



Yesterday, Today, and Tomorrow

TAWWA – 11/17/23

Scott Reinert, P.E., P.G.

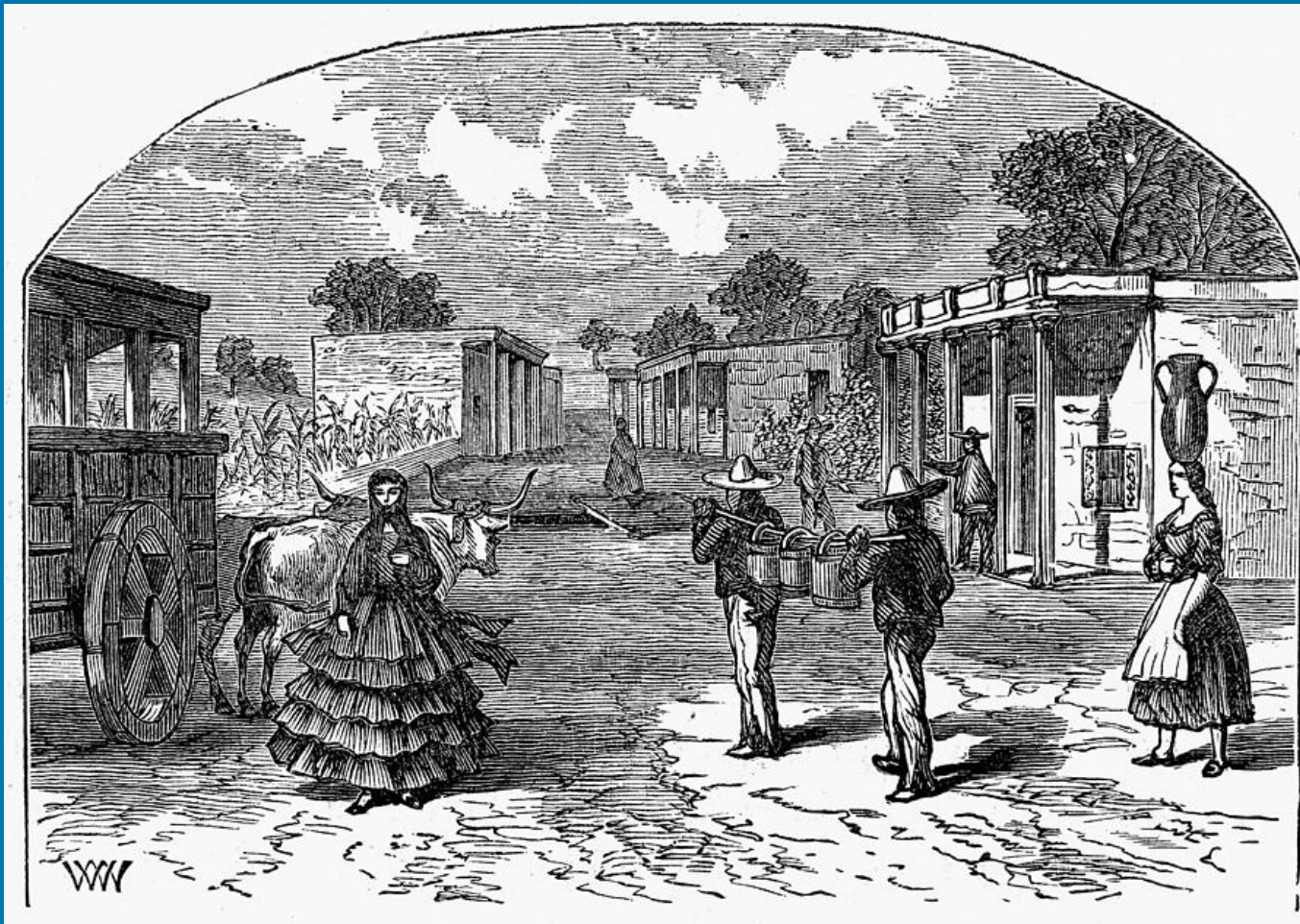
GREETINGS

from





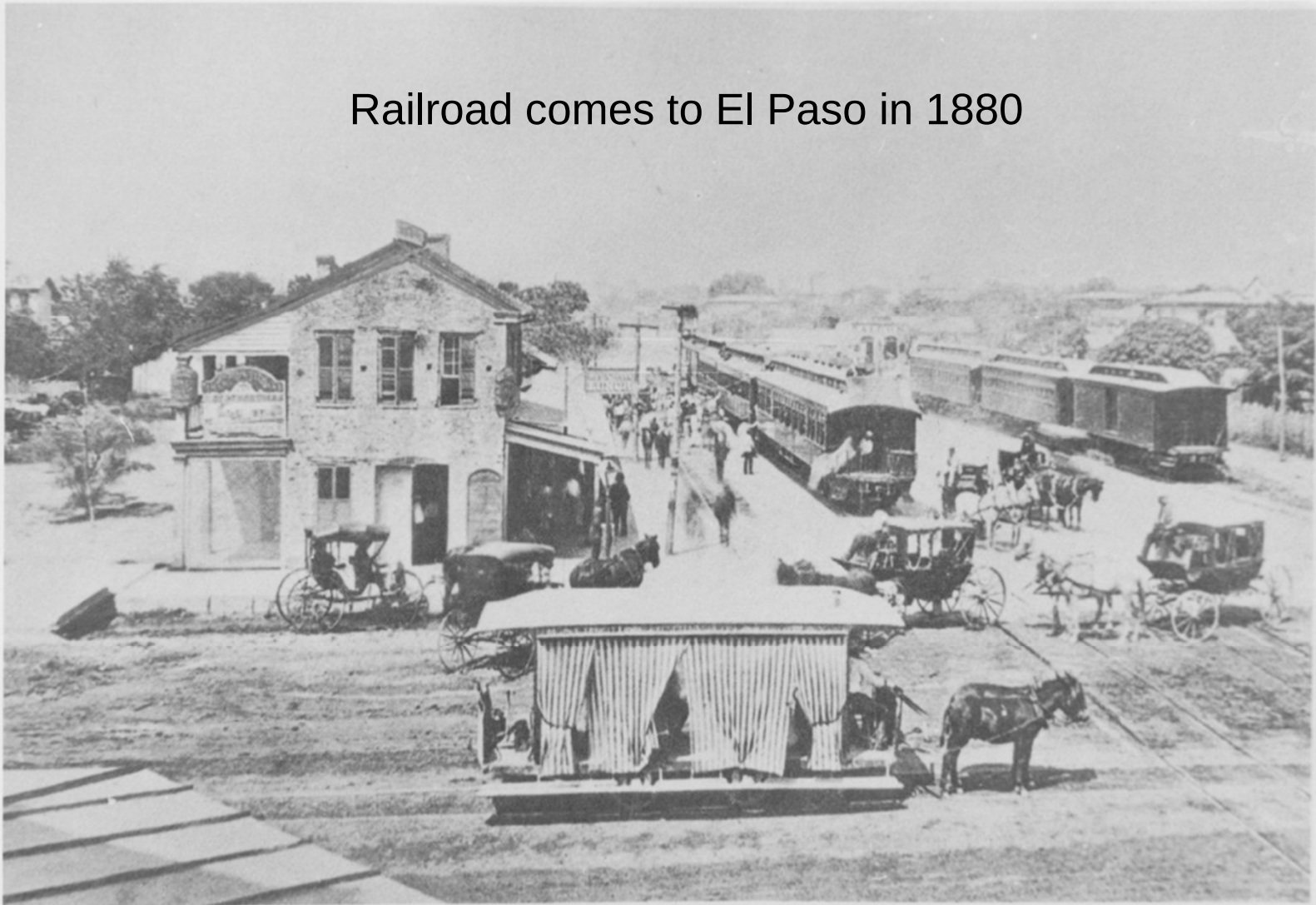
el paso
WATER



El Paso 1860's

Water was drawn
from hand dug
shallow wells or from
the *Rio Grande*.

Railroad comes to El Paso in 1880



El Paso, Texas, 1880.

El Paso 1880's

Population 800

Sylvester Watts
receives franchise
from El Paso to sell
and distribute water.

Pumps were steam
powered. Watts laid
the earliest water
mains.

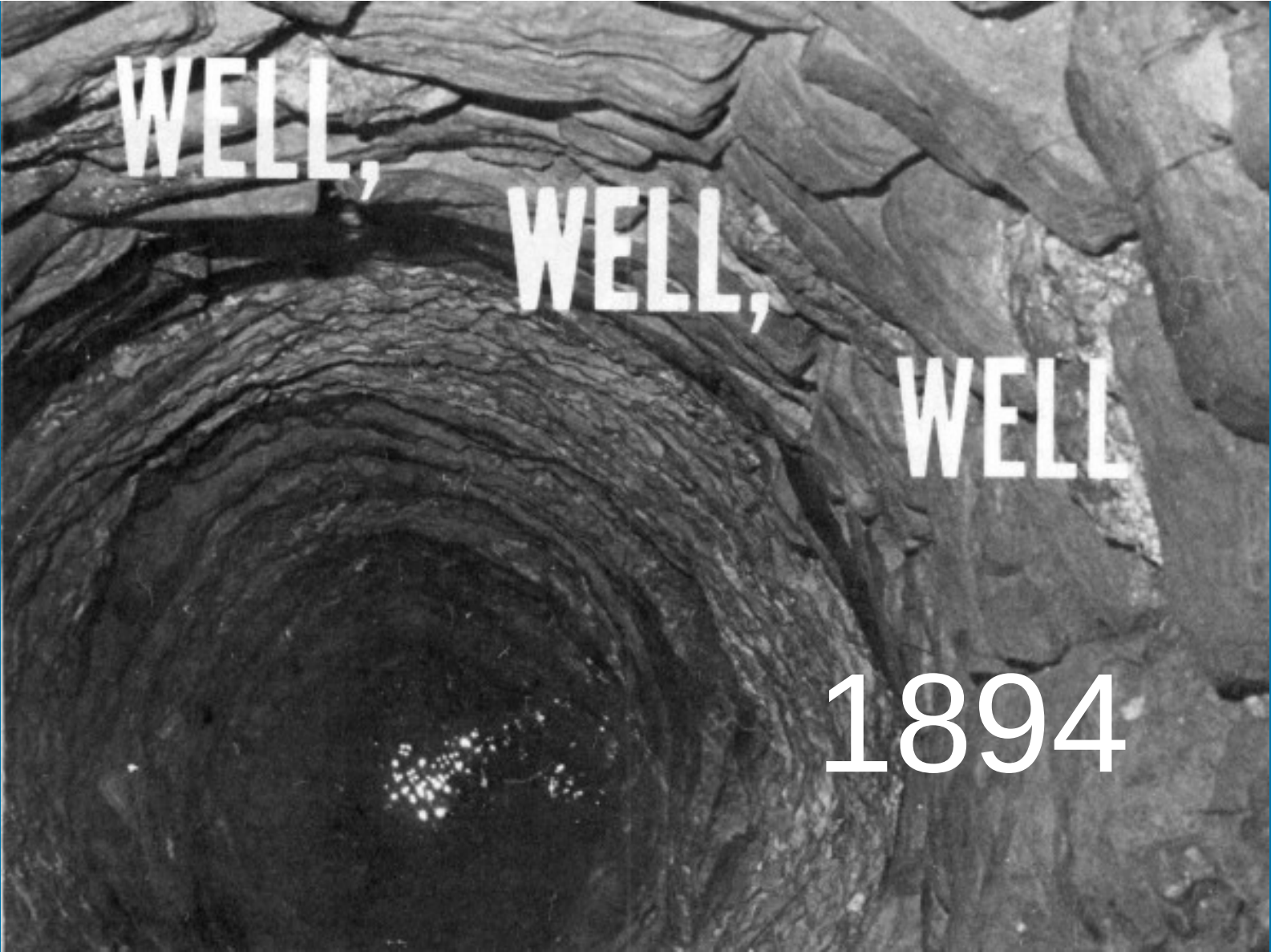


Freight Teams arriving in El Paso from Chihuahua, Mexico
1881



El Paso 1890's

El Paso still very much part of the wild west. Group photo of mounted lawmen. Sylvester Watts' water distribution has issues with lack of water pressure, sand in the water, and general water quality. Watts would lose his franchise in 1903.



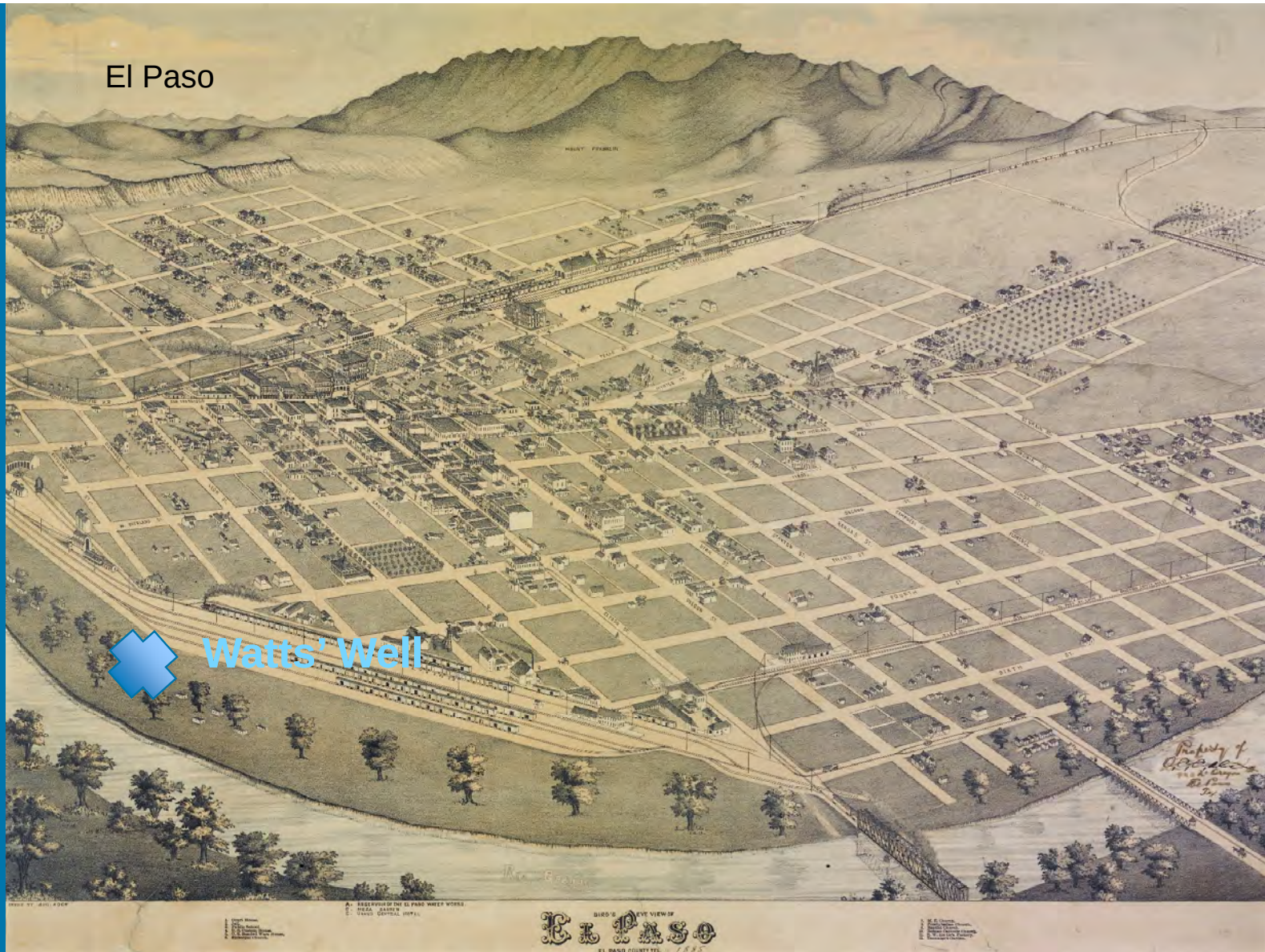
WELL,

WELL,

WELL

1894

El Paso





John Wesley Hardin
(1853-1895)

El Paso 1900

The International Water Company takes over the Watts' franchise in 1903.

