMD0055*.
323	Carbonext	5. Will a database be available with the project areas, and leakage belts of other	Verra is working on making this information available on a jurisdiction-by-jurisdiction basis on the Verra website

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		AFOLU projects, for the definition of the leakage belt?	
324	Carbonext	6. Overlap between the LB and the LB of projects that have already been validated or that have already been listed on the Verra website will not be allowed, correct? If there are two different PPs doing projects in the same region simultaneously, how will it be possible to guarantee that there is no LB overlap before being listed on the Verra website?	Section 5.1.3 of the *VMD0055* clarifies the condition under which projects could omit leakage emissions from overlapping portions of UDef LB. The situation described in the finding (i.e., two projects seeking simultaneous listing) would not meet the conditions. As a result, both projects will have to account for leakages in the overlapping area. A sentence has been added to this section to clarify the process if the conditions are not met.
325	Carbonext	7. What will be the cost for the PP for requesting the AD data? After data is already available, will there still be costs?	Fee structure is yet to be determined. Verra is sensitive to financial considerations of projects and will work to ensure that costs are dispersed equitably per jurisdiction and in a way that does not burden projects. Fees will be structured in a way that is the same for all projects; the first project in a jurisdiction will not pay for the entire cost and future projects will also pay, even after such data is available. The fee structure (in summary or in part) will be released in tandem with the final methodology.
326	Carbonext	8. How will cases in which there is an overlapping jurisdictional risk map be handled, proving that the latter is more accurate than the first one? Does one replace each other? Or is it no use even submitting for evaluation, given that there is already a jurisdiction in force?	Jurisdictional risk maps will remain valid for the duration of the jurisdictional AD baseline period (six years). During such period, no other risk maps would be developed for the jurisdiction.

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327	Carbonext	9. How long will it take for projects that have already been validated, and even verified, to adapt to the new baseline?	See the Verra website post Consolidated REDD Methodology Ensures Integrity of Forest Conservation Credits (https://verra.org/consolidated-redd-methodology-ensures-integrity-of-forest-conservation-credits/) for information on projects' transition to the new methodology.
328	Carbonext	10. If AD is not provided within the grace period, how should projects that are already validated proceed?	The "Updated Timelines for Adoption" section of Verra's February 2023 announcement (https://verra.org/consolidated-redd-methodology-ensures-integrity-of-forest-conservation-credits/) clarifies that "Once activity data are available for a jurisdiction, all projects in this jurisdiction (new, listed, or registered) can adopt the new REDD methodology. After a six-month grace period following the activity data release, the new methodology becomes mandatory...". This addresses both issues.
329	Carbonext	11. Does the PP need to request previously the AD revised after the 6 years or will Verra provided it automatically? In case the PP needs to solicitate previously, how far in advance should it be requested?	The procedure for existing projects to be allocated information for their second baseline will be added to the Registration and Issuance Procedure, which will be updated and released in 2024 - well before any project needs a second round of activity data.
330	Carbonext	12. Regarding the Leakage outside of PA and LB (within national boundaries): considering a continental country such as Brazil, with multiple biomes and specific legislation for each, could the non-geographically constrained leakage be restricted to the biome where the project is located in?	Non-geographically constrained leakage is national, even for countries as large and diverse as Brazil. Subnational assessment was considered, but overall it was considered simple and consistent to only consider national assessment.

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331	N/A - Anonymous	The deforestation risk in protected areas is not heavily dependent on distance from forest edge as it is in most frontier and mosaic types of deforestation in wildernesses or other non-protected areas. For protected areas in third world countries, the deforestation pattern is in form of a patchy network of unsanctioned clearing (encroachment), that is poorly enforced due to limited capacity since most of these protected areas are government owned. Therefore, factors such as law enforcement capacity and perceived ecosystem value are often the main determinants of deforestation risk. Revenue from REDD+ can effectively address these factors to help protect the project area as a whole unit. We fear that the current J-ADB-UD module, as it stands, will allocate high-risk classes to the perimeter pixels only and allocate mostly insignificant (zero) risk classes to the core areas of protected areas which will end up lowering the credit generation per ha potential of the project area, thereby discouraging conservation of protected areas through REDD+. Poor governments may not get other sources of revenue to strengthen law capacity in those "perceived" low risk areas apart from REDD+ revenue. **Proposed Change:** We suggest that risk classes be allocated from minimum to	This comment relates to *VT0007* Unplanned Deforestation Risk Mapping and Allocation Tool (UDef-AT). The updated deforestation risk modelling and mapping approach utilizes distance to forest edge only to construct an initial ("the benchmark") deforestation risk model/map. Alternative, information-richer deforestation risk models/maps -which might include other relevant variables such as those mentioned in the comment- can be constructed and considered. The predictive ability of all the deforestation risk (alternative plus benchmark) maps under consideration are statistically compared and the one showing the greatest predictive ability is then selected as the best risk map; conditioned to a favorable expert validation, the map thus selected is then adopted as the "jurisdictional deforestation risk map".

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		high, not insignificant to high and that a special baseline allocation for protected areas, that uses protected area-specific parameters in addition to distance from forest edge be developed and used. The sub module can still use a jurisdictional risk map but then allocates the baseline in manner similar to the current VM0009 reference area approach to project the behavior of the drivers and agents of deforestation in the reference area to the project area, even if tenure types are different.	
332	Conservation International (CI)	Applying the JNR risk mapping and allocation method causes many issues. This methodology relies on a correlation that assumes the recent past reflects the near future. It precludes the use of any knowledge of the local context and the agents and drivers of deforestation – e.g., spatial distribution of known illegal logging issues, planned road construction, migration trends, etc. The JNR Risk Mapping Tool does not cite evidence to show that it is a reliable and accurate method for mapping risks. Instead, it uses a justification of unreliable or out-of-date data for many countries as the reason for not including other factors. Despite evidence regarding the importance of other factors, especially distance to existing and planned roads, these are	Risk mapping and allocation are innovatiove approaches that are to-date undocumented in scientific literature. The latest version of *VT0007* Unplanned Deforestation Risk Mapping Allocation Tool (UDef-AT) take into account the results of extensive testing by Clark Labs and other stakeholders. See *VMD0055* Appendix 4 for details on the supplemental materials stakeholders can submit to data service providers including materials to create alternative risk maps. The fee structure is yet to be determined. Verra is sensitive to financial considerations of projects and will work to ensure that costs are dispersed equitably per jurisdiction and in a way that does not burden projects.

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		excluded from the process proposed by this methodology. Even when the risk maps produced by project developers with GIS & RS teams are better than those produced by the third-party AD provider (in which case, they may be used, based on the text of the JNR Risk Mapping Tool), the impression from the methodology as currently written is that the PP must pay to generate Verra's risk maps. In such cases, Verra may be requiring PPs and project developers to buy a product of lower quality what they can produce themselves. Verra is requiring a [potentially, because they still have not provided a price] huge investment from the project proponent to generate activity data. At the time when the PP submits the AD request and is required to buy the data, the PP will not be able to know whether or not the project is financially feasible (will generate enough VCUs to cover the cost of the AD generation and implementation costs). Such a change creates additional barriers and potential hesitance to pursue AUD projects verified under the VCS standard, especially for smaller projects and organizations with limited access to financial capital. **Proposed Change:** A systematic literature review must be completed, and the risk mapping and allocation methodologies should be modified to reflect the best available evidence. There is currently no	

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		indication that these modules were designed based on a thorough review of the literature. If a systematic review has been completed, this should be reflected in the methodology by providing the relevant citations and justifications in the JNR Risk Mapping Tool, Allocation Tool, and new AUD methodology modules. At present, none of these documents provide any indication that they were designed based on scientific evidence and best practices because they do not cite or reference any specific literature.	
333	Terra Global Capital, LLC	These proposed changes will irreparably damage the market Terra Global understands and appreciates Verra's goal to ensure that AUDD project's generate high integrity VCUs and the goal to ensure that the approved methodologies are not subject to gaming by project developers or their results subject to scrutiny of the press. Verra has now undertaken this lengthy process of seeking to "address" the real and perceived "problems" with AUDD methodologies. But the Verra proposed changes that do not achieve the stated goals and by taking these actions Verra will cause irreparable damage to the market and not address some of the real issues which are 1) the lack of capacity within the approved VVBs and 2) a standard that allows projects to freely fire a VVBs when the developer does	While several developers have not supported this approach, overall the feedback has been very positive. One main reason for this is that the new approach ensures the total allocated deforestation does not add up to more than has occurred in the entire jurisdiction and will be more consistent with national accounting (compared to the reference region approach). This can't be done with the reference region approach. This approach also ensures reduced conflict of interest. This approach is also designed to ensure a balance of integrity and implementabilty. Degradation will be added to the new methodology in the next phase.

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		not like their findings. Verra and the consulting team held "consultations" but even based on very negative feedback provided early-on about to this approach provided by large market participants who are developing and financing projects and programs these are not reflected in the proposed approach, in fact just the opposite. From all indications, Verra seems to be moving forward with these draconian changes even in the absence of the highly negative feedback and the irreparable impact this will have the climate finance for NBS projects and programs globally. We implore you not to adopt this unproven approach, that hides behind the "cloak" of having more environmental integrity then current AUDD methods when there is no evidence that this will be the case and in fact actually the opportunity is likely to occur. At a high level, adopting the proposed approach will: • Take years of experience and proven technologies that has been used under project methodologies and throw it out for unworkable and/or unproven methods for developing Activity Data • Require use of JNR 4.0 which has not been successfully used by one jurisdiction OR • Require use of Activity data that does not follow JNR baseline rules and will likely be	

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		produced by an unproven AD provider without the critical local knowledge to properly train models • Introducing higher costs for the inclusion of degradation because the developer pays Verra for DF AD and to include DG they must create their own AD. • Introduce great risk of inaccuracies for the inclusion of degradation because the DF AD methods and the DG AD methods will not be aligned creating potential double counting or missing transitions (degradation is key as is can account for more than 30% of emissions) • Require the application of a simplistic risk tool which has which is untested and relies on only one explanatory variable, forest density, when it is proven that there a number of other key (often landscape specific) variables to explain deforestation risk. • Through the application of this simplistic risk tool which determines which projects get what portion of the baseline this will create wealth transfer between different projects due to the lack of robust baseline spatial allocation methods. **Proposed Change:** Do not implement these changes as is. But create set of reference region requirements to be used by all AUDD, and require that AD must be VVB approved and have a 2nd Verra Approval on all RR and AD. If Verra wants to use	

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		outside experts to support them they can.	
334	Terra Global Capital, LLC	Verra Motivation and Business Model This approach deeply concerns Terra about Verra's business model and the independence and commitment of Verra to running a third-party standard. Is Verra seeking a new revenue source? Verra is proposing taking on new activities for which it has no experience when it is still struggling to properly run the standard under the demands of the current market. Verra should be focused on improving the standard and strengthening the validation and verification process. As well as having the capacity to process the many projects coming to market. Now is not the time, when the standard is struggling to function properly under its program requitements.	Development of this consolidated methodology and the ongoing allocation of activity data is an expensive proposition for Verra. As a non-profit organization, we look to cover our costs in the long-term but in the short term are more concerned with transitioning projects quickly to this new methodology. Verra will use diverse data service providers to develop and allocate activity data. That data will be assessed by third-party independent experts. Verra is also working on improving the validation and verification process. Many updates are underway and will be announced soon. Capacity and internal process are also being improved to increase efficiency.
335	Terra Global Capital, LLC	If you implement these proposed changes now you will cause a huge outflow of climate finance in the NBS pipeline. Take the smaller steps we suggested to address VVB capacity and standardize reference regions across methodologies, as well as increase the scrutiny on reference regions and AD that are developed by the project to require VVB and Verra approval. This should be your first step, while you regroup and make sure that there is side by side proof that these significant proposed changes will produce a better results then	The new approach has been well received by most actors as producing higher-quality and more robust results that ensure all activities within a jurisdiction are consistently nested, aligned with and will not exceed national results. These updates should in fact increase investment to the space as we deliver higher-quality results.

