

# GHG & Co-Benefits in Watershed Carbon v1.0

Expert Peer - R2 Review Round

Reviewer #1

December 5, 2023

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]
P2, Diagram Goals	<b>Goals or requirements?</b>	Unclear what this request is.	Are the objectives goals or requirements? Seems like certain items marked as "goals" should be "requirements" to ensure high quality. Cross reference the methodology.  <i>Author's response: This credit class is written to support</i>

			<i>both voluntary source water protection/restoration (for drinking water) as well as regulated obligations (both drinking water and wastewater). Thus we use the term 'goals' as a word that includes both voluntary and required objectives.</i>
Cover	More clearly identify the name of the class	This document is a Regen template.	
1.	The "thereby" is grammatically and logically incorrect.	Edited.	
1.	"Cannot guarantee performance" is concerning	This is background context.	<p>This background context casts doubt on the quality of the projects</p> <p><i>Author's response: Fair critique. Modified to "have more variable benefits based on changing environmental</i></p>

			<i>conditions, and implementing green infrastructure generally involves the complexity of working with many private landowners.”</i>
2.	Why “regional” grid. Why not on-site renewable?	On-site renewable would therefore have no (significant) avoided emissions to qualify under this credit class.	<p>This was rhetorical. As structured, credits could be claimed if a gray system is powered by renewable, zero-carbon electricity.</p> <p><i>Author’s response:</i> The above concern is why the credit class and methodology is specific that they are only for use for watershed based green infrastructure projects - not renewable energy upgrades.</p>
2.2	What is the purpose of this section?	Template	The purpose of this section is not clear,

			irrespective of the reason it is included.
2.2.4.	"Additional Co-Benefits" is not a co-benefit, as suggested in 2.2		<p>Not addressed or corrected.</p> <p><i>Author's response: Sections 2.2.2, 2.2.3 and 2.2.4 have been removed, so that the only co-benefit that is mentioned are the water quality benefits from the green infrastructure program.</i></p>
2.2.1	Must performance of green be better than performance of gray?	Performance of green must be equal to gray, legally. Given uncertainties in addressing nonpoint source pollutant, all active programs have more than a 1:1 trading ratio - most are 2:1 or more, meaning that on average the green infrastructure must be modeled to be twice as beneficial as the gray to deal with uncertainty/natural variability/time lag.	
2.2.2	Need to define the baseline scenario	The co-benefits are addressed in other methodologies.	
3.	Why "in any watershed"?	Broad scope for the application of this Credit Class.	

3.	Specify eligible international standards	<p>We don't think this meth should specify which international standards are eligible, because then would have to update every time a new standard is released.</p> <p>But here are some examples:</p> <p>Tradable Discharge Permits System for Water Pollution of the Upper Nanpan River, China: <a href="https://citeseerx.ist.psu.edu/document?repid=rep1&amp;type=pdf&amp;doi=23ceee4dedf078b7c7872328493b31e0dd99d0e3">https://citeseerx.ist.psu.edu/document?repid=rep1&amp;type=pdf&amp;doi=23ceee4dedf078b7c7872328493b31e0dd99d0e3</a></p> <p>South Nation, Canada, and Lake Taupo, NZ: <a href="https://www.sciencedirect.com/science/article/abs/pii/S2212041618303012">https://www.sciencedirect.com/science/article/abs/pii/S2212041618303012</a></p> <p>Hunter River Salinity Trading Scheme, Australia: <a href="https://www.epa.nsw.gov.au/licensing-and-regulation/licensing/environment-protection-licences/emissions-trading/hunter-river-salinity-trading-scheme">https://www.epa.nsw.gov.au/licensing-and-regulation/licensing/environment-protection-licences/emissions-trading/hunter-river-salinity-trading-scheme</a></p>	<p>Suggest following other established programs with use of references.</p> <p>Be consistent - will other references in 3.1 be updated?</p> <p><i>Author's response:</i> <i>We are not expecting the standards and models to be updated, they are included as examples of what project proponents in different areas with different environmental drivers could/should use. This sentence now prefaces the Global and American sections of models/standards/protocols: "A range of example 'best practice' quantification</i></p>
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			<p>methodologies, protocols, policies and project quality standards are presented below - but many others exist that would also be usable for this methodology.”</p> <p>Additionally, many references to international surface water quality standards have now been added.</p>
3.1	Must indicate additionality tests	Additionality is defined in section 5.1	
3.1	Too many project types will invite criticism. Consider the critique that installing fences or introducing beavers can generate carbon credits.	<p>Broad project types that address in-stream water quality and avoid the construction of gray infrastructure for water/wastewater treatment exists in the sector today.</p> <p>We have no problem with the idea that fences and/or beavers can improve water quality and therefore avoid infrastructure - this is exactly the world that exists today for water quality trading.</p>	<p>Consider the optics.</p> <p><i>Author’s response: Given the real, tangible and rapid water quality benefits from the project types mentioned, and the direct link to lower overall GHG emissions, the</i></p>