International Water Company shifts production from the Watt's wells at the river to the Mesa well field.

In 1910 the International Water Company fails and its assets are acquired by El Paso.



1910

Looking to the northeast towards the Franklin Mountains from downtown El Paso.

Water was produced by 27 wells at the Mesa wellfield located on what is the northeast corner of today's Fred Wilson Avenue and Railroad Drive.





Water Wagons

“Fifteen to twenty wagons serviced the town daily during 1900-1910. All who could afford it purchased their drinking water.”

-Leon Metz, El Paso Chronicles

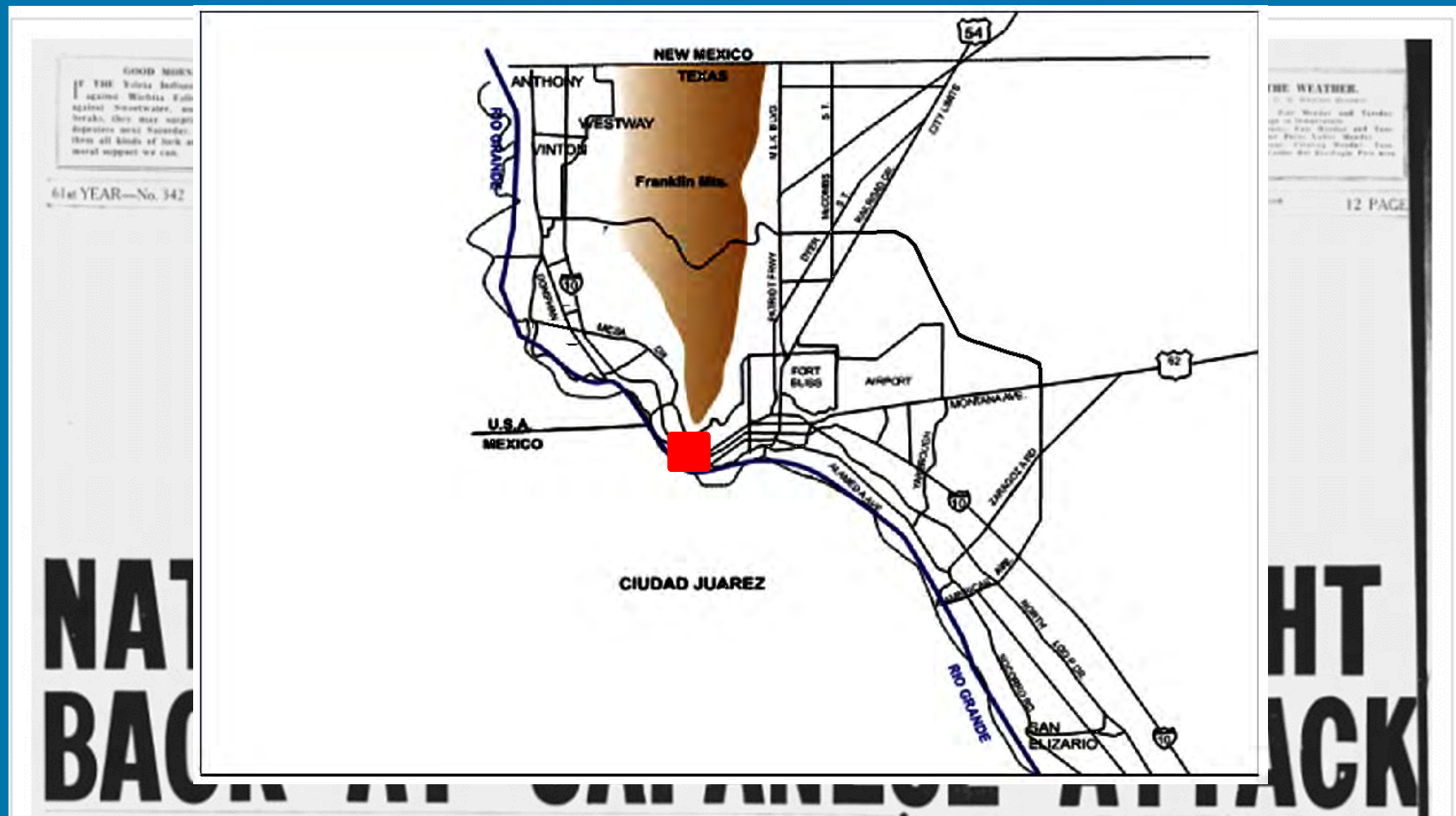
1914



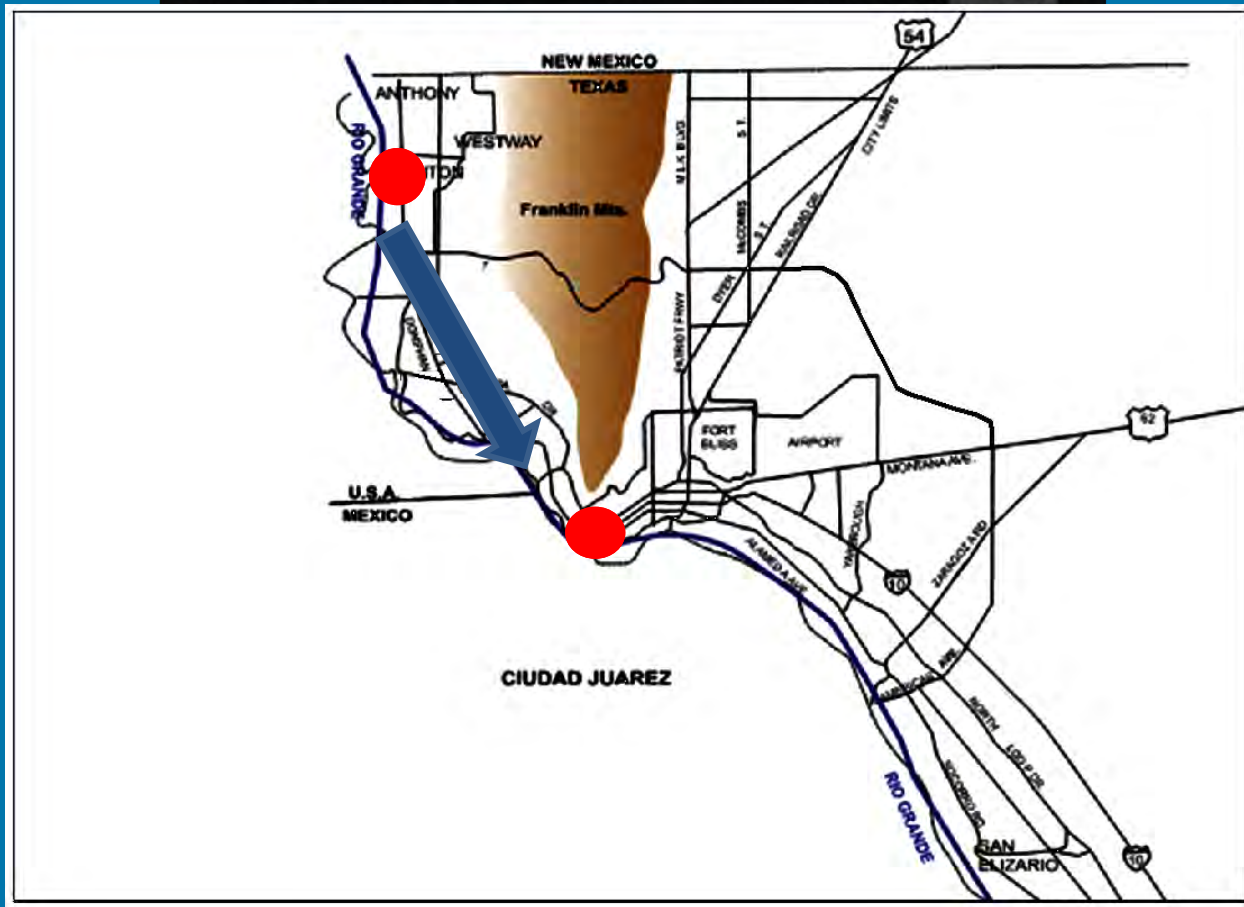
1933



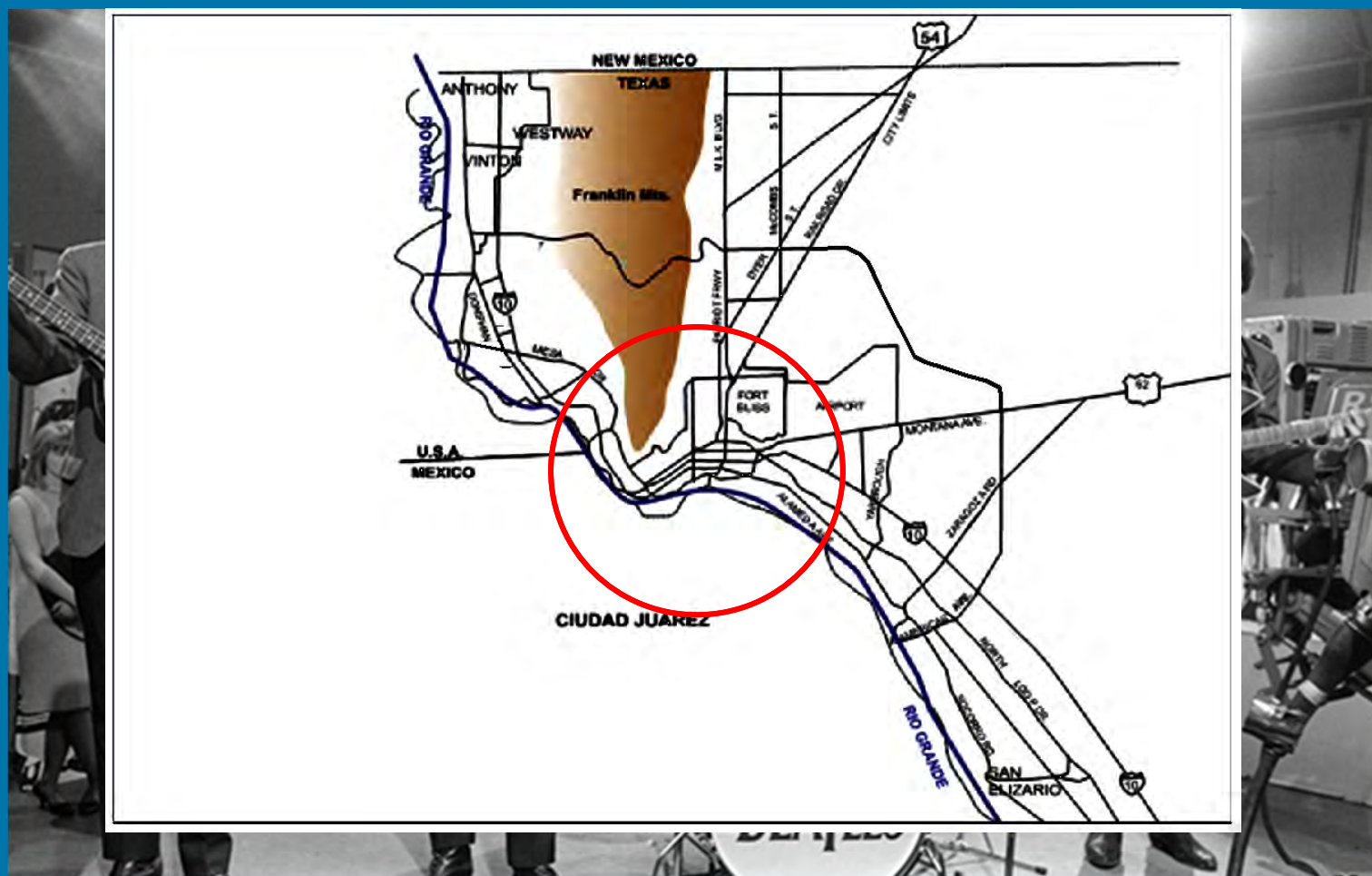
1941



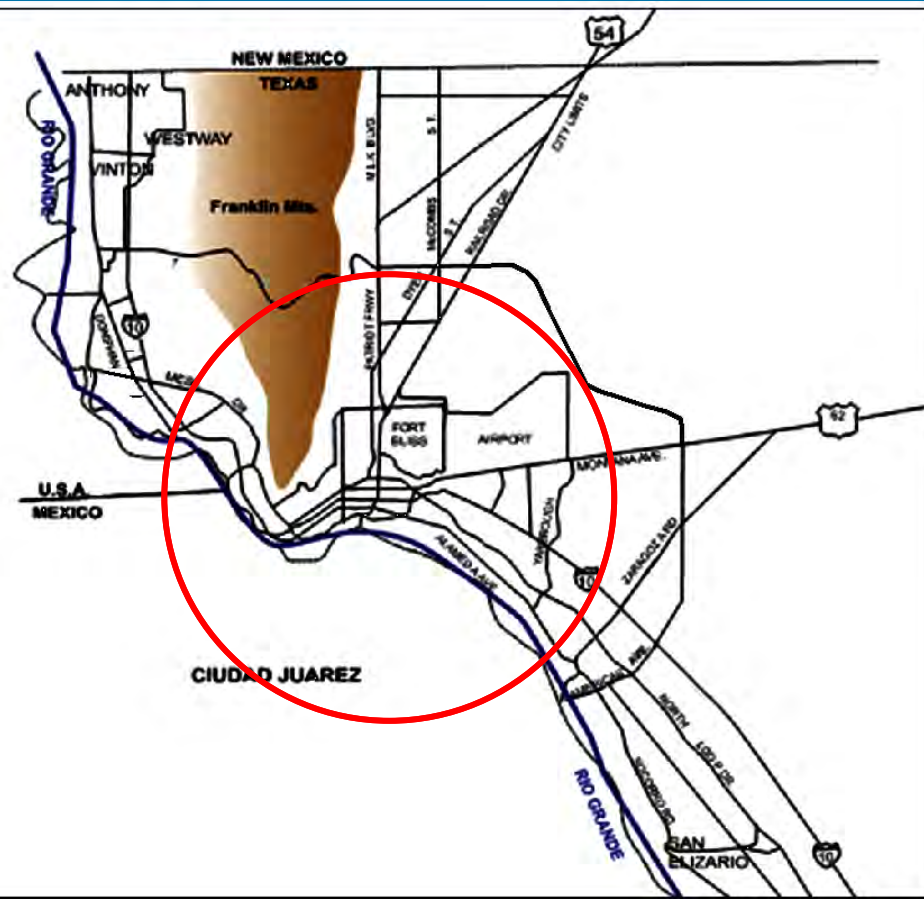
A map of the El Paso area, showing the border between the USA and Mexico. The map includes labels for New Mexico, Texas, and Ciudad Juarez. Key locations marked include Anthony, Westway, Franklin Mts., Fort Bliss, Airport, and Ran Elizario. The Rio Grande is shown flowing along the border. A large blue arrow points from the top left towards the border crossing area. Two red dots are placed on the map: one near Anthony, New Mexico, and another near the border crossing area. The map also shows various roads and highways, including Highway 54 and Highway 10.



