

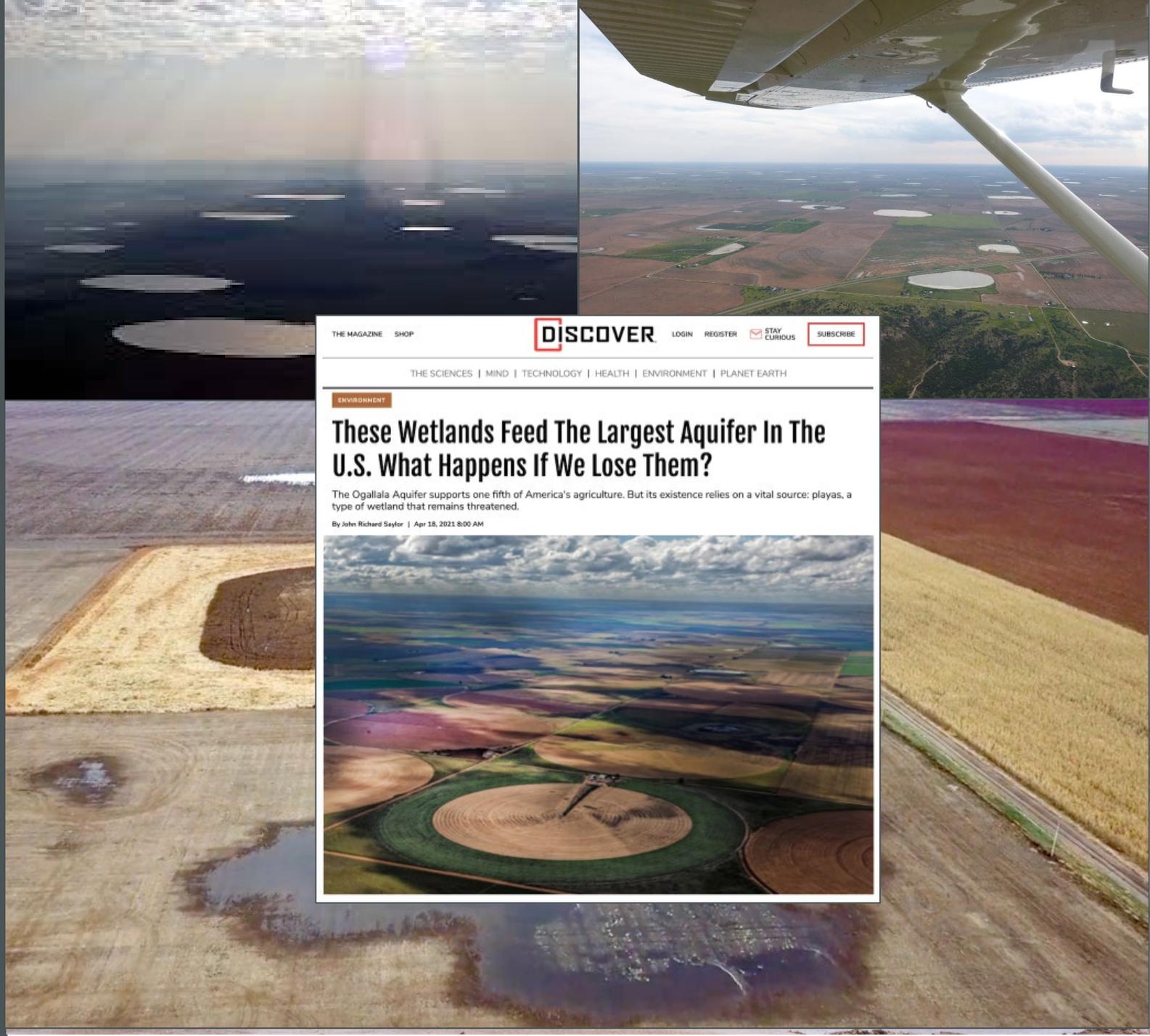


TEXAS PLAYA CONSERVATION INITIATIVE



Rachel Fern, PhD
Statewide Wetland Program Leader
Texas Parks and Wildlife Department

WHAT ARE PLAYAS?



THE MAGAZINE SHOP

DISCOVER

LOGIN REGISTER

STAY CURIOUS

SUBSCRIBE

THE SCIENCES | MIND | TECHNOLOGY | HEALTH | ENVIRONMENT | PLANET EARTH

ENVIRONMENT

These Wetlands Feed The Largest Aquifer In The U.S. What Happens If We Lose Them?

The Ogallala Aquifer supports one fifth of America's agriculture. But its existence relies on a vital source: playas, a type of wetland that remains threatened.

