



**CUMBRE BINACIONAL DE RECURSOS HÍDRICOS
EN LA FRONTERA
PASADO, PRESENTE Y FUTURO**



**BINATIONAL BORDER WATER RESOURCES SUMMIT
PAST, PRESENT AND FUTURE**

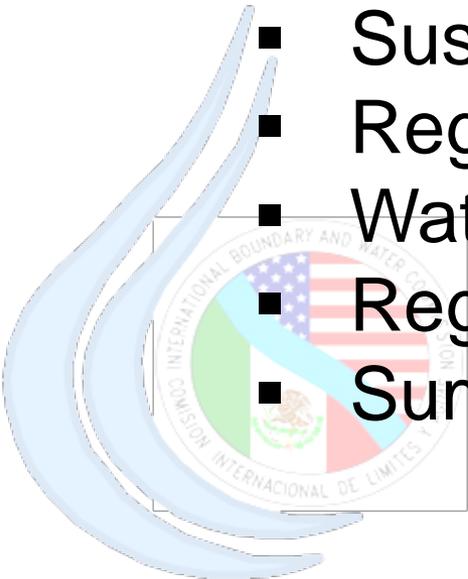
**Regional Water Planning and
Implementation –
An El Paso Success Story**



Ed Archuleta, President/CEO
El Paso Water Utilities
September 2012

Agenda

- City of El Paso/El Paso Water Utilities
- Regional Water Resources
- Drought
- Desalination
- Sustainable Water Supplies
- Region E Planning
- Water Conservation
- Regional Planning Efforts
- Summary

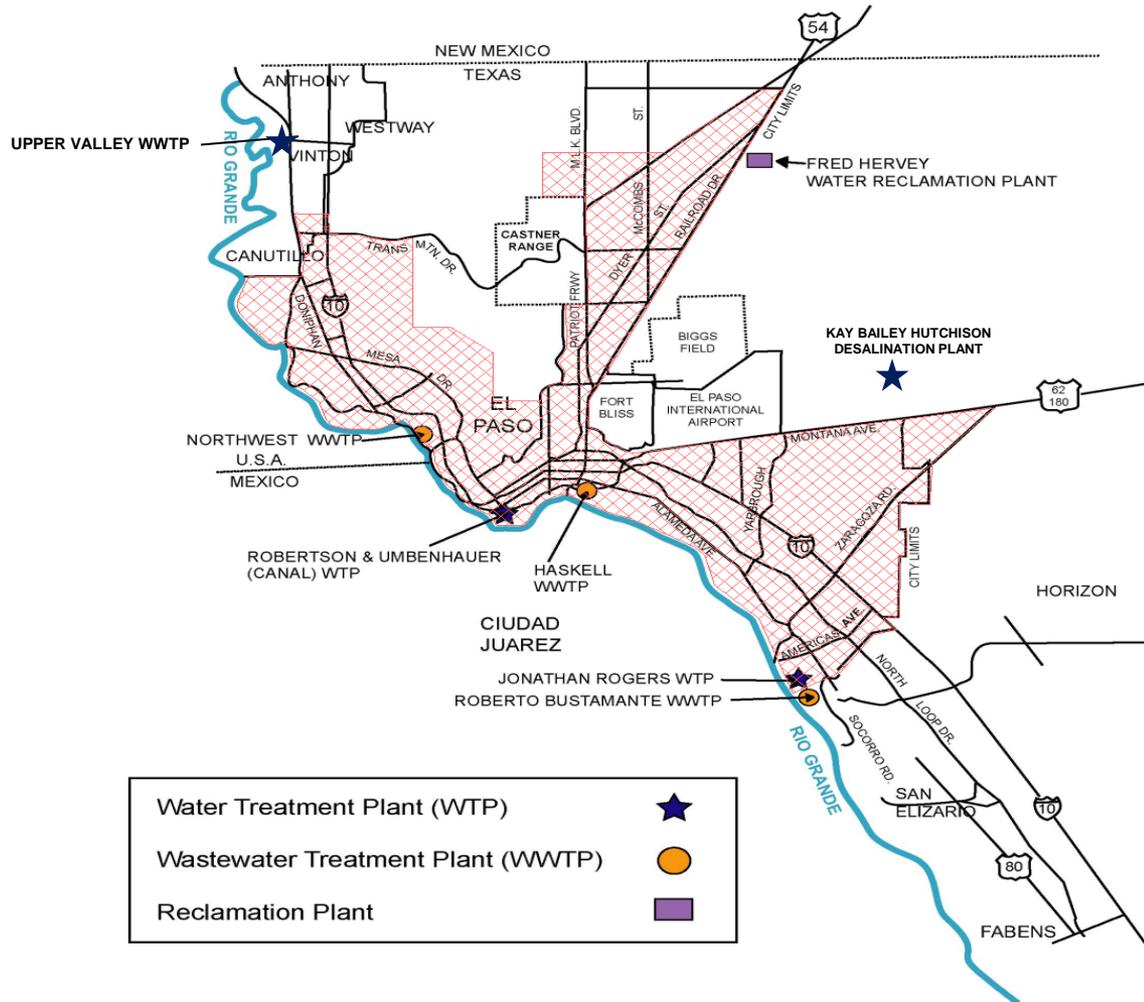


El Paso Water Utilities Public Service Board

- Created in 1952 by City ordinance
- Comprised of 7 members to include the Mayor
- The PSB sets policy, adopts fiscal budgets, rates and fees, and approves an annual strategic plan for 4 utilities
- EPWU provides water service to 97 percent of El Paso County (750,000+ residents)
- EPWU's capital improvement needs over the next 10 years are projected to be over \$800 million



EPWU Service Area



El Paso's Diversified Resources

50-Year Water Resource Management Plan adopted in 1991



Key Water Issues

- Amount of sustainable water (Where is it going to come from?)
- Cost (How to pay for development of water resources?)
- When to implement these “new” programs?