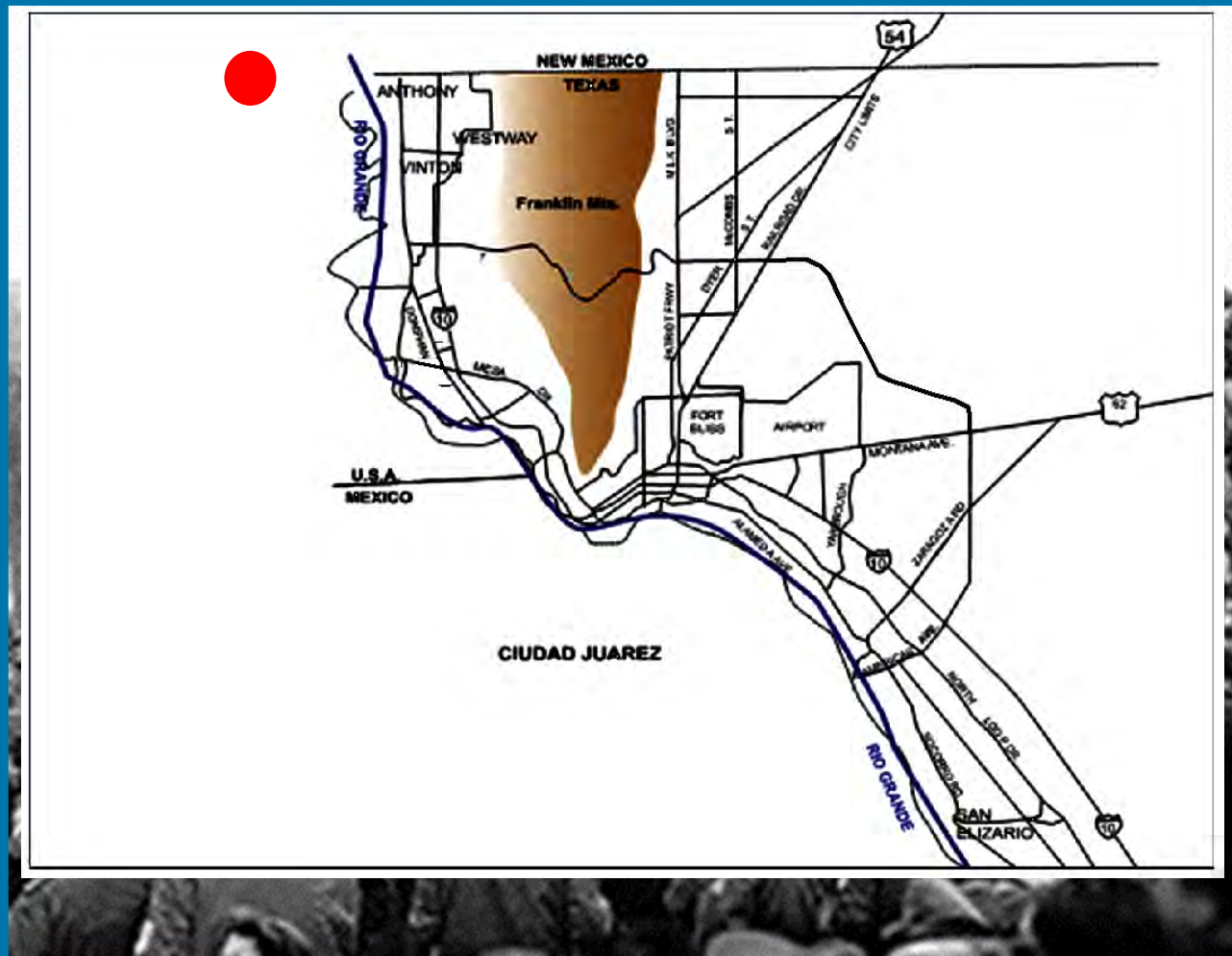
1960's



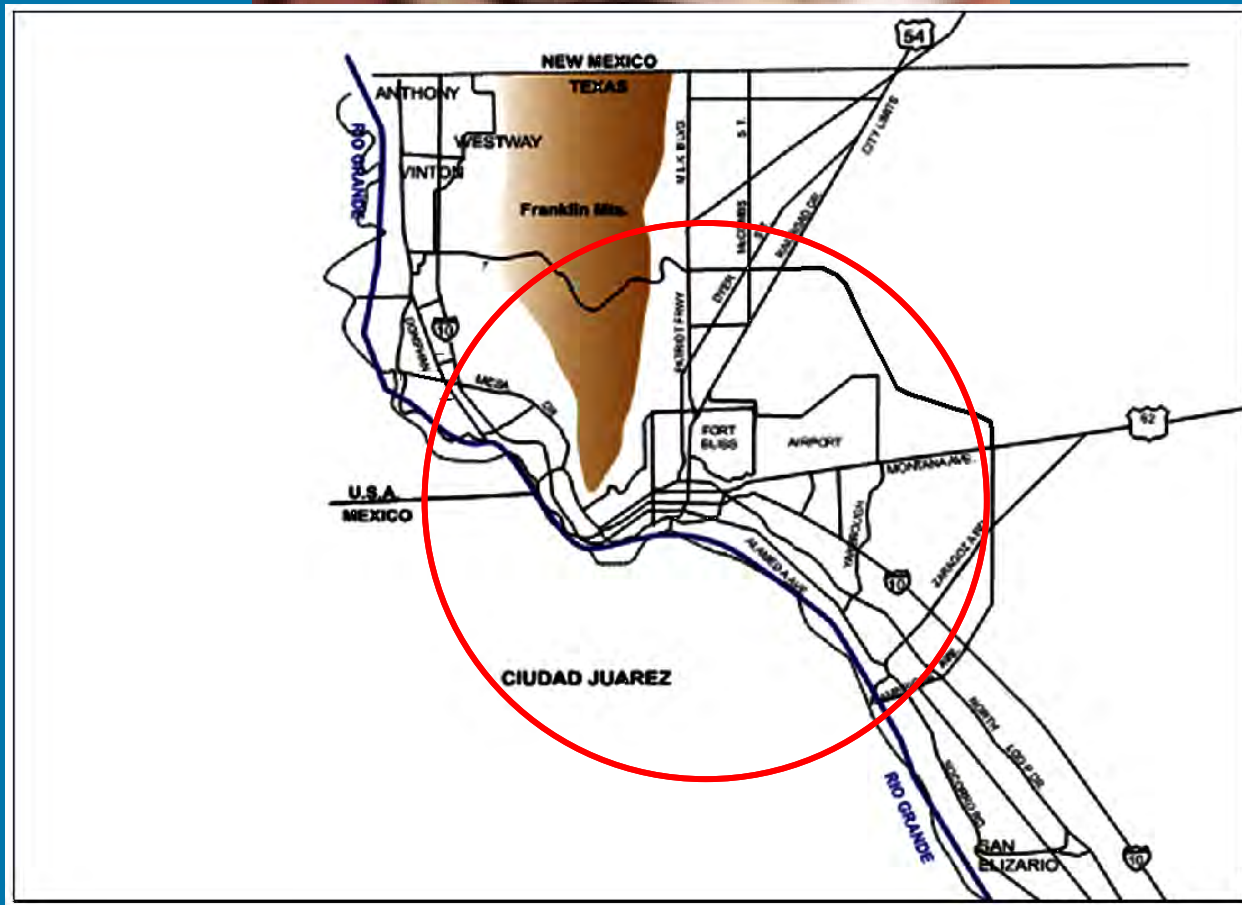
1970's



1989 – Fall of the Berlin Wall

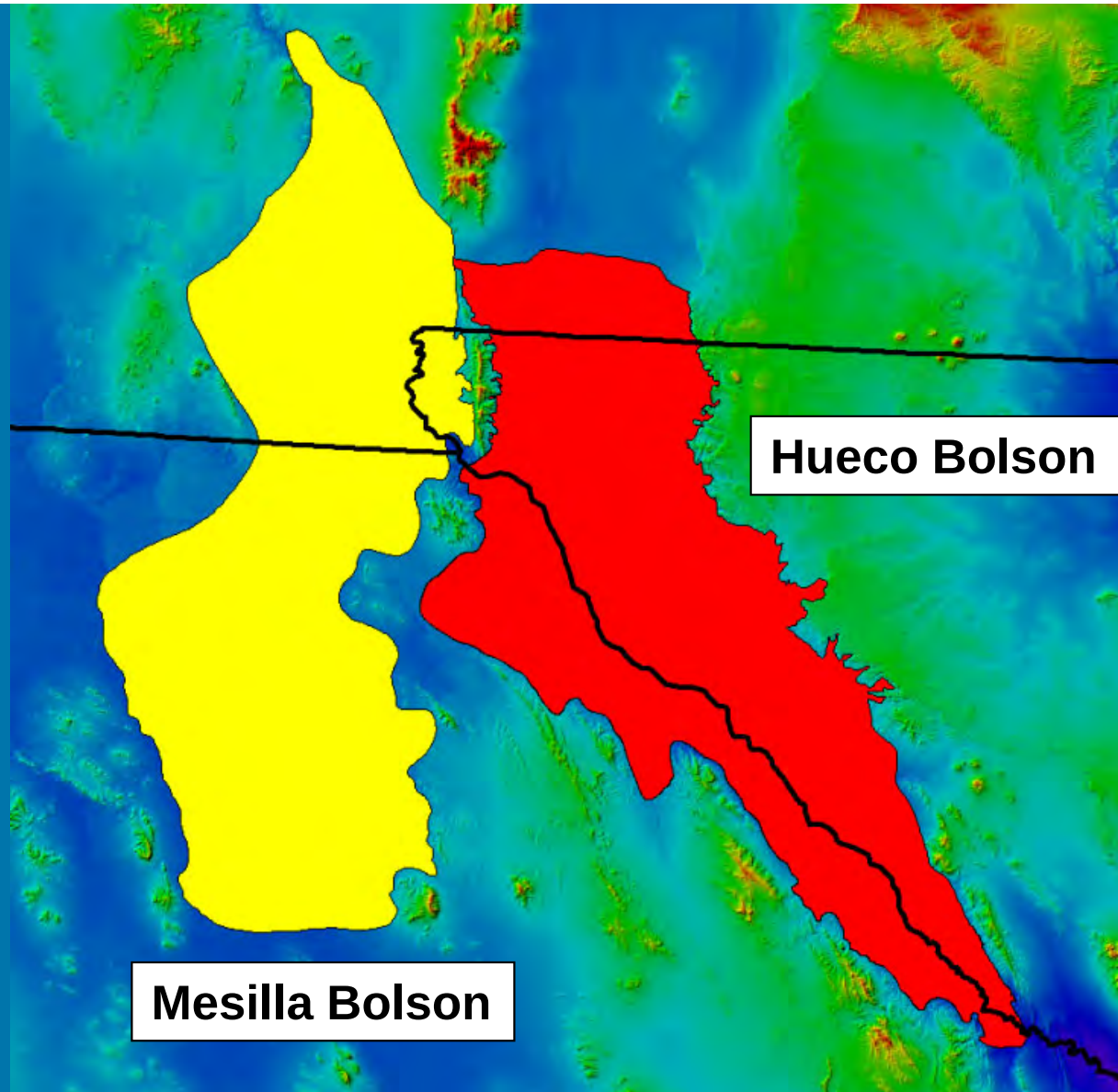


1994



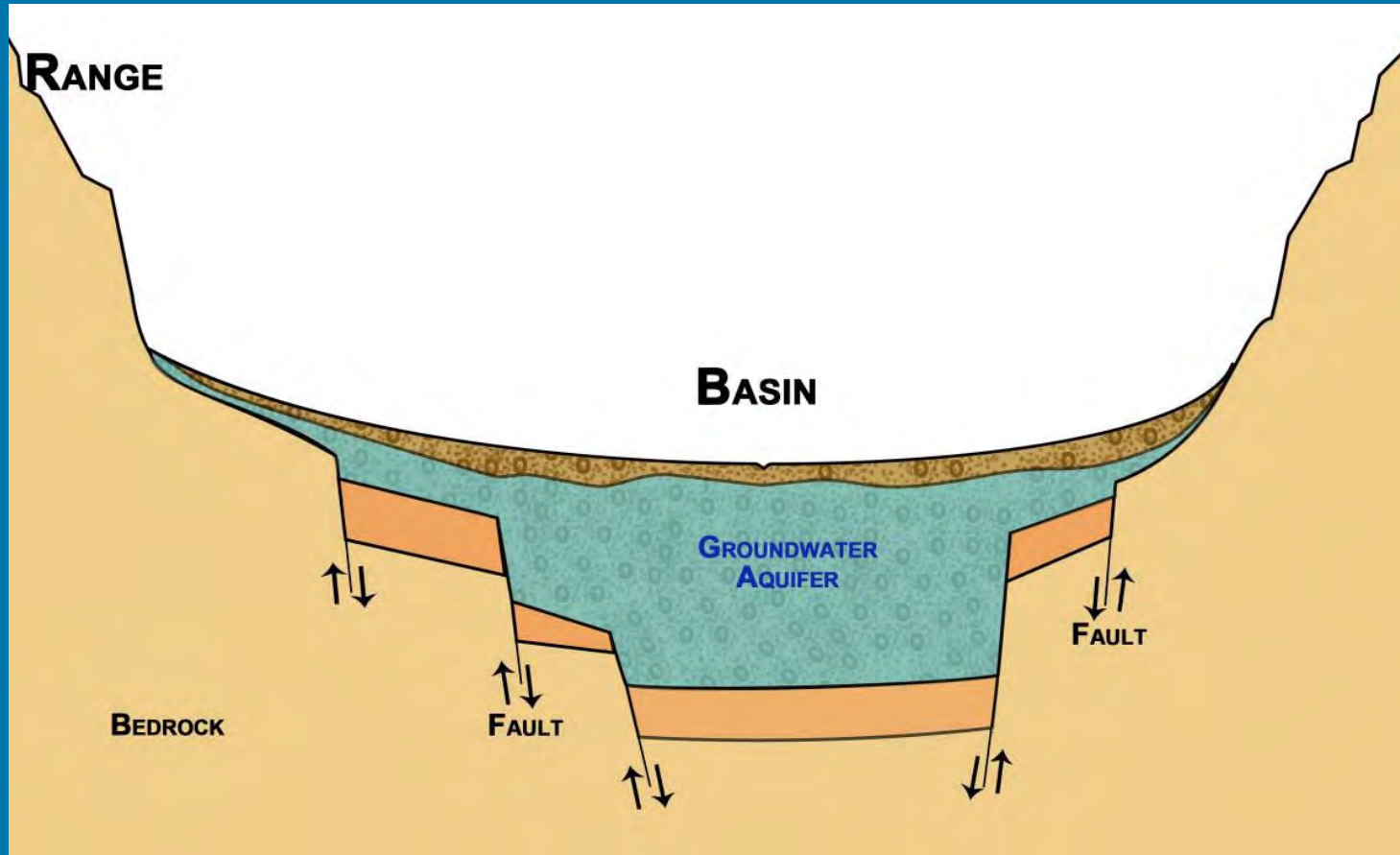
Diversification not Desperation

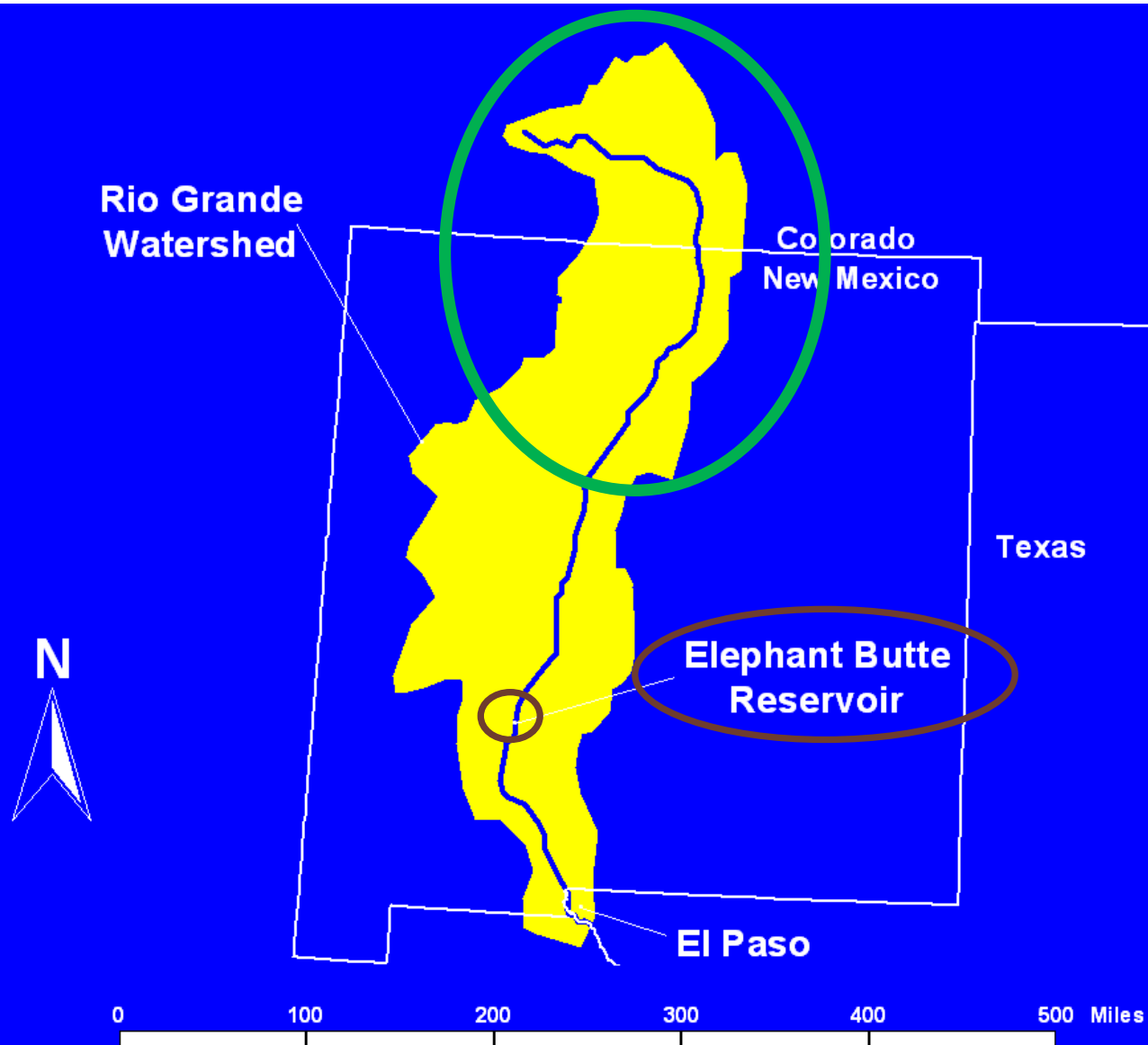




Mesilla Bolson

Hueco Bolson





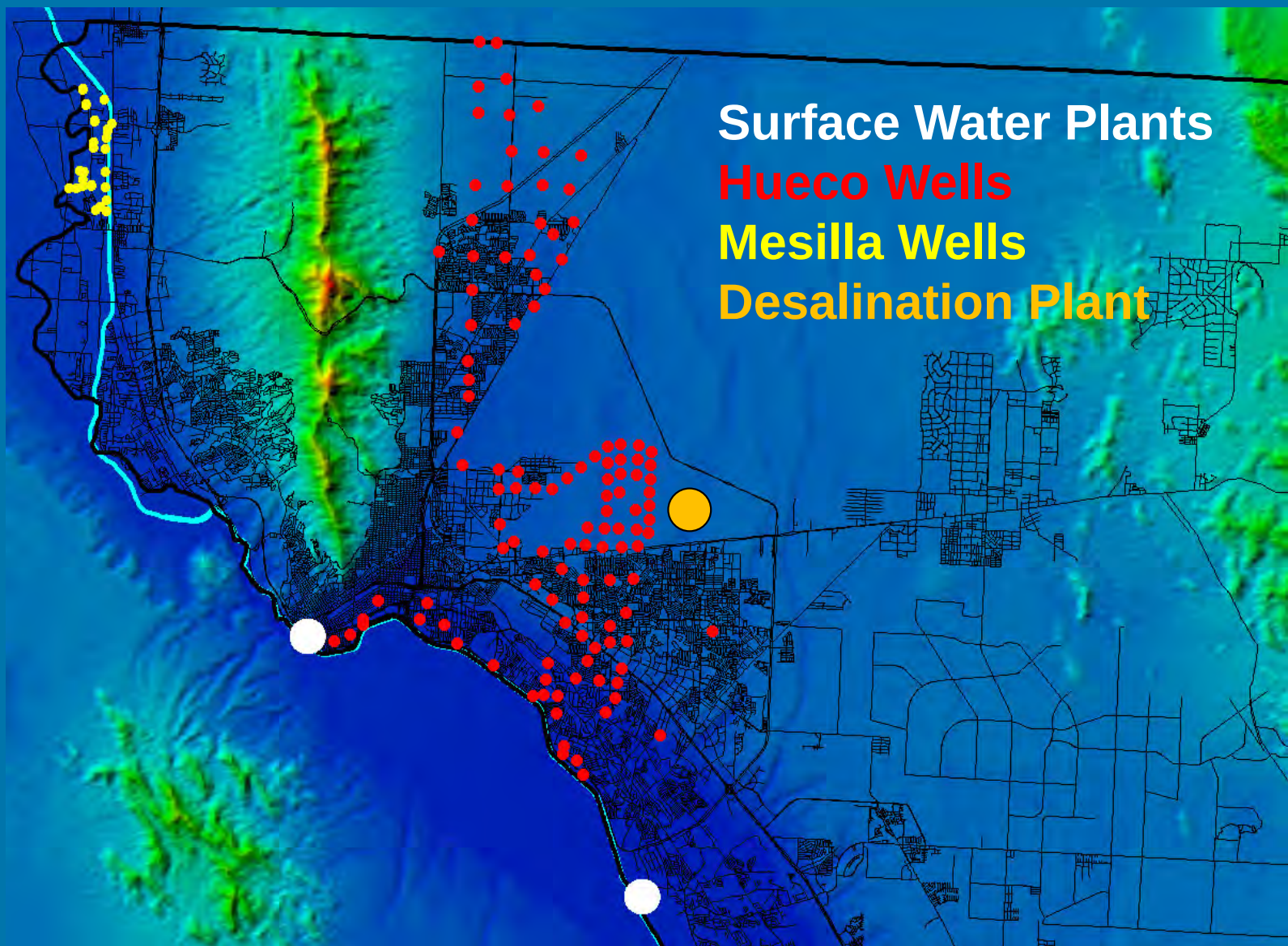














DROUGHT



