Comments Submitted on the Climate Action Reserve Forest Project Protocol Revision
December 13, 2018

To whom it may concern:

I submit these comments in response to the recently posted Climate Action Reserve Forest Project Protocol Revision (v5.0). My comments are narrow and concern one aspect of the revision, specifically the portion of the protocol addressing the Quantification of Secondary Effects for Improved Forest Management Projects (Section 6.1.6., p54-5).

The current version of the revised protocol cites a literature review I conducted (Galik 2018) as the source for a default secondary effect value of 40%. I am concerned that use of that estimate without further elaboration on where the number came from, how it was derived, and how it was intended to be used is potentially confusing and misleading.

The cited report was written to inform the development of a suite of land management and land use practices for greenhouse reduction in Merced County. As part of that project, I conducted a literature review to assess a range of leakage estimates for a variety of land use activities, and, based on that review, provided recommendations for discounts that could be applied to identified practices at either the activity or county scale. The review itself identified a wide range of estimates in the literature, some negative, some positive, some low in magnitude, others quite high. Because of this, it appears as though the 40% leakage estimate being attributed to Galik (2018) by the revised protocol comes from a simplified flowchart that was developed to assess activity-specific leakage risk.

In describing the flowchart, I took particular care to note the challenges associated with relying on a single estimate derived from the literature:

> “It is important to again remind the reader that leakage is an intervention-specific phenomenon. There are inherent tensions between development of a simplified tool for evaluating the magnitude of leakage risk for whole classes of activities and derivation of specific estimates of leakage risk based upon the unique market and carbon parameters of the specific activity in question...The figure below also does not capture the carbon density of affected land uses, nor does it fully consider the price elasticities of supply or demand. The value of the figure below should thus be seen in its conceptualization of the process for considering

> whether leakage is of concern, and less in the particular values assigned at the end." (Galik, 2018; p12)

This context is missing from the protocol revision, and masks both how the number was derived—in Galik (2018), it was "approximated from estimates reported in Murray et al. (2004) [and] Wear and Murray (2004)" (p12)—as well as how the estimate and the flowchart in which it is embedded was expected to be used.

I understand that there is a desire to develop approaches that provide certainty for project developers and that are easy to use, replicable, and consistent, all the while ensuring that any registered credits represent actual, real, quantifiable net GHG reductions. For the sake of transparency, however, I request that CAR substitute the simple citation of my literature review with their own justification for why a particular value was chosen and how it was derived. That will allow for a more open and transparent discussion about the appropriateness of any discount and/or the assumptions that went into its estimation.

Sincerely,
Christopher S. Galik, Ph.D.

Literature Cited

Galik, C.S. 2018. An overview of leakage risk and mitigation approaches for land management activities in Merced County, California.

Murray, B.C., B.A. McCarl, and H.-C. Lee. 2004. Estimating Leakage from Forest Carbon Sequestration Programs. *Land Economics* 80: 109-124.

Wear, D.N., and B.C. Murray. 2004. Federal timber restrictions, interregional spillovers, and the impact on US softwood markets. *Journal of Environmental Economics and Management* 47: 307–330.