Regional Water Resources



Elephant Butte Dam

NEW MEXICO

UNITED STATES

Hueco Bolson

Mesilla Bolson

EL PASO

TEXAS

Ciudad Juárez

West Texas
Aquifers

MEXICO



Managing Drought in El Paso



**Increased
Conservation &
Desalination**

**Emergency
Management
Rule**

**Surface Water
Strategies**

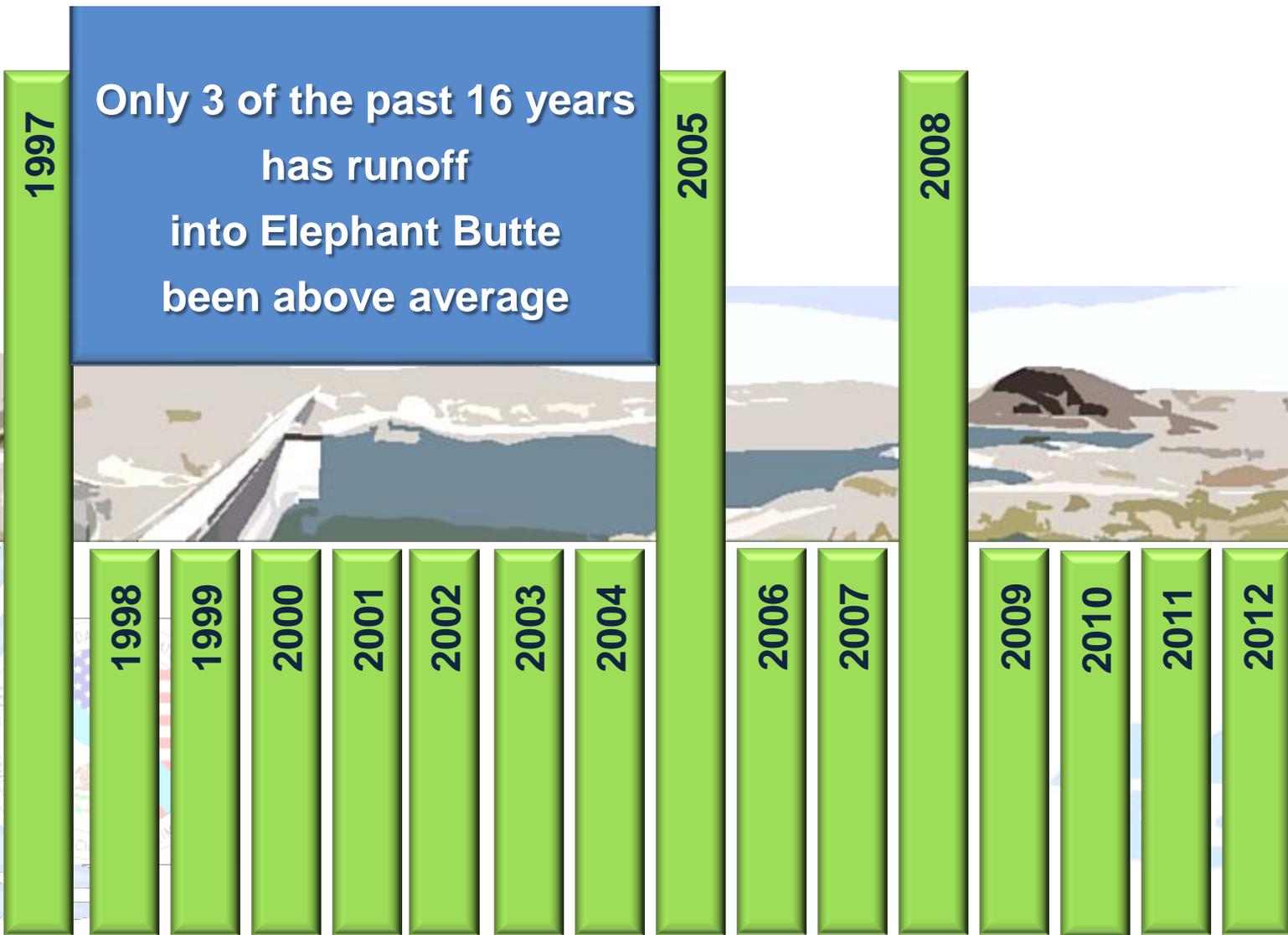
**Managing
Drought**

**Groundwater
Strategies**

**Reclaimed
Water**



Drought History

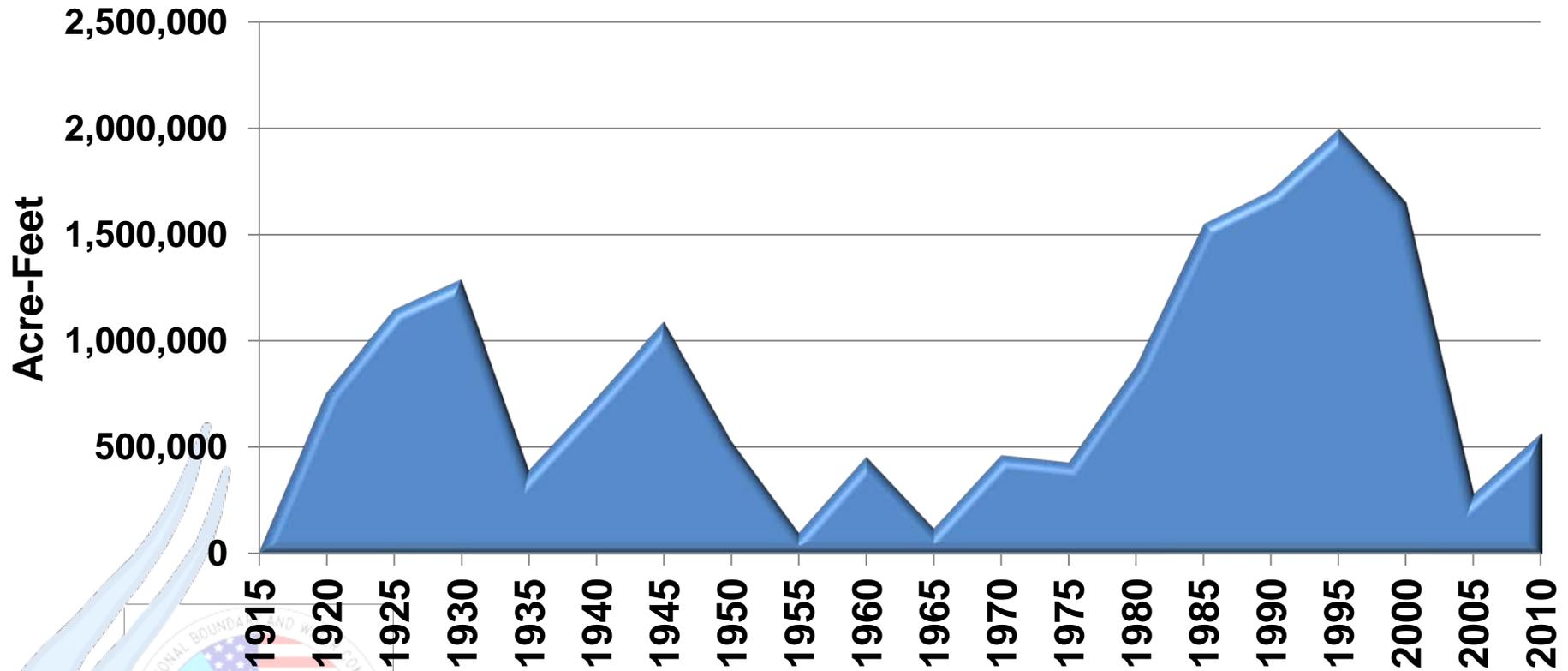


2012 Drought Summary

- EPWU received reduced river water allocation **37,000 AF** compared to 60,000 AF
- River releases began late and ended early
- River gates at Caballo closed in the middle of season
 - Two river water treatment plants shut down
 - Three week critical conservation period in May



