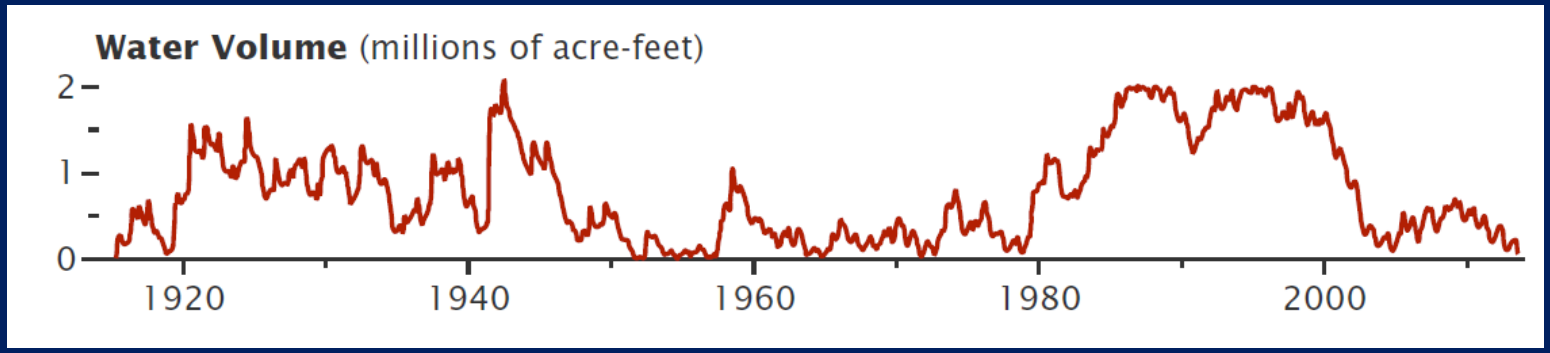
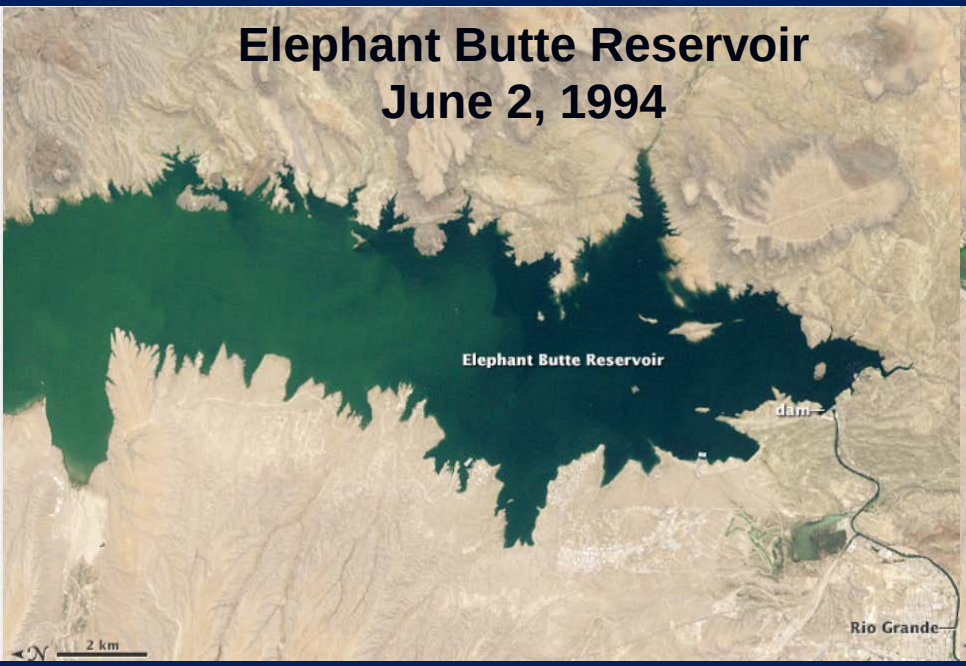
Ensuring a Sustainable Water Supply

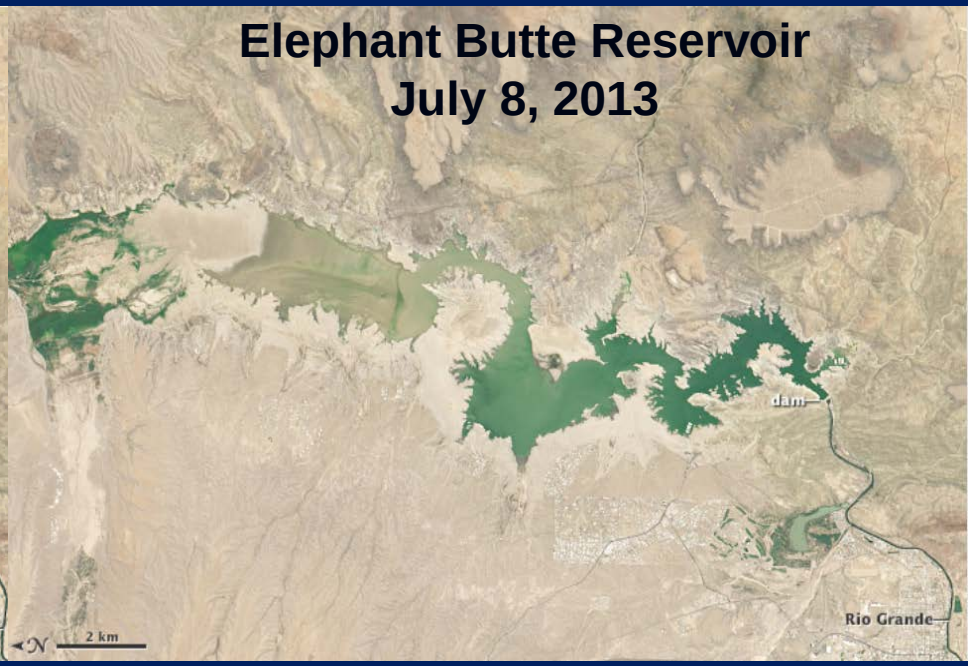
Presentation to City Council
October 7, 2014