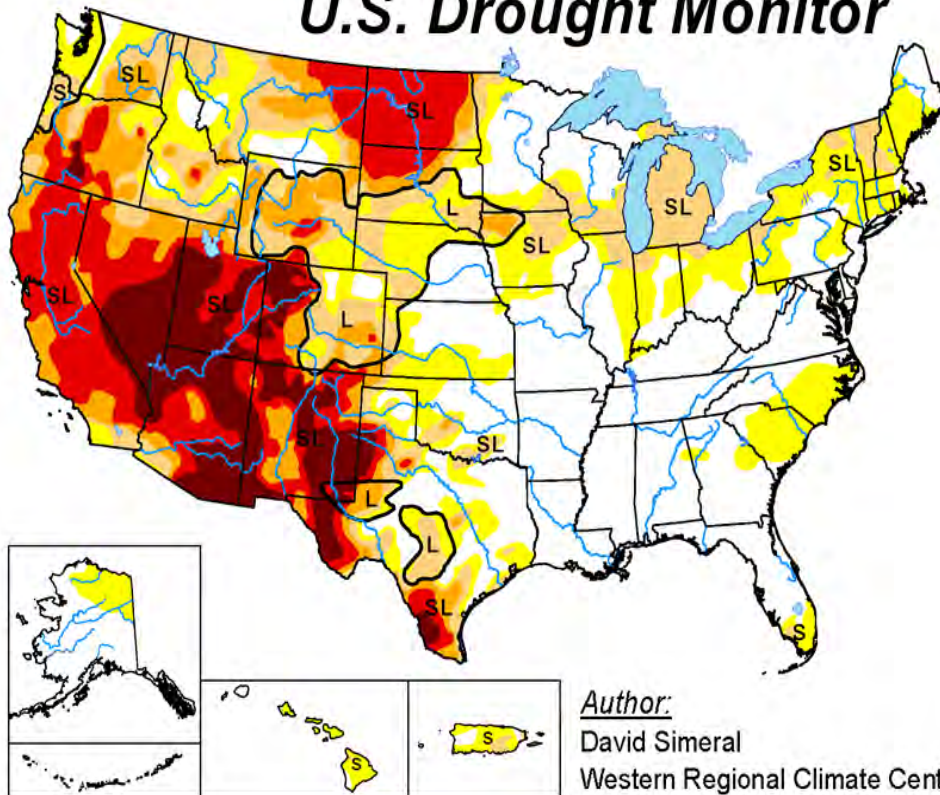


U.S. Drought Monitor

May 4, 2021

(Released Thursday, May. 6, 2021)

Valid 8 a.m. EDT



Drought Impact Types:

~ Delineates dominant impacts

S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)

L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

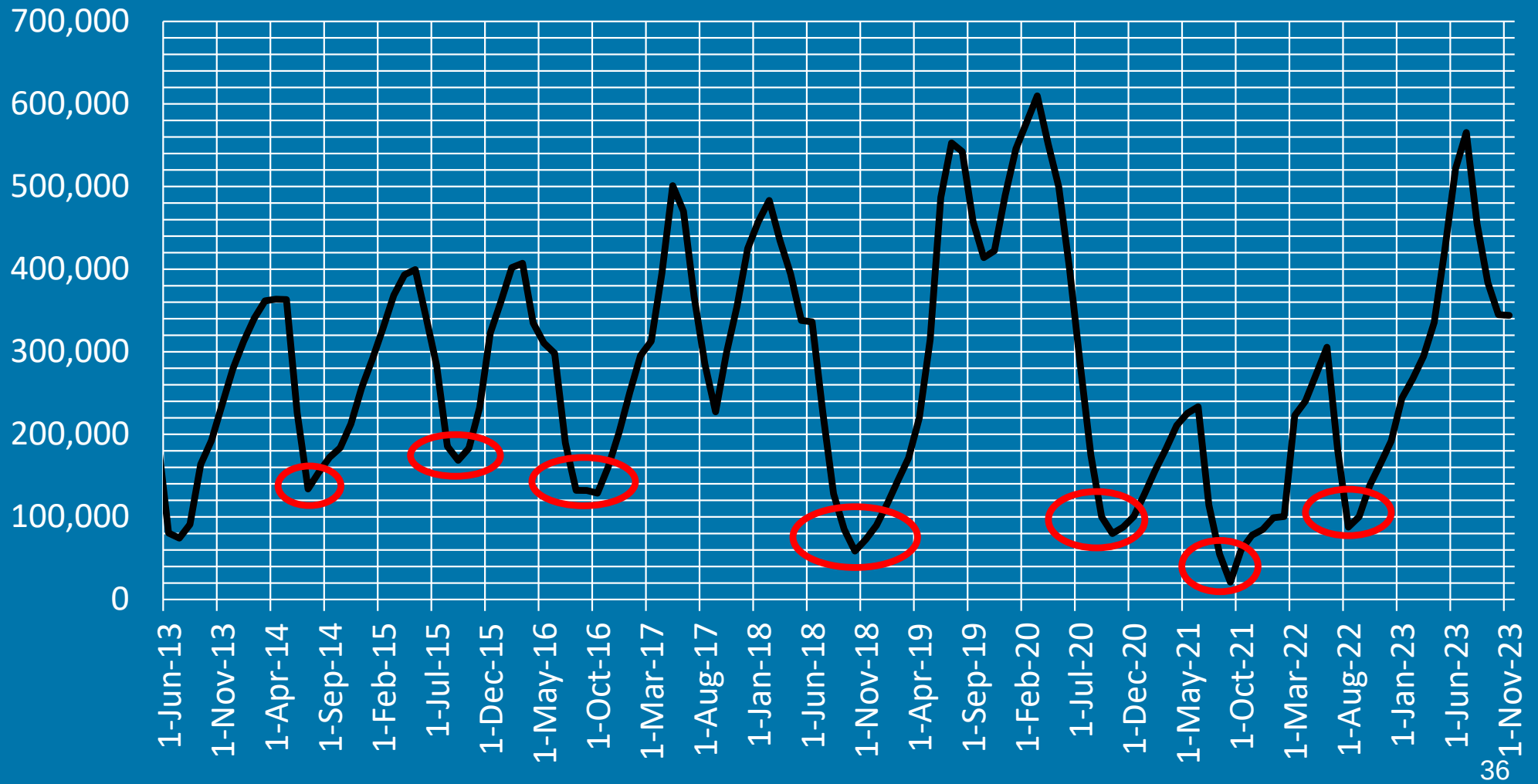
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