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		the simpler adjustments that can be made.	
336	Ecológica Assessoria	Opening roads is one of the main drivers of deforestation in Brazil. In addition to real estate speculation, mining, population growth and political scenario.(see photos in rows below, 1986, 2000, 2011, 2020) **Proposed Change:** Opening roads is one of the main drivers of deforestation in Brazil. In addition to real estate speculation, mining, population growth and political scenario.	The commenter suggests that these factors influence risk maps. They can indeed be included in alternative risk mapping approaches that will be compared to the benchmark. See *VMD0055* Appendix 4 for details on the supplemental materials stakeholders can submit to data service providers so that they can be used in constructing alternative maps using UDef-~~R~~ATP~~R~~.
337	Equinor	Verra's current proposal for benchmark methodology is based on the JNR Risk Mapping Tool. Since the tool will assign the highest scores (highest risks) in forests in geographical proximity to high deforestation activity, that in practice will prioritize avoiding deforestation over forest degradation. While we understand that the proposed revision allows for claiming credits for avoiding forest degradation using existing methodologies, there is a high risk that project developers, faced with a standardized, simplified benchmark methodology for deforestation on one hand, and a more complex, custom approach to address forest degradation, will predominantly focus on deforestation and deprioritize forest degradation. This would be unfortunate for several	The commenter suggests a specific way to include degradation. *VMD0055* is only applicable to deforestation. An unplanned forest degradation module is envisioned at a later stage. In the VCS Program, planned forest degradation is an improved forest management activity, and can be accounted under those methodologies.

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		reasons. We believe that de-prioritization of forest degradation will have negative effect on biodiversity and carbon stock. Forest degradation is a stepping-stone to deforestation, it is therefore important to protect areas in the forest margin suffering from early-stage degradation to prevent deforestation. Further, the impact of forest degradation on emissions is perceived in many cases to be greater than deforestation; and finally, forest degradation has a major impact on biodiversity **Proposed Change:** Equinor recommend that activity maps should include degradation as well as deforestation; similarly, FREL Maps should be accurate enough to include the impact of degradation; and the risk tool should reward projects addressing the onset of degradation.	
338	Equinor	If a project performs well – meaning it is effective in reducing deforestation in the project area/leakage belt – this would trigger less modelled risk in upcoming validity periods, and hence lower payments. This will likely have a negative impact on project feasibility and investor appetitive. **Proposed Change:** This should be addressed in the methodology, potentially by stringent use of baseline methods using	The original comment suggests not using the proposed allocation approach, but rather continuing to used the old reference region approach to methodologies. However, it is widely accepted at this point that such methodologies are inadequate to ensure accounting 'adds up' at the national level and produces a consistent approach to nesting. This is a philosophical debate outside the scope of the methodologies. Verra is aware of the potential long-term decline in allocation in future periods and will continue to explore

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		reference areas calibrated against relevant baselines which would capture the real contribution of projects to forest protection.	ways to address this issue appropriately.
339	Equinor	There is large variation in the quality and additionality of credits within projects that have been certified to adhere to Verra's methodology requirements. This can be addressed by two changes. VVB's should be given a clear mandate to assess the overall additionality of project credits. In addition, Verra should re-qualify VVB's, with a prejudice to use of well financed, independent, high quality internationally renowned bodies. In our view there is no conflict of interest between high standard verification agencies and high-quality developers, all of whom will have the common aim of creating a high integrity market. **Proposed Change:** Recommendation: Verra strengths the mandate of VVB's and requalifies VVB's.	Additionality rules are in the methodology, which is then applied to the project. These, like everything else, will be appropriately reviewed by VVBs, which do already have this mandate. In addition, training will provided on the new methodology to VVBs. Verra also has a new Audit and Accreditation team that is tackling the issue of VVB quality and increasing the number of qualified VVBs.
340	Kennemer Eco Solutions	We would ask Verra to kindly clarify the effective date of the new modules and grace periods for projects under development with the old AUDD baseline methodologies. Very specifically, because clarity is highly relevant here: At the effective launch date of the new modules, what does a VCS	See response to comment #268.

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		AUDD project need to show in order to be eligible for the grace period and to continue towards validation under the previous rules? Is it: VCS Pipeline listing as under development with a VCS Draft PDD Proof of contracting a VVB for validation Proof of initiating VCS validation process Because it is very important to clarify which one it is, or which multiple parts are required, by which time. We understand that after first baseline period and with baseline update for 2nd monitoring period, all projects will have to apply the new modules.	
341	Green Growth Consulting Firm	All modules are technically rigid. **Proposed Change:** I think all modules may need to undergo field-testing before applications.	Modules are more rigid to prevent inflation. Substantive testing has been completed.
342	Green Growth Consulting Firm	I suggest separate modules like afforestration/reforestration, social forestry models, community forestry models, agroforestry models, PAs, Outside PAs, SFM, REDD+,	This is the approach we've now taken with the overarching framework REDD methodology (V*VM0048*) and individual modules for *VMD0055*, avoiding planned deforestation and avoiding unplanned forest degradation (the latter two are still to come). Improved forest management and ARR each have different VCS methodologies that can be combined with V*VM0048*.
343	Permian	1. Follow an evidence-based approach before full scale implementation We commend the efforts of the Verra Secretariat to strive to improve the quality	The consolidated REDD methodology does not assume that jurisdictional deforestation will decline over time. The rate of future (over the following 6-yr validity period) deforestation is assumed to be equal to the

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		of the carbon accounting methodologies. While the proposed approach may improve the alignment between project scale accounting and jurisdictional scales, more evidence is required to prove that this will provide a more accurate approach to carbon accounting. a. Verra should explore the implications of the proposed changes to the carbon accounting and resultant economics of projects before moving forward, taking into consideration the costs of averting deforestation across the tropics. It is a fundamental law of economics that successful management practices should be rewarded and not penalized. There should be an overall review of Verra processes to ensure that they are encouraging management of forests which will reduce deforestation and degradation globally, over the next decades. The proposed changes seem likely to cause significantly lower numbers of credits from all AUDD projects over the life of the projects, as they will significantly underestimate the absolute amount of emissions that are being avoided as are not fully considering what threat is being mitigated. Verra should explore whether the resulting finances available would be sufficient to stop deforestation. b. The assumption that jurisdictional deforestation may decline over time, under the current proposed changes, results in	(conservatively corrected for uncertainty) 10-yr historical average. Such projection is then to be revisited six years later, and such reassessment may yield a lower, similar, or even a higher jurisdictional deforestation rate, which would be used for constructing the baseline for the following 6 year validity period. Risk mapping and allocation are innovative approaches that are to-date undocumented in scientific literature. The latest version of *VT0007*Unplanned Deforestation Risk Mapping Allocation Tool (UDef-AT) take into account the results of extensive testing by Clark Labs and other stakeholders. See response to comment #268.

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		the additionality of projects declining over time. This assumption will have to be thoroughly evaluated. It may not be fair to suggest that if deforestation is being successfully mitigated, that performance implies a reduced threat of deforestation, simply because deforestation is being demonstrated to have been reduced over the time period under consideration. c. Verra should also ensure new methods do not damage the economic viability of existing projects, which are legitimately using current methodologies. This would disincentivize the private sector to support further avoided deforestation projects, with knock-on effects for biodiversity conservation, community development and indeed climate mitigation goals. **Proposed Change:** Before bringing the proposed changes forward, Verra should explore the implications of the assumption that jurisdictional deforestation may decline over time under the current proposed changes. This assumption, without proper evidence to support it, can result in a flaw for the economic model of AUDD projects, resulting in the introduction of higher uncertainty to the investment horizon of financiers. Jurisdictional deforestation may decline due to well performing projects, but this does not mean that the threat of deforestation within the jurisdiction has necessarily	

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		declined across the jurisdiction as a whole. It is highly advised to allow transitioning from the current proven methodological approaches to the new approach, if it can be deemed more accurate. If there is strong evidence that the resulting carbon credits generated with the new approach are of better quality and realized in due time to address global deforestation and forest degradation then this approach may be implemented over some sensible transitional period, to avoid unnecessary bottlenecks in the market. This analysis should be thoroughly undertaken and made public before proceeding on the proposed basis.	
344	Permian	<u>Uncertainty in the allocation of deforestation to Projects Areas</u> We believe that removing the concept of proxy areas from the methods to create deforestation baselines for projects will result in significantly different emission reduction profiles for projects. Importantly, these differences can be explained by the sensitivity to risk mapping and allocation method within project areas using land cover transitions only. We suggest considering only proximity to historic deforestation is a massive oversimplification of the required analytical process.	Verra acknowledges that some projects may have different emission reduction profiles under this methodology than under previous ones. See response to comments #73 and #343.

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		In addition, tropical deforestation has been a highly random phenomenon over the last two decades - in high forest cover high deforestation countries - and it is unclear how a six year historical reference period can accurately capture such variability and complexity for activity data allocation at the project area scale. Therefore, we suggest considering historical periods of at least 10 years when generating project baselines, and indeed jurisdictional baselines, even when a shorter baseline reassessment period could be plausible. **Proposed Change:** Verra should simulate the performance of the proposed new methodologies before the changes are implemented and ideally using a historical reference period representative of 10 years, rather than six years. Such an exercise can allow Verra to test whether the baselines assigned to projects, using these new methods, are representative of the deforestation actually observed during a validation period. We suggest that this approach will help demonstrate the sensitivity of the risk mapping and allocation method for projects that often exhibit different deforestation configurations. Verra should also replicate the analysis with a standardized reference region, as the use of standard proxy areas can still be plausible when the limitations of methods used to propagate	

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		deforestation may result in material underestimations of project additionality. We strongly recommend that Verra consider allowing AUDD projects to continue to be developed using the existing methodological approach until further evidence can demonstrate that the new proposed approach is an improvement on the old. The current growth rate of the market is evidence that both buyers of VCUs and suppliers consider this existing approach as the best available, and the current moratorium is only causing unnecessary delays. If it can be demonstrated using detailed analysis that this new proposed approach is an improvement, in terms of accuracy, then it could be adopted over a sensible transition period.	
345	Permian	<u>Use of a sampling method versus wall-to-wall remote sensing.</u> We believe that current technologies and algorithms would allow developing the baselines for jurisdictions, of 2.5 million hectares or lower, using wall to wall remote sensing. This would generally be preferable to sampling because of limitations associated with the adequate spatial and temporal representation of all relevant structural determinants of deforestation. Project developers have competence and expertise in this area and therefore they	Per *VMD0055* Appendix 1 Section A1.4.1, "Development of wall-to-wall forest, land cover or land cover change maps is not a requirement for estimating AD.... Any sampling strategy that is spatially representative of the jurisdiction and supported by current best practices may be used as long as its use assists in producing estimates that meet accuracy requirements." Furthermore, Verra has decided that the uncertainty of jurisdictional activity data must be estimated, in alignment with emerging global guiance around best practices, including the ICVCM Core Carbon Principles, which state: "It is critical for carbon-crediting programs to understand the level of uncertainty associated with the

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		should be permitted to develop baselines when appropriate. **Proposed Change:** Verra should allow the use of wall-to-wall remote sensing to calculate the deforestation baseline, when the project developer demonstrates the required capabilities/core competencies to develop it for the whole of the jurisdiction, and where the estimates suffice the minimum criteria of the J-ADB-UD module in terms of quality, uncertainty and time of production.	data and assumptions used to quantify GHG emission reductions or removals to ensure they are estimated conservatively." The only apporach to estimate the uncertainty of AD is to employ sample-based approaches. Activity data generated by wall-to-wall mapping, without any area bias correction, would not produce the required ucertainty estimate and bias correction.
346	Permian	The start of the baseline validity period may not coincide with the Project start date. We believe that, in some cases, the approach suggested would not allow for the recognition of the realities of deforestation in the project area at the project start date when the project has to use a jurisdictional baseline which is not current. **Proposed Change:** Projects should be able to make a reconstruction of the jurisdictional baseline at the project start date to identify any changes in forest circumstances affecting the project area, while maintaining consistency with the jurisdictional calculation methodology. The proposal implies that new projects will use an existing baseline, even if it has only one or two years before a required revision. This does not properly consider the	Commenter is correct that for projects with a start date other than the first year of the baseline validity period (BVP), the activity data allocated to the project in its start year will be based on a historical reference period that ends at least one year prior to the project's start year. However, the AD allocated to all projects in a year other than the first year of the BVP will also be similarly out of date, so there is nothing specific to new projects in this regard. The VCS Program does not require dynamic baselines. For methodologies that do not employ dynamic baselines, the ex-ante projection of a baseline is maintained as valid until the methodology requires it to be updated. *VMD0055* does not employ a dynamic baseline, and therefore Verra does not identify the highlighted issues as out of compliance with the VCS Program. See response to comment #260.

