RESPONSE TO PUBLIC COMMENTS

A methodology for *Avoided Conversion of Grasslands and Shrublands to Crop Production* was developed by Ducks Unlimited, The Nature Conservancy, The Climate Trust, Environmental Defense Fund, and Terra Global Capital LLC., and submitted to ACR for approval through the public consultation and scientific peer review process.

The methodology was formally submitted to ACR on September 13, 2012. ACR conducted its standard internal methodology screening and the authors submitted revised drafts on October 5 and October 9.

The methodology was then posted for public comment from October 17 – November 16, 2012. Public comments and responses by the authors are given below.

Following public consultation, the methodology will be submitted to three peer reviewers, experts in the fields of grassland and shrubland soil science, GHGs from crop production and GHG offset methodologies, for a blind review. Peer review comments and responses are summarized in a separate document.

A. Methodology Description (Applicability Conditions)

	Comment	Commenter	Response	Changes to Methodology
1.1	Why are projects not allowed on peat soils?	Emily Russell-Roy	Emission factors are specifically designed for mineral soils, and would not apply to peat or organic	NA

	Comment	Commenter	Response	Changes to Methodology
			soils.	
1.2	If you allow grazing and fire, how will you ensure that overgrazing/overuse of fire do not occur?	Emily Russell-Roy	Incumbent on Project Developer to monitor.	

B. Project Boundaries

	Comment	Commenter	Response	Changes to Methodology

C. Carbon Pools and Greenhouse Gas Boundaries

	Comment	Commenter	Response	Changes to Methodology
3.1	I'm a bit confused about the nature of the emissions reductions associated with this methodology. Do I understand correctly that the methodology will credit 1) avoided soil carbon emissions; 2) avoided future N2O emissions assuming the land is converted; and, 3) changes in methane emissions associated with livestock production?	Adam Diamant, EPRI	Yes, the largest source of emission reductions result from avoided soil carbon emissions and avoided N_2O emissions that would have occurred if grassland had been converted to cropland. Other potentially significant emission reductions include changes in aboveground and below ground biomass. Livestock emissions are expected to be slightly higher in the project (grassland) scenario and this increase in emissions due to the project is accounted for.	NA

D. Procedure for Determining Baseline Scenario

	Comment	Commenter	Response	Changes to Methodology
4.1	For the purposes of evaluating the economic viability of alternative cropland uses, will the methodology rely on application of USDA or research institute crop production budgets? If so, most crop production activities will not make economic sense. If not, what methods will the methodology employ?	Adam Diamant, EPRI	The methodology assesses the full land values of both the baseline and project scenario, as determined by an independent and certified appraiser. The authors concur that annual crop budgets do not capture all market forces or values inherent in agricultural land and believe that the full land value will more accurately capture all economic values of various land uses.	NA

E. Procedure for Determining Additionality

	Comment	Commenter	Response	Changes to Methodology

F. Quantification of GHG Emission Reductions and Removals

	Comment	Commenter	Response	Changes to Methodology
6.1	Do the authors have a general sense of the magnitude of N2O emissions relative to SOC?	Paul Spraycar, ecoPartners	It is anticipated that N_2O emissions will be in the magnitude of 1 to 2 MTCO2e/acre/year. Annual SOC emissions, which are quite variable and dependent upon initial SOC stocks and oxidation schedules,	NA

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			could range from 0.5 to 4.5 MTCO2e/acre/year.	
6.2	How is soil organic carbon stock calculated? What depth is required? How does the methodology deal with the scientific controversy surrounding accounting for soil carbon?	Adam Diamant, EPRI	Soil organic carbon is estimated with a stratified approach that may use regional databases, previously collected soil inventories, direct measurement or where insufficient data exists, default values. In recognition that different soils have different soil profiles, the methodology addresses the sampling depth debate by requiring the project developer to justify the "affected depth" for the project region.	A sentence has been added to Section F.1.6 to clarify.
6.3	Are models (DAYCENT or DNDC) used to calculate annual soil carbon loss during the first few years after conversion, or is some other method used, such as an exponential soil carbon loss function or a default rate?	Gordon Smith, Wildlife Works	Process models, including DAYCENT and DNDC, are an eligible estimation approach for SOC loss, in addition or in conjunction with direct sampling or empirical models. A default linear, 20 year oxidation schedule is provided, but an exponential soil carbon loss function may be used if derived from a peer-reviewed publication or employed by an approved model.	NA
6.4	Is there any specific guidance for quantifying carbon stocks and emissions sources? Is direct sampling	Emily Russell-Roy	Specific quantification guidance is provided under each carbon pool and emission source, Section F.	NA

	Comment	Commenter	Response	Changes to Methodology
	required?		Direct sampling is an option for Soil Organic Carbon and Aboveground biomass pools.	
6.5	Much of the methodology is robust and much follows accepted procedures. The methodology contains the strongest scientific justification for a market leakage rate that we have seen. There is one significant point that we recommend changing. In practice we expect that the draft methodology would result in baselines that assume nearly unlimited conversion of grassland to cropland in a single year. This possibility of extremely large areas being assumed to convert to cropland in a single year can result from application of the proposed rules for quantifying baseline emissions. Section F.1.2 states that project lands are assumed to be converted in a single year (the year after enrollment) if (a) each parcel is no larger than the largest parcel converted in the region in the prior five years, and (b) that agent of conversion is unidentified. It appears that a parcel would be classified as	Gordon Smith, Wildlife Works	We appreciate the commenter's thorough consideration of the methodologies baseline approach and its implications for enrollment. Baseline determination for mosaic deforestation was considered during the development of the methodology but was not employed. Unlike deforestation projects where ownership of the Project Region is held by a single or limited number of entities and conversion performed piecemeal, grassland landscapes in North America involve numerous private landowners who each make conversion decisions for their individual plot. It is therefore unlikely that a large proportion of landowners in a given area would enroll in a carbon project or convert in a given year. The proposed appraisal approach will indirectly identify the parcel-specific physical characteristics, e.g. soil productivity, slope, etc., that would predict conversion as under a mosaic	

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	having an "unidentified agent of conversion" if the landowner says they would rent or sell land if they did not enroll the land in the carbon project. We have observed that landowners who have been doing conservation management for years and now want to get carbon payments often say that they would sell or develop the land if they do not participate in a carbon project. Thus, we expect that the classification "unidentified agent of conversion" would be used frequently.

If a project developer is successful in enrolling much of the grassland in a region, and does not enroll unusually large parcels, the baseline could attribute conversion in a single year to much of the project region, even if actual historical conversion is a much slower rate.

With the current language, we believe there is a significant risk that projects will have baseline conversion rates that are unrealistically high.

In our opinion, a grassland project | | baseline. The appraisal also captures national/international market drivers, which are the primary driver of grassland conversion, unlike mosaic deforestation that may be driven by local and/or subsistence demand. | |

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	composed of many participant fields is analogous to mosaic deforestation, and methods for calculating baseline mosaic deforestation can be adapted to calculate a baseline conversion rate for grassland converting to cropland. For ideas for workable methods for setting baselines, we recommend considering methods used to calculate baselines for existing mosaic deforestation REDD projects. A method we have found workable is the "baseline emission model" in the VCS methodology VM0009, *Methodology for Avoided Deforestation*.			

G. Monitoring

	Comment	Commenter	Response	Changes to Methodology

Appendix A

	Comment	Commenter	Response	Changes to Methodology