Author:

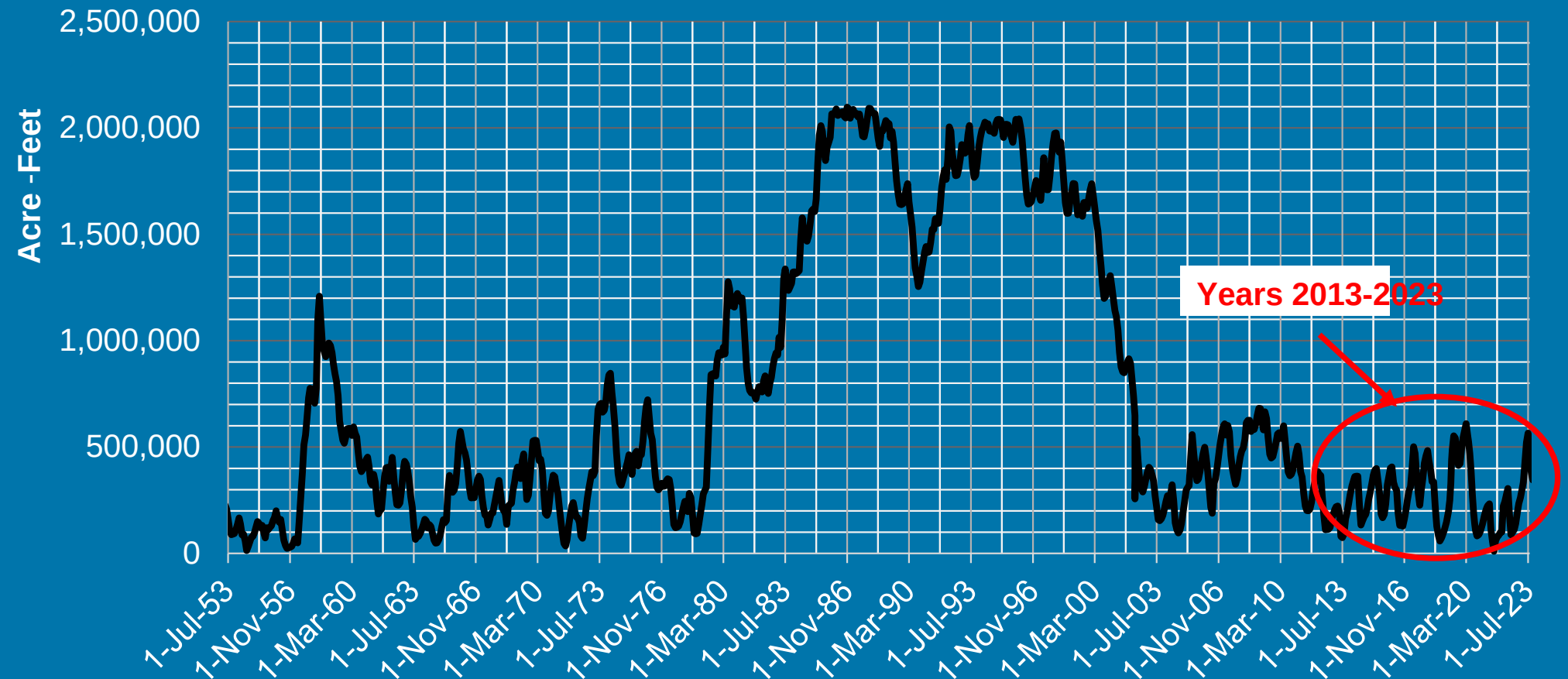
David Simeral

Western Regional Climate Center

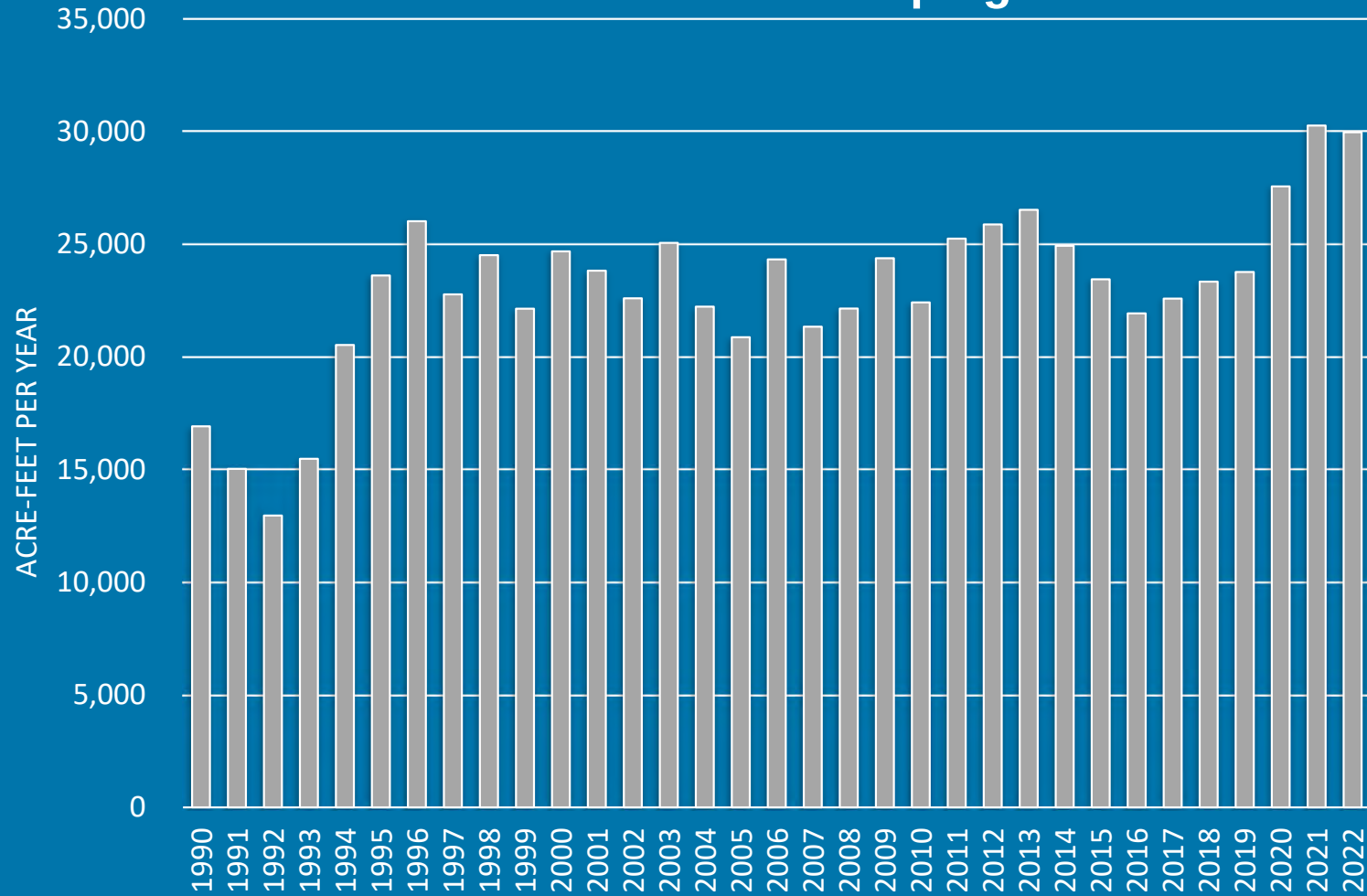
Elephant Reservoir Volumes (Acre-Feet) 2013-2023