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		requirements to define a project start date (i.e. when mitigation activities begin).	
347	Permian	Allocation of activity data to project areas based on risk mapping only (no reference region used). We believe that risk mapping is likely the way forward to improve the accurate allocation of additionality to projects from jurisdictional baselines. The current proposal to allocate the amount of deforestation to project areas, based on the risk outside of project areas, will result in materially different emission reduction profiles, when compared with results from the use of existing methodologies. The most important difference between the proposed new and existing methodologies is that the new methodologies remove the use of proxy areas (reference regions). A proxy area is an area analogous to the project area, which may have already experienced the impact of deforestation drivers in the past, which the project area has not yet experienced, but may face in the future. **Proposed Change:** It is suggested that Verra allows the use of a standard reference region, that serves as a proxy area, to explain deforestation experienced previously in similar areas which the project area could face in the future. This would not only rely on a simple proximity to	Project-proponent-developed reference regions is a major source of lack of market confidence in project REDD, and Verra has made the strategic decision to completely move away from the approach. This will provide a more clear pathway for project crediting to align with jurisdictional programs, and it provides a total cap on crediting that is proportional to the emissions of the overall jurisdiction.

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		existing deforestation fronts, which we suggest is a major oversimplification of the existing methods.	
348	Permian	Limiting use of imagery to 5 meters or higher to derive baseline activity data is unnecessary. We have already indicated that using wall to wall remote sensing should generally be preferable to sampling to develop the baselines for jurisdictions of 2.5 million hectares or lower. That said, we are in favor of using the best available data to aid the wall to wall classification of satellite images. Therefore, we believe that other medium resolution remote sensing data should be promoted, especially if they fulfil precision and uncertainty requirements. The acceptance of an alternative spatial resolution (e.g. 10m to 30m) would lead to a greater availability of sensors. This would significantly increase the temporal resolution of the analyses and, therefore, would have an impact on the reduction of uncertainties. In addition to this, we believe that other technical parameters, such as sensors electromagnetic range (optical spectrum) or number of bands, must be considered when selecting the most appropriate product as they are equally or even more important than the specific spatial resolution when performing spatiotemporal land cover and land change	The minimum spatial resolution for imagery has been changed to 10 m. The module makes the following statements regarding the use of ancillary data in section A1.4.1: "Any relevant spatial criterion may be employed to stratify the jurisdictional sampling frame, including observed land cover change in an ancillary wall-to-wall map, areas of hypothesized high versus low risk of deforestation or any other criterion that assists in limiting interpretation effort to meet the uncertainty targets of the estimated AD"...."image interpretation and may rely on a combination of imagery, secondary remote sensing data and ancillary spatial or non-spatial data. " The proposed changes by the commenter are permissible under the module, as long as the primary imagery dataset used for plot interpretation meets minimum accuracy requirements.

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		assessments of 10 years historical reference periods. **Proposed Change:** Alternative imagery to aid the wall to wall classification of satellite images (e.g. lower spatial resolution [10m to 30m], wider spectral range) should be promoted in combination with wall to wall data acquisition to produce jurisdictional activity data if it can be demonstrated that the combination of the aforementioned sensor's characteristics produces adequate results and if cloud cover prevents the use of higher resolution data.	
349	Permian	Is it realistic for third party data providers to also provide annual monitoring data? We strongly oppose activity data being monitored centrally by Verra for the entire jurisdiction. This approach may not capture the deforestation complexities and the history of deforestation at project scale, using jurisdictional baselines alone, with a historical reference period of less than 10 years as currently proposed, and with an allocation of activity data based solely on modelling deforestation transition risks. We believe project developers are likely to have the competence and expertise to better monitor what is happening in their project areas using the best available data. They are also likely to be better positioned to identify any changes in forest circumstances affecting the project area,	We agree with the commenter that at present project proponents should be responsible for monitoring. However, it is possible that in the future Verra will provide data to them for monitoring as well as baseline-setting. Efforts to improve VVB work is underway.

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		while maintaining consistency with the jurisdictional calculation methodologies. Therefore, reliance on third-party data providers to tackle all these complexities at jurisdictional scales to produce monitoring reports at project scales will create delays and cost increases for projects as well as likely cause repetition of work. Instead, project level monitoring should be allowed, while focusing efforts on ensuring that sufficient auditors are trained and available to verify that project level monitoring is consistent with the most up to date jurisdictional calculation methodologies. **Proposed Change:** Project level monitoring should be allowed, as we think it is more accurate and more appropriate. Reliance on third-party data providers to be able to produce monitoring reports will create delays and cost increases for projects. Instead, Verra's efforts should be put on ensuring that sufficient auditors are trained and available to verify that project level monitoring is consistent with the most up to date jurisdictional calculation methodologies, as the demand in the market continues to grow at the current rate.	
350	Permian	6. Risk mapping approach. It would be more optimal for project developers to use existing well	See *VMD0055* Appendix 4 for details on the supplemental materials stakeholders can submit; these do include risk map inputs.

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		documented and peer-reviewed methods of risk mapping, which are certainly already available as integrated software packages (e.g. LCM TerrSet, Dinamica EGO, etc.), increasing quality and accuracy as well as reducing implementation and troubleshooting time, and are probably already used by their technical teams. **Proposed Change:** Verra should permit alternative peer-reviewed approaches are allowed if they comply with the minimum precision and quality characteristics required when using the risk mapping module. Verra should recommend minimum uncertainty thresholds for risk map.	The *UDef-AT* is currently being revised; the new version includes a clear statistical process to compare the Verra benchmark risk map with any other risk map. The AD that is allocated via the risk map is conservatively discounted if appropriate.
351	Clark University	Please include line numbers in all the documents so readers can refer to line numbers as you request.	Thank you for providing this information to Verra.
352	Clark University	Pontius has many ideas for how to improve the risk mapping tool.	Pontius has been involved in revisions to the UDef-AT.
353	Silvestrum Climate Associates	AD data is aggregated by LCT. Page 6 of J-ADB-UD it says: Each AD-C may be subdivided into multiple Land Cover Transition (LTC.....error in acronym) classes to differentiate such as planned vs unplanned, natural vs anthropogenic, or other sub-categorizations. Does this include differentiating LCTs by ecosystem type (e.g. mangroves)? This is critical for	The use of LCTs has been removed. The only required categories are presented in Table 10 of *VMD0055* A1.3. Forest types or ecosystem types are not required categories for disaggregation of activity data. Wetlands have been removed from *VMD0055* and REDD activities occurring in wetlands will be covered by alternative methodologies

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		mangroves as they are often under different baseline stressors compared to terrestrial forests. In general, how/when areas are stratified could be more clearly explained in J-ADB-UD. Guessing this is where sampling strata come in but this needs defining. But AD data is not aggregated at the ss level, so this is not a solution to the above. **Proposed Change:** Allow mangrove->non-mangrove to be a valid LCT.	
354	Silvestrum Climate Associates	For the first HRP, how to be sure that a forest has been forest for 10 years, without a benchmark map?	Individual project proponents need to ensure that this is the case.
355	Silvestrum Climate Associates	What happens when a project area covers all ecosystem in a jurisdiction? Would there be an incentive to set aside forested areas for the purpose of quantifying ongoing deforestation for subsequent VPs? Would a project be ineligible of there is no leakage belt left, and would there be an incentive to set aside forested areas for the purpose of having a leakage belt?	None of the existing projects exhibits conditions like the one described here; this would be a unique and rather extreme case. Unique conditions affecting a specific project can always be considered and decided on a case-by-case basis.
356	Silvestrum Climate Associates	J-ADB-UD could do with some diagrams, particularly to help explain how a jurisdiction can be divided by AD and LCT, and how the FCBM fits in.	Noted but not done because LCTs were eliminated.
357	Silvestrum Climate Associates	Application guide: not applicable to projects located in a jurisdiction with a	The methodology has been changed so that (per the note in section 2 of the *VMD0055*) where a project is to be

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		registered JNR FREL. Ideally this guide should encompass all projects that are validated under one of the existing REDD methodologies. **Proposed Change:** By simply acknowledging the decision tree on pg. 6 and highlighting how projects in jurisdictions with a registered and ongoing JNR FREL must apply the JNR requirements and disregard these new modules.	nested in a registered JNR Scenario 1 or 2 program, the jurisdictional proponent is responsible for generating and allocating activity data to projects.
358	Silvestrum Climate Associates	MON-AUD - it seems that the project proponent will be responsible for completing the sample based assessment of area of LCT over the monitoring period. If, for the BSL assessment, is done by an external group how easy will it be to replicate for the PP? F-NF transitions can be quite subjective to discern using high resolution satellite imagery. Repeatability could be a concern given the observer will be different. **Proposed Change:** Digitize the process as quickly as possible (see Wildlife Work's ArcMap plugin) and provide guidance to ensure observers review the BSL sample point assessments.	We will digitalize the process as quickly as possible after approval of the final methodology. It is possible that we will make the SOPs of DSPs for AD collection publicly available.
359	Silvestrum Climate Associates	Application guide: Verra to define the jurisdictional boundary? This will require local knowledge so better coming from the PP with approval from Verra.	Verra sought input from stakeholders including the JNR Advisory group, project proponents, pre-approved potential data service providers and folks involved in developing the UDef-AT in deciding the largest reasonable scale at which to define a jurisdiction for AD

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			collection and allocation. It had to be an area that would not require months to collect data for and map (i.e., all of Brazil) but where we could cover as many potential project areas as possible at one time. As outlined in *VMD0055* Appendix 4, PPs and governments may also submit recommendations for the definition of the jurisdictional boundaries. Verra will also consider existing expressions of government intent to use non-administrative boundaries, described in section A1.2.1.
360	Silvestrum Climate Associates	Application guide: 'Until further notice, the JNR-RMT is the only risk mapping approach that can be applied for the allocation of baseline jurisdictional activity data to AUD projects.' This isn't very fair given this tool is yet to be finalized. **Proposed Change:** Do not release these modules until the RMT is finalized.	The *UDef-~~R~~AT will be published along with VMD0055.*
361	Systemiq	AD Provider: It is currently unclear what the requirements are to be approved as a third-party AD developer. **Proposed Change:** The development of clear guidelines or standard operating procedures (SOPs) for the development of AD to ensure consitency across VCS AUDD projects and to allow project developers to assess their internal capacity to propose AD.	Activity data service provider requirements are listed in the rolling expression of interest (https://verra.org/wp-content/uploads/EOI-Allocation-Data-service-providers.pdf) and periodic requests for proposals (e.g., https://verra.org/wp-content/uploads/2023/04/RFP-Dvpt-of-Jurisdictional-AD-and-FCBMs-for-VCS-AUDef-Projects-17-Apr-2023.pdf). Risk mapping providers will be subject to the criteria set out in a yet-to-be-released request for proposal.

