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**SUMMARY OF COMMENTS & RESPONSES
DRAFT CANADA GRASSLAND PROJECT PROTOCOL VERSION 1.0**

Five sets of comments were received during the public comment period for the Climate Action Reserve (Reserve) draft Canada Grassland Project Protocol Version 1.0. Staff from the Reserve provides responses to the comments below. The public comment period for the draft protocol was from August 14, 2019 to September 13, 2019.

The comment letters can be viewed on the Reserve's website at <http://www.climateactionreserve.org/how/protocols/canada-grassland/>.

COMMENTS RECEIVED BY:

1. Alberta Agriculture and Forestry
2. Alternative Land Use Services (ALUS)
3. Biological Carbon Canada
4. Bluesource
5. Edenfort

2.2 Project Definition

1. **Allowable activities in the project scenario.** The language describing the eligible levels of seeding, fertilizer application, haying, forage harvesting, livestock grazing and/or irrigation is quite vague. Allowing “moderate” levels does not clearly define the eligible intensity for these project activities. We encourage CAR to omit any qualifier for grazing levels as it adds subjectivity to the determination of eligibility and does not contribute value to the protocol. **(Bluesource)**

RESPONSE: We thank you for your comment. The “moderate” qualifier was removed from the protocol text and it was specified that seeding, fertilizer application, haying, forage harvesting, livestock grazing and/or irrigation are allowed as long as those activities are aligned with the goals of the ecosystem health assessment or the mechanism to prevent overgrazing. The ecosystem health assessment and the mechanism to prevent overgrazing are meant to prevent overly intensive cultural treatments and should limit the practices listed above to moderate or sustainable levels.

2.2.2 Project Cooperatives

2. **Support of aggregation through cooperatives.** Bluesource supports the idea of allowing project cooperatives and Cooperative Developers as it incentivizes small-scale landowners to participate in avoided grassland conversion projects that would otherwise be nonviable due to verification and administration costs. **(Bluesource)**

RESPONSE: We thank you for your comment and will maintain cooperative arrangements in the protocol.

2.3.1 Qualifications and Role of Grassland Owners

3. **Addressing Crown land ownership.** The Protocol should address a mechanism to handle the transfer of rights from the Crown to the grass grazer. In western Canada, there are significant native rangelands under management of ranches, but the owner is the Crown. **(Biological Carbon Canada)**

RESPONSE: We thank you for your comment. In the initial assessment for the adaptation of this protocol to Canada, conducted in 2017 under contract with Ontario and Quebec, it was determined that Crown lands presented concerns around additionality that were problematic for offset crediting. Expanding the protocol to include this type of pre-project ownership would require a significant assessment effort that was outside of the scope of this initial protocol adaptation process. The Reserve may revisit this ownership scenario for a future update of the Canada Grassland Project Protocol.

2.4 Environmental Best Management Practices

4. Because of different standards across Canada, the Protocol should set a minimum standard and if the provincial jurisdiction has a higher standard for the management of Crown lands, the higher would apply. **(Biological Carbon Canada)**

RESPONSE: We thank you for your comment. We have included a reference to the sections in the protocol that specify the results the protocol seeks from Ecosystem

Health Assessments and the Mechanisms to Prevent Overgrazing, which serve as the standards for limiting environmental harms caused by project activities.

3.1 Location

5. **Eligibility of projects on organic soils.** Bluesource recommends including the eligibility of organic soils (histosols) as this a specific soil type stores the most carbon. Peatlands are included under this soil classification and store 30% of the world's soil carbon. One third of the world's peatlands are found in Canada, however they are heavily mined, which demonstrates a strong argument towards the inclusion of organic soils in avoided grassland conversion projects. **(Bluesource)**

RESPONSE: We thank you for your comment. The quantification approach developed for this protocol is not applicable to organic soils. The Reserve may explore this possibility for a future protocol update, or for a different protocol.

3.3.1.1 Financial Threshold (Performance Standard Test)

6. **Real estate appraisals for financial additionality.** There is a very large opportunity for grassland project development in Canada, but its potential depends greatly on a reasonable and commercially practical approach to determining additionality through the performance standard test. Additionality is a staple requirement for all greenhouse gas emission reduction protocols and proving additionality through a financial barrier is important. However, requiring a certified real estate appraisal is both expensive and time intensive, and would represent a significant risk of sunk costs for prospective projects. This is likely to leave off-the-table a significant part of the project potential that is additional but is unwilling or unable to incur a significant financial deficit to make the case for additionality. **(Bluesource)**

RESPONSE: We thank you for your comment and agree with your concerns over project financial feasibility. At this time, the Reserve is unable to develop a default financial additionality test due to lack of available national data on land values and/or rental rates. We will revisit this possibility for a future protocol update.

