

Methodology for Grazing in Vineyard Systems

Methodology Review-

R1 Review Round

CONTENT referenced by reviewer's comment <i>e.g. Section number + paste exact text</i>	REVIEWER'S COMMENT <i>Please paste the comment from the reviewer</i>	AUTHOR'S RESPONSE <i>Please describe how the comment was addressed and include new content in quotations</i>	Reviewer's Conclusion [PASSED/ REJECTED WITH COMMENTS]
<i>Rewards are calculated based on the practice, this is not an outcome-based methodology. greatly affect the extent to which environmental services are achieved.</i>	<i>The methodology should account for how well the practice(s) is implemented. There are many ways grazing can be done / implemented which can greatly affect the extent to which environmental services are achieved.</i>	<i>I made some modifications in the "Defining the practice" section to increase information related to the quality of the practice. I am trying to balance increasing the probability of a positive outcome while lowering the bar of entry and the level of effort required to verify a practice is taking place as expected.</i>	PASSED
<i>The intent of this methodology is to encourage adoption of regenerative agricultural practices, in this case sheep grazing, and collect data to improve our understanding of ecosystem health benefits from</i>	<i>After reading to section 1.2 I'm confused on the purpose of the purpose of the methodology. Is the purpose to encourage adoption and data collection, as stated here, or to develop a credit system based on implementing practices that are</i>	<i>The data collected by grazers will be minimal. They will be required to take photos (before and after, and I added an additional photo with sheep) and drive/walk the perimeter of the grazing area with a GNSS receiver to record grazing area boundaries. Additional data collection related to measuring environmental factors will be done by a 3rd party using the 15% set aside. This is described below.</i>	PASSED

these practices	<p>expected to increase ecosystem benefits, or all of the above? This should be clearly stated here.</p> <p>--</p> <p>Also</p> <p>--</p> <p>This is well understood however, I am not sure how feasible is to expect 'reliable' data collection from graziers. Perhaps it is a third party's (independent) role? In that case, I am not sure how much that may increase costs and project viability!</p> <p>-- Also</p> <p>--</p> <p>This is well understood however, I am not sure how feasible is to expect 'reliable' data collection from graziers. Perhaps it is a third party's (independent) role? In that case, I am not sure how much that may increase costs and project viability!</p>	<p><i>I tried to clarify that section. It now reads: The intent of this methodology is to encourage the adoption of regenerative agricultural practices that improve soil and ecosystem health, in this case, targeted sheep grazing, and collect data to improve our understanding of ecosystem health benefits from these practices.</i></p>	
Research and a long history of practice has shown that planting appropriate ground cover between rows of vines and introducing sheep grazing as a means to control vegetative growth results in	<p>There is a lot of claims here, some of which I agree with and some not. There is substantial research evidence (and a long history) of the benefits of living ground cover in vineyards (though the benefits of</p>	<p>I added a sentence to add a condition to the claims. The claims I mention are supported in the literature, but they are not supported for northern California, where we expect to have our initial text projects. The intent of Environmental Stewardship methodologies is to support practices that are expected to have a net</p>	PASSED