By John Richard Saylor | Apr 18, 2021 8:00 AM



PLAYAS AND SURFACE WATER

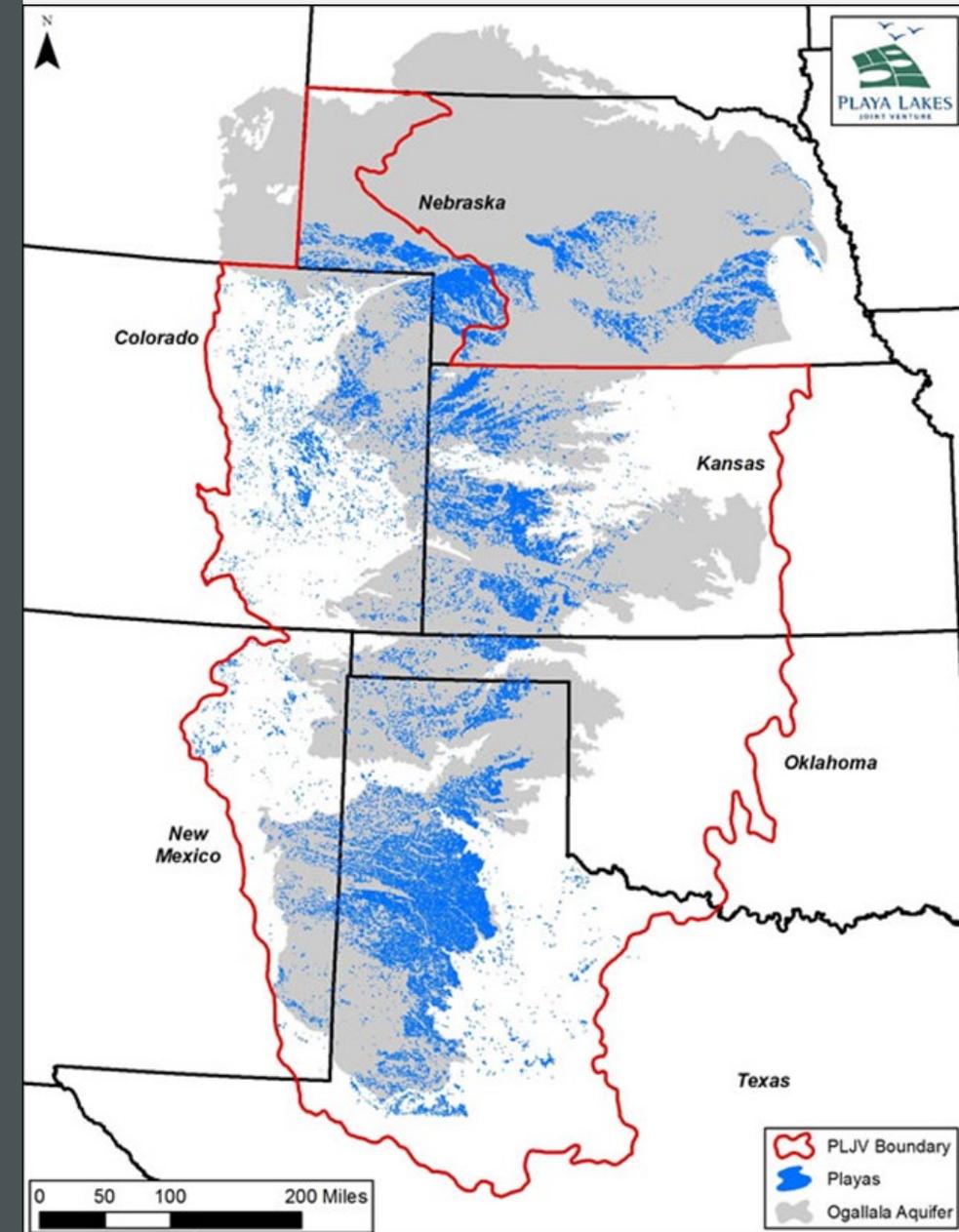
- Great amounts of diversity when wet
 - Plants – 350 species
 - Animals
 - Birds – 185 species
 - Mammals – 37 species
 - Amphibians – 13 species
 - Invertebrates – ???