7. **Real estate appraisals for financial additionality.** While it is made clear in the document that due to a lack of data a default financial additionality screening is not possible, we would like to emphasize that requiring a real estate appraisal means up-front costs which may lead to identifying that property as ineligible. Has a financial analysis been conducted on the typical costs for this type of appraisal and can that information be shared? **(Edenfort)**

RESPONSE: We thank you for your comment. The Reserve does not have access to data on the costs for the real estate appraisals required by the protocol. The Reserve will revisit the possibility of developing a default financial additionality assessment for a future version update. The Reserve suggests performing desk feasibility assessments prior to land appraisals to keep costs at a minimum. It is also worth noting that full land appraisals are usually required to place conservation easements, so the assessment is a cost that will be incurred with or without the default financial assessment.

8. **Real estate appraisals for financial additionality.** A valuation for ongoing grassland management prepared and signed by a certified or registered professional qualified in the field of specialty interest and reviewed and approved by a second qualified, certified or registered professional seems excessive for appraisal reports. The approval from one qualified professional should be sufficient considering they are certified to do the valuation and have proven their qualifications in order to have obtained their title designation. The need for two registered professionals adds an extra element to the appraisal process that increases time and cost for delivery.

We understand the need to have a strong, defensible, and standardized mechanism to evaluate financial additionality. However, we urge CAR to consider the full cost and burden of requiring Project Developers to hire two to three professionals to evaluate a site simply for eligibility. Grassland projects often have a relatively low offset output on a per-acre basis and may not be financially viable if upfront evaluation costs are too high. **(Bluesource and Edenfort)**

RESPONSE: We thank you for your comment and agree that it is unnecessary to require the assessment of two appraisers. This requirement was removed from the protocol.

3.3.1.2 Suitability Threshold

9. It's unclear why LSRS class 4 lands with severe limitations to crop production are considered "highly" suitable for conversion to cropland. Good to see site-specific assessment of limitations in the example for moisture on page 15, and in discussion in A.1.2. Suggest moving a summary of A.1.2 into 3.3.1.2 and including reference to Alberta's online AGRASID soils database as a resource, at: <https://soil.agric.gov.ab.ca/agrasidviewer/>. **(Alberta Agriculture and Forestry)**

Biological Carbon Canada also requested making the map [LSRS] available in a KML/KMZ format. **(Biological Carbon Canada)**

RESPONSE: We thank you for your comment and believe that the qualification of classes 1 to 4 as "highly" suitable is not adequate which is why it was removed from the text. An explanation of why classes 1 to 4 were selected as suitable for conversion to cropland as well as why we allow a percentage on classes 5 and 6 is available in the Appendix. A direct link to download LSRS shapefiles was added to the protocol text as a footnote.

10. Conservative approach – when the line [separating two ecoregions] crosses a parcel of land, the parcel is given the lower land class. **(Biological Carbon Canada)**

RESPONSE: We thank you for your comment. Rather than using the eligibility threshold of the lowest class when a parcel is located in two ecoregions, eligibility of the whole project area is assessed through an area-weighted average. We consider this approach appropriate although we agree it may not be as conservative as the one proposed.

3.4 Project Crediting Period

11. The United States-based protocol allows for a single 50-year crediting period, while the Canadian protocol has a crediting period of 30 years. What is the purpose of this

difference? **(Edenfort)**

RESPONSE: We thank you for your comment. The baseline emission factors were developed with data that were only available out to 30 years. It was determined that this was still a reasonable crediting period.

3.5.2 Tonne-Year Accounting (TYA)

12. Permanence. Table is unclear about years 3 -20. Why not 17% instead of 18%-1%? Is this amount issued for each of these project years? When is 100% achieved? **(Alberta Agriculture and Forestry)**

RESPONSE: We thank you for your comment. Each subsequent year after year 1 receives 1% less than the previous year. For example, on year 4 the issuance is 17% of total emission reductions, on year 5 it is 16%, and so on. This reflects that the contractual commitment established on year one is diminishing over time and with that the proportion of emission reductions that can be issued up front. It is worth clarifying that this scenario would occur if the contract signed in the first CRT issuance is not renewed. If there is a subsequent contract, the crediting would compound by adding the remaining years for credits each year after the contracts are signed. 100% is achieved in year 100. We added a footnote to section 3.2.5. to clarify this.