<p>many benefits such as restoring ecosystem functioning (de Faccio Carvalho et al. 2021) reducing pesticide, herbicide, and fuel use, decreasing mowing, and building soil organic carbon and soil fertility (Ryschawy et al. 2021, Schoof et al. 2021, Niles et al. 2017) as well as grape quality (Wilkes n.d.).</p>	<p>"planted" versus "resident" is not likely substantial). However, there is neither much research nor a long history of practice for integrated sheep grazing in vineyards. There is some interesting research on integrated crop-livestock (ICL) systems broadly, but most of this occurs in annual systems and with cattle grazing. That being said, I think most of the claims made here (i.e. "restoring ecosystem function," "reducing pesticide, herbicide, and fuel use," and "decreasing mowing") are supported. What is not yet well supported (by yet published peer-reviewed research) is "building organic carbon and soil fertility." These claims are currently being tested and are not supported by the referenced literature.</p> <p>--</p> <p>Also</p> <p>--</p> <p>I agree with the above comments here. I presume the author(s) will re-work this section to be more precise</p>	<p>positive impact on ecosystem function, at least compared to a business-as-usual approach. I try to clarify the difference between data collected to verify the practice vs. data collected to monitor environmental impacts. More information about the Environmental Stewardship initiative can be found here: https://docs.google.com/document/d/1UUCyjuRwWnbBRzBh1tpAVCk1P9XLsDiBRKrQIOL_H3Q/edit?usp=sharing.</p>	
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	<p>about what practices exactly are verified/supported/etc. Because I am not familiar with this emerging science nor with this effort to provide credits for practices, are the idea of the credits dependent upon the yet-unsupported claims made in this paragraph? i.e. are the credits contingent on increased soil organic carbon and soil fertility? If these claims are not yet supported in the peer-reviewed research, how are credits being sold already?</p> <p>--</p> <p>Also</p> <p>--</p> <p>I agree with the initial comment, but am dubious on "restoring ecosystem functioning" piece since it is not well defined. To what degree should an agricultural ecosystem be restored to claim that functioning has been restored. There is merit in improving or moving functionality in a more diverse and resilient direction, but restoration can imply a pre-agricultural natural</p>		
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	ecosystem, which is not feasible in a managed agricultural system.		
as well as grape quality	I understand that (some) grapes also thrive in what can be considered relatively "poor soils".	I deleted "as well as grape quality"	PASSED
1.2.1 History and other characteristics of individual projects	You might clarify in this title that you are talking about individual projects. You begin the previous section with a "Scope and Justification" for the methodology as a whole but then begin--if I'm understanding correctly--to talk about how individual projects function.	I edited the heading and moved it under section 1.2.	PASSED
The project boundary defines the area within which all grazing may take place over the duration of the project.	Many vineyards, I believe, have no vegetation directly underneath the vines, and thus little to no vegetation for sheep to consume. I presume you are not excluding this acreage from the final acreage calculations, but it might be worth clarifying this point.	Correct, we are not excluding non-vegetated areas under vines.	PASSED
The project boundary defines the area within which all	Will producers get credit for grazing vegetation adjacent to but not underneath the rows, for	I tried to clear that up in the text. At this time, credits are limited to grazing within the vineyard.	PASSED

grazing may take place over the duration of the project. Non-grazing areas can be included for convenience but the project proponent must provide documentation that the project has permission to graze throughout the entire project area.	<p>example in the areas along roads or fences at the vineyard? Is this what is meant by "non-grazing areas"?</p> <p>--</p> <p>Also</p> <p>--</p> <p>Need to define non-grazing areas and differentiate this from non-vineyard areas that can be grazed. Such non-vineyard areas are essential when grazing a vineyard as they serve as a place to "park" livestock when they can be in the vineyards for whatever reason.</p> <p>--</p> <p>Also</p> <p>--</p> <p>NGA are also necessary for loading/unloading, handling and for placing water tanks and other materials.</p>	<p>We realize non-grazing-areas are necessary to most grazers, but we are only crediting the managed grazing in vineyards.</p> <p>As for the NGA comment, I agree , but at this time those grazing in those areas does not result in credits. That will likely change in the future.</p>	
The project area can be fragmented into multiple parcels	Does the word "parcel" refer to a legal parcel of land or an identified land area / management unit within the project boundary? The two don't always overlap.	I changed "parcels" to "grazing areas"	PASSED
Project name, project start	Also parcel size (i.e. acreage)?	Parcel size will be determined from the digitized	PASSED