Elephant Butte Reservoir Historic Levels



Bureau of Reclamation: Upper Colorado Region Historic Data

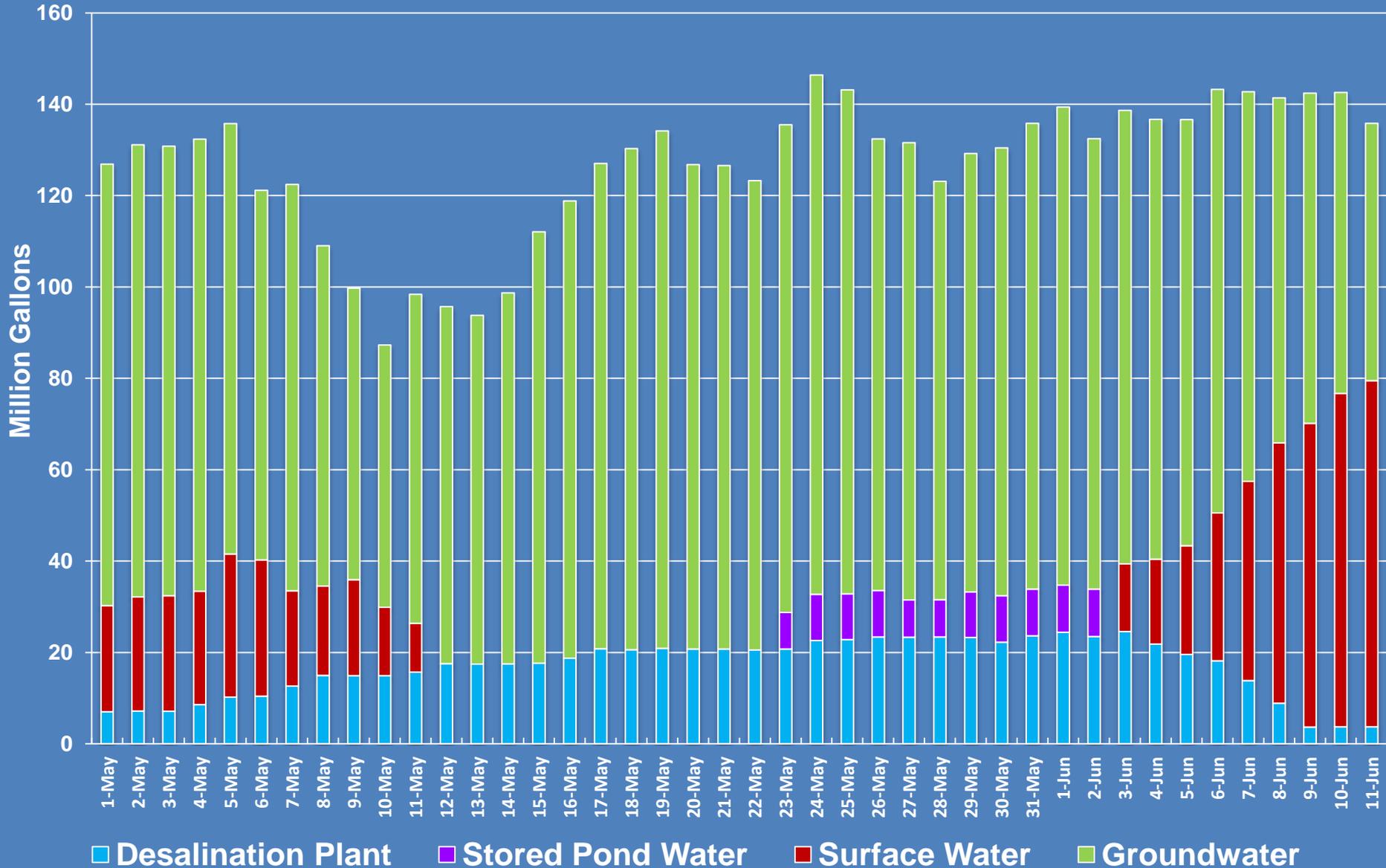


Rio Grande Runs Dry

May 12, 2012

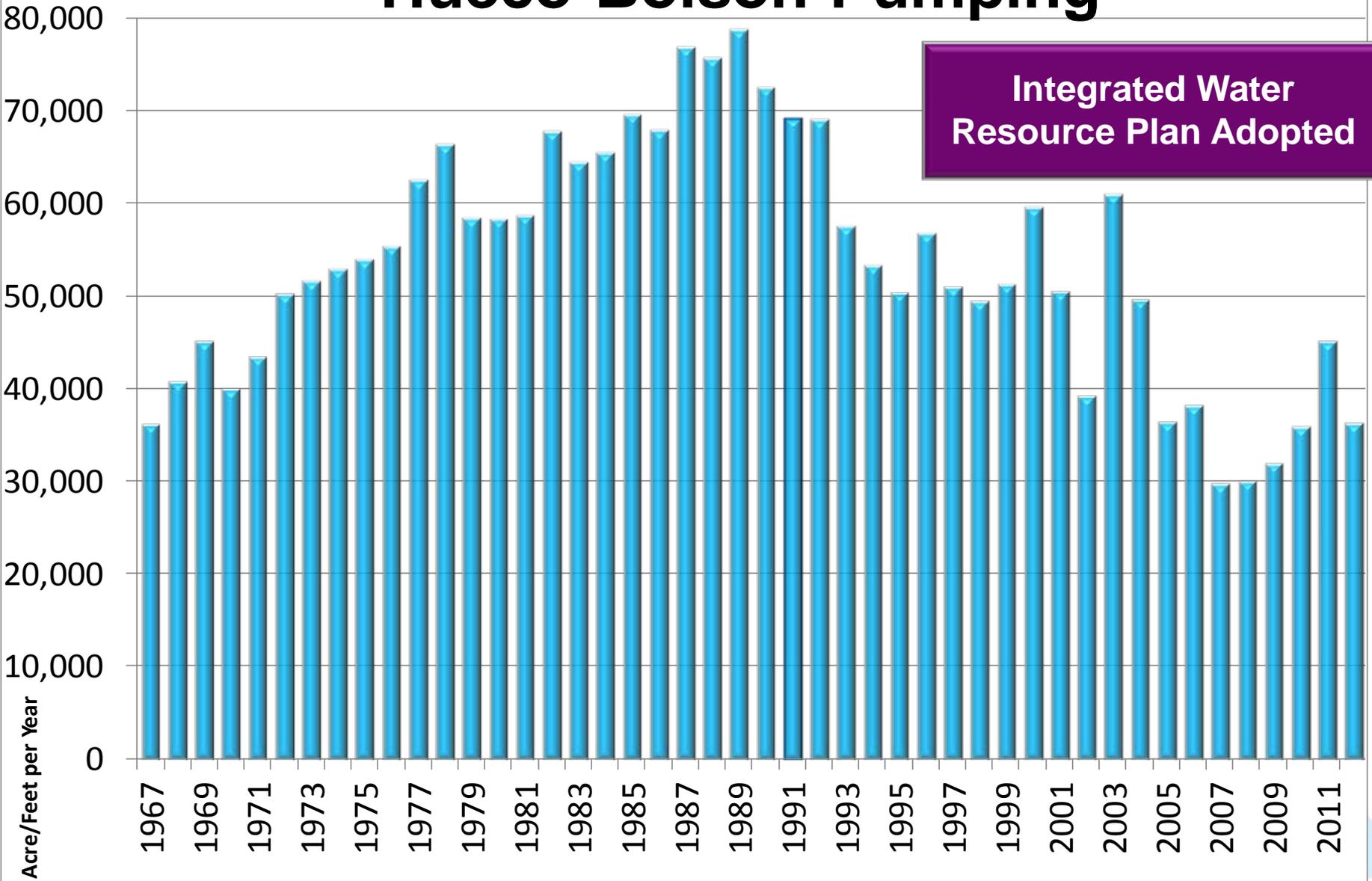


Water Resources Used May – June 2012