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362	Systemiq	Risk Map: Further guidance is needed on techniques to successfully implement the risk map beyond the 'default' approach currently outlined. **Proposed Change:** We request that VERRA provide case studies and SOPs for what constitutes acceptable risk mapping approaches for a given circumstance (e.g.: Types of drivers, regions, landscapes).	The risk mapping and allocation approach ~~UDef RP~~ is currently being revised; the new version includes a clear statistical process to compare the Verra benchmark risk map with any other risk map. Verra and others have now tested the *UDef-AT* enough to know that while the process is likely to generate lower emission reduction baselines in some cases, in other cases those baselines will be higher. We hope to make some of these tests public soon.
363	Systemiq	*Risk Map* As it is currently written, it would seem that project effectiveness could very much impact future project risk. Associating project effectiveness to a predictor of future deforestation does not establish a counterfactual or 'without project' scenario. Approaches to establish baselines should remain independent to project performance. **Proposed Change:** Baselines should be modeled using factors that are independent of project performance. If factors like local deforestation and distance to forest edge are used as a predictor, only the modeled location of those factors in an alternative scenario that starts immediately prior to project initiation should be used within the project area and leakage belt to project risk for the current validity period.	The *UDef-AT* utilizes distance to forest edge only to construct an initial ("the benchmark") deforestation risk model/map. Alternative, information-richer deforestation risk models/maps -which might include other relevant variables such as those mentioned in the comment- can be constructed and considered. The predictive ability of all the deforestation risk (alternative plus benchmark) maps under consideration are statistically compared and the one showing the greatest predictive ability is then selected as the best risk map; conditioned to a favorable expert validation, the map thus selected is then adopted as the "jurisdictional deforestation risk map".

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364	Systemiq	Delays in development of third-party AD development. Potential delays in AD development by a third party may have financial implication on projects. **Proposed Change:** Can VERRA provide further information on how it expects to mitigate delays and what measures it may take if verified AD is not completed within the stipulated period.	We will have deliverable-based contracts with data service providers. No project will be forced to transition to the new methodology until six months after data is available to be allocated for that project's jurisdiction.
365	Systemiq	Engagement with local non-JNR jurisdiction The methodology application process doesn't include a need to consult or inform local jurisdiction when not a JNR program. **Proposed Change:** With current context (for example in Indonesia), it might be beneficial for Verra to offer a guidance or process to engage with local jurisdictions and/or coordinate such engagement.	Verra's data service providers are all engaging with local governments to some extent. Where possible, we're analyzing government-produced activity data to verify whether it meets our requirements. Verra is working to improve coordination with governments, including via the AD providers and directly. This includes participation in meetings, providing training to local governments, and providing an opportunity to review AD and risk mapping results.
366	The Nature Conservancy (TNC)	TNC broadly supports the transition of nature-based carbon projects toward jurisdictional approaches.	Thank you for providing this information to Verra.
367	The Nature Conservancy (TNC)	Concerned about these new modules limiting accessibility to carbon markets again. In recent years the availability of GFW data and GEE has had a profound effect on projects being able to quickly and cheaply arrive at an estimate of climate impact and offset yield to understanding	We understand the stakeholder's concern in the transition period between the old methodologies and the new one and in the period around transition between baseline validity periods. GFW and other data will still provide a reasonable estimate of climate impact for projects in their planning phases, and projects are able to simulate application of the *VMD0055* methodology to

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		project viability. The new modules – unless FREL and risk map and activity data are already available due to a previous project – creates significant disadvantage for first movers and innovators protecting critical forests. These are substantial costs for project to get the AD generation and allocation data without knowing if the project is in any way viable.	aproximate a plausible range of AD allocation. GFW and other similar pixle-count estimates of deforestation are not area-bias corrected and therefore do not meet the emerging best practices such as articulatd by the ICVCM Core Carbon Principles that all elements of estimation of ERs are accompanied by estimates of uncertainty. We will post activity data and risk maps publicly as soon as they are developed. No project will be forced to transition to the new methodology until six months after data is available to be allocated for that project's jurisdiction.
368	The Nature Conservancy (TNC)	Concerned about VERRA's capacity to deliver products such as activity data etc. at the needed speed and cost. Look at current response rates for project registry uploads and project responses. Having undertaken and funded some of this work, it seems unlikely these could be delivered for $50-70K USD, as suggested in the presentation.	Verra has centralized the approach because requiring every project to do this would 1) cause a huge replication of effort and duplication of cost and disruption to government officials and other projects (as every project sought to collect data); and 2) Result in potentially contradictory data that undermines confidence in quality. Fee structure is yet to be determined. Verra is sensitive to financial considerations of projects and will work to ensure that costs are dispersed equitably per jurisdiction and in a way that does not burden projects. Our intention is to ensure that most projects benefit from having baseline data given to them.
369	The Nature Conservancy (TNC)	It would be useful for Verra to highlight major changes in the process resulting from these new revisions.	See the slides from the webinar we hosted on 20 April 2023 re: the draft methodology (https://verra.org/wp-content/uploads/2023/04/2023.04.20-overview-of-M0184-Verra.pdf); we will also host webinars when the methodology is published.

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370	The Nature Conservancy (TNC)	AUD- Methodological Application Guide There are general concerns about the capacity of Verra to deliver the Activity Data Baseline for UD in a timely manner and cost-effective. Taking into consideration that there is a backlog of almost 2y of projects and a very ambitious carbon market out there. It might be more interesting to develop guidelines/requirements so any organization can replicate the process. Project developers often do several assessments to understand the feasibility of a REDD project before submitting a PDD, and it might be unfeasible to request (and pay) for this activity data at the feasibility stage. It is important to clarify in this document the timeline to produce/deliver the outputs that will be under responsibility of Verra. Although some information was shared in the webinars regarding the fee process and cost sharing, no information is provided in the revised documents. In addition, further guidance is needed to reconcile the activity data produced by Verra with government official data.	• GFW and other data will still provide a reasonable estimate of climate impact for projects in their planning phases. • We will post FCBMs and risk maps publicly as soon as they are developed. No project will be forced to transition to the new methodology until six months after data is available to be allocated for that project's jurisdiction. • We have revised our expectations and budget for data services and are looking at low-cost, quicker ways of data development for future jurisdictions. • Since this comment was made, Verra has reduced the project review backlog significantly • Verra fees are not included in methodologies. • Guidance on how to reconcile government FRELs with Verra-produced activity data is a higher-level issue that needs to be built into the *VCS Registration and Issuance Process*. Since VCS projects need to follow all applicable laws and regulations, if there is a government program in place that mandates the number of credits a project may issue, it may only issue the lower amount permitted by the government or Verra.
371	The Nature Conservancy (TNC)	J-ADB UD module The J-ADB UD module is very general and does not provide enough guidance for PP to apply in the feasibility phases before	Verra will publish all jurisdictional risk maps as they are released, which should help in project proponent decision-making. See *VMD0055* Appendix 4 for details on the

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		making the decision to pursue the conservation project as a carbon crediting project. Project might have modifications in the design phase as area and activities are discussed with stakeholders, therefore is it expected that the J-ADB UD provide enough guidance for the PP to understand the impact of such decisions before submitting the project and leakage belt areas. Another potential example is the planned deforestation in/excluded in the AD by Verra, considering that such information is not always transparently available, but PP or local stakeholders might have access.	supplemental materials stakeholders can submit to supplement the activity data collection process.
372	Volkswagen-Climate Partner	Validation and verification of new or existing nested projects have been put on hold, and potential new projects are uncertain about where/when to start. **Proposed Change:** Establish a fixed and transparent transition period and allow all new projects and baseline revaluation projects to register under the old methodologies and only update to the new methodologies at their baseline reevaluation time. **Rationale:** The uncertainty regarding the final rules of the new modules as well as the unknown waiting time until these changes are firm is holding up project development and impacting investment.	Validation and verification of REDD projects has not been put on hold. See the Verra website post "Consolidated REDD Methodology Ensures Integrity of Forest Conservation Credits" (https://verra.org/consolidated-redd-methodology-ensures-integrity-of-forest-conservation-credits/) for information on projects' transition to the new methodology. Verra is trying not to hold up project development while initiating transition to the new methodology as quickly as possible in order to give the market confidence.

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		Historically, Verra hasn't been firm with deadlines and has often taken too long to implement new methodologies/procedures. Projects cannot afford the extra waiting time.	
373	Wildlife Conservation Society (WCS)	J-ADB-UD ACTIVITY DATA DEVELOPMENT Length of historical reference period The module currently specifies that the activity data validity period is 6 years, but it does not specify a period for the historical reference period. Rather, it indicates that it should be determined "according to the latest version of the VCS Standard." The VCS standard does not yet specify a historical reference period. Instead, we advocate that a 10 or 15-year historical reference period be incorporated within the module itself. A longer historical reference period allows more stability in projections (less noise from short-term economic cycles and fewer data artifacts of remote sensing), and provides more predictability to project developers. Another practical consideration is that the period 2011-2014 is in general tricky for making good maps, as there are not any good radar satellite in orbit, Sentinels is not yet launched, and there is little good Landsat data yet. Remote sensing experts should be able to have more flexibility in selecting data points, as it is more important to have good data rather than	See response to comment #146.

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		meet a specific targeted year of collection. A shorter historical period does not improve environmental integrity of offsets, but it does create more practical challenges for project developers.	
374	Wildlife Conservation Society (WCS)	J-ADB-UD ACTIVITY DATA DEVELOPMENT Reference area for assessment of historical deforestation The current approach to historical AD development includes observations of imagery taken from within the boundaries of existing registered and active VCS projects themselves, as well as within non-project areas. This means that the activity data reference level is no longer independent of the performance of existing VCS projects taking place within the jurisdiction. However, the VCS states that a Baseline Scenario is "activities and GHG emissions that would occur in the absence of the project activity." Thus, the current approach within the module is not in line with the existing definition and therefore it is recommended that either the definition of Baseline needs to be clarified within the VCS Standard, or the J-ADB-UD needs to be modified to exclude existing registered and active VCS project areas from the jurisdictional area of AD assessment. Without modification, what is produced by the J-ADB-UD and, thus in turn, BL-UD is actually "activities and GHG emission that	Updated Verra response to original comment: VCS projects will be included in the jurisdiction during the HRP. In the jurisdictional allocation approach, projects no longer construct a "reference region" (*VMD0055* Appendix 1 A1.2.1). Instead, the baseline scenario is allocated based on risk of deforestation in the entire jurisdiction that includes the impact of any existing project impacts in the jurisdiction. This is a more conservative approach than excluding project impacts. While in the near term it would be unworkable to exclude project impacts when developing jurisdictional forest cover benchmark maps (because Verra does not have the required data for any and all carbon projects in the area), this is something that we're considering for the long term as Verra improves its own data, and global databases including all carbon projects are established. The definition of 'baseline scenario' is being revised via a clarification to the *VCS Methodology Requirements* to "The criteria and procedures for establishing the baseline scenario in the frontier and mosaic configurations shall take into account such factors as historical deforestation and/or degradation rates. The project proponent shall develop a baseline by using activity data provided by Verra or determining and analyzing a reference area…" We considered changing the definition in the *VCS*

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		will occur based on the continued impact of existing emission reduction project activities." We recommend that historical deforestation only be assessed within areas of the jurisdiction not included within any VCS registered and active project areas, and then the AD scaled up to consider the proportion of at-risk forest already under protection.	*Standard* as well, but the VCS Methodologies Director deemed the activity data allocated to the project as representative of "the activities and GHG emissions that would occur in the absence of the project activity".
375	Wildlife Conservation Society (WCS)	J-ADB-UD ACTIVITY DATA DEVELOPMENT Spatial definition of Jurisdiction We recommend that the allowable definition of the "Jurisdiction" be expanded to accommodate either 1) other existing jurisdictions recognized by the host government and defined for the purpose of implementing a REDD+ program (e.g. FCPF program area), or 2) any government derived documentation of expected plans to implement a jurisdictional program based on a unit other than an administrative unit. As long as minimum size criteria can be met, the views of the host governments on jurisdiction definition should always take priority.	Based on stakeholder input, Verra is defining the jurisdictions at the highest reasonable level.
376	Wildlife Conservation Society (WCS)	J-ADB-UD ACTIVITY DATA DEVELOPMENT Expansion to other activities We advocate that in the future the Module be further expanded to allow for developing reference levels baselines for other activities like degradation and	*VMD0055* covers only avoiding unplanned deforestation; in time, modules for avoiding planned deforestation and unplanned forest degradation will be added to *VM0048*. For ARR, the forthcoming VCS ARR meth will need to be combined with *VM0048*.