date, and a unique identifier for each parcel within the project boundary.	-- Also -- Perhaps it's fine/unnecessary to provide acreage. I imagine this can be (accruately) derived from the spatial files provided.	perimeter of the grazing area. Part of the protocol is for the grazers to digitize (usually using a GNSS receiver/phone) the temporary boundaries. The digitized files are less than ideal, and there will be errors, but we're trying to balance accuracy with practicality. The grazers are currently using ESRI Field Maps but we're working on getting an open source option.	
These grazing areas can be changed from year to year and must be submitted with the grazing data at the end of each grazing period.	Just so I'm understanding this correctly: you're imagining that a project boundary be, for example, the entire planted acreage of a vineyard. And then the grazing areas over the 3-5 years of the project may be different polygons within the project boundary? For exmaple, a vineyard may graze one block of grapes one year but not the next? If so, perhaps this distinction can be further emphasized.	That is correct. I tried to clarify in the text. "These grazing area shape and locations can be different from year to year so each year, the grazing area perimeters must be submitted with the grazing data at the end of each grazing period."	PASSED
All grazing areas will need the following attribute information -- Also -- Would initial soils data and	Also acreage grazed?	Acreage will be calculated from digitized grazing areas Part 2 response: Good question. We are not asking this of the grazers, but it could be part of the 3rd party data collection. We can change this in the future, but my concern is that the	PASSED

forage sward species be a desirable info to request?		shepherds might not have sufficient knowledge to collect species-level data easily.	
All project and grazing boundaries must be submitted as polygons using a common GIS data format such as ESRI Shapefile, GeoJSON, or Keyhole Markup Language. Each polygon needs to include relevant attribute data as noted above.	Is the expectation that producers are informed on how to manipulate GIS data, or will someone assist them? It may be unreasonable to assume that producers are equipped with enough information to produce GIS maps	Grazers have been trained and are currently using the ESRI Field Maps phone app for data entry and digitizing the grazing area perimeters. At this point, data cleaning and subsequent processing is done by the verifier (Regen Network). That will likely change in the future.	PASSED
GIS data format such as ESRI Shapefile	I would assume that it is unlikely that most livestock farmers would manage GIS or shp files. Some are familiar with GEarth .kmz files or similar.	Agreed. See my response tin the row above.	PASSED
The project duration defines the number of years the project proponent commits to continue this grazing practice.	Month, years. Note that some contracts may only last one grazing season	The project duration is based on crediting periods. For this methodology, a vineyard can have one crediting period per year. I changed the text to make the clear. "The project duration defines the number of crediting periods (years) the project proponent commits to continue this grazing practice. "	PASSED
The minimum acceptable number of years is three and the maximum is five	Is there a justification for choosing three years? Something in the literature? --	Part 1: This was a judgment call. Less than three years seems too short to realize benefits. Part 2:	PASSED

	<p>Also -- These time boundaries may need some room for flexibility for both sides, in case that grazing is not performed up to the desired standard.</p>	<p>The hope with the three-year minimum is that it might take a few tries to realize benefits. The maximum of five years isn't of concern since it is easy to create a follow-up project. Over time if the methodology proves to be solid we would likely change these thresholds.</p>	
<p>These requirements and constraints are intended to reduce the possibility of overgrazing</p>	<p>For this it is important to elaborate a "Custom Grazing Plan", specific for each project site and number of sheep or Animal Units</p>	<p>Good point. I added a requirement to add a custom grazing plan. "These requirements and constraints are intended to reduce the possibility of overgrazing and should be integrated into a custom grazing plan that must accompany the project plan."</p>	PASSED
<p>1.2.3.1 Grazing period, frequency and duration</p>	<p>This section defines "grazing period," but does not define "grazing frequency" nor "grazing duration." How many times are producers allowed to graze per season/year? Can they conduct more than one "grazing period" per year? If a grazing period is five months, then grazing multiple times may have significant additional benefit that could/should be associated with additional crediting. I'm having trouble understanding.</p>	<p>I tried to clarify that grazing for credits is limited to a single grazing event per year. That was based on interviews and other claims (mostly relevant to cattle grazing) that noted a long rest between grazing events is essential. If it is common and beneficial to include additional grazing events, this can be changed.</p>	PASSED