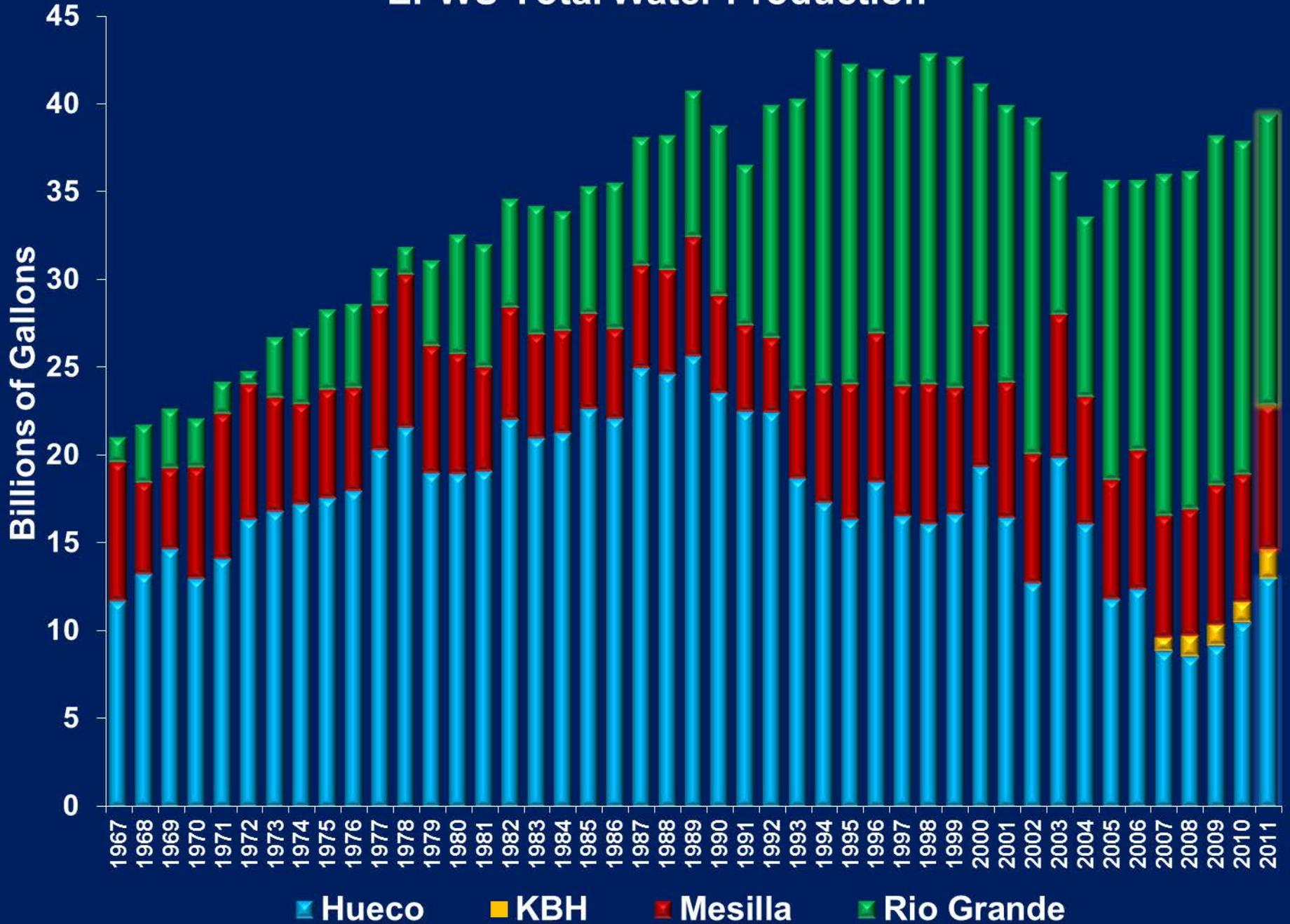


Hueco Bolson Pumping

**Integrated Water
Resource Plan Adopted**



EPWU Total Water Production



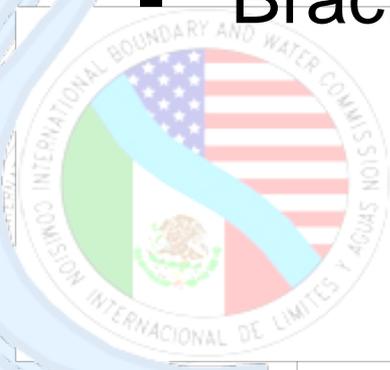
Desalination Plant



Kay Bailey Hutchison Desalination Plant

❑ Opened in 2007 to deal with:

- Drought
- Emergency situations
- Growth
- Brackish water intrusion



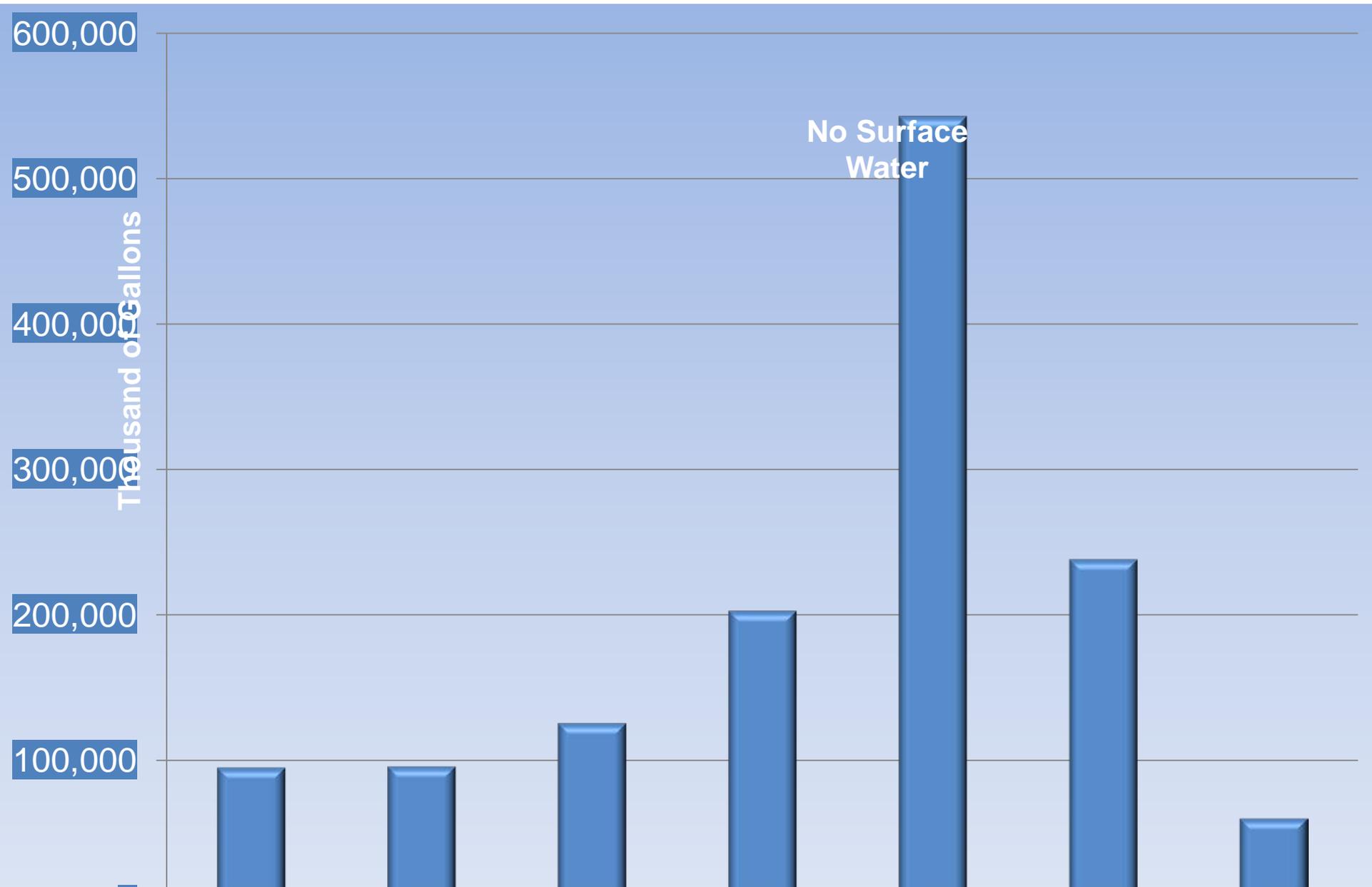
Desalination Plant Details

- Up to 27.5 MGD capacity
- Raw water forced through membranes to separate salts and contaminants
- 5 skids
- Usually runs at 1-2 skids
- Operated at full capacity for the first time in May 2012



Kay Bailey Hutchison Desalination Plant Production

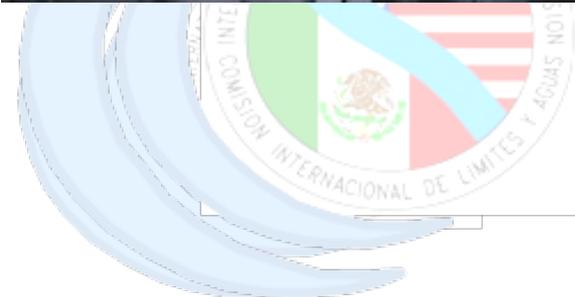
Jan. 2012– July 2012



Kay Bailey Hutchison Desalination



- ❑ Award winning plant
- ❑ A model for other water utilities
- ❑ Research facility
- ❑ Toured by national and international visitors





GLOBAL REACH HIGHWAY

EL PASO INTERNATIONAL AIRPORT

MONTANA RESERVOIR AND PUMP STATION

MONTANA (US-62)

JOINT DESALINATION FACILITIES

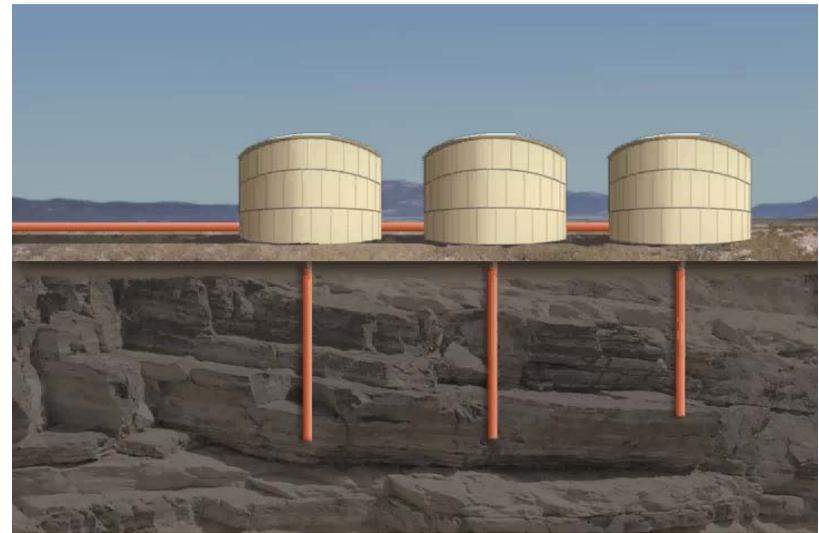
FORT BLISS MILITARY RESERVATION

WATER RESOURCES LEARNING CENTER

ACCESS ROAD

Concentrate Disposal

- 3 Injection Wells
- Surface Injection Facilities
- Concentrate Pipeline (22 mi)
- Less costly and less environmental impact than evaporation