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		afforestation/reforestation. Failing to account for degradation in certain landscapes will fail to capture a large proportion, or even the majority, of forest emissions. In many countries, a highly degraded forests is an end state, or at least a state that can persist for many years before technically meeting the definition of non-forest. This is often the case in dry forest regions that are heavily impacted by charcoal production, rotational agriculture, and animal grazing. We advise that in subsequent versions Verra extend the J-ADB-UD to include degradation, following a similar approach as is currently permitted for deforestation. This may not capture all forms of degradation, but it will significantly improve the ability to estimate degradation in cases where it is severe enough to be clearly visible from remote sensing. The inclusion of degradation is important because it a) allows the carbon market to incentivize protection activities in major hotspots of degradation and 2) it better accounts for leakage between deforestation and degradation in locations where those processes are closely linked.	
377	Wildlife Conservation Society (WCS)	J-ADB-UD ACTIVITY DATA DEVELOPMENT Application of the JNR Risk Tool - The JNR Risk Tool was originally developed for	1) The risk tool has been updated based on significant work by Clark University. The tool now has the potential for alternate risk approaches to

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		application by Jurisdictions developing a JNR program. However, we recommend that either the Risk Tool itself to be altered, or the Module itself include the below additions. · We ask that there be more guidance that multiple approaches to generating the risk map are welcome, and that the "default" approach described in the Risk Tool is not to be understood as the preferred approach. Ideally, additional guidance should be included delineating criteria for alternative approaches to be employed along with criteria for demonstration of the accuracy requirements of the final risk map. · The requirement of a "zero risk class" should be removed. The risk map should reflect, for each location, the actual amount of risk predicted by the selected model. Otherwise, risk maps result in inconsistent overriding of modeled results for some locations but not for others.	be raised and adopted where they perform statistically better than the default approach. 2) The zero class is now used to denote areas that have to be excluded from the analysis, such as areas of planned deforestation, areas of non-forest and areas outside the jurisdiction.
378	Wildlife Conservation Society (WCS)	AD Provider: It is currently unclear what the requirements are to be approved as a third-party AD developer.	Activity data service provider requirements are listed in the rolling expression of interest (https://verra.org/wp-content/uploads/EOI-Allocation-Data-service-providers.pdf) and periodic requests for proposals (e.g., https://verra.org/wp-content/uploads/2023/04/RFP-Dvpt-of-Jurisdictional-AD-and-FCBMs-for-VCS-AUDef-Projects-17-Apr-2023.pdf). Risk mapping providers will be subject to the criteria set out in a yet-to-be-released

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			request for proposal.
379	Wildlife Conservation Society (WCS)	RISK MAP (GENERAL) General: · Guidance is needed for what constitute acceptable risk mapping techniques. We propose that Verra undertake a process to assess and provide guidelines for what approaches are acceptable and under what circumstances. Part of this assessment would ideally include case studies covering a range of drivers/regions/forest configurations. · WCS can offer to use two of our jurisdictions as case studies to inform such a process.	The risk tool has been updated based on significant work by Clark University. The tool now has the potential for alternate risk approaches to be raised and adopted where they perform statistically better than the default approach.
380	Wildlife Conservation Society (WCS)	RISK MAP (GENERAL) Use of localized deforestation as a predictor: Risk models should strongly discourage the use of predictors that are strongly influenced by project effectiveness. The Risk Map is one of the two key datasets used to establish the Baseline Activity Data for a project. If the Risk Map is closely correlated with past project effectiveness, then the resulting baseline ceases to be a counterfactual projection of activity data "in the absence of the project activity" as required by the VCS.	The risk tool has been updated based on significant work by Clark University. The tool now has the potential for alternate risk approaches to be raised and adopted where they perform statistically better than the default approach.

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		• Localized observations of historical deforestation may indeed improve the technical accuracy of a risk map to predict near-term deforestation, however a baseline is not a projection of 'what will happen in the future' at a location, but rather what might plausibly happen in the absence of project activity.
		• Only approaches that maintain the independence of the risk map from project performance should be permitted:
		  ○ Use only explanatory factors that are not sensitive to project effectiveness.
		  ○ If factors like local deforestation and distance to forest edge are used as a predictor, only the modeled location of those factors in an alternative scenario that starts immediately prior to project initiation should be used within the PA and LB to project risk for the current validity period. This approach would likely require use of Markov	

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		chain, cellular automata, or similar technique. ○ There should be no restriction on the length of the historical period used to calibrate the risk model. Longer periods offer a better calibration period to assess the influence of explanatory factors that are not sensitive to project effectiveness.	
381	TerraCarbon LLC	<u>Determination of jurisdictional activity data baseline for unplanned deforestation (J-ADB-UD)</u> <u>Historic Reference Period</u> Although it may seem conservative to use a short historic reference period to derive activity data, research in land change modeling suggests that longer time intervals are needed to differentiate signal from noise. If a shorter historic period is desired to understand more recent trends in deforestation, it would be more advantageous to have additional time points to decipher these trends. If the concern is that the period of baseline validity is too long and trends may have changed, this can be resolved by shortening the validity period, without changing the historic reference period.	The definition of historical reference period (HRP) for Avoiding Unplanned Deforestation projects is set out in the *VCS Methodology Requirements* (HRP is defined in the methodology by referring to the *Methodology Requirements*). Its ten-year duration was consulted on within the last three years and Verra determined not to change it - longer periods are useful for identifying trends, as the commenter points out, but since we use a historical average, shorter periods are preferred. Ten years was determined to be the sweet spot. The historical reference period will not be affected by the introduction of this methodology since it is a VCS Program-level requirement (and out of the scope of this methodology consultation).

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382	TerraCarbon LLC	Determination of jurisdictional activity data baseline for unplanned deforestation (J-ADB-UD) Activity data development - Timeline for generation We are concerned that the effort and timeline for Verra to develop activity data, jurisdictional forest benchmark maps (that align with such activity data and incorporate project specific forest carbon benchmark maps), and risk maps to allocate project-level baselines will be significant. Having developed national scale forest benchmark maps, we suggest that this work and ensuring their alignment with activity data will be time consuming, especially in countries with lower density forest definitions (i.e., 10% canopy cover). We are concerned that requiring each of these steps to be developed by a third party contracted by Verra and to be validated will create severe delays in project development that will impact financing that is needed to protect areas under immediate threat. In advance of Verra-directed development of activity data, which will take time to operationalize, both from a technical and administrative standpoint, we suggest that Verra permit development of activity data by other entities. Such efforts could be designed to meet Verra's expectations for	

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		independence and objectivity by setting minimum requirements for Verra approval, e.g., requirements related to stakeholder consultation, no objection from relevant government authorities, demonstration of independence of technical service providers (e.g. not under direct contract with a project proponent), and of course all of the technical safeguards established in the methodology, independently validated by a third party VVB.	
383	TerraCarbon LLC	Determination of jurisdictional activity data baseline for unplanned deforestation (J-ADB-UD) Activity data development - Development of Activity Data Although sample-based data collection approaches have some advantages over algorithm-based wall-to-wall classification, visual image interpretation is often challenging. In many countries the line between forest and non-forest is difficult to parse out, so much so that even three interpreters may struggle to agree. Low density forest types are also difficult for computer algorithms to differentiate, but the benefit of wall-to-wall mapping is that consistent algorithms, not humans, are able to make these determinations. Replacement of wall-to-wall mapping with sampling does not necessarily increase the accuracy of activity data values, and	The historical reference period will not be affected by the introduction of this methodology since it is a VCS Program-level requirement (and out of the scope of this methodology consultation).

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		should be an option not a requirement. Further, we question the ability of visual interpreters to distinguish between planned and unplanned deforestation. We have developed land cover change maps in many countries and think it is untenable to rely on visual cues to distinguish the legality or motivation of deforestation. National contexts vary greatly and without an intimate understanding of this, the patterns of deforestation alone are not likely to derive causation.	
384	TerraCarbon LLC	Determination of jurisdictional activity data baseline for unplanned deforestation (J-ADB-UD) Activity data development - Activity Data spatial scale / region Activity Data to derive baselines should not be sourced from areas where carbon projects are undertaken. Since activity data is used to estimate deforestation in a without project scenario, projects, and possibly areas with other effective conservation approaches should be excluded. If these areas are not excluded, then carbon finance could be quickly cut-off if a project intervention is successful even while the risk of deforestation without the project intervention remains high.	This decision is necessarily a balance, and results could end up as conservative or unconservative depending on specific context of each jurisdiction. There could be projects in the future that cover almost the entire forested extent in a jurisdiction and so removal of project areas would remove any potential activity data, or would require treatment of the area outside projects as a reference region that produces a deforestation rate as a %/y-1 that is scaled to the PA. It is rare that deforestation is 100% halted in any given area and so in contrast to the suggestion from the commenter, including project areas will be include areas of deforestation which will foster risk mapping and prolonged project potential. The option of producing AD only from non-project areas and then scaling it to PAs was also considered, but was not adopted at this time as it has the potential to be non-conservative. After prolonged consideration of the balance of costs and benefits it was determined project areas should not be excluded.

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385	TerraCarbon LLC	Determination of jurisdictional activity data baseline for unplanned deforestation (J-ADB-UD) Planned Deforestation The scope of the module is limited to unplanned deforestation only. We would suggest that Verra gives further consideration to expanding the module to also include planned deforestation. We are concerned that planned deforestation cannot be distinguished and excluded from the Activity Data, and are reminded that Verra allows jurisdictions to develop programs without distinguishing between planned and unplanned deforestation. Using more complex risk mapping variables (consider the inclusion of land tenure or other land planning variables) could support the separation of these two deforestation classes and allocate risk accordingly (simple distance to deforestation models will not), and provide a more consistent and complete framework for all REDD projects	Thoroughly distinguishing between planned and unplanned deforestation events is challenging. To achieve such distinction, to the extent possible, in the process of constructing jurisdictional AD and forest cover maps, numerous recommendations and provisions have been included in the latest version of module *VMD0055* particularly in Step 1 of *VMD0055* Section A1.4 Compilation and Allocation of Unplanned Deforestation AD (e.g., Table 11 in A1.4.1. contains rules for excluding large scale planned deforestation and SOPs must be developed that detail the procedures for identifying and discriminating planned deforestation from unplanned deforestation). It would lead to inaccurate accounting of both planned and unplanned deforestation to conflate to two forms of deforestation. Differentiation has moved from the legal basis for deforestation to magnitude of deforestation paired with the form and drivers of deforestation to allow such deforestation to be identified and excluded from AUD accounting.
386	Shell	General comments • We encourage Verra to ensure that both the methodology application guide and the different modules are user friendly and understandable to all. These modules will be used by a cross-section of people from both technical and less technical backgrounds, with many not being native English speakers. We believe that as	Since the commented version, the structure of the methodology has been simplified to avoid unnecessary complexity while maintaining integrity and transparence. All modules have been combined within a single AUD module that only contains the processes and requirements for the projects. Requirements and rules applicable to jurisdictional activity data production are combined within the appendixes. An additional appendix has been added to clarify the AD Baseline allocation

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		currently written, the modules create a barrier, and are concerned that the barrier might be in particular for those who aren't yet familiar with carbon project development, but would like to explore the potential of their carbon projects, around the world.	process and how it impacts the usual project VCS registration and verification process.
387	Shell	General comments • We currently find the documents to be inaccessible for a few reasons: o The writing in the documents is overly complex. Sentences are long, with several sub sentences, making it hard in particular for non-native English speakers to understand them. We encourage Verra to edit these documents into a language that is understandable for non-native speakers, and those without deep technical knowledge. o While the documents relate to each other and are referenced, there are no hyperlinks to jump between the documents. Including hyperlinks would take one hurdle away from quickly accessing what's required. o While we understand the utility of acronyms, in this case, they make the documents hard to read because there are so many of them. Also, as they are unfamiliar, the reader can easily forget what an acronym stands for, and get lost in a sentence. We encourage Verra not to use acronyms. o We have pointed out a few instances in	Several efforts have been made to improve and simplify the methodology, including improving the language clarity. An editor has reviewed the methodology to improve the language and ensure consistency throughout the documents. Verra has also addressed the findings related to acronyms.