13. Permanence. In our view, the project lifetime requirement for the tonne/tonne option of 130 years will be a barrier to broad uptake given the disinclination of most farmers and ranchers to significantly limit future options. Conversely, the tonne/year option pays (at current market rates for carbon) such a small amount that the administrative and verification requirements would not be seen to be worth the effort. Issues we would like to better understand are (and apologies if we missed relevant material in the protocol or elsewhere):

Why is permanence deemed to be a century? **(ALUS)**

RESPONSE: We thank you for your comment. The atmospheric lifetime of CO₂ is more than 100 years. For ease of accounting and equivalence, the GHG mitigation community has adopted 100 years as the definition of permanence in regard to GHG emission reductions.¹ Non-reversible emission reductions, often occurring in non-land-use-based sectors such as dairy biodigester projects, consist of the destruction of an emission that will immediately provide a permanent benefit. A combusted tonne of methane will never return to the atmosphere. Reversible emission reductions (those which must be stored) are not immediately permanent, as a tonne of carbon sequestered in the soil or a forest may return to the atmosphere at some point due to a fire or other disturbance. For a land-based offset to have an equivalent atmospheric benefit to the emissions it is offsetting (often CO₂ emissions from fossil fuels), the carbon pool must be maintained for at least 100 years. If a non-permanent GHG offset was traded, it would cause negative effects to the atmosphere by allowing a polluter to emit more than what they are claiming in their GHG inventories and thus causing a net damage to the atmosphere.

¹ Fearnside, Philip M., Daniel A. Lashof, and Pedro Moura-Costa. "Accounting for time in mitigating global warming through land-use change and forestry." *Mitigation and adaptation strategies for global change* 5.3 (2000): 239-270.

4 The GHG Assessment Boundary

- 14. References in baseline emissions.** The storage of additional carbon over time in the project scenario is conservatively excluded, however it's included in the baseline. Justification for this is encouraged within the protocol and an assurance that the difference in carbon credits would be minimal. Otherwise the addition of carbon storage in the baseline seems unjust. **(Bluesource)**

RESPONSE: We thank you for your comment. There is no quantification of the carbon capture in wetlands in the baseline scenario. Instead, emission factors applicable to grassland areas are used to quantify the baseline carbon content in eligible wetlands. The eligibility of a limited category of wetlands was considered conservative as wetlands have higher carbon stocks than grasslands and would thus be under-credited. As the offset issuance from the avoidance of conversion of wetlands is lower than the issuance there would be if wetland emission factors were available, the Reserve decided to allow wetlands from classes 1 to 3 to recognize the reality of how cropland conversion would occur on the landscape.

This is not a carbon capture protocol, and there are no provisions in the protocol to measure carbon capture over time.

5.3.2 Project Emissions from Fossil Fuel and Electricity Use

- 15. Fossil fuel emissions.** Fossil fuel emissions quantification are conservatively omitted from the baseline scenario as they will be significantly higher than the project scenario due to the need for more fossil fuel use of field management practices. However, project emissions from fossil fuel combustion must be quantified for project activities that include the use of mobile or stationary equipment or vehicles that consume fossil fuels. Since it has previously been determined that the baseline fossil fuel emissions will be significantly higher, for simplicity, a more equitable approach is to omit the quantification of fossil fuel emissions from the project scenario as well, similar to forest carbon projects that involve fossil fuel emissions from harvesting equipment.

Emissions from fuel and energy usage will be low or *de minimis*. If a project reports emissions attributed to fuel and energy use to be less than a pre-established percentage of total project emissions for three reporting periods, we suggest that CAR either deem those emissions negligible and remove the requirement for further reporting or allow the project to continue to report the emissions as an average from the previous years. **(Bluesource and Edenfort)**

RESPONSE: We thank you for your comment. As stated in the protocol, the exclusion of fossil fuel emissions from the baseline scenario is mainly due to data availability. As the exclusion of fossil fuel emissions in the project scenario is not conservative, and the data (or conservative estimation methods) are readily available, the Reserve requires quantification of these emissions. The protocol is very flexible in the means by which fossil fuel use may be documented and estimated, which we expect will simplify monitoring and reporting.