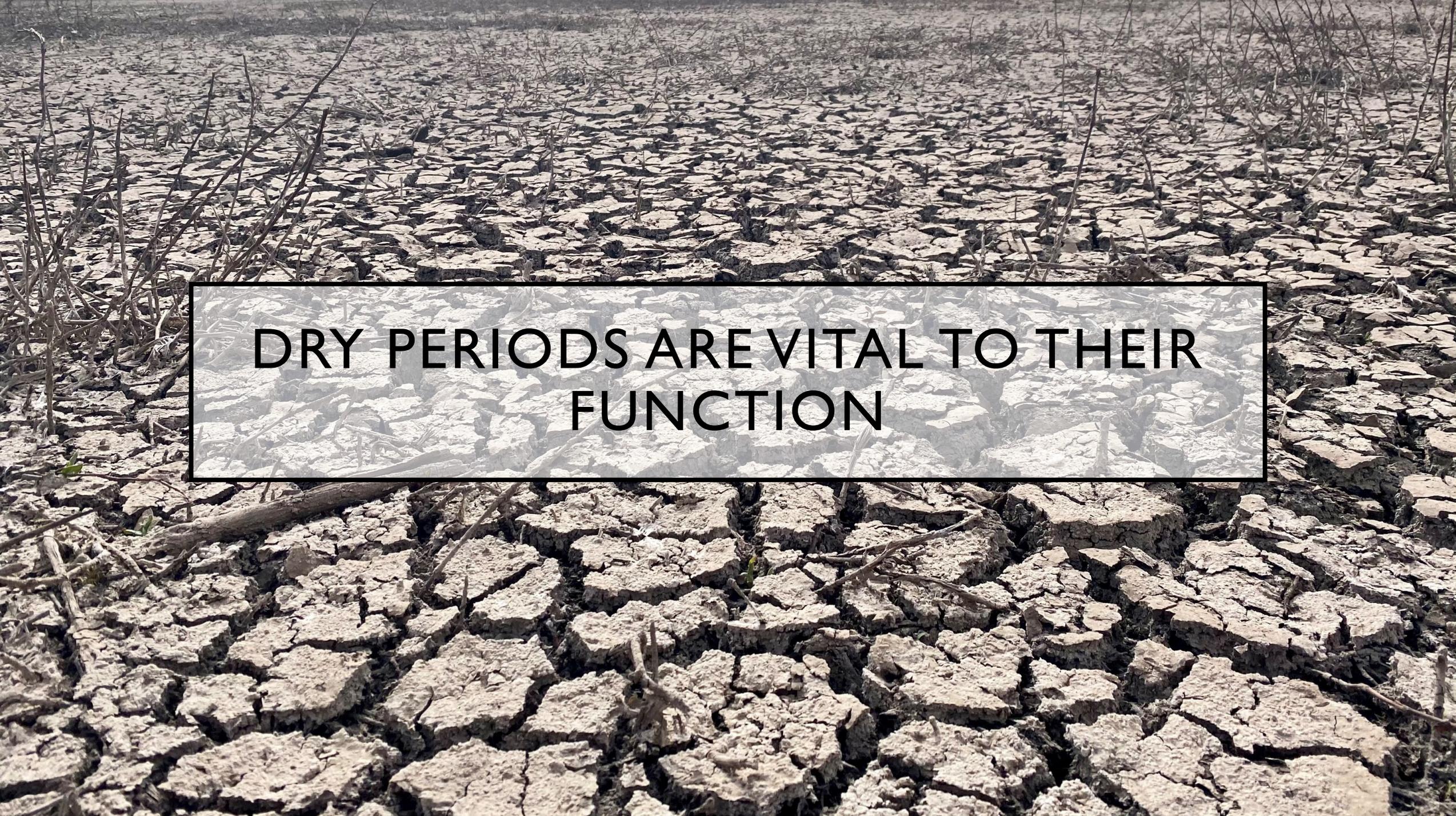




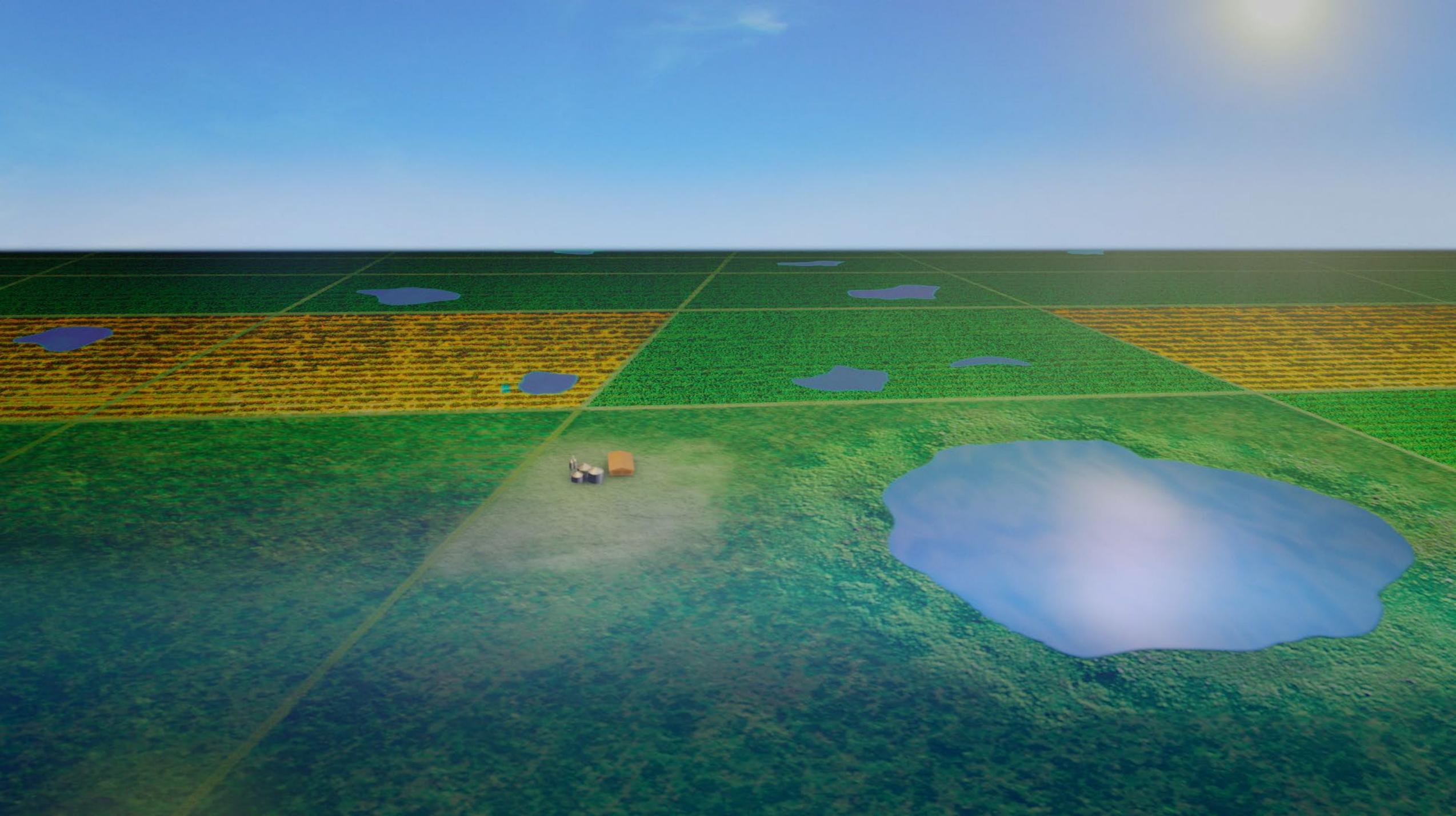
PLAYAS AND GROUND WATER

- Playas are the primary (95%) source of water recharge to the Ogallala
- Recharge of aquifers associated with playas is slow (22-25mm per year)
 - Properly functioning playas may exceed 3 inches per year
- The Ogallala is compartmentalized
 - Water flowing through your playa benefits your wells
- 3” of recharge through a 4-acre playa produces 326,000 gallons of water
- Enough to support a family of 4 for 2 years

