



RESPONSE TO PUBLIC COMMENTS

October 2017

A new methodology entitled **Methodology for the Quantification, Monitoring, Reporting and Verification of Greenhouse Gas Emissions Reductions and Removals from the Restoration of Pocosin Wetlands** was developed by The Nature Conservancy and TerraCarbon LLC for potential approval by the American Carbon Registry (ACR).

All new methodologies and methodology modifications, whether developed internally or brought to ACR by external parties, undergo a process of public consultation and scientific peer review prior to approval.

The methodology was formally submitted to ACR on August 6, 2015. ACR conducted its standard internal methodology screening and the authors submitted revised drafts to ACR. The methodology was then posted for public comment from May 2, 2016 – June 3, 2016. Public comments and author responses are documented here. If applicable, additional public comments received after the formal close of the public comment period are also documented herein and were considered in the final version of the methodology.

Section or line numbers as referenced by the public in the following table refer to the document version as posted for public comment.

Citation Reference	Comment	Commenter	Author Response
Line 140	<p>Relative to bulk density sampling, it states that “no significant compaction is expected to occur and procedures will be in place to safeguard against compaction resulting from surface elevation measurements in the field.”</p> <p>Note that in saturated conditions, taking bulk density samples can be challenging and any compaction that takes place could substantially affect the computed soil organic carbon (SOC) calculations, perhaps over estimating the SOC and over-predicting the emissions reduced as a result of the re-wetting. Are there specific procedures that can be identified which will “safeguard against compaction”?</p>	Green Assets, Inc.	<p>We agree that further guidance is needed to ensure that reliable bulk density samples are obtained, and have provided further detail under QA/QC procedures in the bulk density parameter table to guide field sampling procedures:</p> <p>“, it is essential that compaction is avoided in the process of obtaining and working with field samples. The following precautions should be adhered to:</p> <ol style="list-style-type: none"> 1) When obtaining the sample, particularly when trimming the end of the core to a sampling ring, avoid compressing, compacting or disturbing the sample. 2) The core should be oven-dried prior to sieving. 3) Large cores (approximately > 8 cm diameter) should be used preferentially; compaction tends to occur where the edge of the sampling ring meets the soil surface, and larger cores have a smaller surface to area ratio in cross section.”

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Line 320	Relative to bulk density, what are the parameters of acceptable root sizes that are allowed within the in-situ bulk density sample? Large roots may prevent a proper sample from being acquired due to the physical efforts needed to drive the sampling tube into (or through) roots, resulting in the potential for inadvertent soil compaction and an improper bulk density measurement.	Green Assets, Inc.	There are no limits to the size of roots allowable in the bulk density sampling ring, as the sample must include the fine soil fraction, litter, and all roots. We agree that cutting roots adds an element of disturbance to the sample collection that to the extent possible should be minimized – the guidance on use of larger cores (in response to comment #1) should result in root cutting producing less disturbance to the interior of the sample.
Line 371	Note that the aboveground biomass in the baseline may show higher biomass production as a result of drainage, which may enable more facultative upland plant species to survive and excel. This measurement may demonstrate higher biomass production and, subsequently, more GHG sequestration in above-ground biomass than in the with-project scenario. This cannot be ignored, but it may result in a less than anticipated net effect of the “re-wetting” of these pocosins. No action is needed – just an observation.	Green Assets, Inc.	Yes, this is exactly why aboveground biomass is monitored, because we expect more growth under drained conditions.
Line 403	Regarding tree and shrub plantings, are there any specifications or recommendations for species type, density of planting, etc.? Are	Green Assets, Inc.	The methodology need not be prescriptive in this regard. For guidance on planting (species composition, densities), we recommend contacting

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	there regional recommendations available that can be referenced?		The Nature Conservancy and the US Fish and Wildlife Service.
Lines 427-428	It states that If $\Delta\text{AGB}_{\text{wp},t}$ is not significantly different than $\Delta\text{AGB}_{\text{bsl},t}$, then $\text{Net}\Delta\text{AGB}_{\text{wp},t} = 0$. Couldn't there be a case where the $\Delta\text{AGB}_{\text{wp},t} < \Delta\text{AGB}_{\text{bsl},t}$? In other words, it may be possible that the "rewetting" process would "stunt" or inhibit above-ground biomass production in the with-project scenario and therefore the change in above-ground biomass production in the baseline would be greater than in the with-project scenario? If so, then the baseline scenario (relative to above ground biomass) would indeed be sequestering more above-ground carbon (by way of increasing biomass production). As stated above, no suggestions for changes here, just drawing out a point for contemplation.	Green Assets, Inc.	Yes, we expect that there will be some negative consequences of rewetting as described. These are only accounted for if there is a <i>statistically significant</i> difference.
Section E, p. 51	Regarding the $\text{BD}_{\text{wp},t}$ sampling procedure, there is a recommendation to "cut roots along the outside perimeter of the sampling ring". This practice should be adequate where small roots occur. Where larger roots occur, the act	Green Assets, Inc.	See response to comment #2. Keep in mind that coarse roots must be included in the sample in the context of this methodology, thus the sample location should not be moved where large roots are present (otherwise this would bias the sample).

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	<p>of cutting the roots could affect the soil bulk density measurement if excessive pressure is used to “cut through” the roots outside of the core ring via lateral downward pressure on the roots. Consideration should be given to taking the sample in another nearby location (within an acceptable radius or proximity to the plot) when large roots exist and prevent a satisfactory bulk density sample from being taken.</p>		
<p>Section E, p. 52</p>	<p>Regarding the equation for BD sample, if the mass of the coarse rocky fragments is to be deducted in the numerator, then likewise, it seems that the volume of the coarse fragments, should be deducted in the denominator to ensure that an accurate assessment of soil BD is taken, allowing for a more accurate estimate of soil organic carbon.</p>	<p>Green Assets, Inc.</p>	<p>We acknowledge that the term bulk density can/has also been defined as the mass of fine soil/volume of fine soil. However, the equation is correct in the context of the methodology, where bulk density is defined as the mass of carbon (not including mass of rock fragments) in a known total volume of soil (not only fine soil).</p>
<p>N/A</p>	<p>I went over the pending methodology twice. The first time I had half a dozen questions. The second time, I figured out the answers to my questions.</p> <p>Interesting approach.</p>	<p>Environmental Services, Inc.</p>	<p>We appreciate your feedback and time to review the methodology. We remain prepared to respond to any questions or comments.</p>