



United States Department of Agriculture
Natural Resources Conservation Service

Ogallala Aquifer Initiative

Conservation Beyond Boundaries **OAI**



The Need

America's stewardship of the Ogallala Aquifer is critical. This aquifer supports nearly one-fifth of the wheat, corn, cotton and cattle produced in the United States. Stretching from western Texas to South Dakota, the Ogallala covers about 225,000 square miles of eight states and has long been a major source of water for agricultural, municipal and industrial development on the Great Plains. Currently, the use of groundwater from the aquifer is unsustainable as withdrawals exceed the natural recharge.

Nearly 15.1 million irrigated acres of agricultural land are located in this vast region. The Ogallala is the source of 30 percent of all groundwater used for irrigation in the United States, but agricultural and industrial uses have threatened the quantity and quality of this water source. In many areas

of the aquifer, water withdrawals have far outpaced recharge, leading to significant declines in water levels. In other areas, the long-term sustainability of the aquifer for drinking water is threatened by intensive agricultural and industrial activities.

Goals

The goals of the Ogallala Aquifer Initiative (OAI) are to encourage water conservation through improved irrigation systems and conversion to non-irrigated production. A second goal is to enhance the economic viability of cropland and rangelands around the aquifer.

USDA's Natural Resources Conservation Service (NRCS) focuses OAI technical and financial assistance in areas where the aquifer level has declined significantly and where the groundwater is vulnerable to nutrient and pesticide contamination.

Results/Outcomes

The OAI has been very successful in accelerating water savings in the most vulnerable areas of the aquifer. In the past four years, producers have installed conservation practices using all of the NRCS conservation programs. These conservation practices reduced water withdrawals from the Ogallala Aquifer by at least 1.5 million acre-feet or more than 489 billion gallons and reduced associated irrigation energy needs equivalent to almost 33 million gallons of diesel fuel. OAI assistance accounted for more than one-quarter of these reduced total withdrawals during the four years.

Producers depending on the declining Ogallala Aquifer understand that the future of their farming operations, and America's food supply, requires

them to take care of the aquifer. This motivates them to adopt better equipment and techniques to manage their water use. NRCS partners with these producers to provide the science, technology and financial assistance to help them accomplish that goal.



NRCS is providing farmers and ranchers with technical and financial assistance to support water and energy savings through proven conservation programs.

Program

- Environmental Quality Incentives Program (EQIP)

2012 Progress Report

Colorado
Kansas
Nebraska

New Mexico
Oklahoma
South Dakota

Texas
Wyoming



Feature Story
Nebraska Irrigation Efficiencies Help Determine Success

Reed McClymont, a farmer in south central Nebraska, has a long history of installing conservation practices. He learned firsthand about the benefits of natural resource conservation while working with his dad and uncle on their farms. When McClymont started farming on his own, he began installing conservation practices on his crop and range land.

With Nebraska currently experiencing one of the

worst droughts in history, McClymont is now focusing on conserving water on his operation. Recently, one of the major water conservation measures he's adopted on his farm is converting from gravity irrigation to center pivots or sprinkler irrigation. McClymont received technical and financial assistance to make this conversion through OAI.

"There are a lot of reasons for the conversion," McClymont says. "Net profit is the most important reason. We had \$18.52 less energy expenses per acre under our center pivots than we did under gravity irrigation."

Switching farmers from gravity to center pivot systems can result in significant gains in water use efficiency.

"We know we've reduced our irrigation water usage by at least 50 percent with the center pivots, McClymont says. "With the pivots we're also more efficient in getting water to the plants in a uniform manner. There was a nine-bushel-an-acre corn yield difference favoring the center pivots."

McClymont's conservation efforts impacts Nebraska residents and everyone else dependent on the Ogallala Aquifer. NRCS's work with

private landowners can have a significant impact on Nebraska's natural resources since more than 95 percent of the state is privately owned. Each landowner who works with NRCS to protect natural resources helps his or her own operation as well as the entire Ogallala Aquifer.

McClymont says, "If something makes my business more profitable and helps the environment, I want to take advantage of that."