EL PASO WATER UTILITIES
PUBLIC SERVICE BOARD

Drought in the Southwest



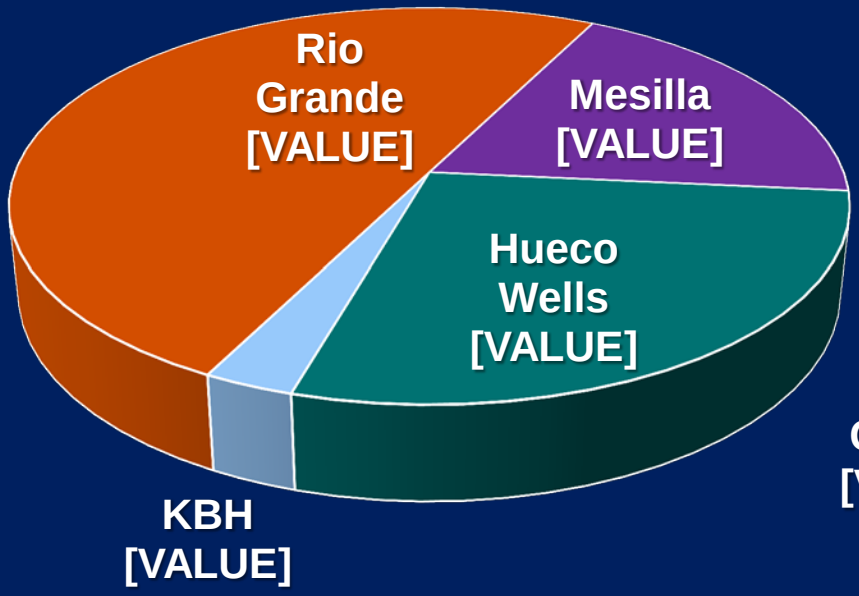




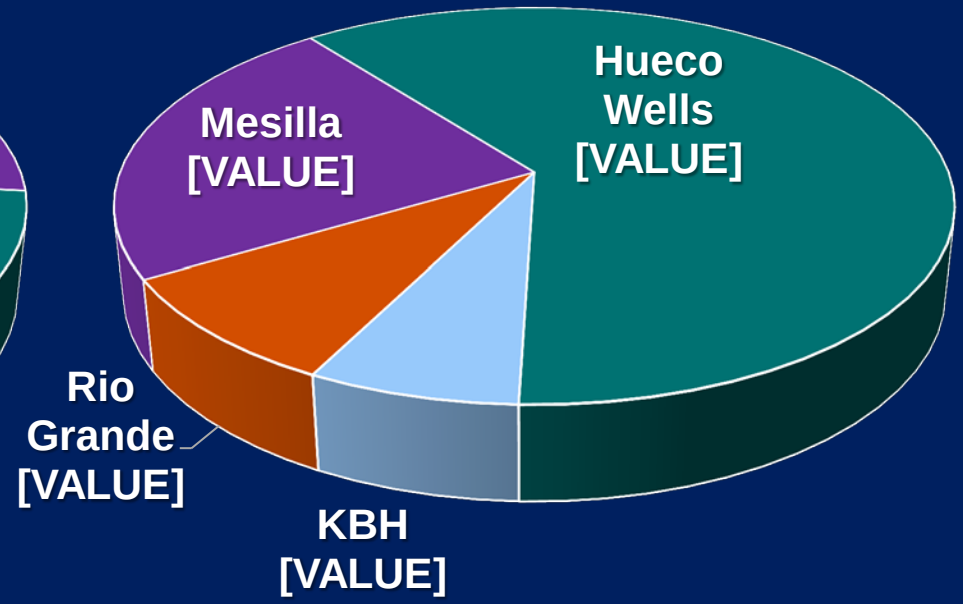
Images from the NASA Website

EPWU Water Production

2010
37.9 Billion Gallons



2013
36.8 Billion Gallons



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Why was the PSB created in 1952?

- At that time the 1950 – 1952 was the drought of record
- There was intermittent surface water and entire areas in the central part of town were out of water
- Additional well drilling failed to add appreciable supplies needed greater distance between wells so land was purchased
- Needed long term planning

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What happened in 1951?

- March 2 Reclamation Bureau Cuts E.P. Water Supply
- March 9 Water Rationing in the City for the Summer
- March 11 Serious Water Shortage Faces City
- June 1 Power Firm Fears Water Shortage
- June 10 Independent Water Board Suggested
- June 23 River Drop Leaves Areas Waterless

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The Present

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The River

Water Reuse

Underground Water

Conservation

Desalination

2011 Far West Texas Water Plan

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Far West Texas Water Plan

- Far West Texas Water Plan follows an identical format as the 15 other water planning areas in Texas
- The plan evaluates current and future populations, water demands and available water supplies during drought of record conditions
- When future demands exceed available supplies, water management strategies are developed