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		which the language in the document is confusing or potentially wrong, and encourage Verra to correct these.	
388	Shell	General comments • We also encourage Verra to specify who would pay for the third-party services, and, if it is project developers, how those that don't have access to capital can be supported, to level the playing field.	Fee structure is yet to be determined. Verra is sensitive to financial considerations of projects and will work to ensure that costs are dispersed equitably per jurisdiction and in a way that does not burden projects. This will be published (in summary or in full) at the time the methodology is released.
389	Shell	Avoiding unplanned deforestation (AUD) methodology application guide General Comments • Will this document be published as a methodological tool, or a new VCS program document? The first section makes it seem as though it will be a methodolological tool, but the ramainder of the document is structured more as a procedural programmatic tool. Could you clarify this?	Most of the general comments on the Meth Application Guide are null since we've combined the modules.
390	Shell	Avoiding unplanned deforestation (AUD) methodology application guide General Comments • As part of the process of finalizing any new requirements, Verra should consider developing sample versions of the various reports and data that will be developed. It is very difficult to envision how all these pieces will come together without a concrete and substantive example of what is expected.	We intend to have templates available for these documents available within months of the methodology's publication. The first validated projects will serve as an illustration. We will keep in mind that some kind of guidance would be helpful to project proponents.

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391	Shell	Avoiding unplanned deforestation (AUD) methodology application guide General Comments • Could you add hyperlinks to the other modules, when referring to them, for ease of use?	All sources are hyperlinked in the current version of the methodology and module.
392	Shell	Avoiding unplanned deforestation (AUD) methodology application guide Detailed comments • Page 5 - Summary Description: We feel that the summary description lacks detail. It doesn't include a clear purpose of the document, nor its intended use. We would encourage Verra to provide more context and background here, to ensure that readers/users have a clear understanding of the context under which the document must be followed. • Page 5 - Definitions: We encourage Verra to include the most relevant definitions here, for ease of use/reference and to make the document more user-friendly.	Most of the general comments on the Meth Application Guide are null since we've combined the modules. Verra will pay for the data service providers; this will be subsidized by a new project proponent fee. Verra's Conflict of Interest Policy requires contractors to disclose all relationships, positions, or circumstances that they believe could result in a conflict of interest or the appearance thereof. *VMD0055* Appendix 3 now sets out what information must be submitted as part of the Jurisdictional AD Request Form. As long as AD is available to be allocated, requests will be fielded in the order they are received. See response to comment #260 for information on start dates and adopting the jurisdictional baseline. Data service providers will develop risk maps. They will be assessed by independent experts. The new version of the methodology is much more standardized. More clarity and details have been provided on the utilisation of the methodology, as well as definitions when needed (i.e., when the definitions are not already in the VCS Program Definitions document).
393	Shell	Avoiding unplanned deforestation (AUD) methodology application guide	1) Projects will not have a chance to appeal because the integrity of the accounting at a

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		Detailed comments • Page 6 - Procedures: o Do project proponents have a right to appeal to the allocated activity data and risk map? If not, why not? o Who pays for the third-party service providers? o Is there a Conflict of Interest Policy that has to be adhered to by third party service providers (and others)? If so, could you include a link to it? If not, we strongly encourage Verra to create this.	jurisdictional level depends on consistent treatment of all areas. Appeals would lead to exceptions that undermine this overall integrity. 2) The COI policy is already available online at https://verra.org/methodologies/redd-methodology/ - See the Note under the activity data availability table.
394	Shell	Avoiding unplanned deforestation (AUD) methodology application guide Detailed comments • Page 7 - Submission of Jurisdictional Activity Data Baseline Allocation Request: o We did not see this template available as part of the consultation. It would be useful to have a sample template available to better understand the information that must be provided as part of this process. o Verra should consider what process it will follow in cases where multiple submissions are received for the same jurisdiction within a short time frame. We believe that there might be an incentive for project developers to be first in line for their submissions to be reviewed - what is the process of selecting submissions?	• We intend to have templates available for these documents available within months of the methodology's publication. Appendix 3 now sets out what information must be submitted as part of the Jurisdictional AD Request Form. • As long as AD is available to be allocated, requests will be fielded in the order they are received. See response to comment #260 for information on start dates and adopting the jurisdictional baseline. Data service providers will develop risk maps. They will be assessed by independent experts.
395	Shell	Avoiding unplanned deforestation (AUD) methodology application guide	See response to comment #260 for information on start

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		Detailed comments • Page 8 - Production of Jurisdictional Activity Data Baseline: What would happen if there are a number of projects in the same country, in the same jurisdiction, but with different start dates? Would that mean that Verra produces X individual activity data sets, one per projects?	dates and adopting the jurisdictional baseline.
396	Shell	Avoiding unplanned deforestation (AUD) methodology application guide Detailed comments • Page 8 - Development of the Jurisdictional Risk Map: o Could you confirm whether Verra produces the jurisdictional risk maps, or a service provider? If this is Verra, does Verra have the capability and capacity to do this on a large scale? o We couldn't find any information on the process and criteria that VVBs will use to validate the AD and risk map. We believe that it is important for stakeholders to be aware of these elements in order to provide comment on that key part of the process.	DSPs are producing jurisdictional data on behalf of Verra (i.e., DSPs are contracted by Verra to produce the data). Once the data are made available and assessed by independent experts, Verra will allocate them.
397	Shell	Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-UD-AS) General comments • The calculation of base maps to quantify GU leakage is demanding and puts carbon project developers in the situation to incur	Data service providers will conduct the outside the leakage belt analysis (*VMD0055* Appendix 2), so this should not but burden on the project proponent or result in more than one map for a jurisdiction and it should be doable over an entire country.

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		costs that will generate products and that other projects will be able to use since the datasets will be public. **Proposed Change:** We would recommend that Verra considers who covers this cost, and (if it is the project developer) whether they should be recieving funds from other who would like to access their datasets.	
398	Shell	Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-UD-AS) General comments • For countries without extensive environmental monitoring, the proposed approach can create a source of fragmentation of the information since two different projects can calculate GU-required maps differently. Could you elaborate on how you would reconcile this?	The risk of fragmentation has been addressed in the new version of the methodology. The approach to account for geographically unconstrained has been simplified. All projects in the same jurisdiction will be provided the same information by Verra (information that will be produced by the DSP, as per *VMD0055* Appendix 2). The projects must complete information with local measurements of the proportion of inhabitants who immigrate in the last five ~~5~~ years.
399	Shell	Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-UD-AS) General comments • It is unclear how the proposed approach is applicable in highly biodiverse countries. National minimum thresholds for feasible agricultural practices may be useless when biome conditions vary significantly. Could you provide more guidance on this?	The approach to account for geographically unconstrained has been simplified. All projects in the same jurisdiction will be provided the same information by Verra (information that will be produced by the DSP, as per *VMD0055* Appendix 2). When producing the information, the DSP will take into consideration all biomes.

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400	Shell	Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-UD-AS) General comments • The variables used to model GU potential available land are: Arable land; accessibility; and protection status. Unless the deforesation impact beyond the leakage belt (LB) from GU agents is capped, one can always find enough arable, unprotected, accessible land within a country that has suffered from deforestation. **Proposed Change:** We would suggest that Verra changes this such that if a proponent shows that deforestation in areas bey ond the leakage belt cannot be attributed to the project area, then that deforestation doesn't have to be taken into account.	We have not adopted the commenter's suggestion around eliminating the need for a project to take into account deforestation outside the leakage belt on the grounds that it would be difficult for a project proponent to demonstrate that deforestation beyond the leakage belt could not be attributed to their project area.
401	Shell	Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-UD-AS) General comments • Leakage is considered, in general, to be driven by agriculture. This LK module does not reflect approaches taking into account other activities that can be a source of leakage such as mining. We would suggest that this is expanded to include other activities, in particular mining.	The leakage assessment approach is agnostic with regard to the driver of the loss of forest cover. In the leakage belt all losses of forest cover that exceed the baseline allocation will be accounted as leakage caused by the project with emission factors applied according to forest stratification. For leakage by mobile agent then the baseline agent of deforestation could be someone practicing mining just as easily as it could be someone practicing agriculture. A sampling approach is required to calculate the immigrant proportion PropMIG (formerly PropIMM) and this proportion is assumed to leak (equally true for mining and agriculture as a baseline driver).

General Comments			
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402	Shell	Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-UD-AS) General comments • The proposed approach is more complex, and it would be helpful to have visual explanations for each of the options, i.e. land aggregation, GU identification of lands, etc. (similar to what Verra did for the VCS JNR scenarios 1, 2 and 3).	The approach to estimate leakage has been updated and simplified since the version that was commented on. The new version address the need for visual explanation of the different approaches because there are now only two approaches, both applicable to all projects: one to assess leakages of activities that are geographically constrained and one to estimate the risk of displacement of activities that are geographically not constrained.
403	Shell	Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-UD-AS) Detailed comments: • Page 6 - Spatial Boundaries: The sentence "As leakage belts for an AUD Project Area shall not intersect the Leakage Belts or Project Areas of other AUD projects" is hard to interpret. Could you simplify it?	The language, while still complex, is simpler, with fewer acronyms.
404	Shell	Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-UD-AS) Detailed comments: • Page 6 - Spatial Boundaries: The sentence "Wherever two or more leakage belts from different projects intersect, the area of overlap shall be subdivided and allocated among leakage belts such that: [...] the distance between each subdivision and the associated PAs are minimized." is	The provisions for overlapping leakage belts have been adjusted and clarified in the new version fo the methodlogy. The project LB will be delineated by Verra based on the most recent jurisdictional FCBM. PPs are resopnsible to exclude from their LB existing project areas. It is also clarified that leakage emissions associated with other overlapping VCS REDD project LB(s) may be omitted by the project where: • An LB agreement is signed between the project proponents that clearly defines the location of

General Comments			
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		unclear. Does it refer to the fact that a given LB area must be as close as possible to its respective PA? Or does it refer to a different concept? This bullet point should perhaps be reformulated for higher clarity.	the boundaries of the different LB areas overlapping with UDef LB, as well as the related monitoring responsibilities; and • The other VCS REDD project has submitted a verification report in the last five years. Where the other VCS REDD project ends or fails to present a verification report for more than five consecutive years, the excluded areas and discounted AD are reintroduced to UDef LB. The omission only applies to the UDef LB portions that will be monitored by the other project, as per the LB agreement. When leakage emissions are omitted, the project must discount the corresponding allocated Baseline AD. The project description must clearly describe the excluded areas and the related discounting calculations. Post-validation changes must be described and assessed by the VVB as project description deviations.
405	Shell	Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-UD-AS) Detailed comments: • Page 6 - Spatial Boundaries: "The current map of all PAs and LBs for a jurisdiction should be continuously updated and made available publicly available through the Verra Registry". It is unclear from this sentence who is responsible for updating the jurisdictional maps.	The sentence referred to has been removed from the new verison of the methodology. The exclusion of axisting VCS AFOLU projects from the LB is the PP's responsibility (and the VVB's responsibility to audit). The Verra Registry can be used to identify and upload KML files for other project areas. Verra is working on a tool to facilitate project proponents' ability to identify of surrounding project areas and upload their KML file (this tool is a function of the Project Hub and totally unassociated with this methodology).
406	Shell	Estimation of emissions from activity shifting for avoided unplanned	*VMD0055* Section 5.3.4.3 has been changed to read " For example, where deforestation occurs in the UDef LB

General Comments			
#	Organization	Comment	Developer's Response
		deforestation (LK-UD-AS) Detailed comments: • Page 8 - Other deforestation and degradation emissions within the leakage belt during the monitoring period: For the following sentence: ""For example, where deforestation occurs within the AUD Leakage Belt and fire is used as a means of forest clearance, the non-CO2 emissions may be significant"", we suggest the following addition for clarity: ""fire is used as a means of forest clearance and these emissions are not already considered in the baseline scenario [...]"""	and fire is used as a means of forest clearance, the non-CO2 emissions may be significant."
407	Shell	Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-UD-AS) Detailed comments: • Page 8 - Other deforestation and degradation emissions within the leakage belt during the monitoring period: "EFC,i,t è Emission from fossil fuel combustion in stratum i within the AUD Leakage Belt in year t of the Baseline; t CO2-e". Isn't this mixing two different concepts i.e., GHG emissions from the LB vs PA? Shouldn't this be in the PA? Since the calculation is on a per hectare basis, we don1t think it makes sense to monitor the fossil fuel use in the LB. Rather, one should assume the same average as observed in the PA	Deforestation comes with other emissions than the biomass loss, including biomass burning and fossil fuel. Such emissions are accounted for in the baseline and must be accounted for in the LB. Not accounting for it would lead to underestimating the emissions due to leakage.