			<i>authors believe these project types have positive optics for climate mitigation and resiliency.</i>
3.2	Establishing a clear project boundary does not necessarily ensure the program's impact will be accurately measured.	By requiring instream monitoring, the onus is on the proponent to choose the right geography that they can demonstrate WQ improvements.	<p>I don't disagree with the response. The response does not address the logic of the sentence.</p> <p><i>Author's response: Fair. Initial sentence changed to "By setting a clear, logical and science-based project boundary, project proponents can establish a foundation to support accurately monitoring, attributing and verifying a program's impact."</i></p>
3.2.3	Can project activity occur on public land? Consider precedents of other programs.	Yes, can occur on public land. There are plenty of examples where public land management is unfunded or unfunded, so we have decades of 'status quo' data of poor	

		<p>water quality outcomes from public lands. All that matters here is that water quality improvements are real, and bigger than what could be generated at the point source using gray infrastructure.</p> <p>Carbon credits are not earned based on sequestration on public land - it's incidental to the credits where the alternative happens.</p>	
3.3	Serious concerns about additionality and necessity of credits to change behavior or enable projects.	Extensively revised additionality definition including addressing existing programs.	
3.4	Do not issue credits so early.	See section 6.	
4.2 Project Plan Template	Where is this?	Does not yet exist.	
4.4	Avoid redundancy with methodology	This section is not in the Methodology. Unclear what the reviewer is observing.	<p>Ref: Temporal Resolution</p> <p><i>Author's response: We have modified 3.2 Temporal Resolution section in methodology in response to this concern. Especially changing the word</i></p>



			<p><i>'reissue' to 'renew' to match 4.4 of Credit Class. Now written:</i></p> <p><i>"The current temporal resolution of the analysis is defined as a minimum of 20 years, which is a standard timeline of analysis in the field of sustainability and for water treatment facility operations. It is acknowledged that a deployed green technology would be of value for longer than 20 years and there is the ability to renew credits at the end of the initial evaluation period. Where the projected life of a facility upgrade is longer, the temporal resolution and crediting period may be longer."</i></p> <p><i>Section 4.4 Project</i></p>
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			<i>Renewal language has stayed the same.</i>
4.4 Crediting period	Is this the same as “Term”?	Yes, edited for consistency.	Passed
5.5	Buffer Pool is necessary if the system can die	This is a question devolved to the project itself, and negotiated based on project type, regulatory approval, etc.	Raises concerns about quality <i>Author’s response:</i> <i>We have revised the Credit class to allow only ex-post credits which negates the buffer pool motivation.</i>
5.6.1	Need more specificity of requirements. A masters degree does not mean someone is qualified. Validator accreditations already exist.	The section goes into detail on the requirements for the validator.	
5.6.2	What is difference between reviewer and verifier?	None, edited.	passed
5.1	What is the reference to “TThis methodology?”	Edited to Credit Class	“This methodology” is still in the document  <i>Author’s response:</i>

			<i>The reviewer is correct. This has now been changed to 'Credit Class'.</i>
5.1	<p>The mention of additionality is appropriate. However, it is inconsistent.</p> <p>Clarification: Additionality tests should be identified and required. Current wording indicates additionality is important but then does not indicate how additionality is determined. A simple attestation is inappropriate.</p> <p>There are hints that performance tests would be applied. Choose one or the other to avoid ambiguity.</p> <p>Consider the possibility of the credit class applying to existing projects.</p> <p>Also, avoid characterization of utilities and public servants.</p>	<p>Additionality definition has been revised.</p>	<p>Need to bolster the link between carbon credits and the statement “in the case of projects already deployed at least in part, that the additional monitoring and verification requirements of this methodology strengthen the program performance and accountability”</p> <p>Does the CDM Barrier Analysis allow credits for existing projects?</p> <p><i>Author's response:</i> <i>We have revised and added a common</i></p>