<p>Within a grazing period, credits will only be allocated for only one grazing event per grazing area to avoid overgrazing.</p>	<p>Related to an earlier point, there is nothing about multiple grazing events that will necessarily lead to overgrazing. In fact, multiple grazing periods during the winter growing season may be preferred, because that's when the within-row vegetation is growing. A graze in January and a subsequent re-graze (on the vegetation that has regrown since January) just before bud-break would be an entirely reasonable practice. Then, back to Kelsey's questions, would the producer get credit twice?</p> <p>--</p> <p>Also</p> <p>--</p> <p>I agree with the above points, and I'll add that this sentence insinuates that more than one grazing event per period is overgrazing, which is not correct. Effective vineyard grazing sometimes requires multiple grazing events during the winter and early-spring months. If only one grazing event is planned just prior to</p>	<p>These are all good questions. As noted above this was put in under the assumption that a long rest period between grazing events was necessary. That appears to be a misunderstanding on my part and needs to be addressed. The number of grazing event allowed in a five-month period is now two.</p>	<p>PASSED</p>
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	<p>bud break, there may be too much vegetation for livestock to consume, thus limiting the number of acres that can be effectively grazed, which can be counter-productive.</p> <p>Another concern: Would someone who does one fast grazing event in January when there is little vegetation receive equal credit as someone doing longer or more frequent grazing events that is more effectively controlling floor vegetation and cycling nutrients?</p>		
1.2.3.2 Herd density and grazing time per parcel	<p>My feeling is that this section will need more development. There are different grazing styles, each of which require different stocking densities and durations. Generally, the two polar opposite styles of grazing would be "extensive" and "intensive." At the very far extensive end of grazing style would be less sheep, more land, more duration. At the very far intensive end of grazing style would be more sheep, less land,</p>	<p>The bulk of this comment is addressed by requiring a simple grazing plan that specifies the density and rotation frequency.</p>	PASSED

	<p>less duration. The methodology does well to define density by a fixed unit of land (i.e. per acre). However, the main point I aim to drive home here is that, if either less (i.e. 20) or more (max of 225) sheep are used, then the methodology should speak more to grazing duration for both of those extremes. As described in this section - 20 sheep per acre (3-4 day rotation) - is an extremely low, almost negligible grazing density/duration. It is also almost impossible to compare to 225 sheep per acre (3-4 day rotation) in its outcomes. I understand the constraints of constructing a broadly applicable methodology, but this is too general for my personal preference. Perhaps taking the approach of creating categories (i.e. extensive grazing style and intensive grazing style). Then you could set-up more specific and distinct parameters while still being broad. It may be that consulting with grazing</p>		
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	<p>specialists will be required to develop this section.</p> <p>--</p> <p>Also</p> <p>--</p> <p>I'm fully in agreement with the above comment on this one. Perhaps an alternative can be considered in which there is an AUM target or minimum per acre. This is a more outcome-based approach that doesn't create unnecessary constraints and provides flexibility in applying different spatial and temporal grazing strategies.</p>		
we decided 20 sheep per acre (0.4 ha) should be a minimum.	<p>Out of interest, this would disqualify Adopter A1 from Ryschawy et al. from participating in this program. That adopter has 11 sheep for 4 acres.</p>	<p>The temporal and sheep density limits were removed. We now require a regenerative grazing plan so different grazing strategies can be used.</p>	PASSED
<p>In an effort to discourage overgrazing, grazing more than the upper limit will result in a reduction of the number of sheep grazed when calculating credits. The</p>	<p>It is good to disincentive overgrazing, but I don't understand how this formula is related to ecological realities? For example, if I graze 275 sheep (over the max limit) then</p>	<p>The temporal and sheep density limits were removed. We now require a regenerative grazing plan so different grazing strategies can be used.</p> <p>See comments in the row below for comments related to sward height.</p>	PASSED