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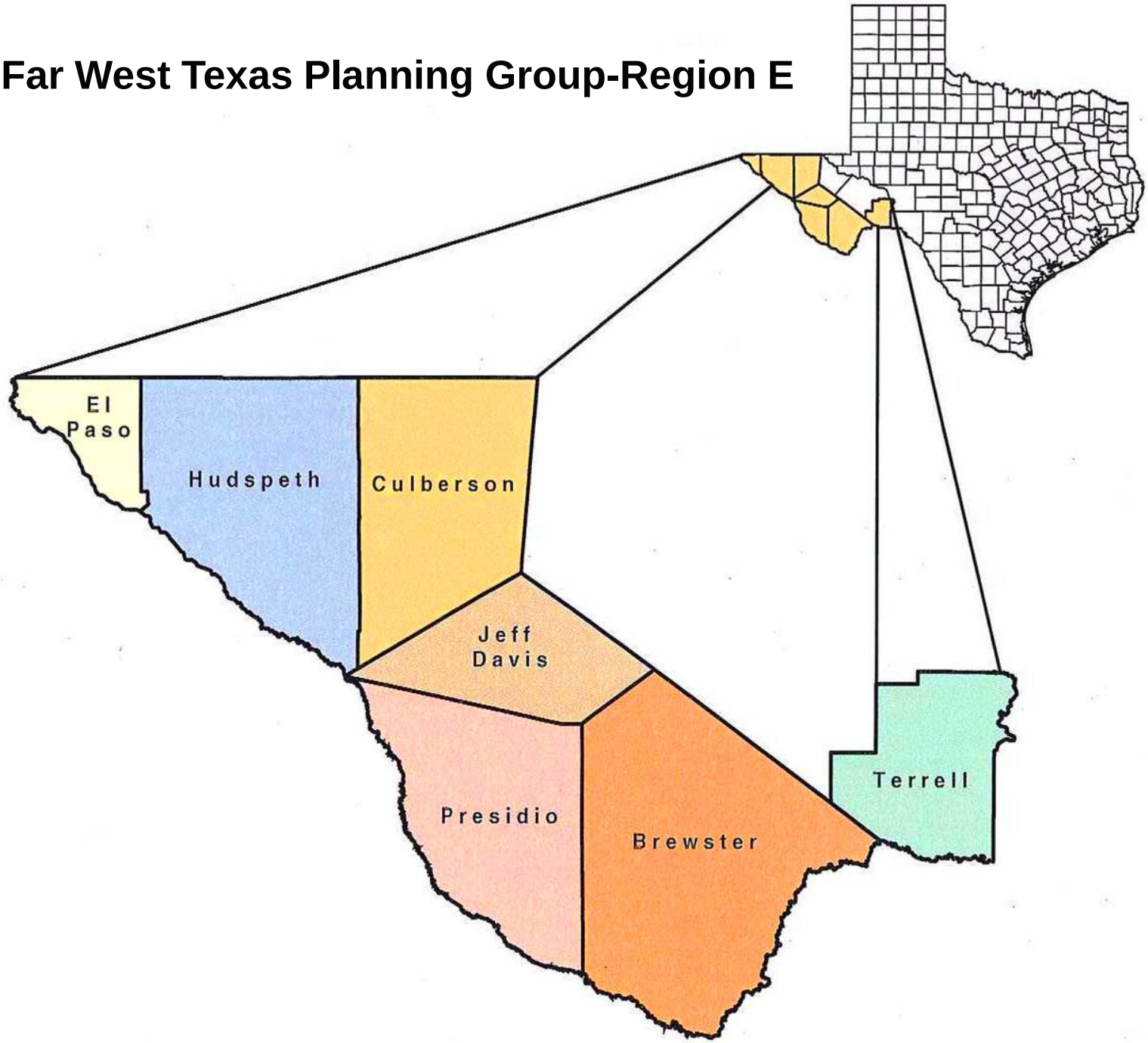
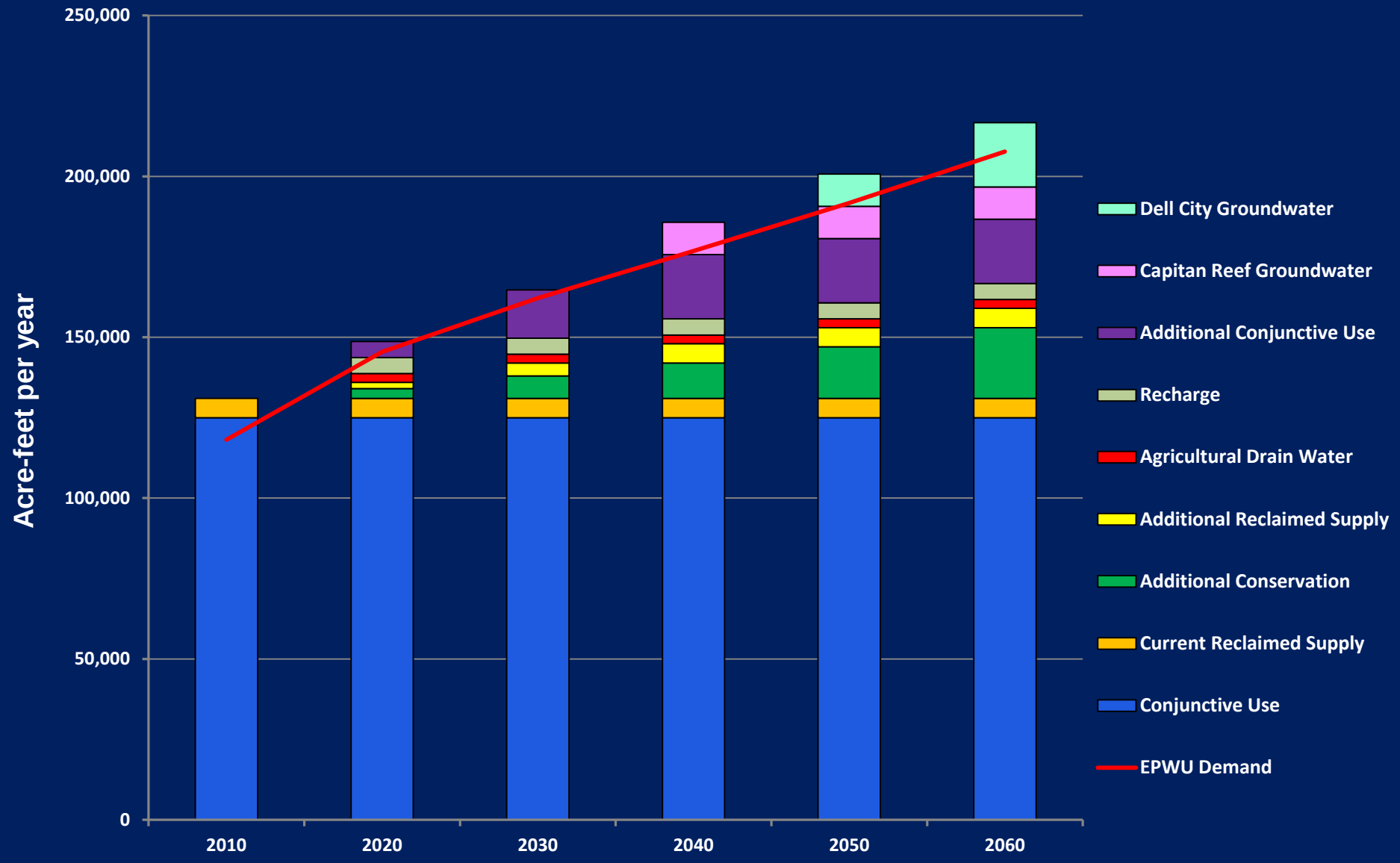
Far West Texas Planning Group-Region E



Water Management Strategies for EPWU and Projected Demands (2011 Plan)



2014 Far West Texas Water Plan Amendments

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New State Funding for Water Projects