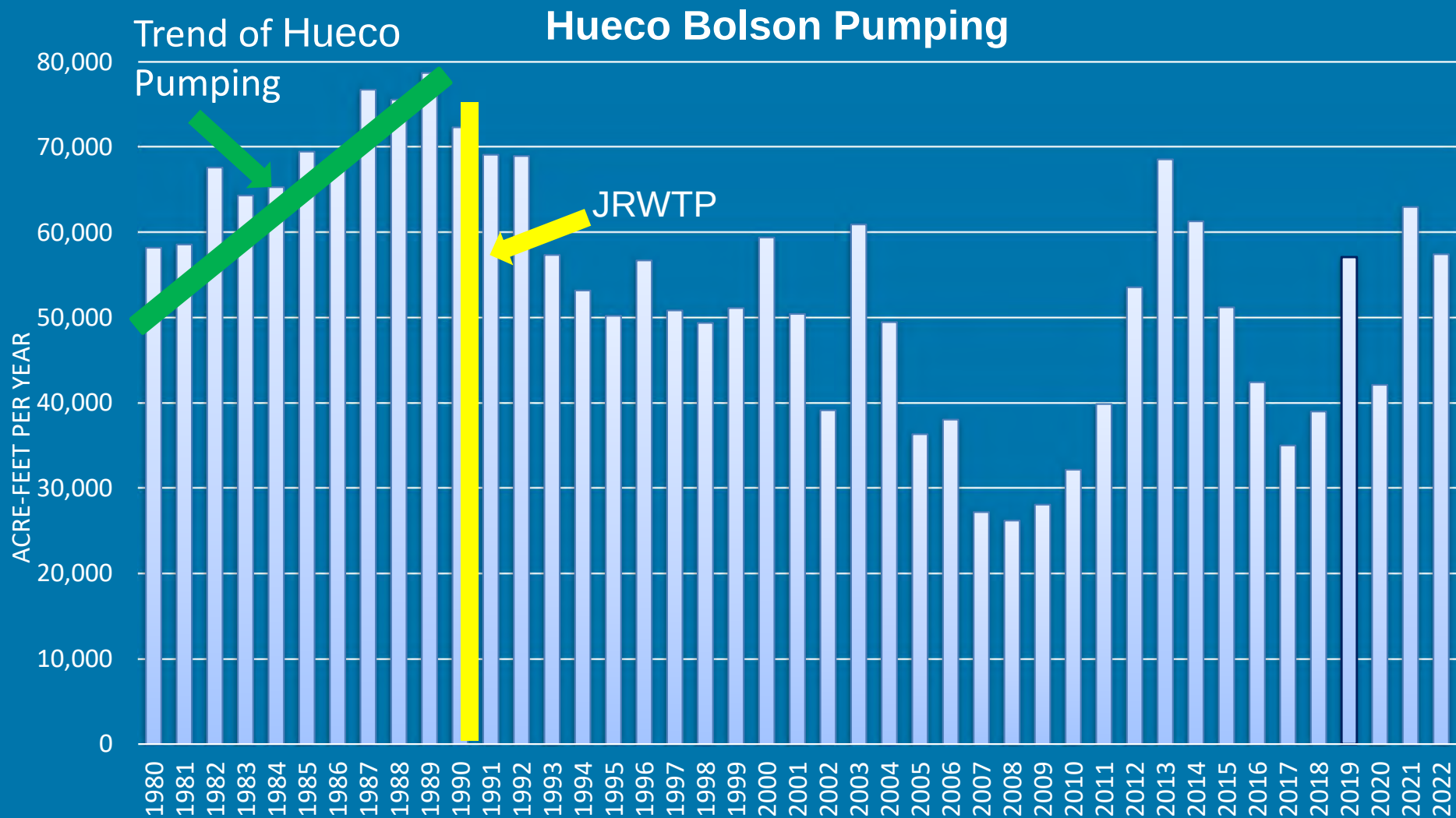


Elephant Butte Reservoir-Annual Volumes 1953-2023

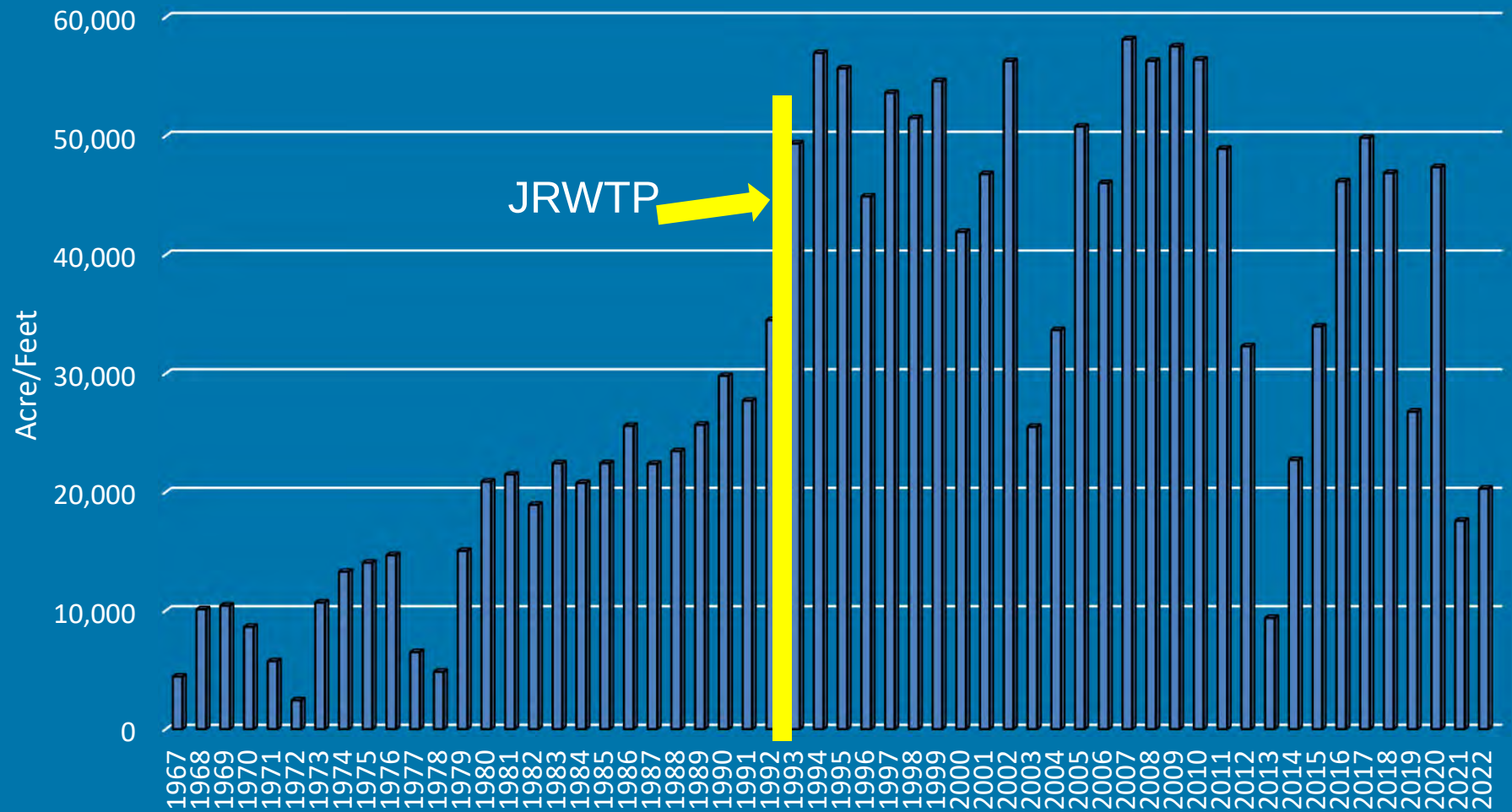


Mesilla Bolson Pumping





Rio Grande Diversions



Current Reservoir Condition



Drought Relief Projects

Well Drilling

Well Equipping

KBH Desalt Plant

Optimize Lower Valley
Reverse Osmosis

Pumping Systems-Well and Pump
Rehab

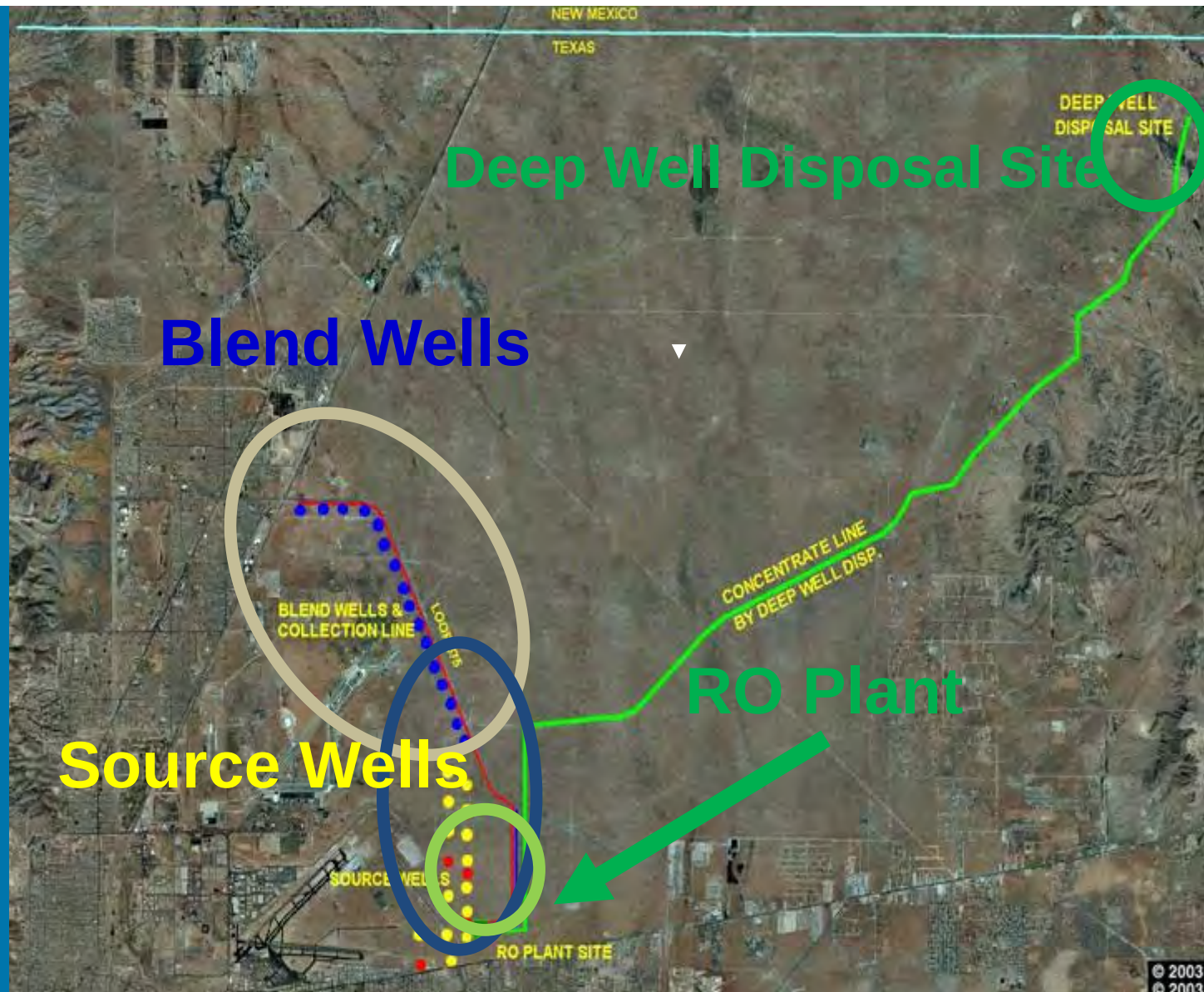




EPWater /Fort Bliss Partnership for Desalination Plant

- EPWater was planning a 20 MGD facility, and the Army a 7.5 MGD facility
- EPWater proposed a joint, 27.5 MGD facility
- EPWater/Army negotiated single, combined plant for project economy and efficiency
- Provides for unified management of Aquifer





THURSDAY

AUG. 9, 2007

80 CENTS

El Paso Times

elpasotimes.com



Bond adviser likely went undercover to aid FBI

By Ramon Bracamontes

El Paso Times

The announcement that the main bond adviser in El Paso has been cooperating with the FBI in its public corruption investigation probably means that he was working under-

Online extra

► See past stories on the public corruption case, plus court documents, photos and video at www.elpasotimes.com/publiccorruption.

Inside

► District clerk seeks audit of his office 1B

pert on public corruption cases.

"This is their way of saying they are done with him because in any investigation, if you ID someone, everyone else will shut up," Henning said.

The lawyer for Hector Zavaleta Jr., a former employee for the financial services company First Southwest Co., issued a news release Tuesday saying the law firm of Ellis & Ortega is representing him in connection with the ongoing public corruption investigation.

The news release further states that, "For some time, Mr. Zavaleta has been cooper-

cover and is now finished, a public corruption expert said Wednesday. "My best guess is that the government was probably using him as an undercover (source) and he may have tape-recorded conversations," said Peter Henning, a law professor at Wayne State University who is an ex-

ENVIRONMENT | PLANNING FOR THE FUTURE

27.5 million gallons of water a day



Mark Lammie / El Paso Times

U.S. Sen. Kay Bailey Hutchison, R-Texas, signed a desalination membrane Wednesday at the dedication of the Kay Bailey Hutchison Desalination Plant in East El Paso. El Paso Mayor John Cook, center, and Ed Zavaleta, president and CEO of El Paso Water Utilities, left, united to sign.

Desalination plant

Minorities dominate 10% of U.S. counties

By Darren Meritz

El Paso Times

The United States, including El Paso, is becoming more minority-dominated as the Hispanic population continues to grow through a high birth rate and an immigration surge that experts say is changing the country's cultural fabric.

In statistics released today, the U.S. Census Bureau estimates that more than 500 counties — almost 10 percent of all counties — in the United States have surpassed the majority-minority threshold, meaning that more than half of the population is considered a racial or ethnic minority.

In El Paso County, 81.4 percent of the population, or 599,353 people, was Hispanic as of July 2006, according to the Census Bureau.

One El Pasoan believes the city is ahead of the rest of the nation because the city has had a predominantly minority community for many decades.

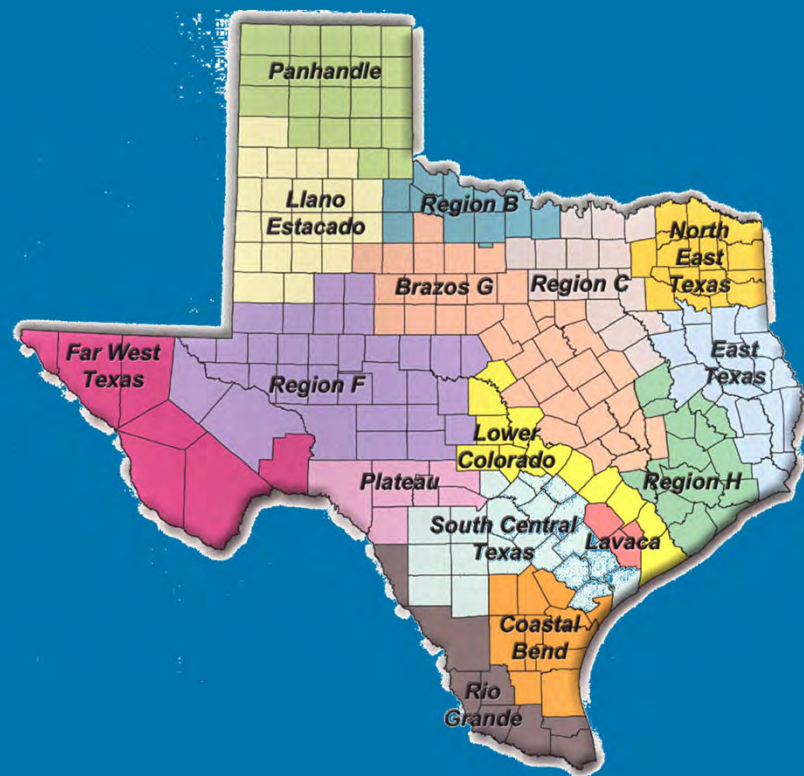
"I think that El Paso is kind of like a hub, or a prototype, of what the United States is going to look like in the future in the sense that Hispanics are going to take professions they didn't have before," said El Pasoan Sandra Iturbe, who works for La Mujer Obrera, a workers' rights advocacy group. "I think that Mexican culture is going to be an economic motor for the U.S."

Census statistics indicate the Hispanic population in El Paso County increased by 12.1 percent from 2000 to 2006, while the non-Hispanic popu-

