



T-AGG Summary of Existing and Developing Agricultural Offsets Protocols¹

In November 2009, the Technical Working Group on Agricultural Greenhouse Gases (T-AGG) convened a meeting of several organizations that have developed or are developing agricultural offsets protocols for a wide range of activities. Most organizations followed an existing standard, such as the ISO 14064 series of standards, for the quantification and verification of greenhouse gas reduction projects in developing their protocols and methodologies. These protocols, therefore, generally include provisions to address certain concerns with offsets projects, such as measurement uncertainty, additionality, permanence, and leakage; however, the individual protocols differ widely how they deal with these issues.

The following is a brief discussion of the protocols and projects presented at the November 2009 T-AGG meeting along with other protocols brought to our attention following that meeting. *If you represent an organization that has developed or is developing an agricultural offset protocol that you would like to be listed here, please contact lucy.henry@duke.edu so that we may include it.*

Chicago Climate Exchange

Perhaps the most well-known protocols in the U.S. are from the Chicago Climate Exchange (CCX), which has a protocol for agricultural soil carbon sequestration, as well as protocols for agricultural methane collection and rangeland carbon sequestration. The agricultural soil carbon protocol has been active since 2004, and there have been 20 million acres on 12,000 farms enrolled in the program. The protocol was developed using expert opinion and a review of the existing literature, as well as with guidance from the ISO 14064-2 standard.

Additionality is addressed in the CCX soil carbon protocol using a sectoral performance standard. That is, since continuous conservation tillage makes up less than 10% of cultivated acres, the baseline is assumed to be conventional tillage, and all conservation tillage practices are considered additional. In general, project developers must commit to 5 years of continuous conservation tillage, and the project must be located in an eligible region, as defined by the USDA Major Land Resource Regions. Project emissions are included in the project accounting, but are generally negligible. Reductions in fuel use or N₂O emissions, however, are not eligible for offset credit.

CCX does not require an assessment of potential leakage impacts from conservation tillage projects, but it does address project permanence in two ways. First, the average soil sequestration rates were discounted 10%–20% to account for potential loss of carbon from project reversals after the end of the contract period. Second, project developers must place 20% of credits earned by the project into a reserve buffer. If it has been determined that the project did not comply with the requirements of the protocols, CCX can cancel the credits in the reserve buffer. If the project meets all requirements, the credits held in the reserve are transferred back to the project developer after the contract period. CCX requires annual reporting from projects and in-field inspection of at least 10% of all farms and acres each year.

For more information on the CCX agricultural protocols, visit <http://www.chicagoclimatex.com/content.jsf?id=1816>.

¹ Summary developed by David Cooley, Lydia Olander, and Lucy Henry of the Nicholas Institute. For more information please visit <http://www.nicholas.duke.edu/institute/t-agg>.

Climate Change Central

Climate Change Central is a nonprofit organization in Alberta, Canada, that is involved with a number of carbon mitigation activities and projects, including agricultural offsets. The agricultural protocols available from Climate Change Central include reduced-till or no-till projects, reduced methane emissions from beef cattle, and energy efficiency in pork, poultry, and dairy operations. The protocols follow the guidance of the ISO 14064-2 standard; Canadian National Inventory- and/or IPCC-approved methods are preferred for quantification of projects' sinks and sources.

For most of their agricultural protocols, Climate Change Central addresses additionality by requiring that projects have started on or after January 1, 2002. In the tillage protocol, however, additionality is addressed using a performance standard set relative to a 1990 baseline; performance above that baseline is eligible for offsets. Permanence is addressed in the tillage protocol by discounting the credits generated by each project using a region-specific rate determined by an assessment of reversal risk by industry and government experts. Leakage is not mentioned in the tillage protocol or the general offset credit guidance document. All projects are required to be verified using the ISO 14064-3 standard or other approved standard.

For more information on Climate Change Central's agricultural protocols, visit <http://carbonoffsetsolutions.climatechangecentral.com/offset-protocols/approved-alberta-protocols>.