**Fiscal Year 2012 Ogallala Aquifer Initiative
 NRCS Financial Assistance (FA) and Active and Completed Contracts**

State	Environmental Quality Incentives Program (EQIP)		
	Number of Contracts	FA Contract Obligations	Contract Acres
Colorado	23	\$1,204,024	11,850
Kansas	33	\$1,986,446	5,746
Nebraska	126	\$4,364,487	12,090
New Mexico	0	0	0
Oklahoma	15	\$1,066,592	2,878
South Dakota	1	\$19,500	132
Texas	144	\$5,110,098	30,315
Wyoming	2	\$305,077	1,189
Totals	344	\$14,056,224	64,200

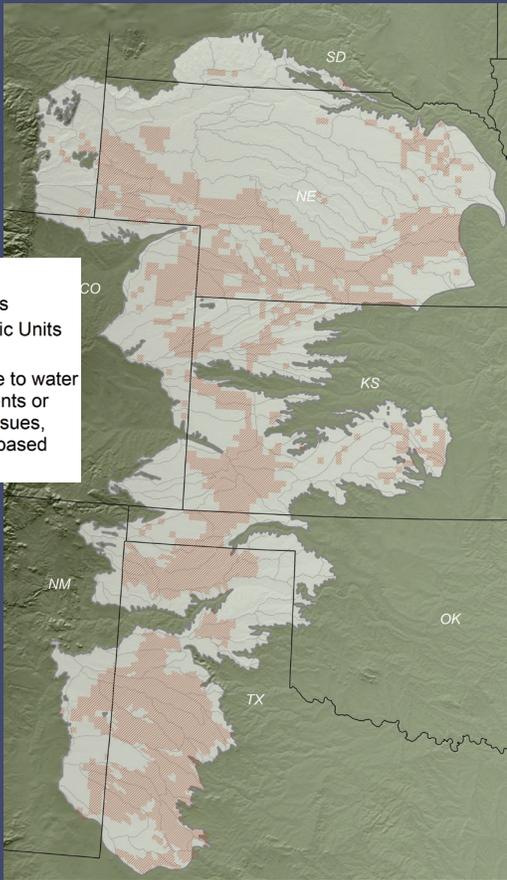
Farmers and ranchers address water quantity and quality concerns in the Ogallala Aquifer by installing conservation systems with support from NRCS programs. Participating producers who farm or ranch over the Ogallala Aquifer have received assistance to implement conservation methods that increase water efficiency for their crops, including the use of advanced irrigation systems, conversion of irrigated land to dry land farming, planting of non-irrigated permanent vegetation and adjusting crop rotations to include perennial vegetation for haying, grazing and wildlife habitat. They have applied practices, such as no-till and nutrient and pest management, to better manage on-farm nutrients and improve the quality of water returning into the aquifer.

Statistical Source: Protracts for new enrollment, October 4, 2012.

"We know we've reduced our irrigation water usage by at least 50 percent with the center pivots. With the pivots we're more efficient in getting water to the plants in a uniform manner, too."

Reed McClymont, South Central Nebraska Farmer

Helping People
 Help the Land



Legend

- State Boundaries
- 8-Digit Hydrologic Units
- Ogallala Aquifer
- Areas vulnerable to water quality impairments or water quantity issues, and other state-based priority areas

Map source:
 U.S. Department of Agriculture, Natural Resources Conservation Service, U.S. Department of the Interior, U.S. Geological Survey Ogallala Aquifer Initiative, Map ID: 12652
 USDA NRCS Resource Assessment Division, Washington, DC, February 2013



Results

Producers are able to implement water conservation practices at an accelerated rate while still maintaining their farm's profitability.

Improvements in irrigation efficiencies gained by using irrigation management can help maintain the long-term viability of the farm.

From Texas
"With the irrigation planning and designs being approved by the NRCS, I know our systems are meeting better standards and we are utilizing our water more efficiently."

Burt Heinrich, Cotton Farmer

Water savings conservation practices include:

- Converting irrigated land to dry land farming**
- Planting non-irrigated permanent vegetation**
- Implementing nutrient and pest management**
- Adjusting crop rotations and perennial vegetation for haying, grazing, and wildlife habitat**
- Replacing inefficient, flood-irrigated system to more efficient center pivots and micro sub-surface drip irrigation systems**



For more information, visit: <http://go.usa.gov/47Mm>
 Conservation Beyond Boundaries

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