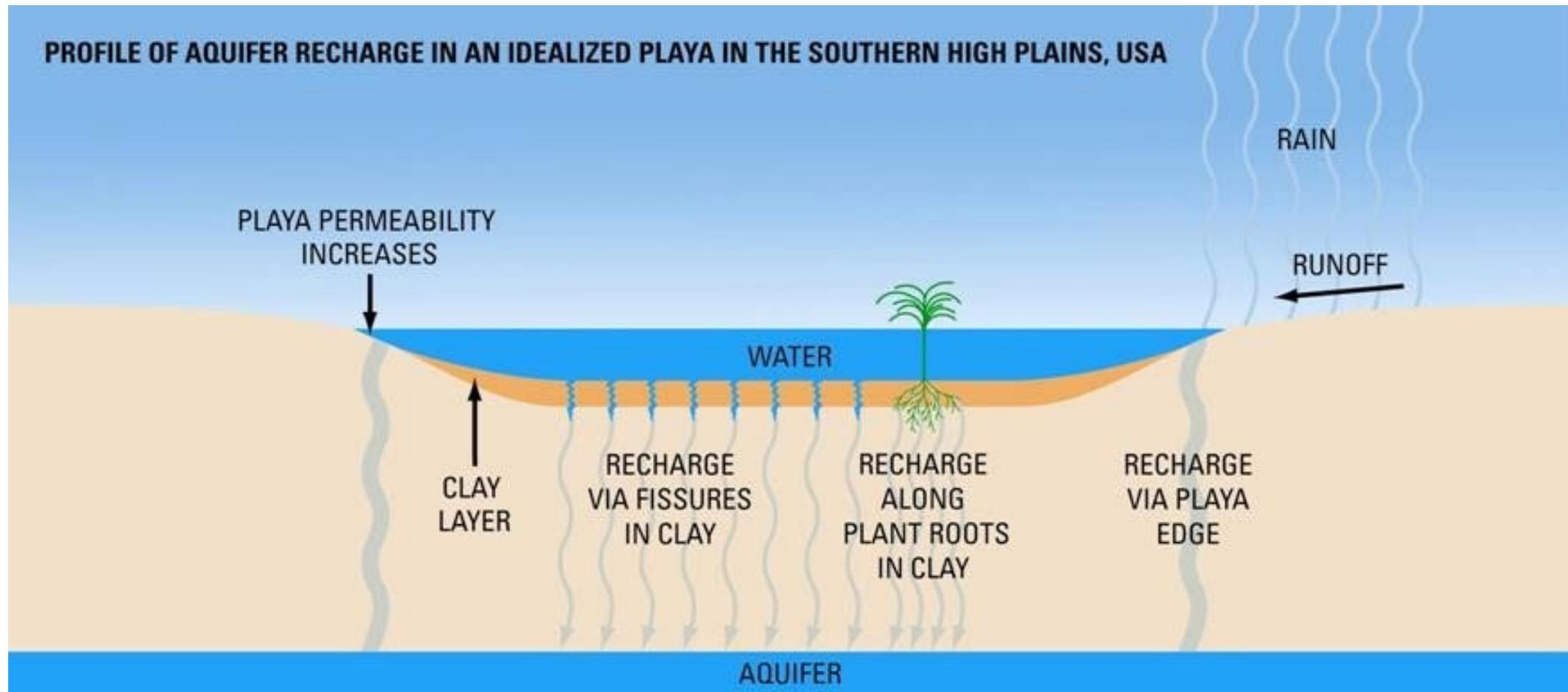


A photograph of a dry, cracked, and parched landscape. The ground is covered in numerous small, irregular, light-brown soil clumps separated by deep, dark cracks. Sparse, dry, and brittle-looking vegetation is scattered across the scene, particularly on the left side. The overall tone is desaturated and emphasizes the arid conditions.

**DRY PERIODS ARE VITAL TO THEIR
FUNCTION**



PROFILE OF AQUIFER RECHARGE IN AN IDEALIZED PLAYA IN THE SOUTHERN HIGH PLAINS, USA



PLAYAS IN TEXAS

STATE	NUMBER	AVERAGE SIZE (Ac)	RANGE (Ac)
Colorado *	8,047	5.5	0.01 - 248
Kansas	22,045	3.7	0.08 - 464
Nebraska	21,900	1.2	0.01 - 79.5
New Mexico *	2,231	14.3	0.04 - 1,241
Oklahoma *	2,886		
Texas	23,041 →		

4,080 functional
5,631 at risk
13,326 not functional

* Playas were mapped using mostly SSURGO and LANDSAT data; the small playas compared with National Wetland Inventory data used in other states (NE, KS, TX).





THREATS



TXPCI PROGRAM

- Texas Playa Conservation Initiative
- Pit backfilling in grass buffered playas and/or grass buffer plantings
- Producer / landowner friendly program
 - TxPCI pays 100% cost of restoration
 - We hire and pay the contractor directly
 - Pay one-time incentive payment (\$80/acre)
 - 10-year agreement attached – prevents future pit creation