Ducks Unlimited – Avoided Grassland Conversion Project

While Ducks Unlimited is not in the process of developing an agricultural offsets protocol for general use, they are developing an offsets project in the Prairie Potholes region of the Midwest. This project seeks to protect grassland that could otherwise be converted to agricultural use. This project began in 2009 with a pilot project on 26,000 acres in North Dakota, which will be placed under a permanent easement and donated to the U.S. Fish and Wildlife Service for inclusion in the National Wildlife Refuge System. In developing this project, Ducks Unlimited surveyed available avoided deforestation and REDD protocols, and they found that the Voluntary Carbon Standard (VCS) Mosaic Deforestation protocol fit their project most closely. Using estimates from the literature, they determined conversion rates of around 2%–3% per year for their project area. This would have resulted in the conversion of 19,225 acres of the original 26,000 acres under business as usual. They will then compare estimated soil organic carbon under long-term cultivation with soil organic carbon under native prairie species to determine creditable carbon; however, Ducks Unlimited is still in the process of constructing their soil carbon tables for this project area. Once the credits are determined, they will be marketed to the voluntary retail offsets sector. Ducks Unlimited also assessed the counties near their project area for leakage potential, but they found no correlation between easements and new conversion to agriculture.

For more information on Ducks Unlimited's work on carbon sequestration, visit <http://www.ducks.org/Conservation/EcoAssets/1306/CarbonSequestration.html>.

The Earth Partners – Soil Carbon Quantification Methodology

The Earth Partners is a private firm involved in valuing and managing ecosystem assets, including carbon offset projects. As part of this work, the Earth Partners is developing a soil carbon quantification methodology, which consists of several separate modules, which can allow flexibility and customization for new project types. Individual modules instruct project developers on methods for estimation of project carbon pools and emissions, as well as estimation of leakage. The methodology generally uses conservative static baselines, except for areas where the baseline carbon pool is increasing (e.g., from invasion of woody plants). The Earth Partners has identified the estimation of soil carbon

pools and soil emissions as areas that have been the most challenging, as the science is still evolving. Estimates of soil carbon used in the methodology were determined from measurements of permanent sample plots and from a review of the literature. The methodology has been field-tested and peer-reviewed, and it will soon be submitted to the VCS for validation.

For more information, visit <http://www.theearthpartners.com>.

Novecta – Agricultural Soil Offset Standard

Novecta is a joint venture company of the Illinois and Indiana Corn Growers Associations, and it is developing an agricultural soil offset standard. The goal of the standard is to provide structure and oversight to the trade of agricultural soil offsets, as well as to foster precise methods for protocols of project management, quantification, validation, and verification. The standard is intended only for specific agricultural practices, such as no-till or conservation tillage, grassland or rangeland management, or improved fertilizer management. However, Novecta is not developing specific methods for these project types. Rather, similar to the VCS, the Agricultural Soil Offset Standard will have an Agricultural Carbon Board, which will review submitted methods. The standard has undergone two public comment periods, and it has been submitted to the USDA for review.

For more information, visit <http://www.novecta.com>.

World Bank – Sustainable Agricultural Land Management in Kenya

The World Bank is developing a methodology to estimate and monitor greenhouse gas emissions reductions through sustainable agricultural land management (SALM) in Kenya, which it has submitted to the VCS for approval. This approach involves switching among six well-defined land management practices for three cropping systems: coffee, maize, and Napier grass. Models are used to estimate changes in soil organic carbon sequestration, as well as changes in emissions from residuals burning, livestock number and type, manure use, and fertilizer use. The methodology requires certain conditions to be met from project farms in order to simplify estimation of baseline, project emissions, and leakage. Project farms must be in areas where cultivated land is constant or increasing and forest cover is constant or decreasing, and they must also have no significant increase in livestock or fossil fuel emissions and no significant displacement of manure or residues from outside to inside project boundary.

For more information, visit http://www.v-c-s.org/methodology_salm.html.

Winrock International – Nitrogen Fertilizer Reduction on U.S. Farmland

Winrock International has been working in partnership with The David and Lucile Packard Foundation to investigate the possibility for a simple methodology to account for the impacts of reductions in nitrogenous fertilizer use on U.S. farmland. Their approach moves beyond the IPCC Tier 1 approach, while avoiding the use of computer models that require experienced users in order to function. A method has been proposed and is currently being evaluated across pilot farm sites in Iowa, Arkansas and California.

For more information, visit <http://www.winrock.org>.