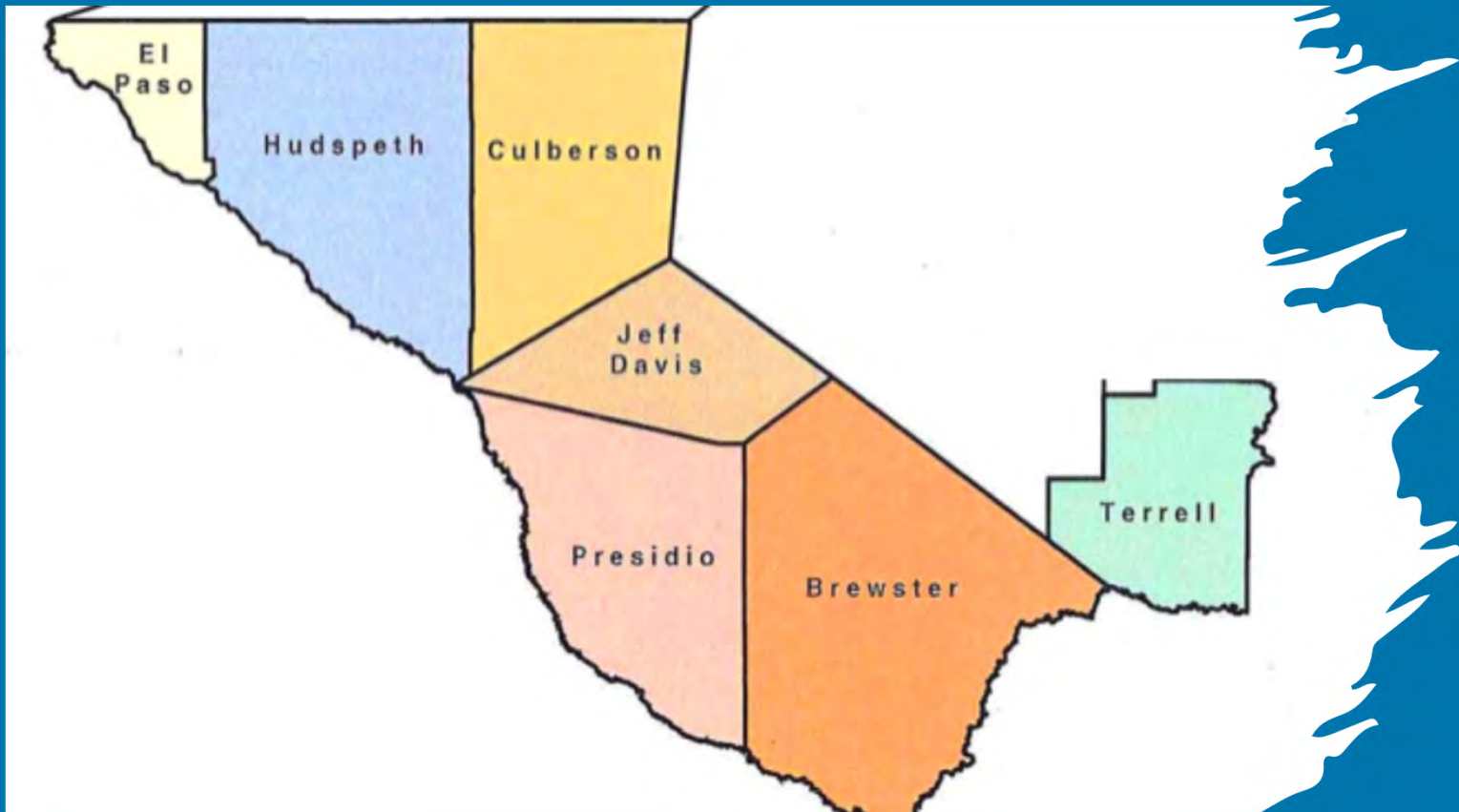




Regional Water Planning Areas of Texas



Region E



Regional Water Planning Trifecta



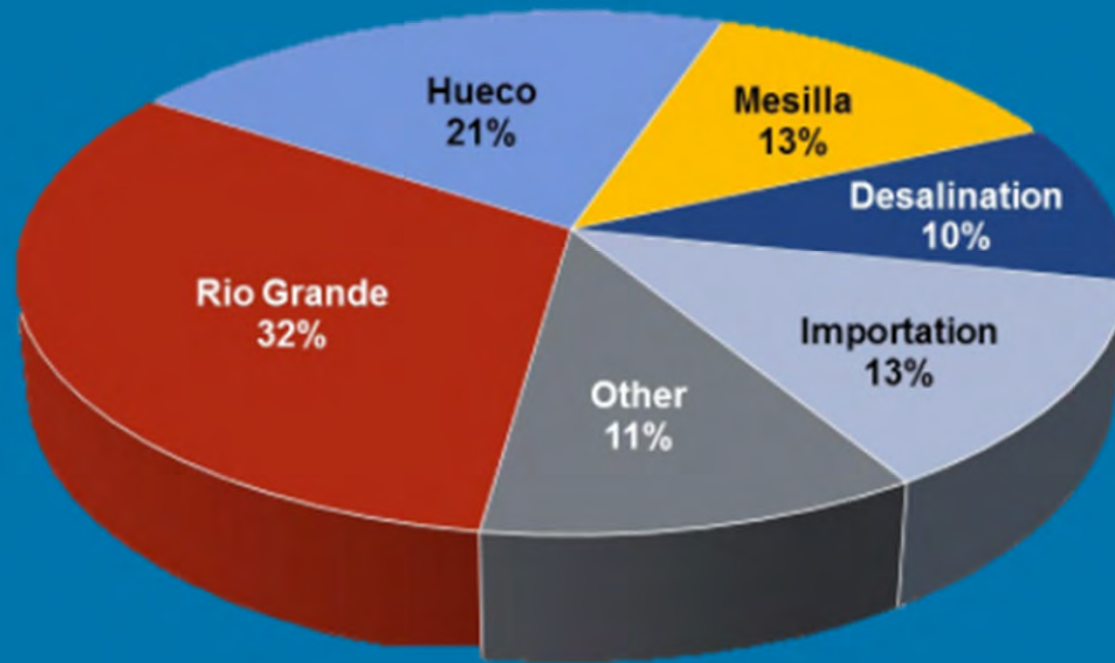
Population

- EP Water will see a 63% increase in population during the next 50 years

Projected Population Served by El Paso Water

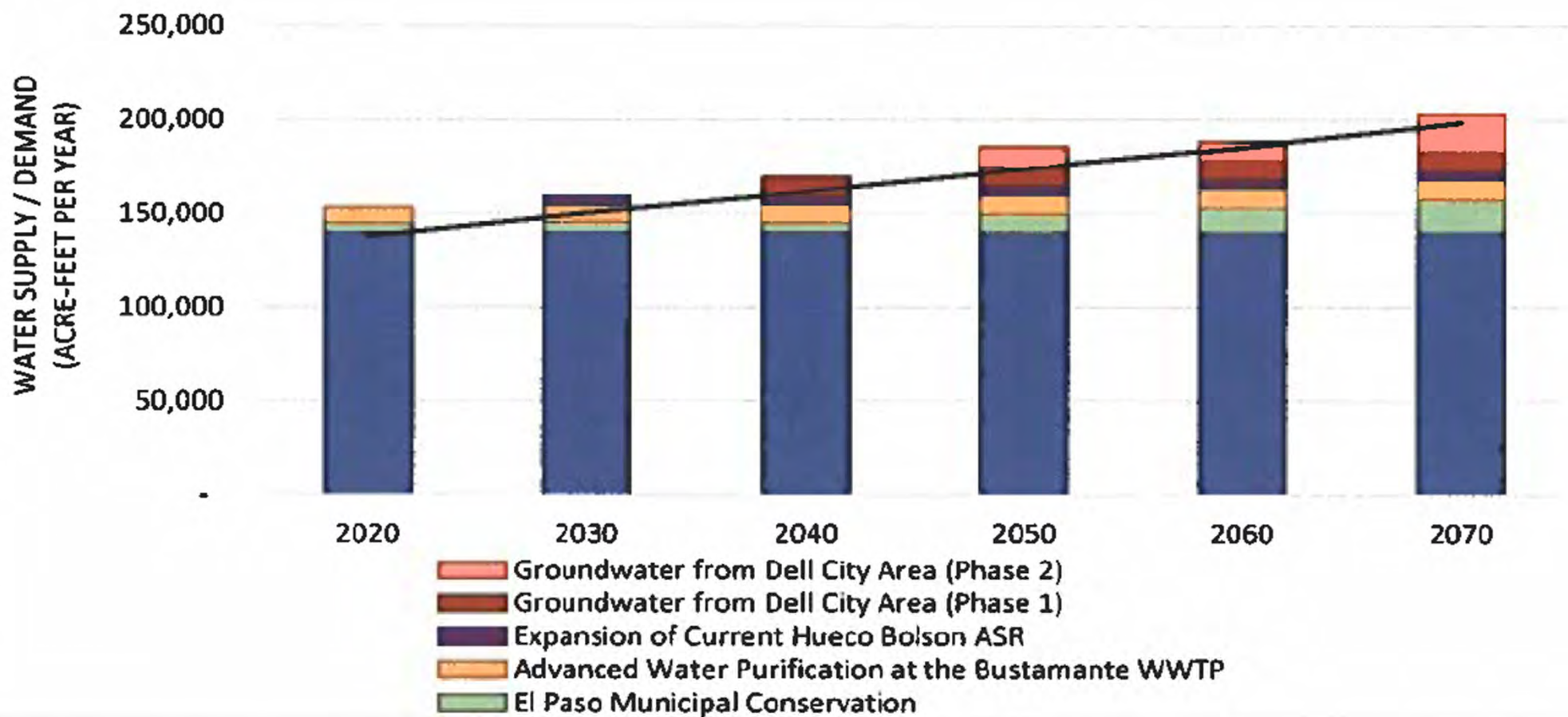
	<i>Historical 2013</i>	2020	2030	2040	2050	2060	2070
Projected Population Served by El Paso Water	787,208	831,386	938,493	1,038,018	1,136,713	1,230,215	1,318,182

Projected Breakdown of Water Supply Sources in 2070



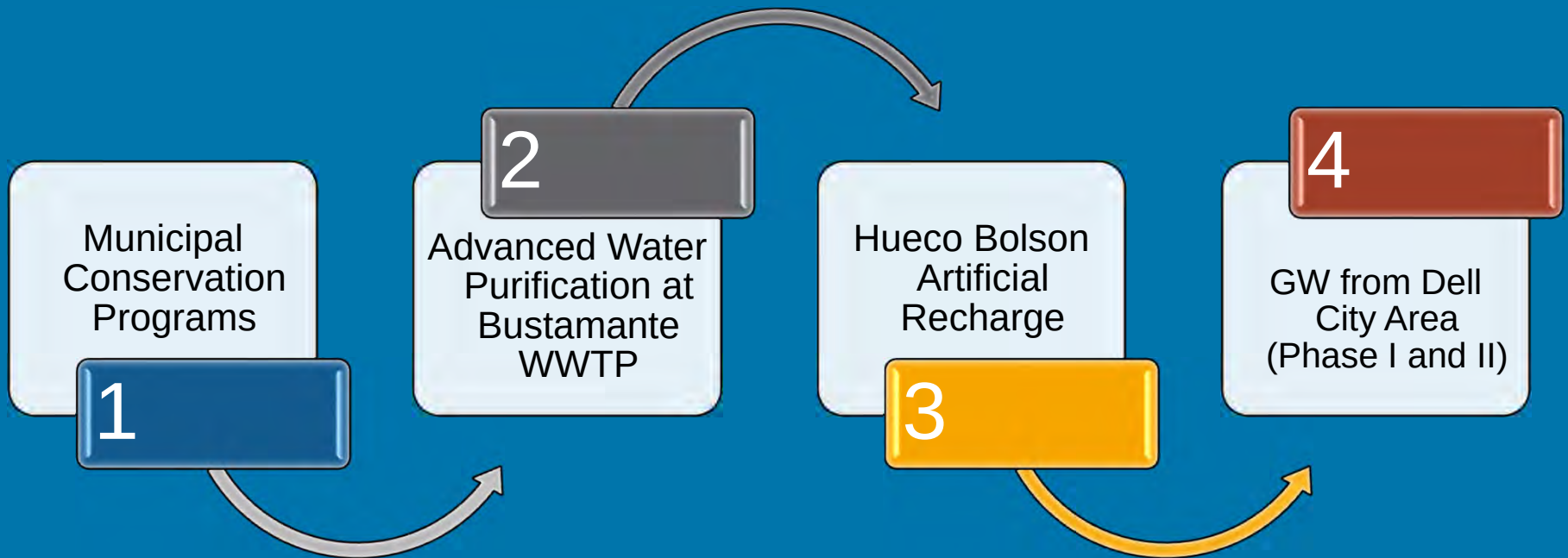
El Paso 50 Year Plan

- Four strategies are recommended that are designed to meet future water demands for the growing population
- Generate approximately 53,420 AF/YR by the year 2070

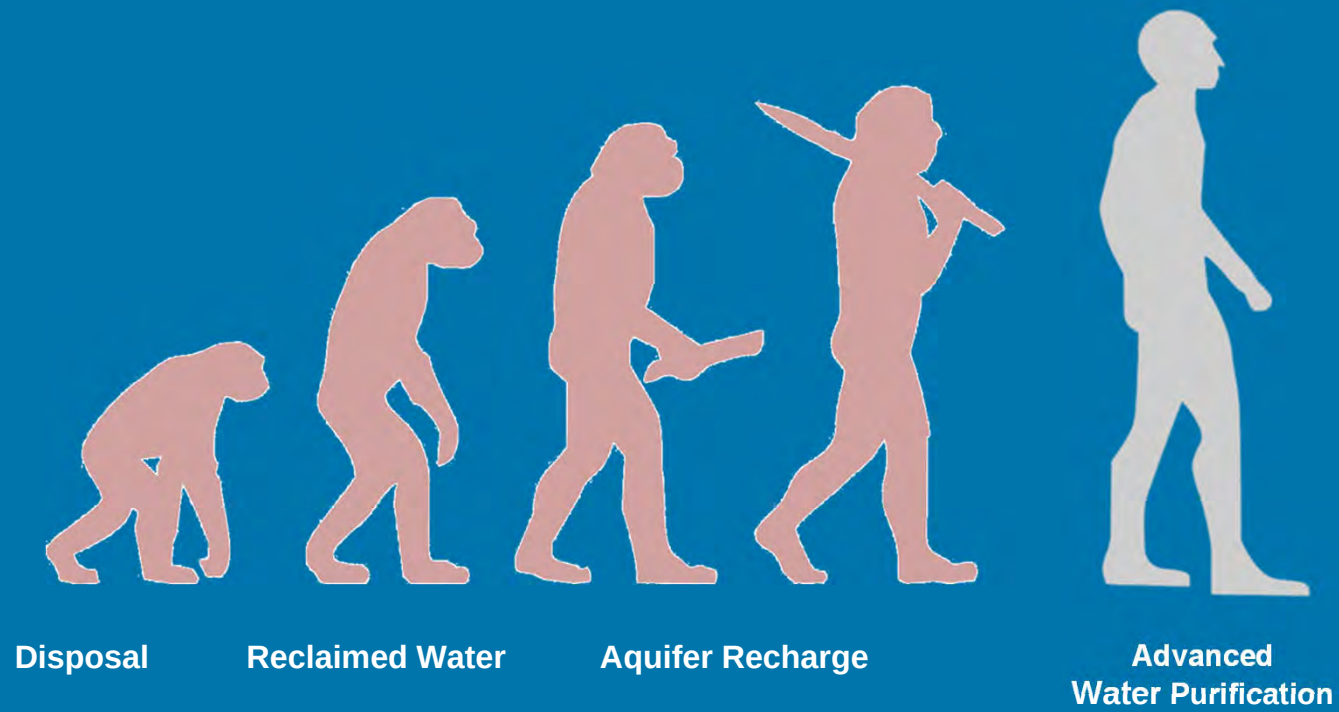


Recommended Water Management Strategies to Meet EPW Projected Water

EPW Recommended Water Management Strategies



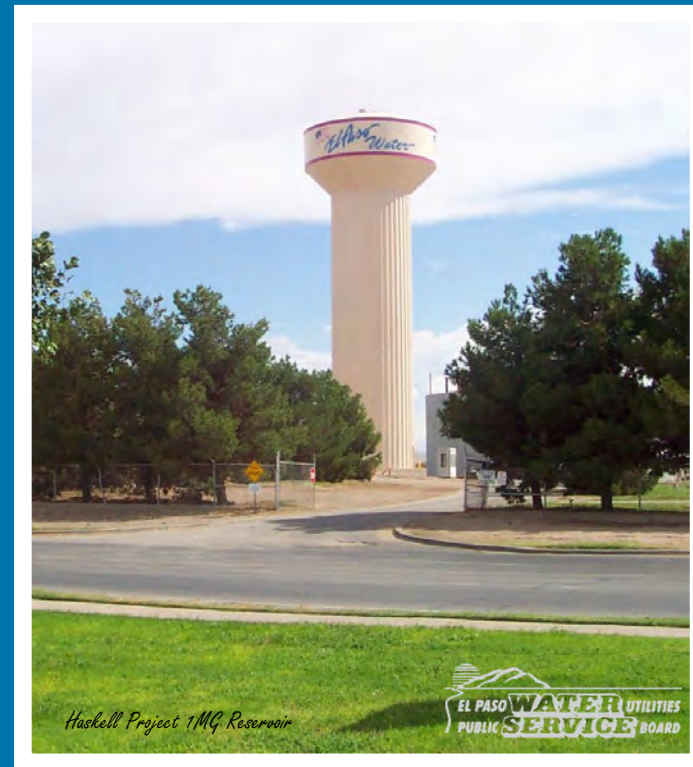
Evolution of Water Reuse



Reclaimed Water System Growth

INFRASTRUCTURE

- 10 Pump Stations
- 9 Reservoirs
- 3 Dispensing Stations
- 4 Post Hydrants
- 48 miles of Pipeline
- 80+ active meters



Hueco Bolson Artificial Recharge

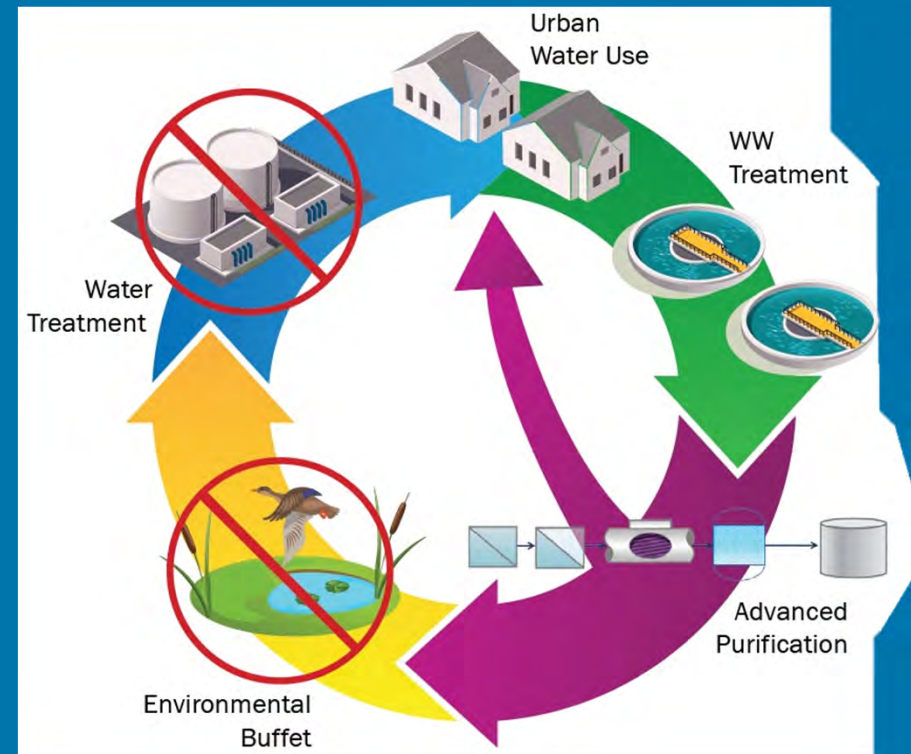




Water used for irrigation will be treated AGAIN in a rigorous four step process to create high quality, purified water.