NEW MEXICO
TEXAS

DEEP WELL
DISPOSAL SITE

BLEND WELLS &
COLLECTION LINE

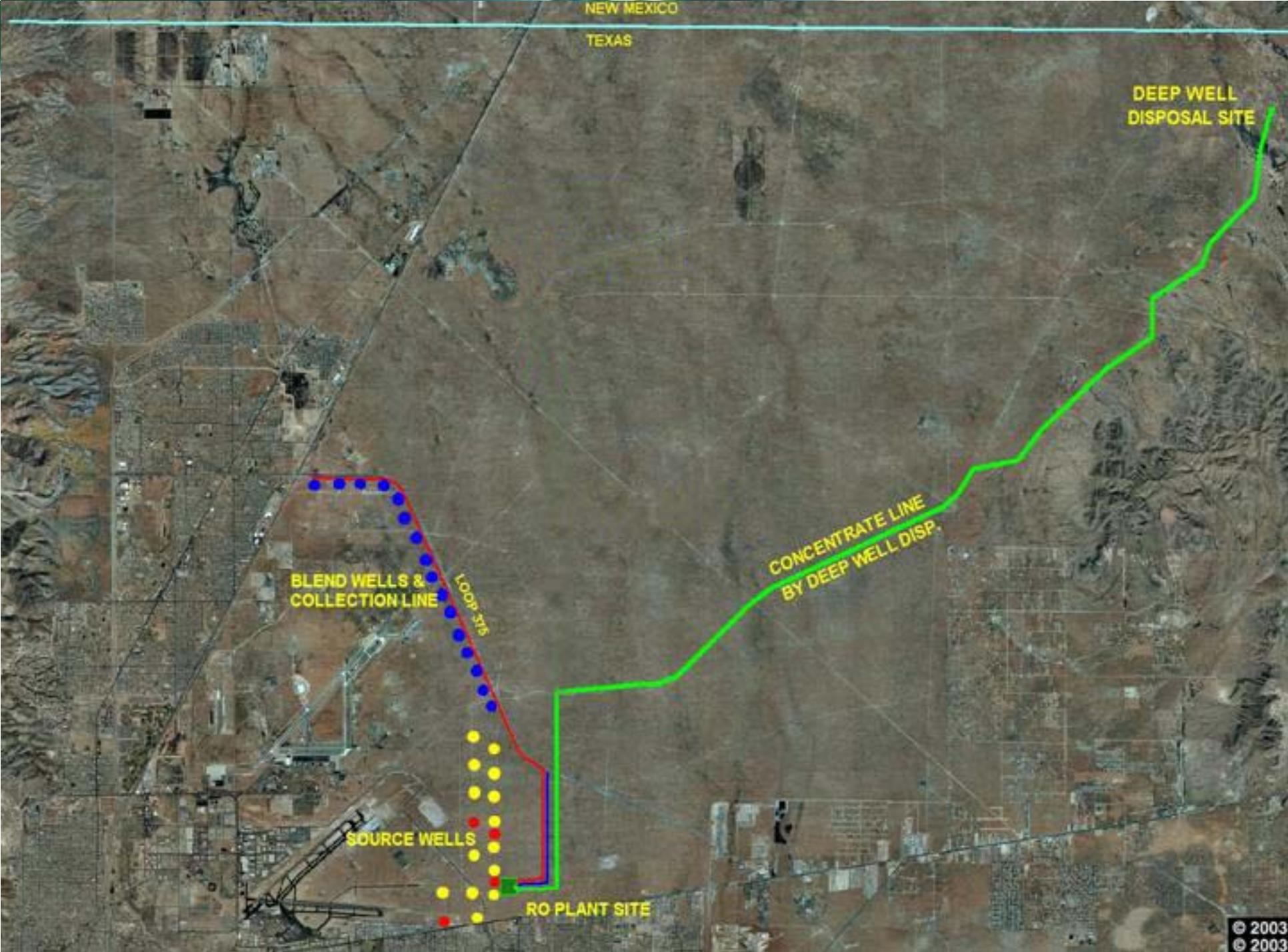
Loop 375

CONCENTRATE LINE
BY DEEP WELL DISP.

SOURCE WELLS

RO PLANT SITE

© 2003
© 2003

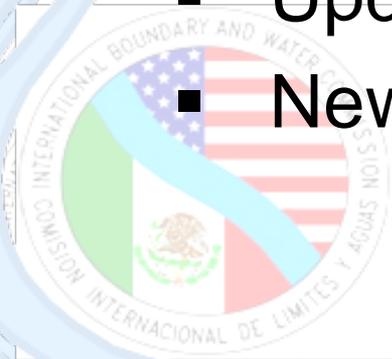


Sustainable Water Supplies



How We Got There?

- EPWU reduced Hueco pumping in 1989
 - *Fundamentally changed conclusion reached in 1979* (depletion of fresh groundwater by 2030)
 - Resulted in a “nearly sustainable” supply
 - Updated model developed by USGS
 - New data collected during drilling



Key Assumptions to “Nearly Sustainable Supply” for El Paso Portion of Hueco

- EPWU pumping:
 - 40,000 AF/yr in “normal” years
 - 75,000 AF/yr in drought years
- Juarez pumping:
 - 120,000 AF/yr



Previous Actions of Public Service Board

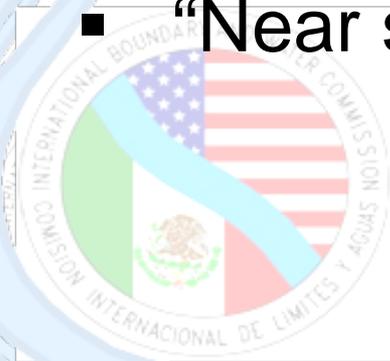
Extended availability of local supplies through

- ❑ Conservation Ordinance
- ❑ Investment in additional surface water rights and treatment capacity
- ❑ Investment in wells
- ❑ Investment in desalination facilities
- ❑ Investment in transmission facilities
- ❑ Investments in data collection and model development



Future Fresh Groundwater Storage Decline

- Average storage decline = 22,000 AF/yr
- Attribute all storage decline to fresh groundwater area
- After 100 years:
 - 75% of 2002 fresh groundwater storage remains
 - “Near sustainability”