- Recently approved Proposition 6 created two funds-the State Water Implementation Fund for Texas (SWIFT) and the State Water Implementation Revenue Fund (SWIRFT) that will help finance projects in the State Water Plan
- $2 billion will be used to help finance projects in the state water plan
- EPWU is currently amending the 2011 plan to be eligible for new state funding
- City Council authorized the PSB to apply for this funding on September 30th

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The Near Future

Now to 2020

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The River

Water Reuse

Underground Water

Conservation

Desalination

Near Importation

Ag Drain Purification

Advanced Purified

Rogers Plant Expansion and Recharge

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Jonathan W. Rogers WTP Expansion

Jonathan W. Rogers Water Treatment Plant Expansion

Expansion Benefits:

- Serve growing demand on Eastside and Lower Valley
- Reduce ground water pumping
- Improve treatment system reliability
- Proactive cost effective phasing to minimize impact to rate payers

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Jonathan W. Rogers Water Treatment Plant Expansion

Time Line & Budget

- Phase 1 complete – 2015 Inlet channel
- Phase 2 complete – 2017 Ozone, intake pumps
- Phase 3 complete – 2020 Discharge pumps
- Phase 4 complete – 2020 Coagulation
- Phase 5 complete – 2021 Filtration

- Estimate project cost $115 M (all phases)

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Additional Aquifer Recharge

- During the Spring and Fall, excess surface water capacity can be used for aquifer recharge
- EPWU will be able to fully utilize its surface water rights
- Up to 5,000 acre-feet of aquifer recharge available per year using recharge basins in Northeast El Paso
- Effective management of groundwater resources requires banking excess surface water to be used during future droughts

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Northeast Recharge Basin

Conservation Storage

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Rogers Plant Conservation Storage
Off-channel Reservoir

- A joint EPWU/EPCWID#1 off-channel storage project for excess storm water over-ordered Rio Grande Project Water
- Provides additional wetlands adjacent to the Rio Bosque Park
- Puts to beneficial use 10,000 to 20,000 acre-feet per year additional surface water

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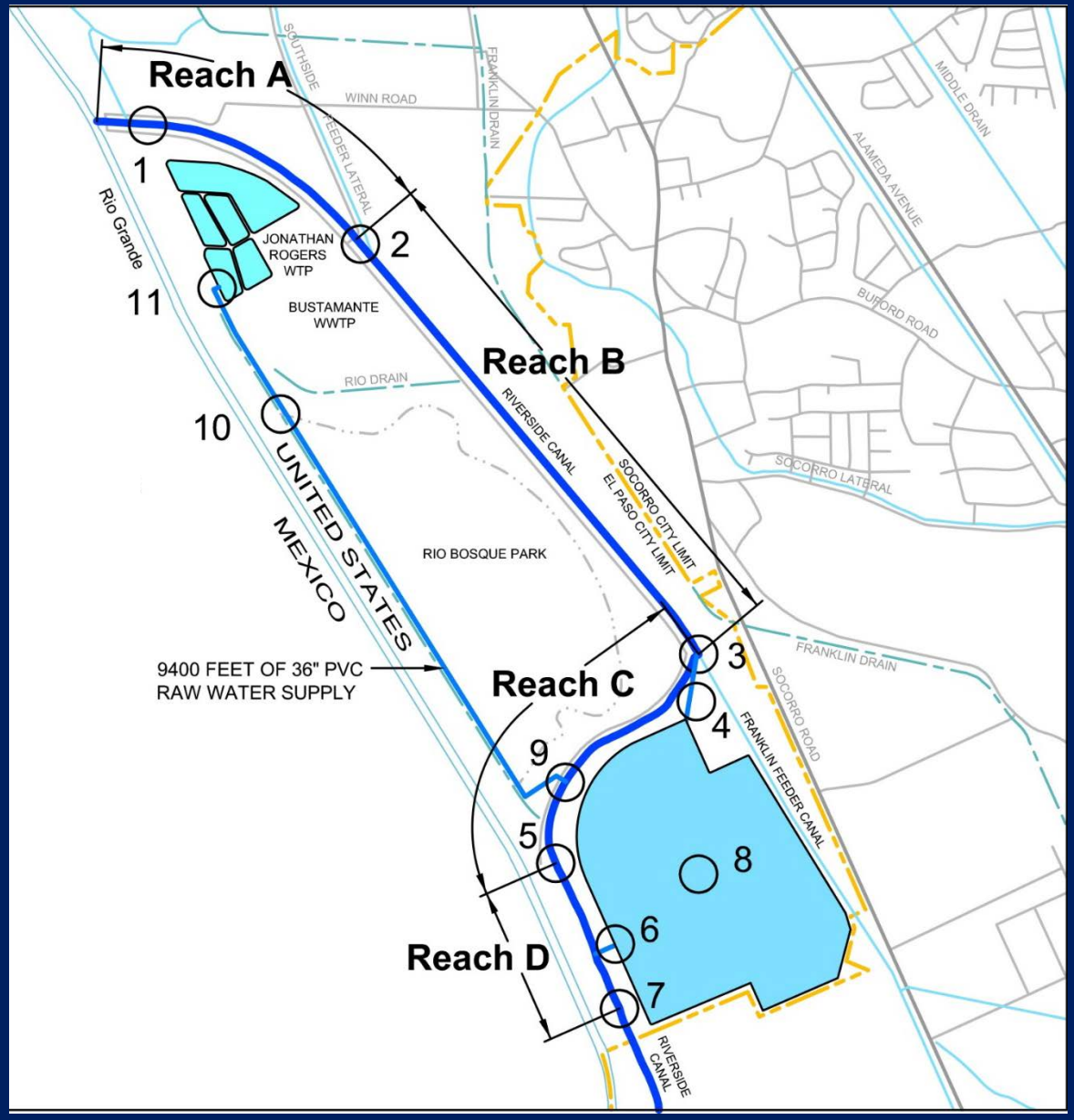
JRWTP Conservation and Off-Channel Storage Project



The River	Conservation	Ag Drain Purification
Water Reuse	Desalination	Advanced Purified
Underground Water	Near Importation	

