



Oklahoma Carbon Program

2010 Verification Report North Canadian River Watershed Carbon Pilot Program

Prepared for

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1. Summary

In 2010, the Carbon Pilot Program in the N. Canadian River Watershed sequestered 3,629 metric tons of carbon dioxide equivalent with conservation practices (no-till, conversion to grasslands, riparian buffers) on agricultural lands. The sequestration was confirmed by field verification of 100 percent of the fields totaling 9,650 acres. Of those acres, 516 were ineligible. The remaining 9,134 acres were certified by the Conservation Commission by a desk audit of producer information and field verification. Western Farmers Electric Cooperative (WFEC) is paying \$3.50 per metric ton of CO₂. This totals a payment to producers of \$12,701 in year two of the program. As of December 31, 2010, the 319 Nonpoint Source Pollution Project in the watershed has completed the following work:

- Over 100 contracts signed
- 17,976 acres of no-till implemented
- 45,780 LF of riparian area fencing installed
- 394 acres of riparian area protected
- 920 acres of cropland planted to grass
- 5 substandard septic systems replaced
- 7,842 LF of cross fencing installed to facilitate grazing management
- 4 no-till drills purchased for each participating conservation district to lease to producers

2. Introduction

This report is provided to WFEC as a deliverable of the Oklahoma Carbon Pilot Program (Pilot Program) verification process. This report covers the verification of carbon sequestration by agricultural best management practices (no-till, conversion to grasslands, and exclusion of riparian buffers) in place during 2010. The Pilot Program location is in the North Canadian River Watershed as defined by the North Canadian River Watershed 319 Project by the Oklahoma Conservation Commission to be between the Canton Dam and Lake Overholser partially within Blaine, Canadian, and Dewey counties in Oklahoma. The Conservation Commission conducted verification from October 2010 to December 2010 in accordance with the Oklahoma Verification Standard 2010.1.

The Oklahoma Conservation Commission (OCC) conserves, protects and restores Oklahoma's natural resources, working in collaboration with conservation districts and other partners, on behalf of the citizens of Oklahoma. The Oklahoma Conservation Commission and conservation districts accomplish conservation of renewable natural resources through soil and water conservation, landuse planning, small watershed upstream flood control, abandoned mine land reclamation, water quality monitoring, environmental education and wetlands conservation.

The Oklahoma Carbon Program provides verification, certification, and registration of Oklahoma carbon offsets from agriculture, forestry, and downhole injection of carbon dioxide. The program offers oversight of carbon trading in the state by educating and connecting Oklahomans interested in carbon offsets with screened aggregators and trained verifiers of carbon offsets. Practices that sequester CO₂ also protect water quality. The Oklahoma Carbon Program is housed in the Water Quality Division of the OCC.

Definition of Conservation Tillage: The practice of *continuously* reducing or eliminating soil tillage from a crop management system while retaining and managing the crop residue on the soil surface.

Definition of Cropland Conversion to Grassland: Occurs when marginal croplands, that are not consistently producing an optimal harvest due to soil quality or type, climate, or other reasons, are converted to grassland.

Definition of Riparian Area Exclusion: Occurs when a fence is erected between a field in agriculture production and a stream or lake for the purposes of creating a vegetated buffer between the field and water.

The Pilot Program contracts were aggregated by the Oklahoma Carbon Initiative for Western Farmers Electric Cooperative. Local conservation districts assisted producers with applications. Sarah Love Pope, Director of the Carbon Initiative, was responsible for contracts and payments. The contracts were verified by the Oklahoma Conservation Commission, with the Director of the Oklahoma Carbon Program, responsible for assuring field verification, conducting document review (desk audit), and report preparation. Contact the Commission with questions pertaining to verification or this report at 405-522-4739 or stacy.hansen@conservation.ok.gov.

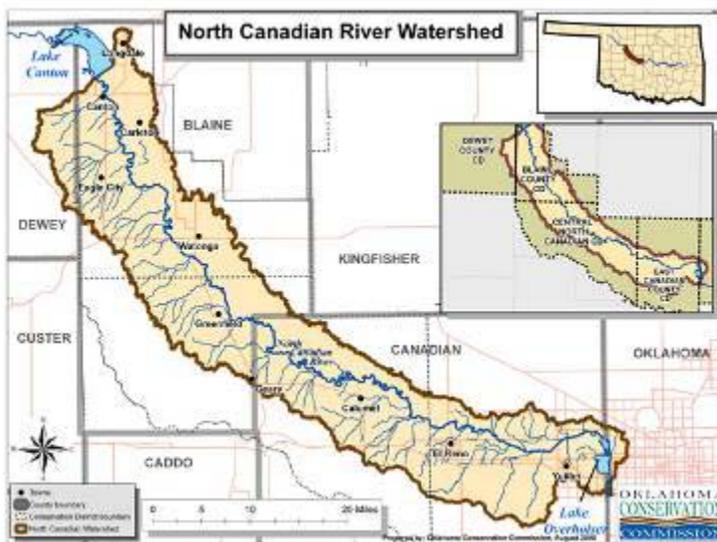
3. Objectives

The purpose of this verification was, through review of field assessments and documents, to establish that the Pilot Program contracts meet requirements of the Pilot Program criteria and the reported observations are accurate, complete, consistent, transparent, and free of material error or omission.