<p>formula for calculating the number of sheep grazed in a specific grazing area for calculating credits if the maximum number is exceeded is:</p> <p>Adjusted # sheep grazed = maximum allowed - (# actually grazed - maximum allowed)</p>	<p>my "adjust # of sheep grazed" will be $225 - (275 - 225) = 175$ sheep. So, grazing 275 sheep is the ecological equivalent of grazing 175 sheep?</p> <p>Furthermore, benefits are not assigned based on the quantity of sheep grazed, correct? If so, then I don't understand the point of calculating this number in terms of penalizing overgrazing.</p> <p>--</p> <p>Also</p> <p>--</p> <p>I would tend to agree here. The simplest arrangement, I believe, would be to develop a post-graze above-ground biomass minimum requirement (see comment below). Regulating the actual number of sheep seems unnecessary and complicated, when really what you're worried about is just making sure that impact on the land is not too intense.</p> <p>--</p> <p>Also</p> <p>--</p> <p>Again, these are easily solved</p>		
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	<p>with a site specific grazing plan, where you can propose pre-grazing dry matter and /or height and dictate a post-grazing minimum height (e.g. ~3-4 in high).</p> <p>A grazing stick or pasture rule can be used to facilitate the calcs.</p> <p>That way, the allowable forage remains pretty much constant, and by accounting % forage efficiency, it can be a more predictable metric throughout the grazing season.</p>		
1.2.4 Reporting requirements	<p>I like the idea of also requiring an ecologically relevant measurement, that is also easy and accessible to acquire. You could request measurements of "sward height" before and after grazing at "3 distinct and randomly selected locations within the grazing parcel."</p> <p>Pre-graze and post-graze sward height is a solid measure for grazing pressure.</p> <p>--</p>	<p>We now require before and after grazing sward height measurements as well as a photo with a sward stick or other measurement device in the photo to document before/after conditions.</p> <p>For the last comment, currently, shepherds are using the ESRI ArcGIS Field Map app, but we are trying to develop an open source app to record grazing data.</p>	PASSED

	<p>Also</p> <p>--</p> <p>I also agree that an ecologically relevant measure here is critical; fundamentally, this is how you will protect against grazing events that are too intense. How you do that gets a little trickier. The "gold standard" method would be to clip the biomass remaining in a quadrat (1x1ft square), dry the sample, weigh, and convert into pounds/acre units. This is impractical in this context, however. "Sward height," or vegetation height, is typically used in other regions outside of California in rangeland contexts, may work in this application, but-in my opinion-has some challenges. After a grazing event, there will be significant trampling. I could imagine a scenario where veg height is measured at 2 inches, say, but this may actually just be tall vegetation which is knocked down. If the standard was "3 inches" (not saying this is the appropriate level), would this</p>		
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	<p>producer be penalized? Perhaps the verifier could review the photographs and use discretion in this example. Alternatively, the methodology could simply state in a qualitative sort of way that "adequate ground cover to protect against erosion should be left after grazing," and leave it at that. If the grazer consistently grazed too hard, the verifier could communicate that after reviewing photos and the grazer could adjust his or her future practices. Another issue with veg height is that there are no standard heights to use, I don't believe. This is perhaps a longer conversation that I'm happy to participate in at some later time.</p> <p>--</p> <p>Also</p> <p>--</p> <p>For this level of detail, I encourage to think about using an app like "PastureMap" which can record the grazing calculations, display the different paddocks within the grazing area, tag pictures, and</p>		
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	more.		
photographs should be framed	What kind of frame would you want, wood, aluminum or other? Sorry for being flip. Specify what is meant here and consider the use of this photo point monitoring guide (https://anrcatalog.ucanr.edu/Details.aspx?itemNo=8067) or something similar.	I deleted "frame" since that was misleading. We do not require frames like quadrats for the photos since it seems like additional work. Setting up a repeat photography study for each of these projects is a great idea but would be challenging to implement, keeping with the spirit of reducing the level of additional work required to follow the methodology.	PASSED
The photographs must have accurate timestamps and they must be accurately labeled so they can be easily matched to the correct grazing event and grazing area	I use an app, "Solocator," which time stamps images nicely.	Thanks - for now I think shepherds are using the ESRI ArcGIS Field Maps app to acquire photos but we want to be able to recommend alternatives.	PASSED
The report must include the project reference number, project proponent contact information, photographs with accurate time stamp and labels documenting each grazing event and grazing event data stored as attributes in a polygon GIS file as noted in section 1.2.1	Again, Pasture Map cellphone app can facilitate this process without the need for GIS savvy managers. I don't work for Pasture Map but have some familiarity with it.	We are working on providing lists of options for shepherds	PASSED
1.3 Verification of practices	Does the verifier conduct any	Field visits are not required for verification of the	PASSED