Expand Desalination

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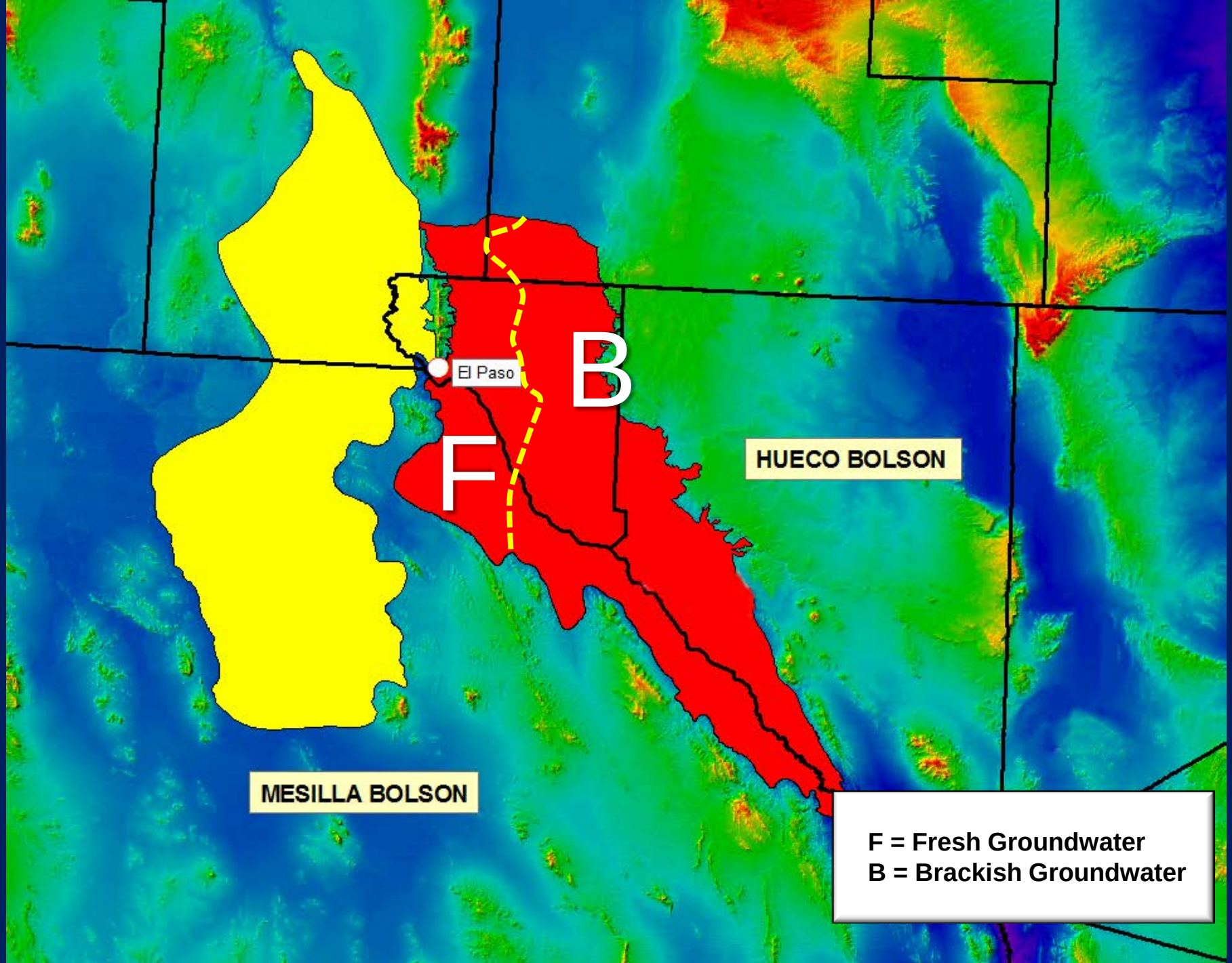
El Paso
B
F
HUECO BOLSON
MESILLA BOLSON
F = Fresh Groundwater
B = Brackish Groundwater

Kay Bailey Hutchison Plant Expansion

- Currently studying the potential for increasing the capacity of the KBH plant
- Add 6th skid, additional source wells and concentrate disposal facilities

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The River

Water Reuse

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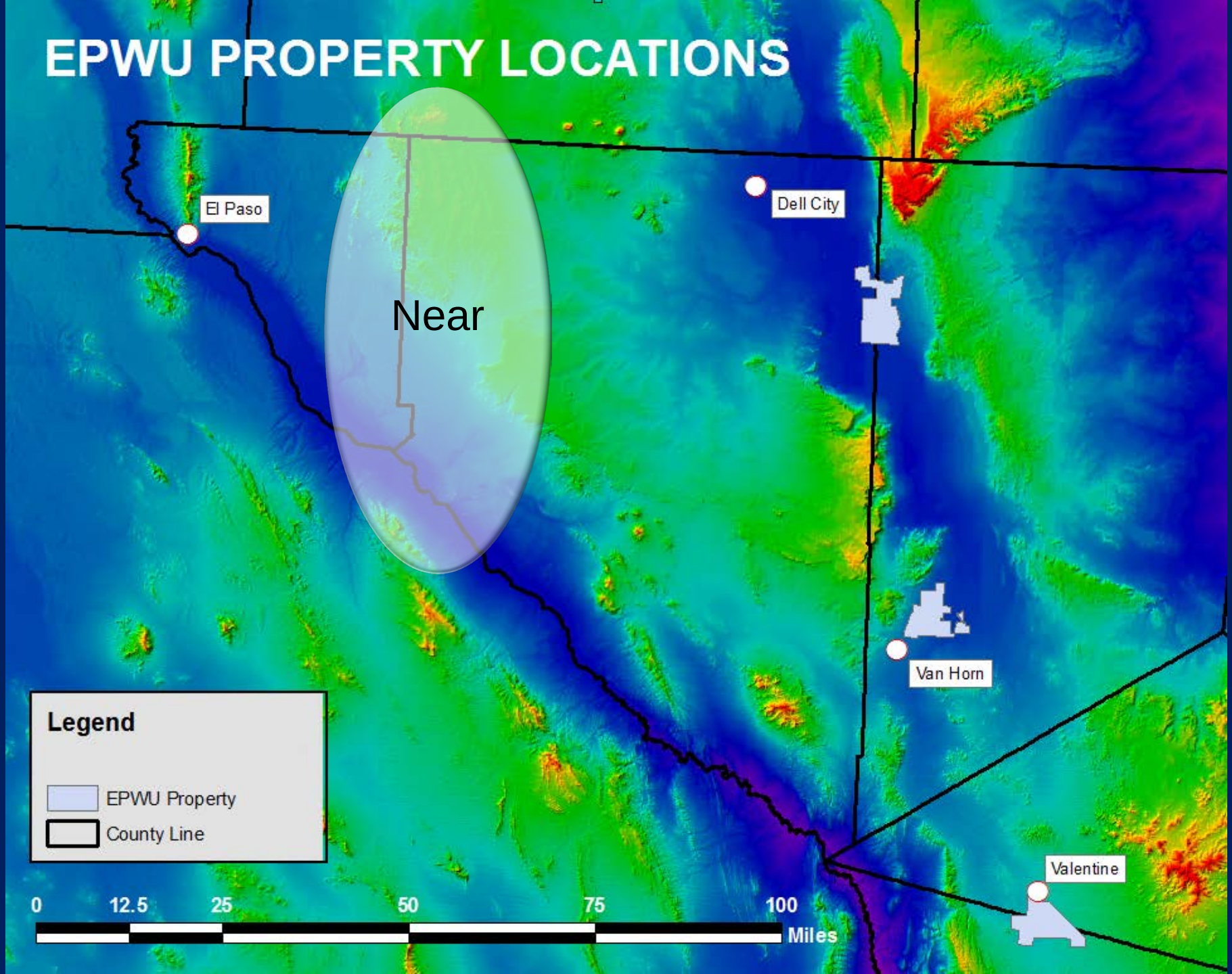
Advanced Purified