Region E Planning



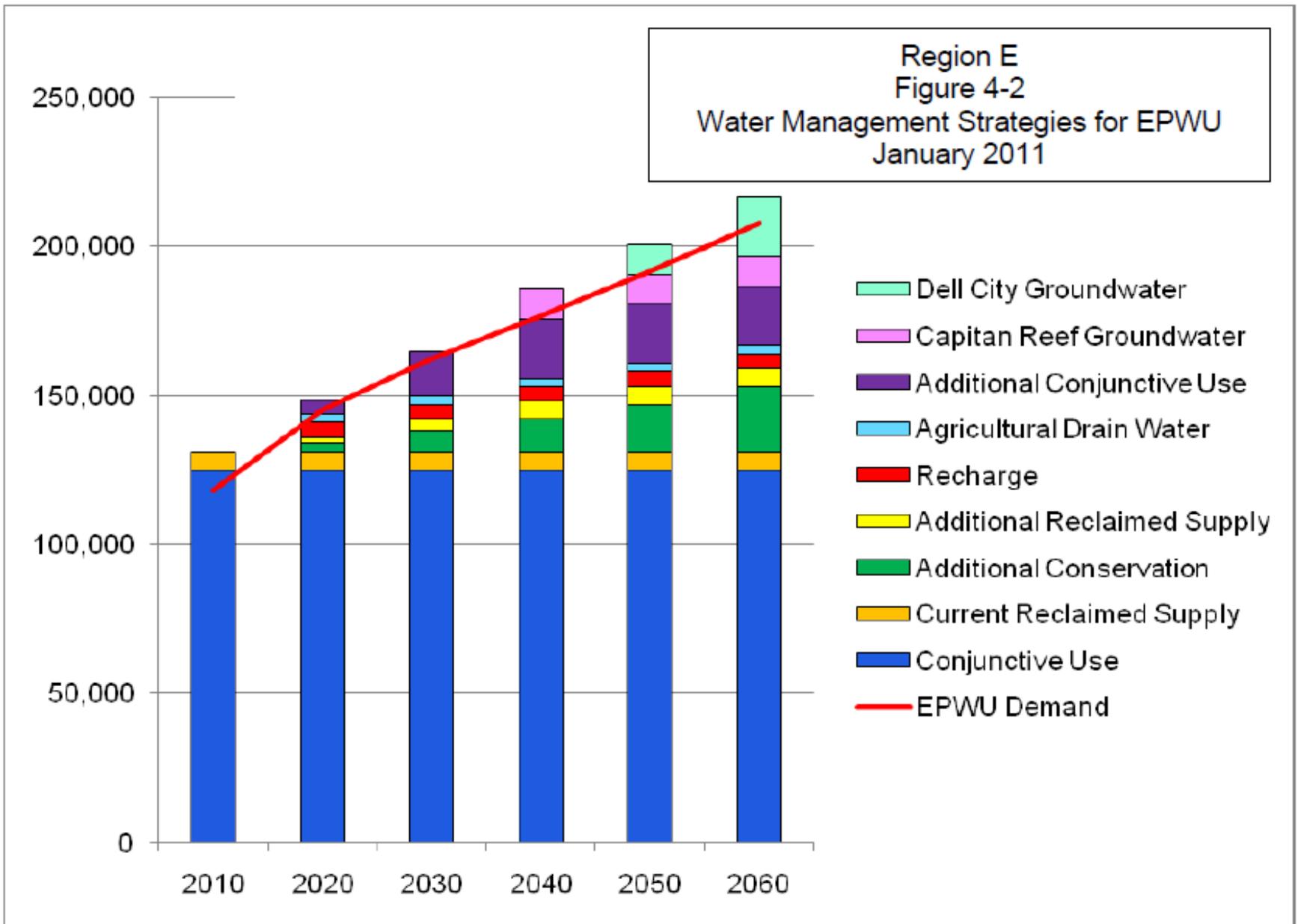
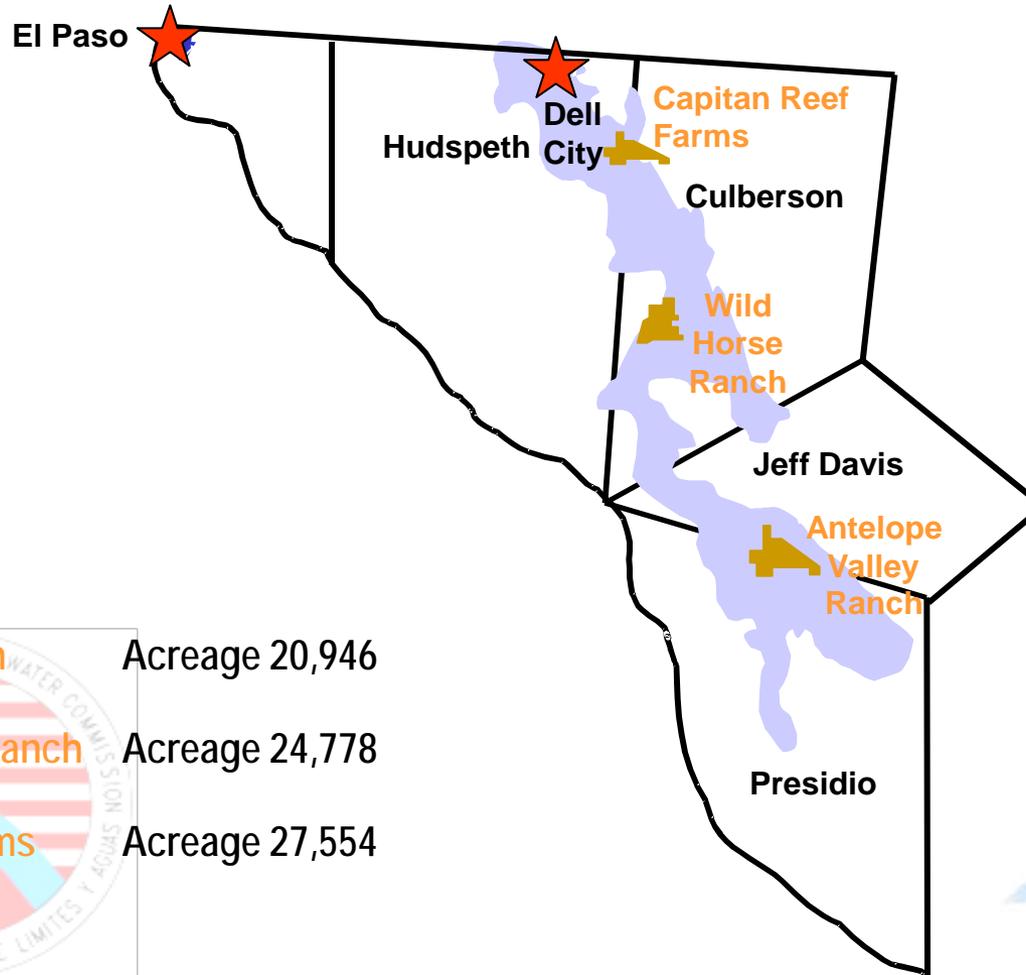


Figure 4-2. Water Management Strategies for EPWU

Importation of Water



Wild Horse Ranch	Acreage 20,946
Antelope Valley Ranch	Acreage 24,778
Capitan Reef Farms	Acreage 27,554



