



TO: Climate Action Reserve

FROM: American Carbon Registry, an enterprise of Winrock International

DATE: May 18, 2020

SUBJECT: Public Comments for the Indigo Ag Soil Enrichment Protocol (SEP)

Thank you for the opportunity to provide comments to the draft Indigo Ag Soil Enrichment Protocol (SEP). As a leading carbon offset program with extensive experience in science-based agriculture, land use and forestry methodologies, ACR offers our comments in the spirit of ensuring that proposed approaches under the SEP do not undermine the credibility offsets from Nature Based Solutions.

ACR has spent over a decade working with farmers across the U.S. to test approaches for crop-based agricultural offsets. Some of this work was conducted under USDA NRCS Conservation Innovation Grants (CIGs), in which CAR was also a partner and shared in the learning.

In the majority of cases, we found the obstacles to the development of high quality, fungible offsets from agricultural crop production to be considerable, given challenges with:

- additionality (due to rapid uptake and in many cases high penetration rates of good environmental practices);
- rigorous quantification (due to high costs for credible modelling and low accuracy of default emission factors);
- permanence (due to frequent change of practices and inability to commit to long timeframes since other factors outside carbon markets drive on-farm decisions);
- monitoring and verification (due to logistics of monitoring a myriad of practices across large areas and distrust of broadly sharing farm data); and
- general economics (based on low per acre volumes and low carbon prices).

We recognize the challenges in addressing these obstacles. Assuring offset quality, integrity, transparency and fungibility requires that emission reductions be real, permanent, additional, verifiable, free of leakage, issued ex-post and not double counted. Under the SEP, the crediting period is too long, the additionality assessment is not robust, and the processes described lack transparency for quantifying and verifying results.

We, and our colleagues within our parent organization Winrock International, strongly believe in the important contribution that farmers and ranchers are making to implement climate friendly practices and that they should be rewarded. We are encouraged by the success of programs like the California Healthy Soils Initiative and USDA EQIP and CSP. As pay for practice programs administered by agencies with which farm operations already interact, they can provide quantitative estimates of GHG benefits without having to satisfy many of the more onerous aspects required to generate high quality carbon offsets. Ultimately, carbon markets may not be the financial mechanism best suited to incentivize large scale change in crop agriculture.

With these thoughts in mind and based on our ample experience, ACR provides comments herein to assure that the foundational tenets are met to ensure offsets generated under the SEP are real and additional (#1, #2). We also provide observations on improving general transparency, workability and standardization of the protocol (#3, #4) for the quantification and verification of results.

- 1. Length of crediting period.** In a highly dynamic sector such as crop agriculture, a 30-year crediting period is too long for a baseline to be considered valid and static and be accurately credited against, thus bringing into question whether the offsets generated over this crediting period are REAL. U.S. agriculture is a highly dynamic and diverse environment (what is grown and how it is grown). USDA (ERS or NRCS) and state agriculture agency data supports that practice change, including crop rotation and land fallowing, can happen rapidly within certain geographies based on subsidies or lack thereof, market conditions, land conditions or other factors. In developing methodologies for the activities of fertilizer reduction and changes in rice cultivation practices ACR received stakeholder comments suggesting that farm operators are making management decisions on a week by week basis. This draws into question the validity of the assumption of sustained practice on individual fields for a 30-year period. A shorter crediting period, such as five years, would improve the accuracy of the baseline cropping scenario under current conditions and ensure that the emission reductions that results from the practice change are real.
- 2. Performance standard for additionality.** According to the performance standard described in Appendix A, the SEP considers any practice change that may result in emission reductions as additional, regardless of the rates of localized adoption and the rates of change of adoption for specific practices. This is not a robust approach to additionality, is inconsistent with other protocols/methodologies in the market, and undermines the legitimacy of any emission reductions that would be claimed using the SEP by allowing that agriculture be categorized as a special sector that cannot meet the same rigorous standards for additionality as other sectors.

The SEP provides a list of 40+ illustrative practices that could all potentially be considered additional if adopted and shown to sequester carbon that was not being previously sequestered. The SEP provides for too much flexibility in crop, region and geography for a common practice performance standard to reliably demonstrate additionality. The large number of crops grown in the U.S. are each subject to different risks and economic drivers, including the U.S. Farm Bill, regional environmental concerns, trade negotiations, available payment programs, regulations, demand and natural events.

A performance standard based on regional adoption rates would therefore be more appropriate and should utilize USDA ERS, USDA NRCS or other publicly available data of current adoption rates of specific practices by crop and region to determine in which geographies and under which conditions a particular practice would be additional. A positive list of practices by region, updated at the frequency at which data is available, would increase transparency and usability of the protocol.

- 3. Alternative mechanisms for ensuring permanence.** The standard approach in the SEP to satisfy CAR's permanence requirements is for the Project Owner to maintain active monitoring and reporting of reversals for 100 years after CRT issuance as detailed in the Project Implementation Agreement (PIA). However, the SEP proposes allowing for alternative mechanisms to ensure permanence (3.5.5) without details on those mechanisms. Without the specific information on how alternative mechanisms would be structured and implemented, stakeholders cannot provide input or feedback. Once determined, the proposed alternative mechanisms should be specified in the SEP text and stakeholders given the opportunity to provide comments in an additional public consultation. Because reversal risk mitigation and compensation is integral to offset integrity, standardization and transparency for addressing non-permanence risk is paramount.

- 4. Transparency in quantification and verification.** The SEP is not sufficiently transparent in the areas of quantification and verification. First, the SEP and the modeling guidance should make clear that the models used are able to accurately quantify and are validated for the combination of practices adopted by a farm operation as well as for individual practices, since many of the 40+ practices likely interact both positively and negatively in terms of GHG emissions over a full calendar year at a specific operation. A positive list of models that are sufficiently validated for practices by crop and region and the supporting validation studies could serve this purpose. This list could be added to over time.

Secondly, when regional averages are used for baselines, in lieu of historical data from a farm operation, the criteria for applicability of this data to the project sites/operations should be specified as well as how the data is averaged, and confidence intervals applied to ensure baseline conservatism.

Finally, the SEP does not require re-running of biogeochemical models by a verifier. It will be difficult to render a verification opinion / statement that with reasonable assurance X number of emissions reductions have occurred, without a careful model review. In our experience with projects that rely on biogeochemical models, even small unintentional errors, especially if replicated across many input files or via a batch processing of output files can result in significant errors (both under estimations and over estimations) that may not be found until a third party goes through the process of replicating the results. Review of the modelling exercise and the extent to which results are reproduced should be at the discretion of the verifier to reach a reasonable level of assurance. Or alternatively, the SEP could prescribe the components that must be replicated thus standardizing verifications across projects.