5.3.4 Project Emissions from Grazing

16. Is it necessary to differentiate grazing season and grazing days? **(Alberta Agriculture and Forestry)**

RESPONSE: We thank you for your comment. Grazing season is the period over which animal grazing days are quantified. Grazing days may also be different for different animal categories, whereas the grazing season is common across the project, and is only needed to identify the average ambient temperature during grazing activities.

5.4.1 Avoidable Reversals

17. **Compensating for avoidable reversals.** If sufficient quantities of Climate Reserve Tonne (CRT) offsets are not available for compensation, why can only forest projects project CRTs from the Reserve be used? Why not repayment and / or offsets from other types of projects? **(Alberta Agriculture and Forestry)**

RESPONSE: We thank you for your comment. The Reserve adopted the policy of compensating land-based credits with land-based credits to ensure their equivalence. We will maintain this policy at this time, but will evaluate the possibility of allowing compensation with non-land use credits in a future programmatic update.

6.1.1 Documenting Historical Land Use

18. **Types of evidence of land use history.** [The land use history of the project site as grassland must be documented. The protocol lists examples of accepted evidence for current and historical land use. Under this comment it is requested that two additional forms of evidence are listed or modified:] Change the notarized affidavit declaration to a Statutory Declaration under Oath, [and] add a Professional Agrologist opinion under seal. **(Biological Carbon Canada)**

RESPONSE: We thank you for your comment and have added both suggested forms of evidence in the protocol.

6.3.2 Prevention of Overgrazing

19. **Mechanisms to prevent overgrazing.** The protocol needs to better define what this [mechanisms to prevent overgrazing] looks like. **(Biological Carbon Canada)**

RESPONSE: We thank you for your comment and agree the protocol is not prescriptive in terms of what a mechanism to prevent overgrazing needs to look like. As the Reserve implements a GHG emission reductions program, the protocol does not seek to specify technical aspects of grazing management. Instead, the outcome expected of a grazing management plan is specified: grazing must be limited to moderate levels of intensity, balancing stocking rates with forage production and accounting for site characteristics, including climate variability (especially periods of drought), range condition, slope, distance from water, and the needs of the particular animals. High density alone is not indicative of overgrazing so long as the time on the land is balanced with the stocking rate. The purpose of grazing monitoring is to avoid sustained overgrazing.

6.4 Monitoring Ecosystem Health

20. Important to see the outcomes-based approach to preventing overgrazing by including a requirement for Rangeland Health Assessments during each verification period. It's also good to see that the Protocol developed by Alberta Environment and Parks is one of the options listed on page 61, although this reference (43) is missing from Section 10.

(Alberta Agriculture and Forestry)

RESPONSE: We thank you for your comment and agree that an outcomes-based approach to preventing overgrazing gives flexibility to project developers. A reference to the Rangeland Health Assessment Protocol developed by Alberta Environment and Parks (AEP) has been added to Section 10.

21. Recommend a baseline and then once every 5 years. [to ecosystem health assessments] **(Alberta Agriculture and Forestry)**

RESPONSE: Thank you for your comment. The protocol already states the frequency for ecosystem health assessments must be at least every 6 years. The ecosystem health assessment in the first two verifications can be considered the project's starting condition in this regard.

6.6 Monitoring Parameters

22. Very helpful to see this itemized list of parameters and data sources (calculated, measured, reference or operating records). Suggest indicating default values are described in the Appendices. Can other sources also be used and what quality, e.g. refereed papers? **(Alberta Agriculture and Forestry)**

RESPONSE: Thank you for your comment. All reference values are directly provided by the protocol and thus no other sources can be used. We have added all references as description to default values in table 6.2.

Appendix A

23. Suggest including AAFC's Annual Crop Inventory as a data source to establish both Baseline and Project conditions. Data are available from 2009 (not 2011 indicated on p 93). This may also help with measurements required in 6.6. **(Alberta Agriculture and Forestry)**

RESPONSE: We thank you for your comment. The Annual Crop Inventory was used to determine the percent suitability threshold per the Land Suitability Rating System. The ACI is not meant to be used by project developers. The year for ACI data referenced in Appendix A has been corrected as indicated.