4. Verification Scope

Specific scope metrics for the verification are outlined below:

Geographic Boundary North Canadian River Watershed between Canton Dam and Lake Overholser partially within the boundaries of Blaine, Canadian, and Dewey counties. See map below.



Greenhouse Gases Verified: Emissions reductions (expressed in units of Carbon Dioxide equivalents, CO₂-e) resulting from agricultural best management practices that are not business as usual: no-till, cropland conversion to grassland, and riparian exclusion.

Reporting Period: January 1, 2010 through December 31, 2010

Data Sources: Visual assessments; maps; emissions reduction calculations

Principle: GHG are stored when agricultural production occurs in a manner that minimizes or eliminates soil disturbance by livestock or farm equipment while optimizing plant growth, coverage, and health.

Requirements: In order to be Oklahoma Certified, verified offsets must meet criteria of the Oklahoma Verification Standard 2010.1. Oklahoma Certified offsets will be published to the Oklahoma Carbon Offset Registry.

5. Standards Used to Verify Emissions Reduction

The standard of verification used to conduct this verification was Oklahoma Verification Standard 2010.1.

6. Verification Methodology

Verifiers followed the Oklahoma Carbon Program Verification Standard 2010.1 to assess no-till, grassland, and riparian exclusion. Verification included review of documents, interviews and meetings with land managers as necessary and **visual on-site assessment** of parameters in Table 1.

Table 1. Parameters Assessed During Field Verification

	No-Till	Grassland	Riparian Exclusion
Field	Confirm field legal location	Confirm field legal location	Confirm field legal location
	Review maps or photos	Review maps or photos	Review maps or photos
	# Acres in field	Seeding date	Miles of fence installed
	# Irrigated acres	Acres planted to grass	Acres excluded
	Previous crop type	Predominant perennial plant species	Exclusion date
	Evidence of full width tillage	% Cover perennial plant species	No evidence of recent livestock traffic
	Crop residue or stubble burned	% Cover annuals, weeds or brushy plant species	Vegetation density and type
	Crop residue or stubble removed	% Soil surface exposed	Longevity of exclusion
	Growing crop grazed out	% Acres with residue removed	
	Field fallowed > than one year	Amount of standing biomass	
Photos	Digital	Digital	Digital

	Two minimum per field	Two minimum per field	Two minimum per field
	Panoramic up or down rows	Panoramic	Panoramic
	Close up 45 degrees showing vegetation type and residue	Close up 45 degrees showing vegetation type	Close up 45 degrees showing vegetation type
	Soil disturbance or questionable area	Soil disturbance or questionable area	Soil disturbance or questionable area
Documents	Aerial maps	Aerial maps	Aerial maps
	319 Project agreement	319 Project agreement	319 Project agreement

7. Overview of the Verification Process

To review Pilot Program’s offset fields under carbon contract the following verification process was used to gain an understanding of each participant’s carbon sequestering activities:

- Select Verification Team
- Develop verification and assessment plan
- Contact land manager
- Conduct site visits to 100% of fields
- Take photos of each field (attempted)
- Submit data (field forms and photos) for internal review
- Review and evaluate data for period under review
- Follow up with field verifier or producer for corrective action or supplemental data as needed
- Prepare final report with calculations



Verification Team

The Conservation Commission’s verification team consisted of the following individuals who were selected based on their verification training, experience with agriculture, and local knowledge of agriculture in the area.

- Lead Verifier: Monty Ramming
- Verifier: Scott Hoar
- Technical Expert: Monty Ramming
- Internal Reviewer: Stacy Hansen

Land Manager Contact

Each land manager applicant was contacted to schedule a site visit and given the option to accompany the Verification Team during verification.

Development of the Verification Plan

The team developed a verification plan to make efficient use of travel time and minimize fuel emissions when visiting locations. Data was gathered in accordance with Oklahoma Carbon Program field verification forms.

Site Assessment

The Verification Team conducted site visits between October 2010 and December 2010 on 100% of fields with active 319 Project Agreement and active Carbon Pilot Program Carbon Contract.

Internal Review

All field data sheets and photographs were submitted to the Internal Reviewer for review and use in the final report.

Carbon Sequestration Data and Calculation Assessment

This assessment used information and insights gained during the previous steps to evaluate the collected data and determine carbon dioxide reduction quantities.

Corrective Actions and Supplemental Information

The Lead Verifier requested supplemental information from producers through interviews, but did not request corrective actions. The Internal Reviewer contacted the aggregator for clarification and corrective action regarding one field in one contract where acres were traded and new acres added.

Verification Reporting

Verification reporting, represented by this report, documents the verification process and identifies its findings and results. Verification reporting consists of this annual report for WFEC and publishing results on the Oklahoma Carbon Offset Registry.