	farm visits to verify practices?	practice, but occasional audits are possible.	
does not agree with grazing records in a grazing report the project proponent will be notified	What does this mean exactly? That the verifier may question whether the numerical records submitted align with visual evidence from the photograph? Would you also like to request a third photograph of the grazing area, one where there is sheep in the photograph (during event) just to confirm that sheep grazed it?	The verifier will use a satellite-based verification system to either agree or disagree that a grazing event took place during the period recorded by the grazer. We're trying to keep the number of photos required to a minimum. For now, we are not verifying that grazing (vs mowing) took place, but that could be added in the future if it seems necessary.	PASSED
15% of the credit value	Why 15% and who has oversight of this set aside fund to ensure it is sufficient to cover data collection costs or not too much?	The Environmental Stewardship initiative suggests setting aside between 10% and 20%. The choice was subjective, with the intent of balancing money going to the land stewards and money going to knowledge generation. The split will be handled by the project proponent.	PASSED
These data will only be used to monitor the environment and will not directly impact the value of the credits generated from applying this methodology.	This could use clarification. While the value of the credit doesn't change, the amount of the credit going to the farm does change, correct?	I tried to clarify this. The amount going to the vineyard does not change. The thinking is that since expectations are that the practice will result in ecological benefits if those benefits are not realized the farmer should not be penalized but that experience should be used to improve our knowledge and reduce the chance of similar mistakes in the future. This now is: "These data will only be used to monitor the environment and will be used to improve our knowledge of the	PASSED

		relationship between this grazing practice and environmental outcomes. These data will not directly impact the value of the credits generated from applying this methodology.”	
specific data being collected should also be included	What sort of data will be collected? Where will it be stored? Will data be open source or shared with the grazer or vineyard owner?	This will vary from project to project, but in most cases, data and analytics will be managed by a 3rd party. I added a little to clarify. “ In most cases, data collected related to the practice will be collected by the shepherds and processed by the project verifier. Data collected to learn more about the relationship between this grazing practice and resulting environmental outcomes will be handled by a third-party such as an education institution or research organization. “	PASSED
All data collection plans will be reviewed by a group from the community that governs the data collection fund.	Who is the community? -- Also -- Who will be responsible for data management and analysis?	Data related to the practice will be managed by the verifier, and data collected for knowledge generation will be, in most cases, handled by a third party. I changed "community" to "organization". We envision creating communities around different methodologies that could be leveraged to support projects. This section was edited: “All data collection plans will be reviewed by a group from the organization or individual that governs the data collection fund. In the near term that organization or individual will likely be the project proponent but in the future the responsibility of managing data collection funds will likely be handled by community organizations such as decentralized	PASSED