			<p><i>practice test to the 5.1 Additionality section, drawing from the UNFCCC Tool for the Demonstration and Assessment of Additionality - Proponents must demonstrate that the proposed project activity is not common practice (ie less than 20% of total spending on water treatment) in their state/province. Also added a note that underlines the common practice test: "For example, in the United States where green infrastructure has the longest track record globally of being used in lieu of facility upgrades, the water treatment sector spends approximately \$30B/year – with far</i></p>
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			<i>less than \$1B/year of that going to green infrastructure."</i>
5.2 Leakage	Leakage must be accounted for. Consider a failed green system and the need to divert water or install a temporary water treatment system while the green system is repaired.	<p>1) Water quality trading has been formally used in the USA since 1986. The scenario that the reviewer describes has never happened. 2) The most clear instances of regulatory agencies demonstrating patience in waiting for a watershed restoration project to achieve its goals are in Wisconsin and Oregon. In Wisconsin's Department of Natural Resources' technical handbook (<a href="https://apps.dnr.wi.gov/swims/Documents/DownloadDocument?id=83656445">https://apps.dnr.wi.gov/swims/Documents/DownloadDocument?id=83656445</a>), the DNR states that when using adaptive management, "A maximum duration of twenty years can be granted to achieve compliance with P criteria; PS compliance with permit requirements based on criteria being attained." The same handbook states that water quality trading "May be used to demonstrate compliance indefinitely, as long as credits are generated". Oregon's Department of Environmental Quality has consistently offered longer compliance schedules for watershed restoration programs - in this regulatory document for the Hells Canyon Dam relicensing (<a href="https://www.oregon.gov/deq/wq/Documents/HCCFinalEvalReport.pdf">https://www.oregon.gov/deq/wq/Documents/HCCFinalEvalReport.pdf</a>), ODEQ's</p>	<p>Can Regen be certain that every fence built to move cows to a different watershed will not increase load if that watershed uses gray infrastructure?</p> <p><i>Author's note: The hypothetical above is not creditable; the conservation BMP to reduce nutrient runoff is simply fencing cattle out of the active river channel/riparian zone, not moving to another drainage basin. Given leakage concerns by another reviewer, we have added the following in the Additionality paragraph of Section 1: "Attestation shall</i></p>

		<p>response on page 122 is formally: "To attain compliance with the spawning temperature criteria, [the permittee] has 15 years to attain half of the thermal benefits and 30 years to attain 100% of the thermal benefits using the Snake River Stewardship Program. Oregon's temperature standard allows establishment of a compliance schedule, and this schedule is reasonable given the necessary project design and implementation that must occur."</p> <p>In practice, 20+ year periods are standard in the USA to assess the environmental improvements from watershed programs. Thus the Authors have never seen a failure or leakage of the type described here.</p>	<p><i>also include confirmation that the facility is not and will not shift its water treatment obligations to a neighboring facility during the crediting period."</i> Lastly, we've added the following sentence in section 3.1 directly before listing applicable project types: "No project types may be used that simply move water quality degradation from one watershed to another."</p>
6.	Why "decades"? What is basis of this timeframe?	The expected operational lifetime of gray infrastructure is at least 10-30 years. And, the water quality obligation itself is effectively perpetual.	
6.	The "selection" does not avoid GHG emissions. The operation of the system does.	Added "and implementation".	
6.	Credits should be issued ex-antt	We believe the reviewer means ex-post, and	

ex-post	if Regen wants to recognize actual reductions and not planned reductions.	we have identified in Section 6 how the credits are defined as ex-post.	
general	How accurate will the grid emissions factors predictions be? What if the grid adopts renewables faster than anticipated and the green system actually reduces GHG by less than anticipated? Ex-ante would mitigate this potential criticism.	This is a major challenge. We are pointing practitioners to the most robust data set we have on this front (cambium out of NREL) and point the practitioners to use the most robust data available.	
6.3.	"May not be achieved" is unacceptable.	Edited to clarify that the monitoring period requires establishing that the project is on track. But green infrastructure projects may take 30 years to actually achieve the water quality goal - that is not material to this methodology/credit class as the avoided emissions are established and permanent as soon as the regulator approves the alternative, NOT when the alternative is fully functional.	

**Post here any additional feedback or comments that are more general:**

- **Avoid redundancies throughout document and with methodology**
- **Seems language in this document should be in the methodology**

We have taken guidance from Regen on what material goes in which document.

- **As written, credits in this class will be moderate to low quality. Not sure this is Regen's goal.**

**We have extensively revised the credit class and methodology to strengthen the credibility of these projects, namely through tighter additionality definition and issuing credits only expost.**

- **Add page numbers to document, standardize formatting and fonts, check grammar**
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