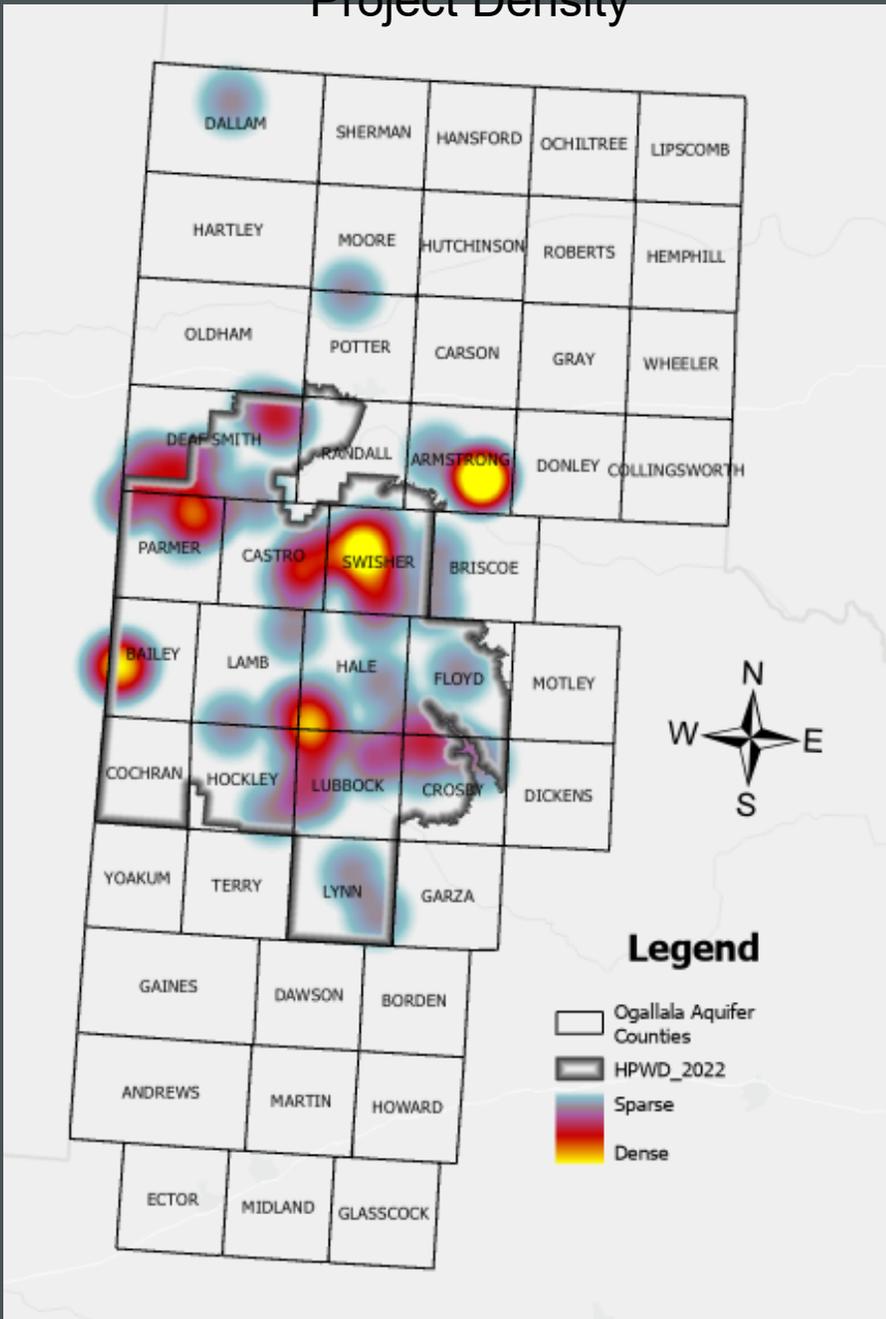


SUCCESS AND PROGRESS

- 74 restoration projects completed
 - 3,102 playa and saline lake acres restored + equal amount of surrounding grassland buffer.
 - 252.8 Million Gallons of clean, groundwater recharge annually.
 - 33 of these projects (931 acres) in 2021
 - Committed \$208,326 directly to landowners as incentive payments
 - Additional 208 acres in queue



Project Density



LANDSCAPE (HPWD) IMPACT

- Total of 55 Playa Wetlands Restored
- Impacting 1,802 playa acres.
- Improved groundwater recharge impact of 1.5 Million Gallons.
- Scope of completed projects spans all counties except Cochran County within the HPWD.





TXPCI - PUBLIC ENGAGEMENT

Targeted mailers



Playa field days

Livestock shows and rodeos



Fellow Texans,

Generations of Texans have cared for Texas's natural resources. As we build homes, grow food, raise livestock, and foster strong communities, Texans must remember that each and every person has a stake in the economic and environmental future of this beautiful state.

Playas in the Texas panhandle are primary points of recharge to the Ogallala Aquifer, with a much faster recharge rate than other parts of the landscape. They help provide water to over 1.2 million Texans. However, without swift action, and as the state's population grows, the demand on these resources may outpace the natural supply. Each of us has a stake in the future of our water supply and, therefore, the economic viability of the Panhandle and beyond.

The people and the land are what makes Texas great. When working in harmony, everyone benefits. Since playas are a primary source of recharge to the Ogallala, and Texas has more playas than any other state, Texans stand to benefit the most by keeping their playas in good shape. Join the Texas Playa Conservation Initiative in caring for what makes everyone proud to call Texas home, and what makes each of us Texan by Nature.

From Deep in the Heart of Texas,

Your Neighbors at **TEXAN NATURE**



"The Texans who came before us were drawn to our state with the hope that the land would reshape their destiny. And today, I believe Texans are capable of ensuring that those dreams exist for our children and grandchildren to experience."

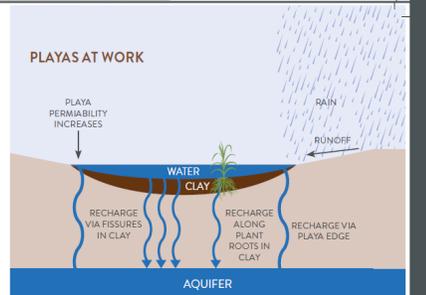
—Laura Bush
Founder, Texan by Nature
Former First Lady of the United States

Your playa is the key to the future of water in the Panhandle

HELP PRODUCERS, COMMUNITIES, AND WILDLIFE CONTINUE TO THRIVE.

The Texas Playa Conservation Initiative needs the help of landowners across the panhandle as they restore playa wetlands, allowing them to recharge millions of gallons of water to the Ogallala.

- **YOU HAVE A LINK IN THE CHAIN.** Playas contain unique soil layers that provide critical filtering for groundwater.
- **YOU CAN SAVE TEXAS WATER.** Healthy playas are important for recharging the Ogallala Aquifer.
- **YOUR WATER STAYS HERE.** Flow rates within the aquifer are extremely slow – 0.5-1 mile per 10 years. This means the water you save today will be available for future generations of Texans.
- **YOU CAN HELP.** Restoring playas is easy, and costs landowners nothing.
- **YOU ARE APPRECIATED.** Landowners even receive a "thank you" payment for their participation.