Water Conservation



Conservation Efforts in El Paso

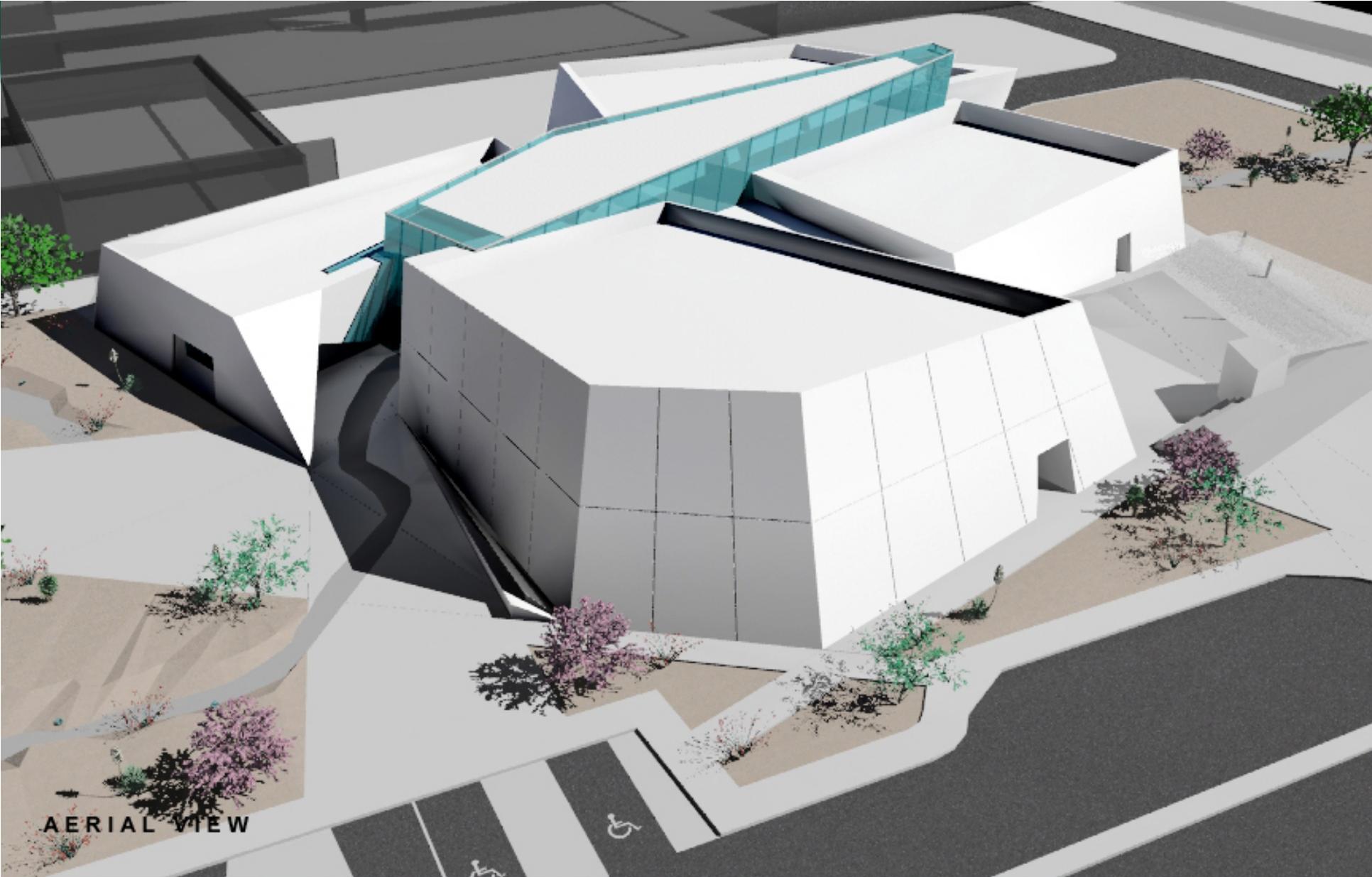
- ❑ EPWU reduced Hueco pumping in 1989.
Made possible by:
 - Increased surface water use
 - Rate structure changes
 - Conservation
 - Public education and awareness
 - Increased reclaimed water use

LESS IS THE NEW MORE

Campaign Objectives:

- Decrease per capita water consumption
- Increase awareness of water conservation April – September
- Brand El Paso as a conservation leader





AERIAL VIEW

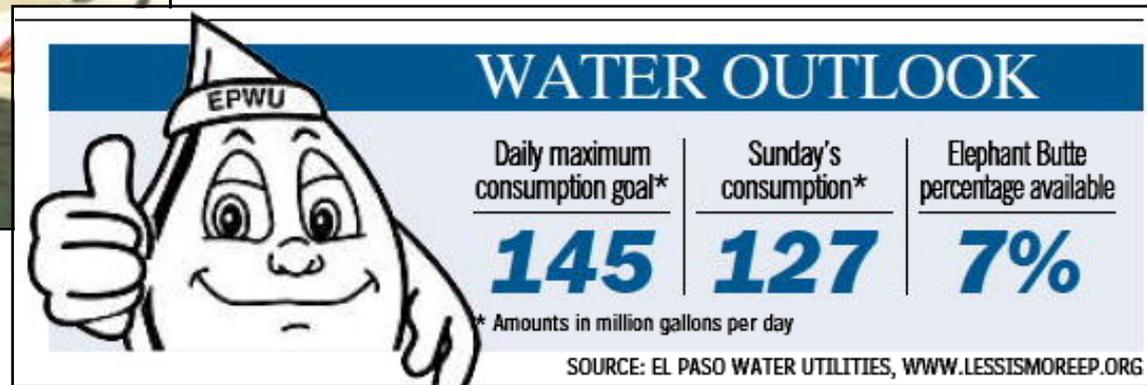


Water Resources Learning Center

Media and Public Relations Efforts Continue



- Watering schedule reminders
- TV and radio live interviews
- Community events and workshops
- Home Depot partnership
- El Paso Times partnership



Regional Planning



Planning with JMAS



Areas of Interest Between the Two Water Utilities (EP/Juarez)

- Continued interaction with regional partners
- Tri-regional planning related to water within Rio Grande (TX/NM/Mexico)
- Groundwater modeling of the aquifers
- Exchange of information with regard to drilling, water consumption, water quality, water reuse, and reclaimed water



Additional Areas of Interest

- Development of information with regard to the joint management of the Bolsons along with water conservation, joint public affairs campaigns, media events, etc.
- Development of a proposal(s) to respective State and/or Federal governments for funding opportunities re: joint projects

Conclusions - Past and Present

- Improved data and analytical tools have provided EPWU better information about the Hueco (Similar studies are needed in Mesilla Bolson)

- Major Public Service Board water planning and policy implementation have improved conditions in Hueco:
 - Diversification of water resources and Pumping reductions; resulting in stabilized groundwater levels in many areas



Summary

- ❑ Regional water planning and implementation has been a success and must continue
- ❑ Expected population growth will result in increased water demands
- ❑ Continued need for the following:
 - Expanding infrastructure
 - Development of non-traditional local supplies to include re-use
 - Acquisition of data collection and analytical tools
 - Continued conservation





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GRACIAS / THANK YOU

