APPLIED ECOLOGICAL SERVICES

theearthpartners

2011 CIG-GHG
Agricultural Soil Carbon in the Palouse Region: "Developing a Large-scale Agricultural Soil Carbon
Transaction in the Palouse Region"

Project Description

Applied Ecological Services (AES) and its partnership team will develop a large-scale agricultural carbon project on Shepherd's Grain and surrounding land in the Palouse region of eastern Washington, northeast Oregon and north-central Idaho. Intensive farming across the Palouse region has resulted in the near extinction of the native grasslands, and the exhaustion of soil resources. Sustainable, low-carbon farming practices have potential to restore the fertility and ensure the longevity of one of the most important breadbaskets of the U.S. Demonstrating increased soil carbon from these improved agricultural practices is a critical component in the large-scale adoption of such practices. This project seeks to provide a roadmap for developing large-scale, high-quality, low-cost soil carbon transactions.

AES and partners have evaluated the literature and conducted pre-sampling of soil carbon levels in farm fields of Shepherd's Grain members. We propose to further develop and extrapolate these data at a landscape scale across the Palouse. Utilizing a Soil Carbon Quantification Methodology, we will measure, monitor, validate, and monetize carbon credits stemming from low carbon agricultural practices like no-till, crop rotation, and improved soil management. This project demonstrates both the importance of large-scale low carbon farming practices to GHG reduction and the role of quantitative soil carbon methodologies in creating compliance-grade offset credits. We seek to demonstrate a model for marketing and monetizing the resulting carbon credits. This will be one of the largest land-based carbon projects in the world.

We seek to achieve the following outcomes:
- **Demonstrate the model at scale.** In Phase 1, we intend to develop a low carbon agricultural partnership with landowners on 300,000 acres of Shepherd's Grain and surrounding land. In Phase 2, we intend to partner with landowners on over 1,000,000 acres across the Palouse ecoregion.
- **Demonstrate a low-cost aggregation model**. Assembling landowners over large acreages at a relatively low cost is perceived as a major challenge. Through our planned work with landowners on 1 million-plus acres, the TEP/AES team will develop, test, and refine a low-cost aggregation model.
- **Showcase a successful land-based carbon transaction.** While agricultural carbon credits cannot currently be monetized in the marketplace, this initiative seeks to ensure that credits derived from this project will be accepted by the California Air Resources Board under AB-32 or other emerging compliance markets, as well as voluntary markets like VCS and ACR.
- **Develop useful data, maps and templates that will inform policy and support further research.** We will utilize GIS landform and geomorphic modeling and mapping to design, evaluate, and implement a regional, on-the-ground baseline analysis of soil carbon levels across the Palouse landscape.

Background Information for the C-AGG Chicago Meeting July 20-21, 2011

Project: Agricultural Soil Carbon in the Palouse Region: "Developing a Large-scale Agricultural Soil Carbon Transaction in the Palouse Region"

1. What are the major goals of the project?

- **Demonstrate the model at scale.** In Phase 1, we intend to develop a low carbon agricultural partnership with landowners on 300,000 acres of Shepherd's Grain and surrounding land. In Phase 2, we intend to partner with landowners on over 1,000,000 acres across the Palouse ecoregion.
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2. What is the project timeline? **August 1, 2011 – July 31, 2014 (3 years)**

3. Which GHG are targeted by the project, and/or which activities? **Agricultural Emissions.**

4. Can you provide an estimate of tons of CO2equivalents (per year, and/or over the course of the project) that the project might mitigate/abate? **Millions to 10's of millions of tons.**

5. What methods or protocols will the project use to measure or estimate GHG emissions and emissions reductions (e.g. direct measurement, sampling, models, etc)
   TEP's Soil Carbon Quantification Method which includes direct measurement sampling and models.

6. Do you anticipate or envision any obstacles or barriers to achieving your project goals and outcomes as currently set out, or activities that you believe will be challenging?
   Aggregation model and confirmation annually of farmer behavior on land.

7. Have you identified any data or knowledge gaps associated with the project?
   None

8. Please list the project partners affiliated with the project.
   - Applied Ecological Services, Inc.
   - The Earth Partners, LLC
   - University of Missouri, Technical Team/Advisor
   - EKO Asset Management/Investors
   - Sustainable Food Lab, Advisor
   - Local Farm Organizations