TEXAN NATURE

3500 Jefferson St, Suite 301
Austin, Texas 78731

CONTACT THE PROGRAM TODAY TO SEE IF YOU
HAVE PLAYAS ON YOUR LAND THAT QUALIFY

PLAYASWORKFORTEXANS.COM

Rachel Fern, Texas Parks and Wildlife, 737-218-3955 or rachel.fern@tpwd.texas.gov

MUNICIPAL WATER MODEL

Clovis, NM

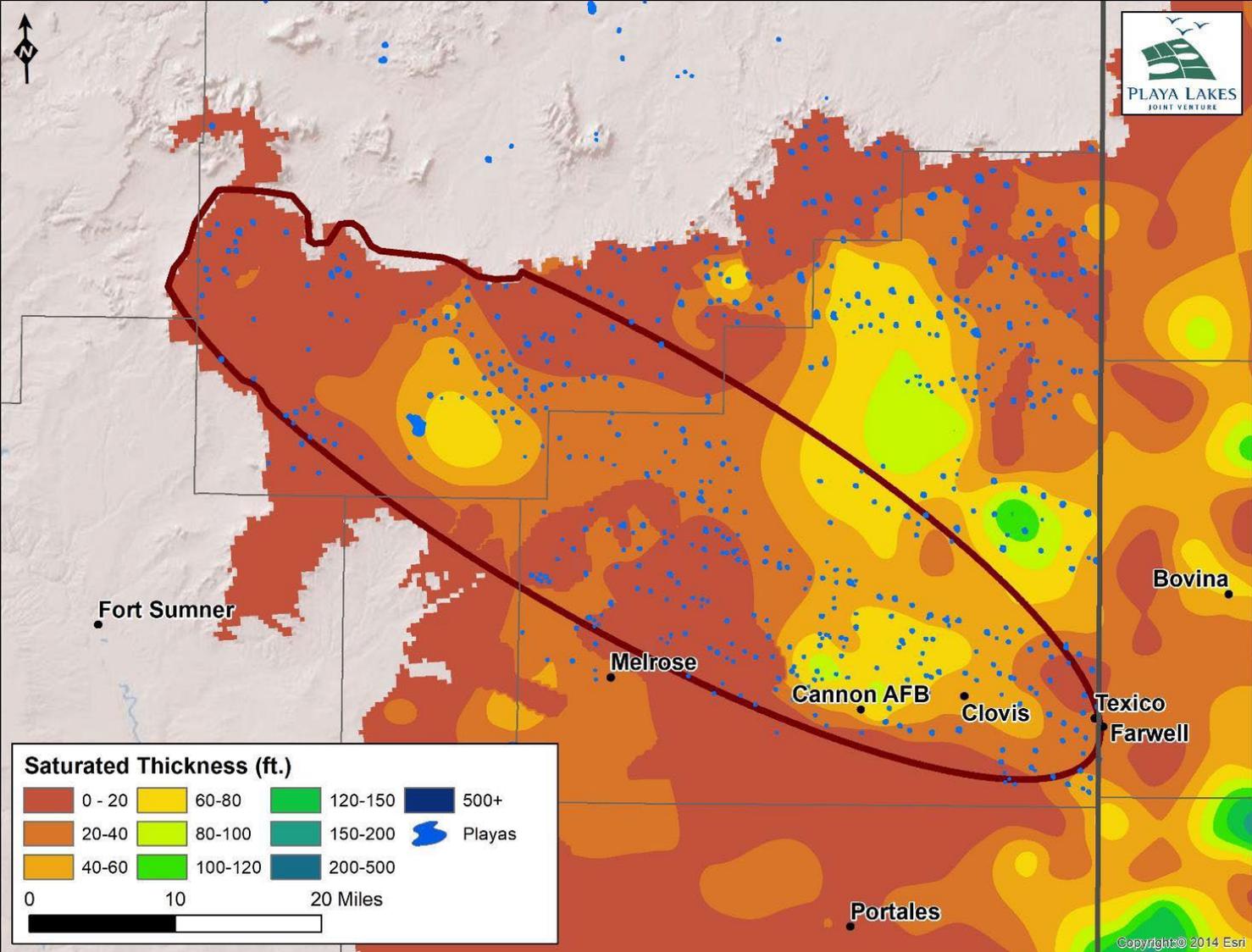
Groundwater success story



“Water security is national security, community security.”

—David Lansford

Board Chairman of Eastern New Mexico Water Utility Authority and former Clovis Mayor