What is the AWPf?

The AWPf will be the first **direct-to-distribution** reuse facility in the U.S.



Buffer

Advanced Water Purification at Bustamante WWTP

- Additional conventional WWT at Bustamante to include an advanced treatment facility
- Wastewater effluent produced from plant would undergo 4 additional treatment for purification into potable supply.
- 8,500 AF/yr in 2020, increasing 2MGD per decade, and expanding to about 10,600 in 2070.

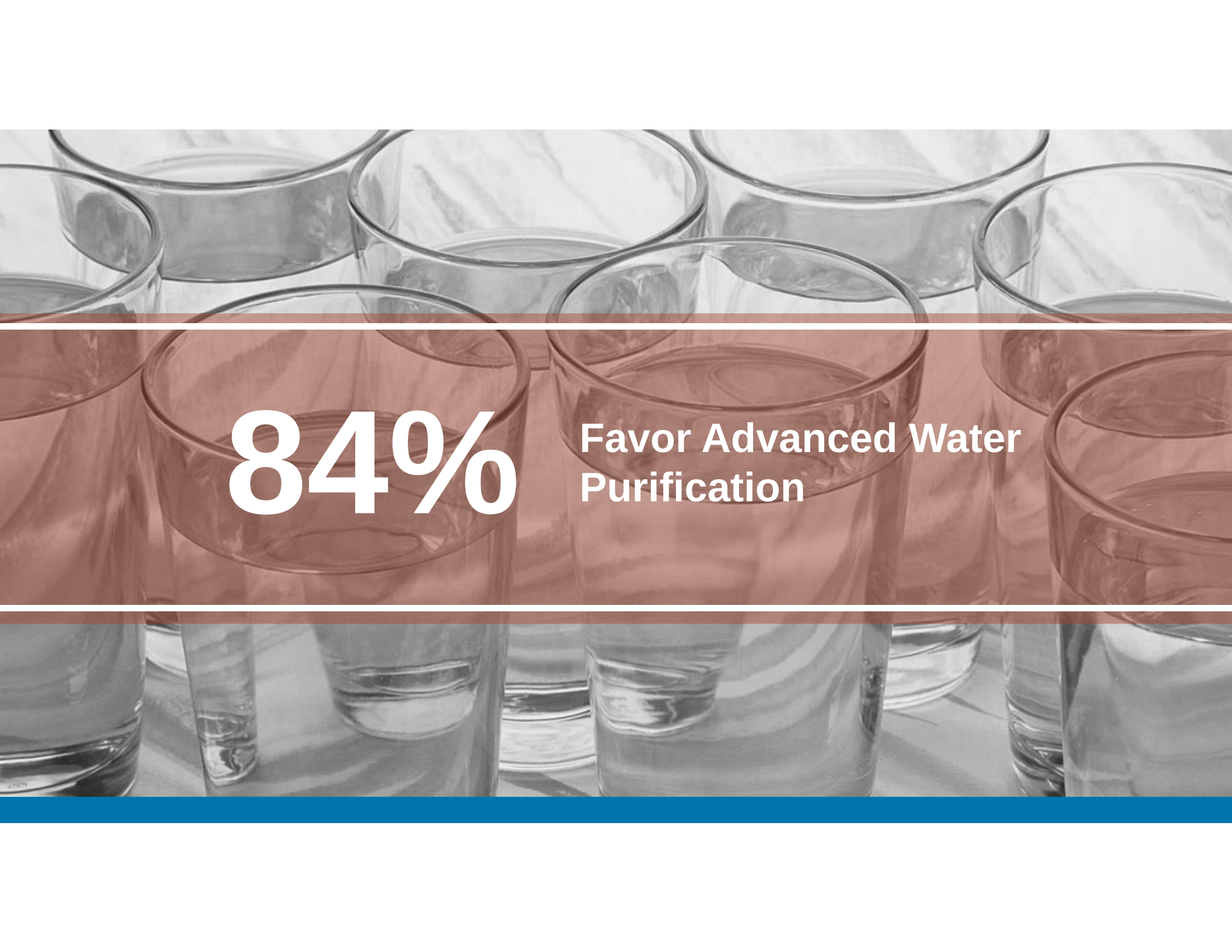
Multiple Barrier Treatment

	RO Membrane Filtration	Ultraviolet Light	GAC Filters	Chlorine
Particulates	✓		✓	
Nutrients	✓			
Microconstituents	✓	✓	✓	
Pathogens	✓	✓		✓
Virus	✓	✓		✓
Total Organic Carbon	✓		✓	
Salts	✓			

What will it do?

- The AWPf will provide a guaranteed source of drinking water
- Plant will help meet peak demand when surface water isn't available
- Bustamante WWTP will supply effluent to the AWPf
- The AWPf will produce 10 mgd of purified water at buildout and up to 12 mgd with blending
- Brackish groundwater will be used for a blend source

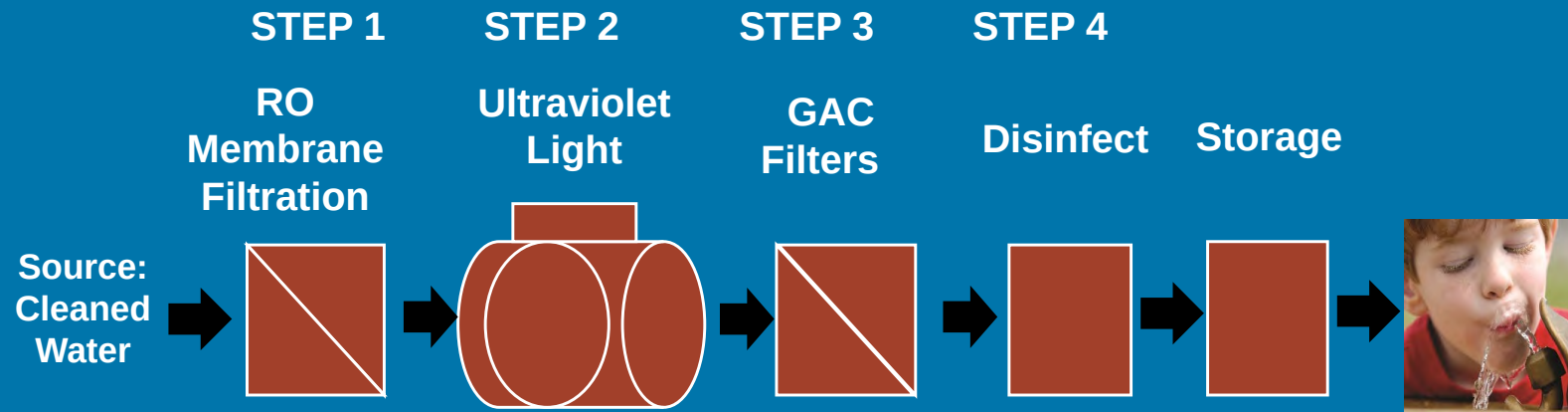




84%

**Favor Advanced Water
Purification**

Advanced Water Purification Process



Pursuit for Funding

El Paso Times

THURSDAY, SEPTEMBER 29, 2022 | ELPASOTIMES.COM

PART OF THE USA TODAY NETWORK



US gives \$20M to advanced water purification facility

Martha Pskowski

El Paso Times | USA TODAY NETWORK - TEXAS

An infusion of federal funding will help El Paso Water's efforts to drought-proof the municipal water supply.

The U.S. Department of the Interior awarded \$20 million to the El Paso Advanced Water Purification Facility in August. The facility, once completed, will process treated wastewater into up to 10 million gallons a day of safe drinking water.

The project is El Paso Water's latest effort to diversify water sources and reduce reliance on the Rio Grande and the Hueco-Mesilla Bolson aquifer. Advanced purification in El Paso is one of 25 water recycling and drought resilience projects awarded a total of \$310 million from the Bipartisan Infrastructure Law.

The facility is on track to be one of the first in the United States to distribute treated water from advanced purification directly to consumers. The Depart-

ment of the Interior and other partners celebrated the announcement Monday at El Paso's Kay Bailey Hutchison Desalination Plant.

"This is something I hope we can see in every city throughout the West," said U.S. Department of the Interior Assistant Secretary for Water and Science Tanya Trujillo. "El Paso is an outstanding model for Western communities on desalination, water reuse and overall

See FACILITY, Page 4A



Interior Assistant Secretary for Water and Science Tanya Trujillo is shown salt extracted by El Paso Water's desalination plant during a visit Monday. During a news conference, it was announced that the U.S. awarded \$20 million to the El Paso Advanced Water Purification Facility.

OMAR ORNELAS/EL PASO TIMES

DELL CITY

A GROWING COMMUNITY



GRAPES



THE VALLEY OF HIDDEN WATERS



CATTLE



CHILE PEPPERS

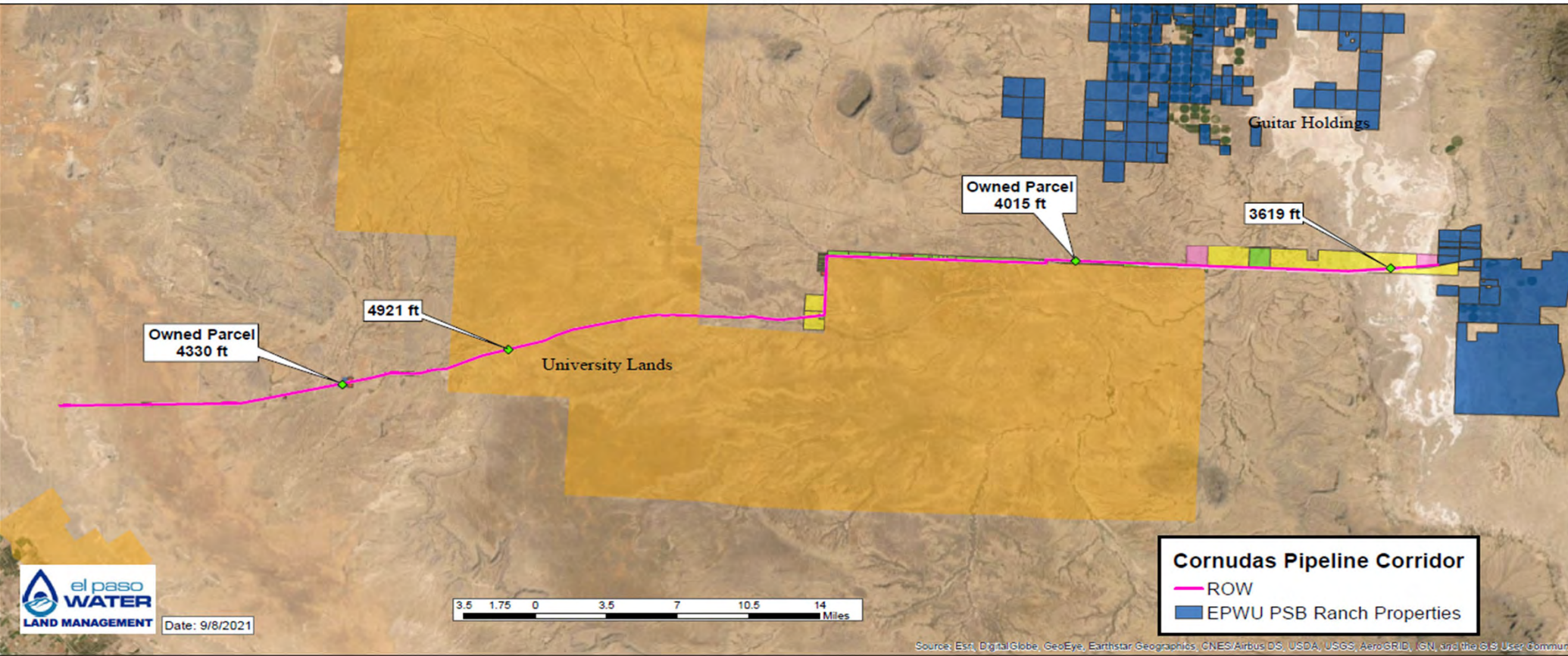
DTC
DELL TELEPHONE.COM
www.delltelephone.com
915-964-2352







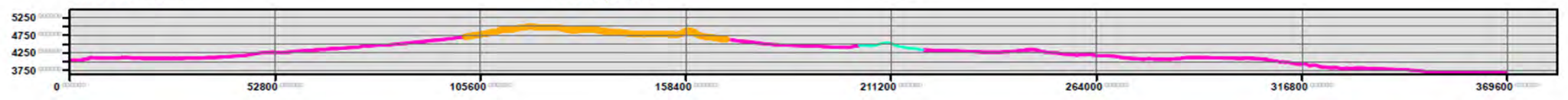




1:1 Elevation Factor



1:10 Elevation Factor



GW from Del City Area (Phase I)

- In 2003 and 2004, EP purchased 8,833 acres of land (Diablo Farms) overlying the Capitan Reef Aquifer
- Proposed strategy calls for importation of up to 10,000 AF/YR from six new wells and pipeline beginning in 2040

GW from Del City Area (Phase II)

- EPW purchased 70,388 acres of land in Dell City overlying the Bone Spring-Victorio Peak aquifer
- Importation of 10,000 AF/YR proposed in 2050
- TDS range from 1,810 to 3,900 mg/l → desalination is required before used for municipal purposes

Alternate Water Management Strategies

- AWP at Haskell Street WRP
- Agricultural Drain Water
- Expansion of Canutillo Well Field
- Lower Valley Reverse Osmosis
- Expansion of KBH
- Expansion of Jonathan Rogers WTP
- Riverside Regulating Reservoir
- Surface Water treatment at Upper Valley WTP
- AWP at the Fred Hervey WRP





GOOD MORNING.
IF THE Yuma Indians play as well
against Wartia Falls as they did
against Snowwater, and get a few
breaks, they may surprise the football
deputies next Saturday. Let's all wish
them all kinds of luck and give all the
moral support we can.

The El Paso Times

3c
IN CITY
5c
Elsewhere

THE WEATHER.

THE U. S. WEATHER BUREAU
Arizona, Fair Weather and Good
Clear change in temperature.
New Mexico, Fair Weather and Good
Clear. Lower Part, Light Breeze.
Texas, Fair Weather and Good
Clear. Lower Part, Light Breeze.
Florida, Fair Weather and Good
Clear.

61st YEAR—No. 342

EL PASO, TEXAS, MONDAY, DECEMBER 8, 1941

Published by The El Paso Times Company, Inc., 1000
Broadway, New York, N. Y.

12 PAGE

WAR!

NATION RALLIES TO FIGHT BACK AT JAPANESE ATTACK