Near Importation Project

EL PASO WATER UTILITIES
PUBLIC SERVICE BOARD


EPWU PROPERTY LOCATIONS
El Paso
Dell City
Near
Van Horn
Valentine
Legend
EPWU Property
County Line
0
12.5
25
50
75
100
Miles

THE TEXAS TRIBUNE

San Antonio a Step Closer to Controversial Pipeline

by Neena Satija | Sept. 30, 2014 | 8 Comments

Enlarge photo by: San Antonio Water System

A map of the proposed pipeline that will deliver 16 billion gallons of water annually from underneath Burleson County to San Antonio, about 140 miles away.

San Antonio is one step closer to buying some of the most expensive water ever sold in Texas, just as the deal is drawing more critics.

The San Antonio Water System board on Monday unanimously approved a $3.4 billion contract to pipe in 50,000 acre-feet, or 16 billion gallons, of water a year from underneath Central Texas' Burleson County starting in 2019. The contract is with two companies, Austin-based BlueWater and the Spanish company Abengoa, whose joint venture is called the Vista Ridge pipeline.

Hudspeth County Groundwater Development

- Reviewed published hydrogeologic maps, reports and well completion reports
- Developing conceptual model of the potential groundwater resource. Model is used to estimate the volume of water that can be produced
- Design, drill and test a pilot well to evaluate water quality and production capacity at the most promising location