8. Site Conformance with Verification Criteria

Site Overview

The Pilot Program is located in the North Canadian River Watershed between Canton Dam and Lake Overholser in Blaine, Canadian, and Dewey counties in west central Oklahoma. This area was chosen because a watershed implementation project had just been launched in the area due to the strong local leadership and initiative of local conservation districts interested in addressing nonpoint source pollution affecting the river. This stretch of river has repeatedly failed to meet water quality standards for turbidity and *Escherichia coli* and *Enterococcus* (forms of fecal bacteria). The goal of the three year water quality project is to install best management practices (BMPs) to reduce bacteria, nutrients, and sediment entering area streams and the river.

Data Collection Monitoring Processes

The Lead Verifier spoke by phone with the Internal Reviewer in January 2011, after the site visits were conducted and field data and photodocumentation were received, to confirm the following about the verification process:

- The data collection process
- Transmission of photos and documents
- Internal documents and protocols were followed

9. Verification Findings Summary

Twenty-two producers participated in the Pilot Program. A total of 9,650 acres were verified. Of the total, 516 acres, or 5%, were not in compliance and were not certified for credit. A compliance summary and reasons for noncompliance are summarized in **Tables 2 and 3** below. A total of 9,134 acres were certified by the Conservation Commission. The verification process focused on verifying that performance standards were being met at each field location participating in the Pilot Program. This was necessary because the quantification methodology that was used to calculate the emissions reductions is based on visual assessment of farm practices. To complete the verification process, the Verification Team made contact with land managers and arranged follow-up visits as necessary. Through the desk audit process, it was determined that Oklahoma Carbon Program policies developed since the Pilot Program's inception have not been communicated to participants. Therefore, participants will not be penalized for practices that do not disturb the soil, such as grazing out a wheat field), which would typically make acres ineligible for carbon payment. In contrast, when the soil was disturbed such as by or to repair pipeline crew disturbance, the field was disqualified for current and future contract years for failing to remain in continuous no-till (see **Table 3**).

Table 2. Explanation of Field Findings

	Total Acres	Verified (%)	In Compliance (%)	Out of Compliance (%)
All Practices	9650	100	95	5
No-till	9229	100	94	6
Grassland	297	100	100	0
Riparian	124	100	100	0
Rangeland	0	0	0	0

Table 3. Explanation of Acres and Contracts Not in Compliance

Contract #	# Acres	Reason	Action
WF28xxx	145	No-Till: No standing stalks	Acres ineligible
WF25xxx	40	*No-Till: Acres worked in 2009 to repair pipeline crew disturbance	Acres Ineligible
WF05xxx	3	No-Till: Oil and gas related construction	Acres Ineligible
WF07xxx	85	**No-Till: Grazed out	None
WF07xxx	99	**No-Till: Grazed out	None
WF07xxx	155	No-Till: Field worked due to rain ruts	Acres Ineligible
WF07xxx	73	No-Till: Field worked to repair pipeline crew disturbance	Acres Ineligible
WF09xxx	100	No-Till: Field worked to repair pipeline crew disturbance	Acres Ineligible
TOTAL Ineligible	516		

Note: The letters in the contract numbers have been redacted to protect participant privacy.

* The carbon contract stipulates that, for no-till, enrolled "acres shall be in continuous conservation tillage," therefore, soil disturbance makes the field ineligible for current and subsequent years.

**Grazing out is a disqualifying practice; however, this information was not provided to producers in advance. Since the soil was not worked, these fields were not disqualified in 2010.

Lessons Learned

No corrective action requests were made, but it was determined that additional information about disqualifying activities needs to be communicated to participants in the pilot and statewide program. This is necessary because some actions allowed under 319 Project agreements can make the same participant ineligible for carbon credit payment. An example of such an activity is “grazing out” a wheat field with cattle, which significantly reduces the amount of crop residue that would remain in the field if the wheat was harvested. The timing of the field verification also affected the field verifiers’ ability to document field condition. For example, when verifying carbon contracts it is ideal to verify spring and winter crops at different times of the year. However, because 319 Project staff also verify the carbon contracts, pilot program verification is conducted in tandem with 319 Project verification, which occurs annually. As a result, visual confirmation of spring crops, such as milo, that had already been harvested the spring prior or that had not yet emerged during fall/winter verification, was not possible. However, verifiers were able to tell that the fields were under continuous no-till management and they knew the field had been planted because they live in the area.

10. Verification Conclusions and Recommendations

This assessment utilized Oklahoma Verification Standard 2010.1 to assess performance standards and annual stored metric tons of carbon dioxide by participating agriculture producers in the North Canadian River Watershed Carbon Pilot Program area.

Conclusions on the GHG assertion

Based on the assessments performed, the Conservation Commission concludes that the Project GHG emissions reductions, due to the offsetting by agricultural management practices for the period of January 1, 2010 through December 31, 2010, can be considered to a reasonable level of assurance:

- Consistent with the Program Methodology
- Without material discrepancy, and
- The carbon dioxide sequestered equals 3,629 metric tons

Calculations

2010	No-Till	Grassland	Riparian	
Acres Certified	8713	297	124	
Sequestration Rate (Metric Tons CO2/Ac/Yr)	0.4	0.4	0.2	
Total Metric Tons CO2/Yr	3,485	119	25	3,629