MUNICIPAL WATER MODEL

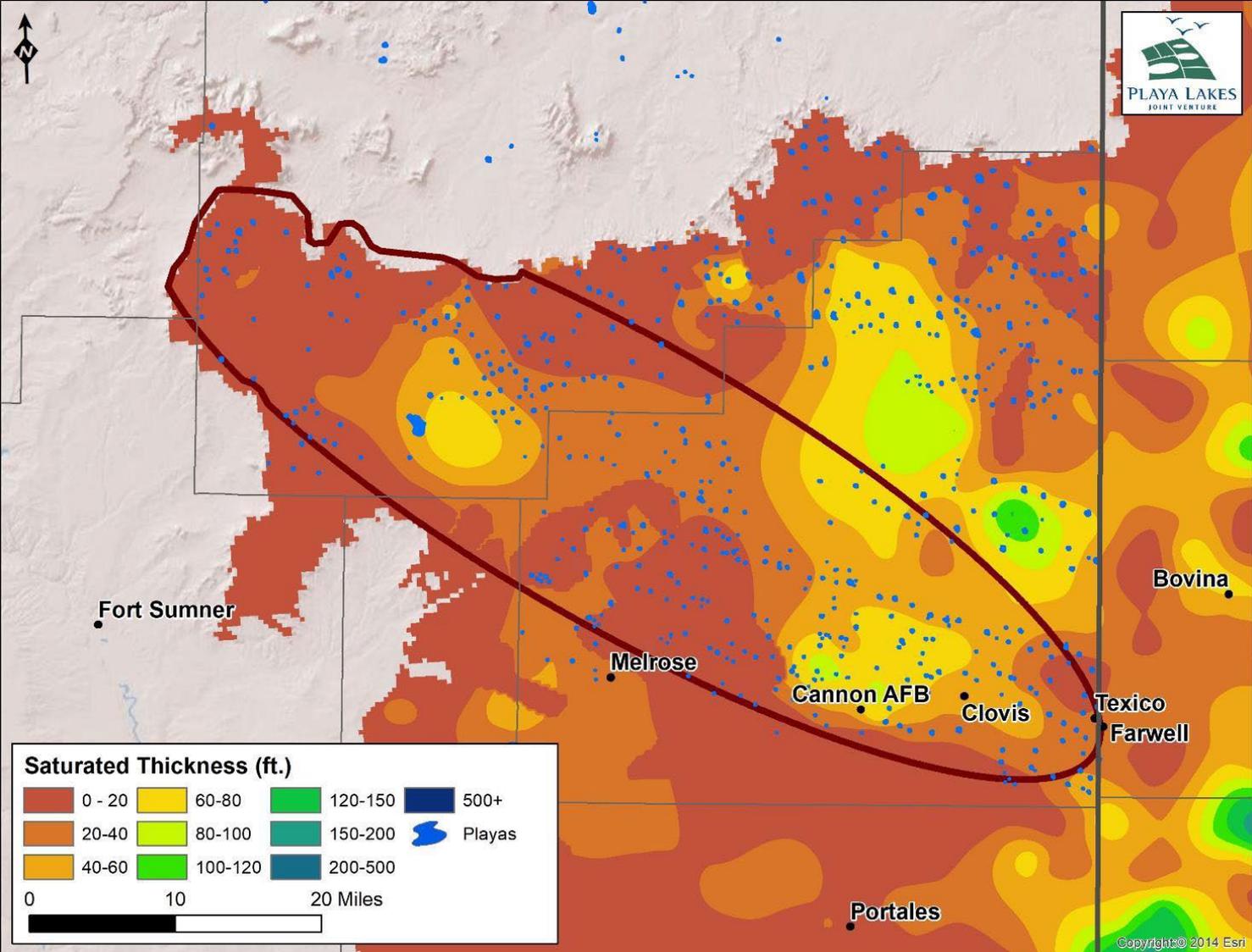
TODAY

2,752 functional
playa-acres recharge about
225 million gallons
(15% of municipal use)

FUTURE

4,137 functional
playa-acres recharge about
337 million gallons
(23% of municipal use)

= 8% INCREASE



2021 LLANO ESTACADO REGIONAL WATER PLAN

PEOPLE

- 2020 municipal water demand:
 - 94,899 ac-ft
- 2070 municipal water demand:
 - 132,673 ac-ft
- Increase in municipal water demand:
 - 37,774 ac-ft
- Increase in municipal water demand without Lubbock:
 - 12,229 ac-ft

CATTLE

- 2020 livestock water demand:
 - 41,589 ac-ft
- 2070 livestock water demand:
 - 60,304 ac-ft
- Increase in municipal water demand:
 - 18,715 ac-ft

Healthy playas already provide 22,351 ac-ft of recharge

Current TxPCI

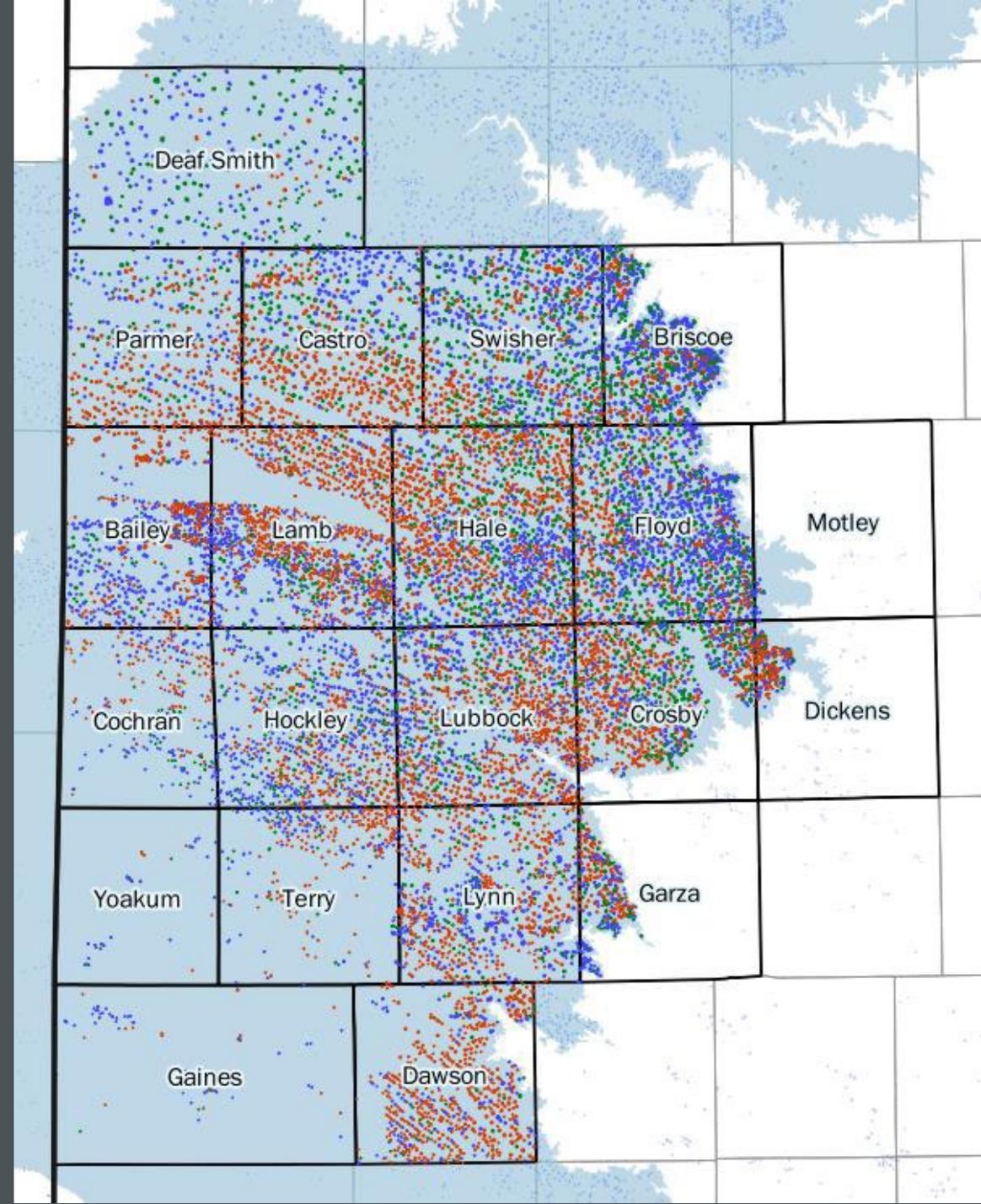
Fill pits in **grass playas** and gain 15,661 ac-ft