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The River

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Advanced Purified Water

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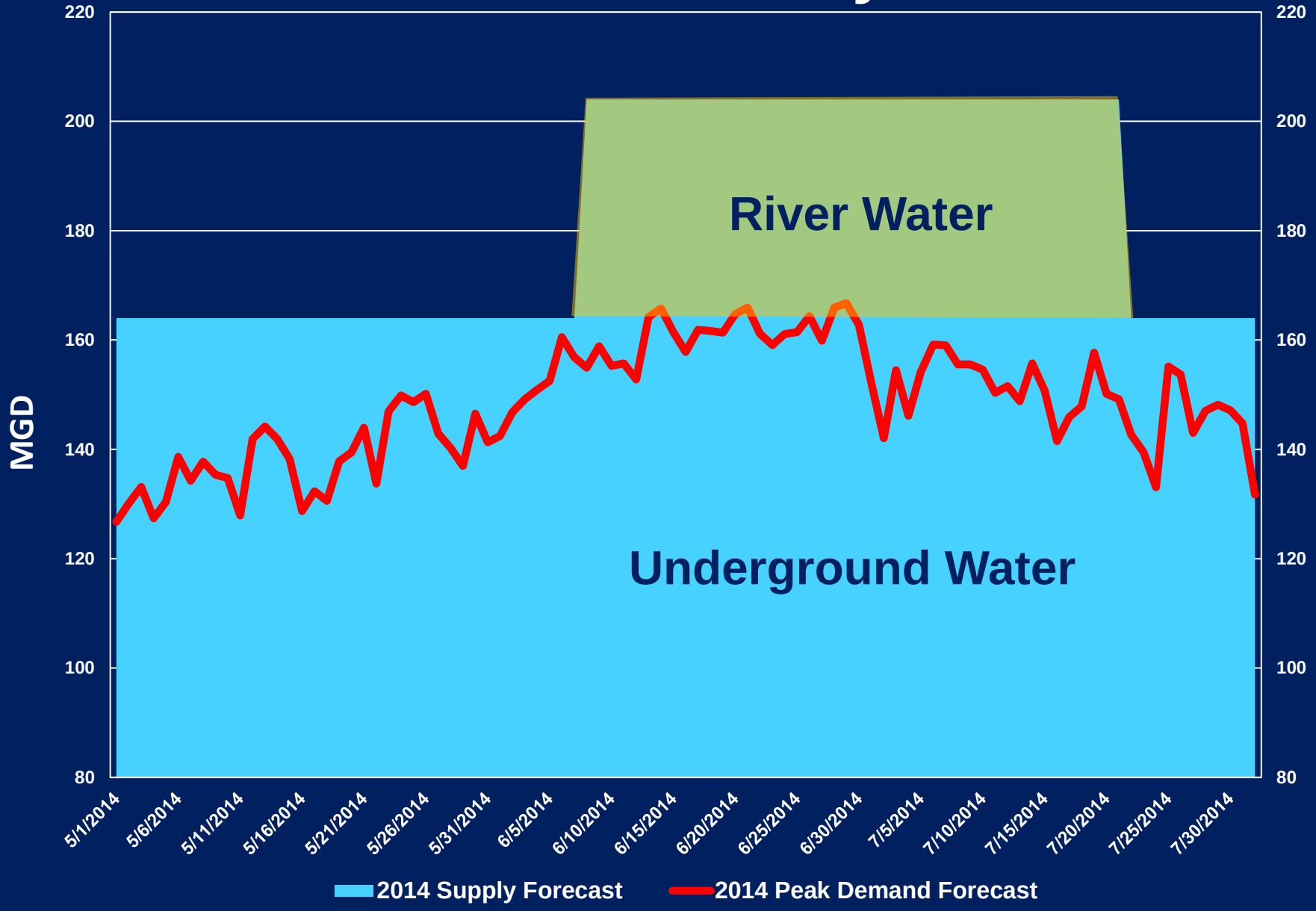
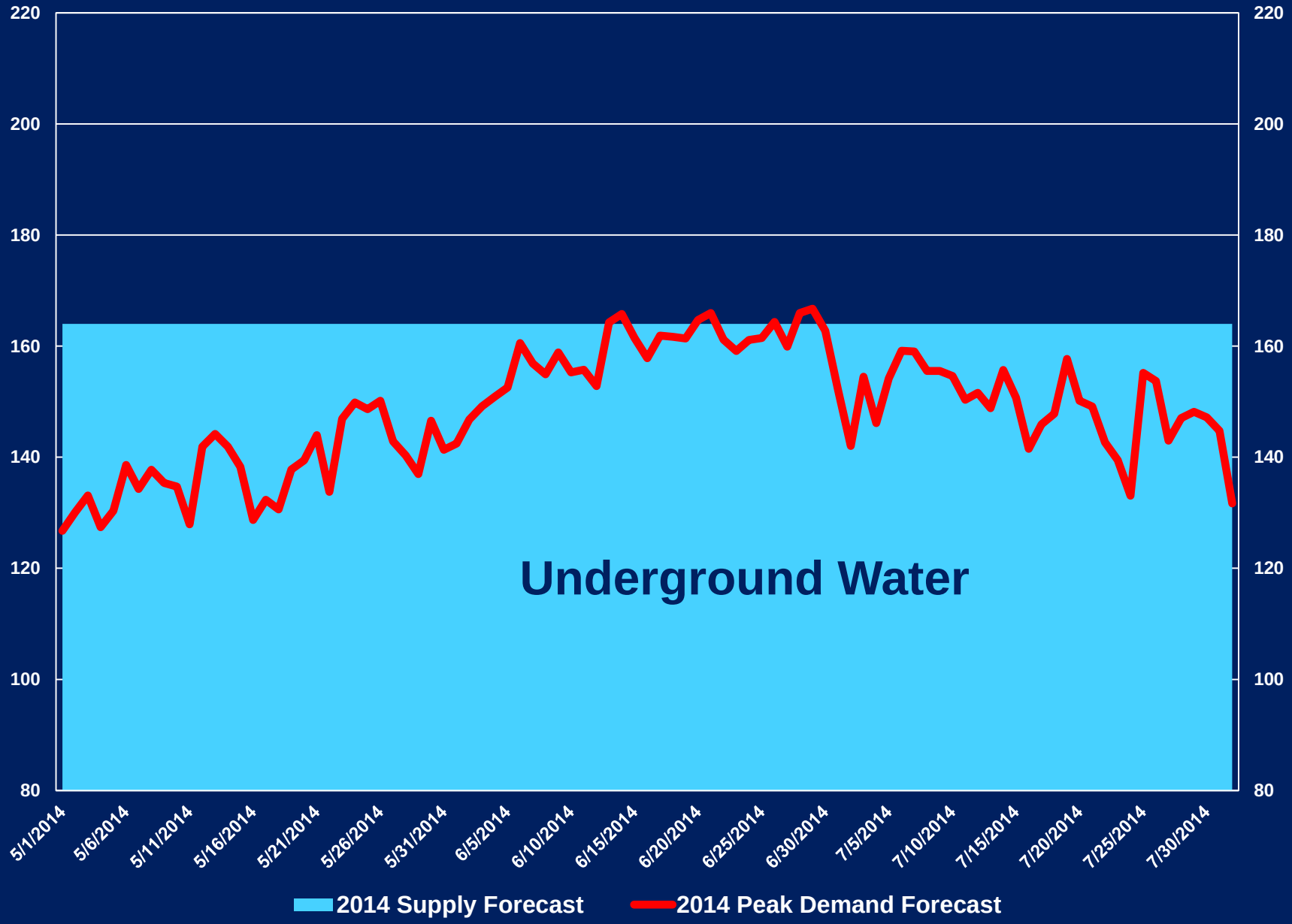
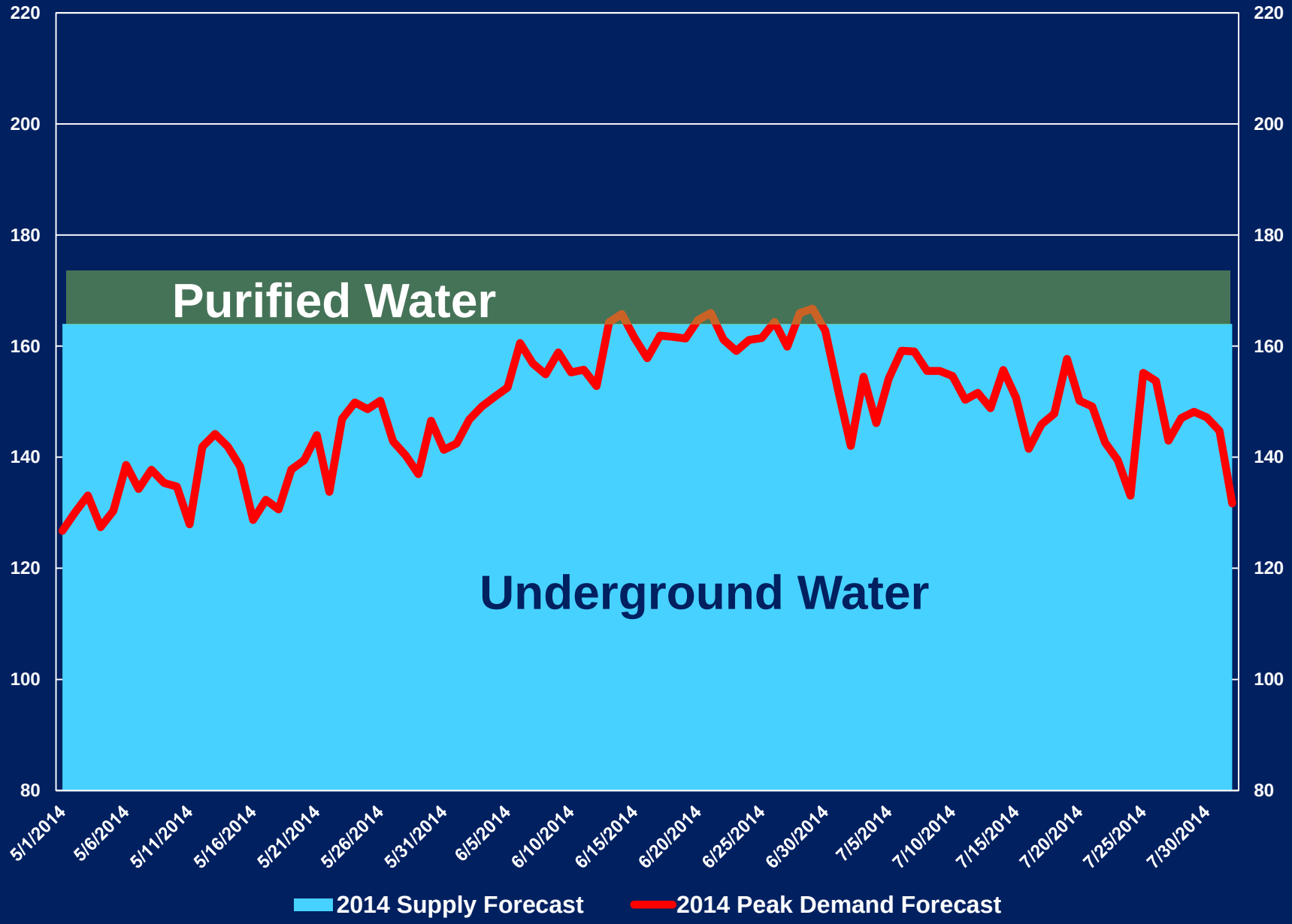
2014 Summer Daily Peak



