

# WATER CONSERVATION AND RE-USE

## Conserving Groundwater in the Ogallala Aquifer with Water Rights Lease Agreements



The Ogallala Aquifer supports 20% of agriculture harvest in the United States. The region's agriculture-based economy requires widespread irrigation, depleting the aquifer faster than the recharge rate. Clovis, New Mexico is entirely dependent on the Ogallala Aquifer for municipal water, agriculture, and use by Cannon Air Force Base (CAFB). With funding from the DOD's Readiness and Environmental Protection Integration (REPI) Program, the Ogallala Land & Water Conservancy (OLWC) and CAFB are entering into 3-year groundwater rights lease agreements with landowners. The agreements pay farmers to stop irrigating their crops. CAFB and the OLWC are also working with partners to restore grasslands and playa lakes for groundwater recharge.



USDA Southwest Climate Hub  
U.S. DEPARTMENT OF AGRICULTURE



### KEY ISSUES ADDRESSED

Irrigation for crops consumes 95% of the annual available groundwater, and in 50 years the aquifer could be depleted if extraction continues at its current rate. The creation of the water rights lease agreements is the first time groundwater has been recognized as real property that can be leased by a military installation, necessitating direct negotiation to prove legal justification. The project requires substantial funding. To fairly compensate landowners in the agreements, the annual payouts include cost for the groundwater, and profits lost from farm sales. Because the groundwater quantity has decreased since landowners acquired water rights, the water must be remeasured to avoid payouts for water that no longer exists. Once landowners stop irrigating, the land has the potential to convert to fallow land with weedy vegetation and infertile soil.

### PROJECT GOALS

- Decrease agricultural irrigation to bank groundwater for use by the municipality of Clovis and CAFB
- Accurately calculate groundwater and secure funding for landowner compensation
- Legally justify treating groundwater as property to the DOD and Air Force Civil Engineer Center (AFCEC) and create template for groundwater lease agreements
- Transform irrigated farmland into dryland farms and grassland habitat, and restore playa lakes

## BUILDING RELATIONSHIPS WITH TRUST

The success of the innovative groundwater conservation project is built on the foundation of relationships and mutual trust with local landowners who are OLWC priority partners.



CAFB-MAFR Military Training/CAFB

## PROJECT HIGHLIGHTS

**Paper vs Wet Water:** Managers metered 53 wells, and discovered the amount of water remaining was 57% less than the groundwater outlined in appropriated water rights. Only the groundwater available was included in the water rights lease agreements.

**Incentivizing Landowner Participation:** Managers and landowners calculated personalized 3-year crop budgets to fairly compensate landowners for ceasing irrigation. Managers used a 20/80 model, in which landowners are compensated for 100% of their groundwater, but retain 20% for domestic and livestock use.

**Working Around Complex Law:** Project managers employed a water-rights lawyer to negotiate with AFCEC attorneys. The negotiations included establishing legal precedents in which groundwater right leases were treated as real property.

**Billions of Gallons of Water Saved:** Between June 2022 to June 2023, 3,757,514,400 gallons of water were saved as a result of eight initial water rights lease agreements.

**Water-Saving Land Uses:** The OLWC works with landowners to transition to land uses that help conserve water, including dryland cropping. The OLWC is exploring grassland restoration, and Playa Lakes Joint Venture and Natural Resources Conservation Service (NRCS) will restore 13 playas.

## Collaborators

- See online for full list of collaborators

CART Author: Jackelyn Alessi, Drought Learning Network (DLN), August 2024.

For more information on CART or DLN, contact Karlee Jewell ([karlee.jewell@fws.gov](mailto:karlee.jewell@fws.gov)) or Maude Dinan ([mdinan@nmsu.edu](mailto:mdinan@nmsu.edu)).

Visit CART:



## LESSONS LEARNED

Landowners understand the importance of the project to the city, county, and CAFB. They voluntarily offered to stop irrigated farming knowing this decision would save vital groundwater for the survival of communities. Several landowners will continue ranching or transition to dryland cropping to keep supplying the community with cattle feed and edible crops.

Negotiations and the creation of the template necessitated one year for meetings between OLWC and Air Force attorneys. Negotiation can delay lease payouts, so budgeting for time is critical for maintaining a good relationship with landowners. The OLWC implements the REPI project program, and as a conservancy, expands the grant funding opportunities to finance the water rights lease agreements and grassland habitat restoration work. The OLWC received funding from Curry County, Clovis, the DOD REPI Program, NRCS Regional Conservation Partnership Program, and the New Mexico Office of the State Engineer grant award. The total grants and program funding is \$17,306,511.

## NEXT STEPS

- Enter 3-year water rights lease agreements with more landowners
- Sustain relationships with volunteers to ensure they don't return to irrigation farming after the 3-year agreement ends
- Extend the water rights lease agreements, as needed, until perpetual conservation easements can be acquired

For more information on this project, contact Ladona Clayton:  
[ladona.clayton@ogalwc.org](mailto:ladona.clayton@ogalwc.org)



Burrowing Owls at CAFB/CAFB