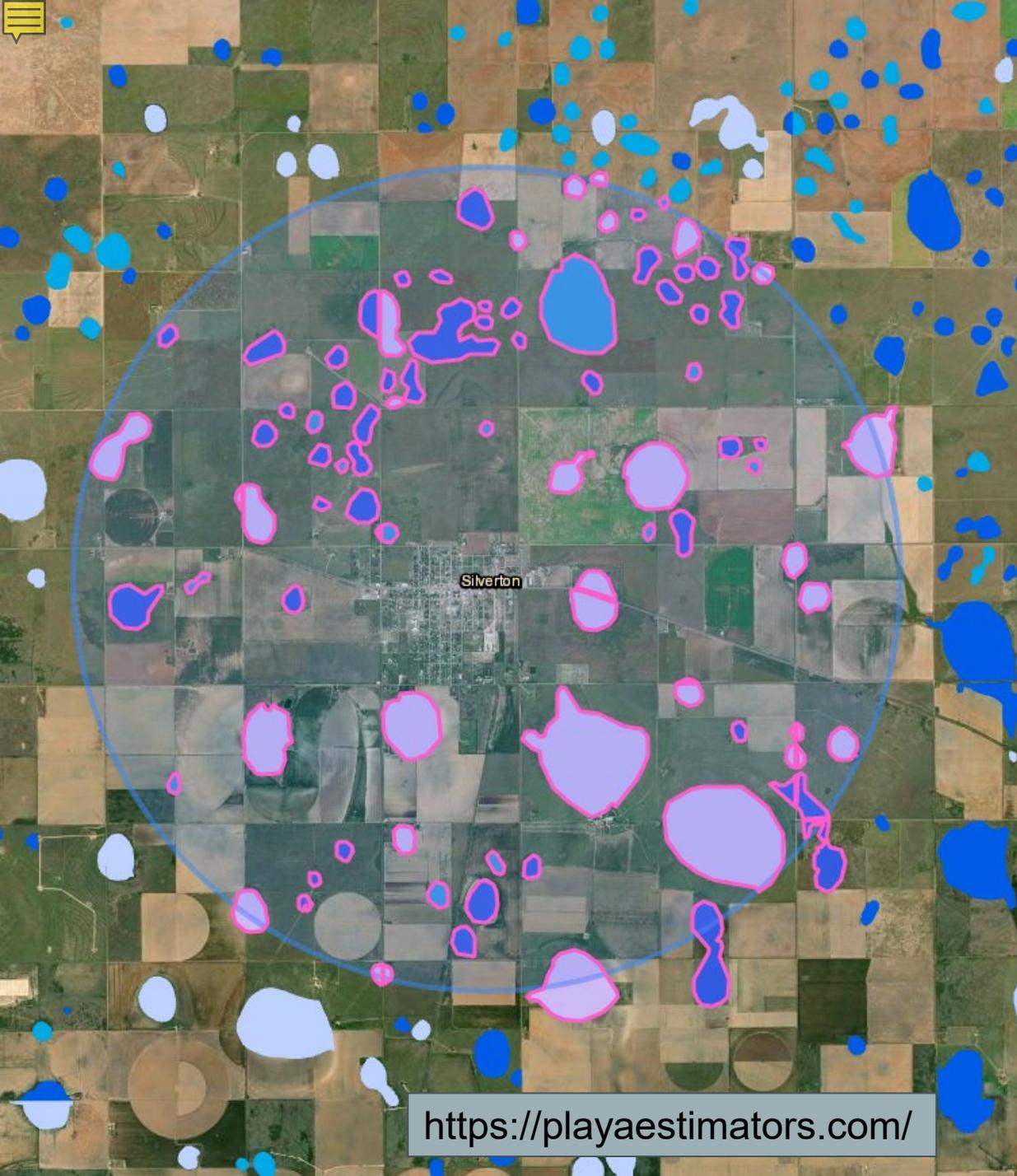
Enough to meet increased municipal demand in the region (without Lubbock) or come close to meeting future cattle demand of 18,715 ac-ft

Want more?

Convert the **farmed playas** to grass and fill pits and gain 22,778 ac-ft

Enough to meet increased livestock demand





<https://playaestimators.com/>

RECHARGE

WETNESS

Estimated Recharge Potential for Future Generations

Playas are a primary source of recharge for the Ogallala Aquifer, contributing up to 95% of water flowing into the aquifer and improving its quality. Click on up to 7 playas, or use the circle tool to select more than 7 in one area, on the map to view the potential amount of recharge they can provide. ?

~ 90,006,000
gallons of water per year ?

Gallons

Acre-feet

Playa Classification ?

- Grassland = Included in the recharge estimate.
- Farmed = Included in the recharge estimate, but these playas are at risk of losing their recharge capacity if their functionality is not restored.
- Modified (e.g., pits, ditches, berms) = Not included in the recharge estimate. There is no scientific evidence to determine recharge amount.