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		baseline. Is that correct?	
408	Shell	Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-UD-AS) Detailed comments: • Page 10 - Emissions from Activity Shifting due to displacement: "Dertime if Activity Shifting analysis is required". What determines whether the analysis is needed? Is there any guidance from VERRA about it including somewhere else in the methodology? If so, please cross-reference and make clear.	The phrase "Determine if AS analysis is needed" has been removed.
409	Shell	Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-UD-AS) Detailed comments: • Page 11 - Estimation of the proportion of immigrant and resident land cover transition agents in the baseline: "Randomly sample households [...] The minimum sample size of respondents shall be at least 1100 households2,3. If the total number of households is less than 1100, then the sample size must be at least 80% of the households.". This approach can become a barrier for the financial feasibility of projects and we would suggest to Verra to consider other conservative, but more streamlined	The minimum number of samples has been reduced to 200 households or 80% of the households where the number of households is less than 250. This sampling is reasonable for a REDD project that must spent sufficient resources to understand and assess the drivers of deforestation surrounding the PA. While this effort sounds burdensome to PPs, the data can be collected as part of other surveys (e.g., PRA) to be implemented to identify the agents and drivers which are key to the long-term success of a project.

General Comments			
#	Organization	Comment	Developer's Response
		approaches to this.	
410	Shell	Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-UD-AS) Detailed comments: • Page 11 - Estimation of the proportion of immigrant and resident land cover transition agents in the baseline: "Randomly sample households [...] The minimum sample size of respondents shall be at least 1100 households2,3. If the total number of households is less than 1100, then the sample size must be at least 80% of the households.". This approach can become a barrier for the financial feasabilty of projects and we would suggest to Verra to consider ohter conservative, but more streamlined approaches to this.	The proportion of households to be sampled has been changed; hopefully the commenter agrees that it is less burdensome as revised (*VMD0055* Section 5.3.4~~3~~.4).
411	Shell	Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-UD-AS) Detailed comments: • Page 12 - Determine if the relative rate of migration to urban versus rural areas: "PROPurban should be calcualted using empirical obervations." Could you include which parameters will be used to determine the validity of the PROPUrban calculations, or cross-reference?	PropUrban has been removed.

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412	Shell	Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-UD-AS) Detailed comments: • Page 12 - Delineation of area of land available for activity shifting leakage outside of PA and LB: "1} Suitability of land for agriculture[...] 2} Physically accessibility[...] 3} Relative protection status. Each of these three factors must be developed as a map that covers the entire country containing the jurisdiction". Is this practical for countries covering big extensions, for example Brazil?	The data referred to in the comment will be collected by the DSP at the scale of a jurisdiction. Big countries such as Brazil are divided into smaller jurisdiction (in the Brazilian case, States)
413	Shell	Estimation of emissions from activity shifting for avoided unplanned deforestation (LK-UD-AS) Detailed comments: •Page 13 - Potentially Arable Land: "A lower limit of mean annual precipitation be established for rainfed agriculture in the country[...]". Again, project proponents operating in highly biodiverse countries will struggle to have their selected values validated. For example, the lower limit on annual precipitation won't be the same in dry forest of the Colombian Caribbean and in the Orinoco basin. Would it make more sense to work through biomes within countries?	The production of jurisdictional data for leakages outside of the LB is now the responsibility of the DSP. The risk mentioned in the comment is no longer relevant.
414	Shell	Estimation of emissions from activity	Adding differentiation by different commodities would

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		shifting for avoided unplanned deforestation (LK-UD-AS) Detailed comments: • Page 14 Physical Accessibility: "All areas mapped as requiring more than two hours to access on foot from travel networks shall be considered inaccessible [...]". This approach seems valid for edible goods and other "normal" i.e., legal, goods. However, coca growers for example walk, on average, more than 2 hours to deliver their cargo. **Proposed Change:** Hence, we would suggest that Verra creates scenarios to factor in different commodities, orography, social aspects, etc., to account for these differences.	add unnecessary complexity, but we will consider it in the future and would welcome the commenter to provide suitable language.
415	Shell	Determination of jurisdictional activity data baseline For unplanned deforestation (J-ADB-UD) General comments • This module is fully under Verra and Verra's providers' scope, so Proponents can only use these requirements For informational purposes, but not For any use. This is clear and makes sense in the overall structure of the modules, but in section 5.3.3 it is noted that Proponents will get the opportunity to provide project FCBMs. We suggest making clear upfront or in a table what the role/responsibility/input from Proponents is vs Verra's provider.	The structure of the *VMD0055* now clarifies the responsibilities. In the core document are provided all requirements and processes to be followed by the PP. Appendicies 1 and 2 are all requirements and processes for the DSP. In addition, Appendix 4 clarifies what data (including the FCBM*p) can be provided by the PP.*

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416	Shell	Determination of jurisdictional activity data baseline For unplanned deforestation {J-ADB-UD) General comments • The current approach to historical avoided deforestation development includes data from existing active VCS projects themselves, as well as within non-project areas. This means that the activity data reference level is no longer independent of the performance of existing VCS projects taking place within the jurisdiction. However, VCS states that a Baseline Scenario is "activities and GHG emissions that would occur in the absence of the project activity." We recommend that historical deforestation only be assessed within areas of the jurisdiction not included within any VCS registered and active project areas, and then the AD scaled up to consider the proportion of at-risk forest already under protection.	Verra has extensively considered this question and decided to include projects in the jurisdictional sampling frame. The allocation approach differes from the reference region approach. With this new approach, the baseline emissions against which the project can assess its performance, are allocated based on the historical deforestation observed in a jurisdiction and on the level of risks of specific areas. At the stage of activity data development, including projects in the sampling frame actually results in higher allocation to projects, because more deforestation will be calculated within the jurisdiction.
417	Shell	Determination of jurisdictional activity data baseline For unplanned deforestation {J-ADB-UD) General comments • The Jurisdictional baseline only looks at deforeatation. How will degradation be taken into account?	Unplanned forest degradation will be taken into account in a supplementary module under *VM0048* or - for planned degradation - through complementary IFM methodologies.
418	Shell	Determination of jurisdictional activity data baseline For unplanned deforestation {J-ADB-UD) General comments • It is unclear whether the third party who	J-ADB-UD: *VMD0055* Appendix 4 now sets out clearly what supplemental materials stakeholders may provide to data service providers/Verra. The assessment of historical deforestation in *VMD0055*

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		will determine the historical avoided deforestation and ultimately create the jurisdictional FCBM must prove their experience and competence in order to undertake this work. Will Verra or an independent body assess the proposals before the work is undertaken, in addition to a validation afterwards? Will several contractors be able to submit proposals for undertaking the work required in the J-ADB-U D? i.e. will Verra be able to select the most competent contractor for a specific Jurisdiction, especially since some of the mapping work requires a good knowledge of the land cover and land use processes on the ground (e.g. distinguishing between planned and unplanned deforestation)?	Appendix 1 will include VCS projects since in this methodology there are no longer reference regions. Unplanned forest degradation will be taken into account in a supplementary module under *VM0048* or - for planned degradation - through complementary IFM methodologies. Requirements for data service providers are set out in the rolling expression of interest (https://verra.org/wp-content/uploads/EOI-Allocation-Data-service-providers.pdf) and periodic requests for proposals (e.g., https://verra.org/wp-content/uploads/2023/04/RFP-Dvpt-of-Jurisdictional-AD-and-FCBMs-for-VCS-AUDef-Projects-17-Apr-2023.pdf) Verra uses quality (80%) and cost-based (20%) selection of the DSPs. The following criteria have been used to select DSPs: 1) Understanding and experience with VCS and REDD meth. 2) Plans for engaging with governments and stakeholders. 3) Technical approach for AD and FCBM development and OLB mapping. 4) Work plan and timing for final delivery. 5) Organization's qualification/viability.
419	Shell	Determination of jurisdictional activity data baseline For unplanned deforestation {J-ADB-UD) Detailed comments • Page 4 - Definitions: The definition of forest is unclear. Firstly, footnote 2 states	The definition of forest has been revised and moved to *VM0048*.

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		that "... shall qualify as forest for a minimum of 10 years before the project start date". The definition on page 4 currently reads that a forest has to be at least 10 years old at the beginning of the historical reference period - which should be 16 years before project start, contradicting the footnote. This is also how "forest" seems to be referred to in the rest of the document, e.g. on page 13, Step 1 it is stated: "AD Categories and associated LCTs are identified through the comparison of land cover/land use class from the beginning to the end of the Historical Reference Period, taking into consideration that land classified as "forest" must verifiably comply with the definition of "forest" {i.e., meet the thresholds of the definition of "forest" for at least the 10 previous consecutive years prior to the date observe d.)". **Proposed Change:** We suggest that Verra makes the forest definition consistent throughout the document.	
420	Shell	Determination of jurisdictional activity data baseline For unplanned deforestation {J-ADB-UD) Detailed comments • Page 4 - Definitions: The deforestation definition indicates that ' If the country definition is not in line with VCS, elements of the country definition that do conform	The definition of deforestation has been removed completely.

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		with VCS shall be adopted, while other elements shall be modified to conform to VCS.' It is unclear what happens in case the data cannot be reclassified to conform to VCS or if data is not available. And can this result in an FCBM yielding different results than a future FREL that will use the country's definition for deforestation? If so, how should this be reconciled?	
421	Shell	Determination of jurisdictional activity data baseline For unplanned deforestation {J-ADB-UD) Detailed comments • Page 7 - Applicability conditions: The module is applicable only for jurisdictions that don't have a JNR program or JNR compliant FREL. What happens if a jurisdiction later establishes a 'compliant' FREL? Will this overrule the allocation during the JBVP? • Page 7 onwards - Trend over the years: we recognize the approach of historical average is chosen. We suggest clarifying why trends {upward/downward} are/aren't allowed. **Proposed Change:** We would suggest that Verra provides provisions for this scenario to give proponents clarity and certainty during the JBVP.	The applicability condition referring to JNR has been removed and reference added to say that whatever information the *VMD0055* sets out that the project should get from Verra it should get from the jurisdictional proponent in a JNR jurisdiction. Trends may be added in the future, but for simplicity have not been added to the initial version of this module. It's not the place of the methodology to set out why they are excluded at present.
422	Shell	Determination of jurisdictional activity data	When Verra decided the jurisdictional boundaries, all

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		baseline For unplanned deforestation {J-ADB-UD) Detailed comments • Page 9 - Geographic boundaries: In some cases, several options for jurisdictional geographic boundaries may be chosen, e.g. cases where a country> 2.5 mill ha and the 2nd level admin > 5 mill ha, a 3rd level admin area may be selected. However, it is also stated that "the national boundary may always be used" and that "Multiple contiguous subnational administrative Jurisdictions of the same level may be combined into a single Jurisdiction11• Who decides which geographic boundary is used for the jurisdictional baseline? Is that Verra or the third-party provider? Does the project developer have a say? This could have a big influence on their baseline, the cost and time needed for data generation. If several options for jurisdictional level/area are available to a project, and specifically in cases where the historical AD for the different jurisdictional levels varies greatly, we suggest that there should be clear rules for the jurisdictional level used. The jurisdictional level that best represents the physical and demographic conditions as well as land use history of the project area should be used. • Project developers should be able to argue for the use of a specific jurisdictional level, and this should be clearly documented with evidence of similarity	registered, listed and identified projects where considered, as well as existing other registries and initiatives (FCPF-CF, ART -TREEs, ISFL). Some informal discussions have been initiated with the project proponents and other stakeholders (e.g., World Bank) to define the relevant boundaries.