		autonomous organizations.	
Examples of the types of data that can be collected for a project are: total organic soil carbon, microbial biomass, dissolved organic carbon, bulk density, and water holding capacity.	<p>Thank you for clarifying! Will the grazier be responsible for this data collection? Will he/she be trained for that? Will Regen Network provide tools for data collection?</p> <p>Some of these described data collection methods may result daunting and/or require high rigurocity and attention to details.</p>	I tried to respond to these questions above. Data collection related to the practice will be done by the shepherds. Data collection for knowledge generation will be done by a third party in most cases.	PASSED
to help project proponents find partner institutions for data collection and analysis services	Why will project proponents need data collection or analysis services? Are you imagining a producer may hire a consultant to collect graze area polygon data and photos?	I think this is addressed in my comments above. In our current trials shepherds digitize the grazing boundaries using a mobile app and other practice-focused data is collected by that same app. Data collected for knowledge generation will be done by a third party.	PASSED
all data will be licensed with an open access license and that all data will be hosted so that it is easily discoverable and accessible by other researchers	Is the project proponent expected to set up the open access license for the data or does the Regen Registry do this with agreement from the project proponent?	Licensing and data storage would be handled by the 3rd party data collector. I added text to make that clear. "Data storage and licensing will likely be handled by the organization in charge of data collection and analysis but in either case, this information should be included in the project document."	PASSED
Sheep-hours for each grazing event (one herd in one grazing	This method creates some ambiguity as different ages and	As noted in my comment below, we might be able to develop a correction factor that adjusts for	

area) will be calculated by multiplying the number of sheep in the grazing area	breeds of sheep will have very different sizes and capacities to consume forage. Does a lamb count as a sheep and is a flock of 100 large-frame Dorset ewes equal to 100 Barbados Black Belly ewes? Consider collecting some information about the species, breed and class of animals doing the grazing and develop an animal unit-hour system instead of sheep-hour system.	animal units and/or breeds. This is a good discussion to have.	
The total kilo-sheep-hours is calculated by adding all of the sheep hours from each grazing area and dividing that sum by 1000.	<p>Kilo-sheep * hour can perhaps be enhanced by considering adopting animal units (e.g.: one animal unit = 1000 lbs; one adult sheep = 0.2 animal unit).</p> <p>Also, it is not clear whether the project will pay based on higher or lower Kg sheep, as the formula implies that the higher stock density may increase KShs. This number can also increase if we increase the occupation period (number of hours), potentially causing overgrazing and defeating the ecological benefits of carbon</p>	Good points. For some of these issues, we are relying on the assumption that the rewards from the credits will not be great enough to encourage bad grazing behavior. We're trying to reduce incentives for gaming the system. Some of the equation issues you highlight might be addressable using a correction factor based on animal units. We might also be able to figure out a non-linear relationship that slightly penalizes grazing duration. My attitude is to trial a reasonable methodology soon rather than try to develop a perfect solution that would almost certainly need to be adjusted anyway. The contract grazer that we have been working with and after discussing with other grazing experts we are not incorporating a correction factor for the pilot since the sheep herds being grazed are	PASSED

	<p>sequestration.</p> <p>By observing the principles of rational grazing that can be included in a custom grazing plan, it can be established that the occupation can range between 1 and 3 days, where the greater benefits for the pasture and for the animals occur when the animals don't stay more than one day in each paddock or subdivision.</p> <p>According to the expressed above, if higher Kg Sheep hours mean higher credits then the methodology needs to be revised and modified at the risk that greater stay periods could damage pastures, soils and sheep performance.</p>	quite similar in composition. For future versions we will consider a correction factor that is simple to use.	
demand for grazers is high	I like that this is acknowledged and addressed in the incentive.	Thanks	PASSED
Wilkes J. (n.d.). Sheep in the Vines in Northern California. Available from https://www.thesheepsite.com/articles/68/sheep-in-the-vi	This link is no longer available	I removed the reference	PASSED

nes-in-northern-california/			