Appendix E

24. Suggest including an introductory paragraph. Were there penalties for reversals within the PCP, or just stopped payments? **(Alberta Agriculture and Forestry)**

RESPONSE: Thank you for your comment. Appendix E is an assessment that supports the use of a 20% leak rate with Canadian data. A sentence in section 5.3.6. was added

to explain this in place of an introductory paragraph in Appendix E. The Permanent Cover Program (PCP) had no consideration of carbon sequestration and so there were no penalties for reversals, payments were halted if there was a reversal.

General Comments

25. In various places the word 'attestation' is used for the project owner to support a conclusion.

Recommend the wording be changed to an Oath. If administered correctly the Oath has the force of law under various pieces of legislation covering evidence. **(Biological Carbon Canada)**

RESPONSE: Thank you for your comment. The attestations of title, voluntary implementation, and regulatory compliance are three forms designated by the Climate Action Reserve to provide the Reserve with assurance of who owns the offset credits, that the project has been implemented voluntarily, and that the project complies with all its applicable regulations. These forms are not meant to be the sole source of evidence for what they attest to, rather to complement other sources of evidence. We added this explanation to the protocol as a footnote to section 2.3.1.

26. Are there plans to develop a protocol for grassland (re)establishment which would provide 100% and uncontested additionality? **(ALUS)**

RESPONSE: We thank you for your comment. On Monday September 23, 2019 the Reserve published a scoping paper to assess the potential of developing a soil organic carbon accrual protocol for North America, available at <http://www.climateactionreserve.org/how/future-protocol-development/issue-papers/>. We are not currently pursuing such a protocol, but we are interested in exploring this idea further.

27. Is CAR (and/or partners) developing a nitrous oxide reduction protocol for agricultural operations? **(ALUS)**

RESPONSE: We thank you for your comment. The Reserve published its Nitrogen Management Project Protocol V2.0 (applicable only to the U.S.) in October 2018. At this time, there are no plans to extend this protocol to Canada.

28. Why isn't carbon captured deeper than 30 cm included? Many prairie species have much deeper roots (some up to 20 feet) that would not be disturbed in the event that land use change occurs. The deeper carbon sequestered is therefore permanent (or more permanent) and could be included in this protocol in the event that subsurface rights are owned by the land (surface) owner/manager. **(ALUS)**

RESPONSE: We thank you for your comment. The offset project is limited to the carbon that would be emitted if the land were converted to cropland. If carbon that is stored at up to 20 feet were not at risk of conversion due to the land management decisions of the owner, then it would not be emitted in the baseline scenario and thus an offset would not represent an avoided emission.

- 29.** Several requests to include references in the protocol were made. Including references to GWP values used and a reference to Canada's National Inventory Report. **(Alberta Agriculture and Forestry)**

RESPONSE: We thank you for your comment. A reference to the IPCC 4th Assessment Report is provided in table 5.1 and a reference to Canada's National Inventory Report (NIR) has been added to the protocol.

- 30.** Because of the different professional standards across Canada, the first profession to do the farm work is a Professional Agrologist. Agrologists can conduct appraisals but not all appraisers can do the agronomy work. Modify what defines a certified appraiser.

In the protocol draft there are several places where an opinion is required in the project. These opinions form a number, like valuation, in which calculations are conducted. There may be some convenience if a Canadian company is certified under a federal government program but this is not sufficient.

When an opinion is needed, the protocol should state an Agrologist or other registered professional with the training and capacity to make the opinion is defined. **(Biological Carbon Canada)**

RESPONSE: We thank you for your comment. We consulted the required qualifications of appraisers to participate in Canada's Ecological Gifts (Ecogifts) program, which provides tax benefits to landowners who donate land or a partial interest in land to a qualified recipient. The program relies on land appraisals to determine the benefit of the program. As the level of certainty they require of their appraisals is equivalent to our certainty requirements, we adopted the eligible list of professional associations and designations for a land appraiser to participate in the Ecogifts program in table 3.1. of the protocol. While this list does not request the agrologist profession *per se*, the Reserve believes that the professional designations would ensure the delivery of an accurate land appraisal.

Other areas where a professional opinion is needed are the mechanisms to prevent overgrazing and ecosystem health assessments. We added the clarification that an appropriately trained expert who may develop a prescribed grazing management plan and/or ecosystem health assessment should be an agrologist with relevant training or a range management expert.