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		between their project and the jurisdictional level. Verra should be able to submit a counter argument. Clear rules should stipulate on what grounds the final decision shall be based.	
423	Shell	Determination of jurisdictional activity data baseline For unplanned deforestation {J-ADB-UD) Detailed comments • Page 12 - Section 5.5.1 Step 1 - Sampling Framer: " Lo cations of irrefutably identified and clearly bounded land cover transitions, such as stable bodies of water, infrequent large scale natural disturbances that caused deforestation, and large-scale infrastructure that caused deforestation, may be spatially delineated and excluded from the Jurisdictional sampling frame. For infrequent large-scale natural disturbances, the exclusion from the sampling frame is require d." Could you clarify this paragraph - first it says large scale natural disturbances may be excluded from the Jurisdictional sampling frame, and then it says infrequent large-scale natural disturbances have to be excluded. Footnote 6 is missing on the page - does this contain the information needed to distinguish between these 2 cases?	This is set out in *VMD0055* A1.4.1 Step 1 Jurisdictional Sampling Frame.
424	Shell	Determination of jurisdictional activity data baseline For unplanned deforestation {J-	1) There is no longer a requirement to assess land

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		ADB-UD) Detailed comments • Page 13 - Response design: We expect that the definitions of "forest" and "forest regrowth" {regrowth is classified as such in year 10 of the forest pixels appearing over time) and other LCT will be difficult to map definitively using the sample-based approach. "Evidence of intermediary land cover changes occurring between the Start Date and End Date of the Historical Reference Period should be used to inform the classification of a sample unit(...). For each sample unit where change is observed, the date of change shall be identified and recorded using the timeseries of imagery." This would require substantial manual visual interpretation of almost annual data covering the 6-year HRP, but also for an additional 10 years before the start of the HRP to definitively identify forest, forest loss and regrowth. Practically this will be challenging in many areas where cloud cover and haze make frequent optical data acquisitions hard to find. Additionally, historical VH satellite imagery was not consistently and repetitively acquired everywhere, and may therefore not be readily available for some areas where commercial data providers have not received orders in the past. Furthermore, our experience in Sub-Saharan Africa has shown that areas of dryland open {> 10% canopy cover} forests require consistent	cover prior to the start of the HRP. 2) Passage in *VMD0055* A1.4.1 Response Design clarified to "Where evidence exists of intermediary land cover changes occurring between the start date and end date of the HRP, such evidence should be used to inform the classification of a sample unit. Only one result may be identified per location per HRP." The passage suggests that where evidence exists, it should be used. It does not state what form that evidence is, or what years it must come from. There is no longer a requirement to assess land cover prior to the start of the HRP. 3) Verra understands the concerns around data availability. Data availability is expected to improve over time. The module allows a +/- 365 day window on imagery date in relation to the start and end dates of the HRP to allow a wider temporal window for sourcing good images. Verra is also instructing its DSPs to identify plots where imagery could not be collected, to inform a potential future approach to account for bias introduced by spatially heterogenous data availability. 4) The sample-based approach may be supplemented with wall to wall data in the following ways: a) The definition of the sampling strata b) Use of ancillary data to inform plot interpretation. 5) Requirement to record date is related to the collection date of individual images. It is required to appropriately calibrate AD to the effective (as

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		comparable HR {<IOm} optical data to be able to definitively distinguish sparse forest cover as such. It is hard to identify sparse forest on lower resolution {30 m} images that are available for earlier years. For the identification of "forest" (i.e. forest that has existed for 10 years} in areas where consistent HR optical images through time are not readily available, the sample-based approach may have to be augmented with wall-to-wall mapping using a combination of active and passive medium to high resolution satellite sensors. In such cases the third party provider should clearly map the data and methods used to overcome the technical difficulties. Furthermore, unless it is absolutely necessary to map or record the class forest regrowth for the historical AD, we suggest to scrap the requirement for adding a date.	opposed to nominal) sampled period.
425	Shell	Determination of jurisdictional activity data baseline For unplanned deforestation {J-ADB-UD) Detailed comments (numeration added by Verra for clarity of response) • Page 14 - Data Sources: It is not clear how LiDAR data can be used for sample data as it is unlikely that comparable LiDAR data will be available for the same locations at the start of the HRP, 6 years prior. Please expand with further guidance.	LiDAR is no longer mentioned in the module.
426	Shell	Determination of jurisdictional activity data baseline For unplanned deforestation {J-	*VMD0055* Step 1, Section A1.4.3 of Appendix 1 provides basic guidance and minimum requirements for the

General Comments			
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		ADB-UD) Detailed comments • Page 25 - Development of Jurisdictional Forest Cover Benchmark Maps: The guidance on the creation of the wall-to-wall FCBMs is quite vague and leaves space for different datasets and methods to be used. Although it is required to describe methods in the SOP, requirements on this are also quite vague: "Standard Operating Procedures {SOPs} shall be developed to describe the workflow for mapping. The SOPs should cover, at least, collection of input data, processing and accuracy assessment. The SOPs should include detailed guidance also on quality management. These SOPs shall be included as an appendix in the J-ADB-UD Description Report." We would suggest that there is a clearly defined set of minimum requirements on the statistically sound number of samples used and the resolution and quality of input satellite data used.	production of FCBM. These FCBM will be produced by the DSP, as part of their contract, they also have been provided guidance and minimum requirements.
427	Shell	Determination of jurisdictional activity data baseline For unplanned deforestation {J-ADB-UD) Detailed comments • Page 25 - Accuracy assessment of the FCBMj: The methodology does not seem to set a requirement for a minimum number of samples to be used for the accuracy assessment of the FCBMj - however this is stated for the FCBMp. We suggest that a rule or clear guidance on the number of	*VMD0055* Section A1.4.3 defines a minimum number of samples for the FCBMj accuracy assessment: "To assess the accuracy of the two main classes (area of deforestation over the HRP and area of forest at end of the HRP), a minimum of 100 sample observations should be made of the target and non-target classes (totaling a minimum of 200 observations per estimate). Observations should be spatially representative of the entire FCBM. A single observation may be used to inform

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		field samples to be used for accuracy assessment of the FCBMj is included in the methodology. Secondly, since it is the forest cover that is the most important aspect of the FCBM, we suggest that the minimum accuracy requirement should be related to the User's and producer's accuracy of the Forest class, rather than the minimum overall agreement.	both estimates."
428	Shell	Determination of jurisdictional activity data baseline For unplanned deforestation {J-ADB-UD) Detailed comments • Page 26 - Accuracy assessment of the FCBMj: The minimum number of samples to be used for assessing the accuracy of the FCBMp is specified as 300. We believe this requirement should be proportional to the size of the project rather than a fixed number. We suggest that a rule or clear guidance on the number of field samples to be used for the accuracy assessment of the FCBMp is included in the methodology. • Page 26 - 5.5.3 Step 1: "A coordinated sampling effort may be designed to both support AD development and accuracy assessment of FCBMp." Could you clarify whether you mean coordination between the project and the third party who created the FCBMj? Although this would make best use of the existing data at both parties, is this realistic on a practical level? Who will pay	1) Accuracy assessment of the jurisdictional FCBM (FCBMj) is the sole responsibility of the DSP. If projects have available FCBM (FCBMp) the DSP may integrate these FCBMp in the jurisdictional one, as per *VMD0055* A1.4.3. This will be done upfront (i.e., before AD baseline allocation) by the DSP and won't require the VVB assessment when projects are audited. 2) The passage (included in an earlier draft of *VMD0055* as in A1.4.3) related to coordinated sampling design has been removed, as it is confusing and does not describe any requirement.

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		for the third party's time? Who will coordinate these efforts?	
429	Shell	Determination of jurisdictional activity data baseline For unplanned deforestation {J-ADB-UD) Detailed comments • Page 27 - Delivery of data to project proponents: Do we interpret this section correctly, i.e. that project developers will be provided with the Jurisdictional FCBMs and the jurisdictional risk map for the entire jurisdiction? Will this be publicly accessible data or only delivered to the project developer who has paid for this service (or some other form of subscription?)	Project proponents will be provided with the activity data for their project area and leakage belt. Jurisdictional FCBMs and the jurisdictional risk map for the entire jurisdiction will available on the Verra website.
430	Shell	Typos/corrections • Page 9: "The boundaries of a Jurisdiction must not spatially overlap with any other Jurisdiction for which valid Jurisdictional activity data baseline exists module or with any registered JNR Jurisdictional FREL or program..." Remove the word "module"	This word has been removed.
431	Shell	Typos/corrections • Page 27: PA should be LB ADPA Lcr,p,;, Portion of the Jurisdictional Activity Data Baseline allocated to AUD [eakage Belt of project p, in Land Cover Transition class LCT , in risk class i, ha	This typo has been addressed.

General Comments			
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432	Shell	Methods for monitoring greenhouse gas emissions within the project boundary and leakage belt from unplanned deforestation (MON-AUD) • Page 4 - Development of land cover transition data: This section introduces a discount factor DFDef-Pa however, it is not clear how this factor is calculated. We believe that this is the same discount factor as DFDeiin the J-ADB-UD module. If so, could Verra align the abbreviations used and link to the J-ADB-UD module for the calculation.	There is no such discount factor in the new version of the meth. The only discount factor is related to uncertainty and clarified in *VMD0055* Section 5.3.12 of the meth.
433	Shell	Methods for monitoring greenhouse gas emissions within the project boundary and leakage belt from unplanned deforestation (MON-AUD) • Page 7 - Estimation of the annual emissions from carbon stock changes: This section states that "emissions from non-wetland soil and wood products are assumed to take place gradually over time at an annual rate of 1/20 of the stock change. However, it is unclear how this rate was established (e.g. best practice, or sourced from a reputable source).	For both soil and HWP the updated version of the module takes "decay" rates from the *Methodology Requirements*. These can be seen in *VMD0055* current equations 18 and 19 for the baseline and 34 and 35 for the monitoring period.
434	Shell	Conclusion We commend Verra for suggesting solutions and consulting with stakeholders on its new modules for avoided unplanned deforestation projects.	Thank you for providing this information to Verra.

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		It is evident that the modules set out to tighten current environmental integrity requirements while aligning with jurisdictional accounting. The allocation of the activity data and the proposals around risk mapping are examples of this.	
435	Shell	Conclusion However, we are concerned that some of the new requirements will put undue burden on project proponents. For example, it is currently unclear who will bear the costs of paying the external service providers. If this falls on project developers, some might struggle to meet this cost, in particular if they are based in large jurisdictions, which could make this significantly more expensive. Furthermore, some of the data requirements set out in the J-ADB-UD module would be difficult ii not impossible to achieve in some parts of the world, leaving project developers active in those regions at a distinct disadvantage.	Fee structure is yet to be determined. Verra is sensitive to financial considerations of projects and will work to ensure that costs are dispersed equitably per jurisdiction and in a way that does not burden projects. We expect projects will be able to meet Verra's data requirements without undue burden. However, if projects have concerns we will address them on a case-by-case basis.
436	Shell	Conclusion Finally, as laid out in the General Comments at the beginning of the document, we would strongly encourage Verra to edit all the documents for clarity of language, to make them as easily accessible as possible.	A technical editor reviewed *VM0048* and the *VMD0055*. Further clarity has been provided by merging all modules into a unique *VMD0055* one. The core text of the methodology and module only include the processes and requirements to be followed by the projects. All processes and requirements that must be applied by the DSP are now in separate *VMD0055* appendixes. Appendix 3 has been added to clarify how the interventions of different stakeholders will be organized,

General Comments			
#	Organization	Comment	Developer's Response
			how baseline AD will be allocated to projects and how it impacts the VCS registration and verification process.