Daily Peak Without River Water



Daily Peak With Purified Water



Future

2020 and Beyond

EL PASO WATER UTILITIES
PUBLIC SERVICE BOARD

The River

Water Reuse

Underground Water

Conservation

Desalination

Near Importation

Ag Drain Purification

Advanced Purified

Far Importation

Far Importation Project

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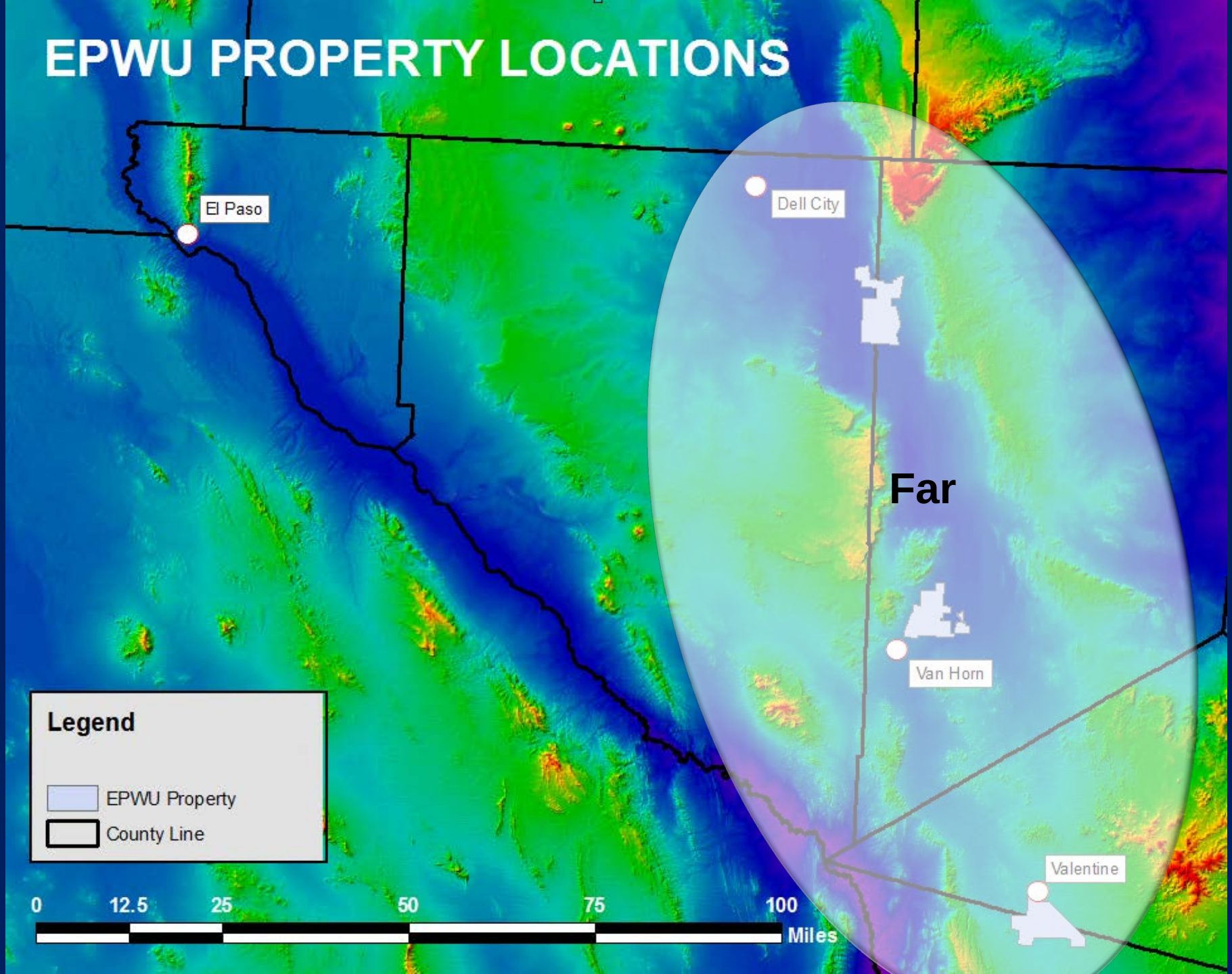
EPWU PROPERTY LOCATIONS
El Paso
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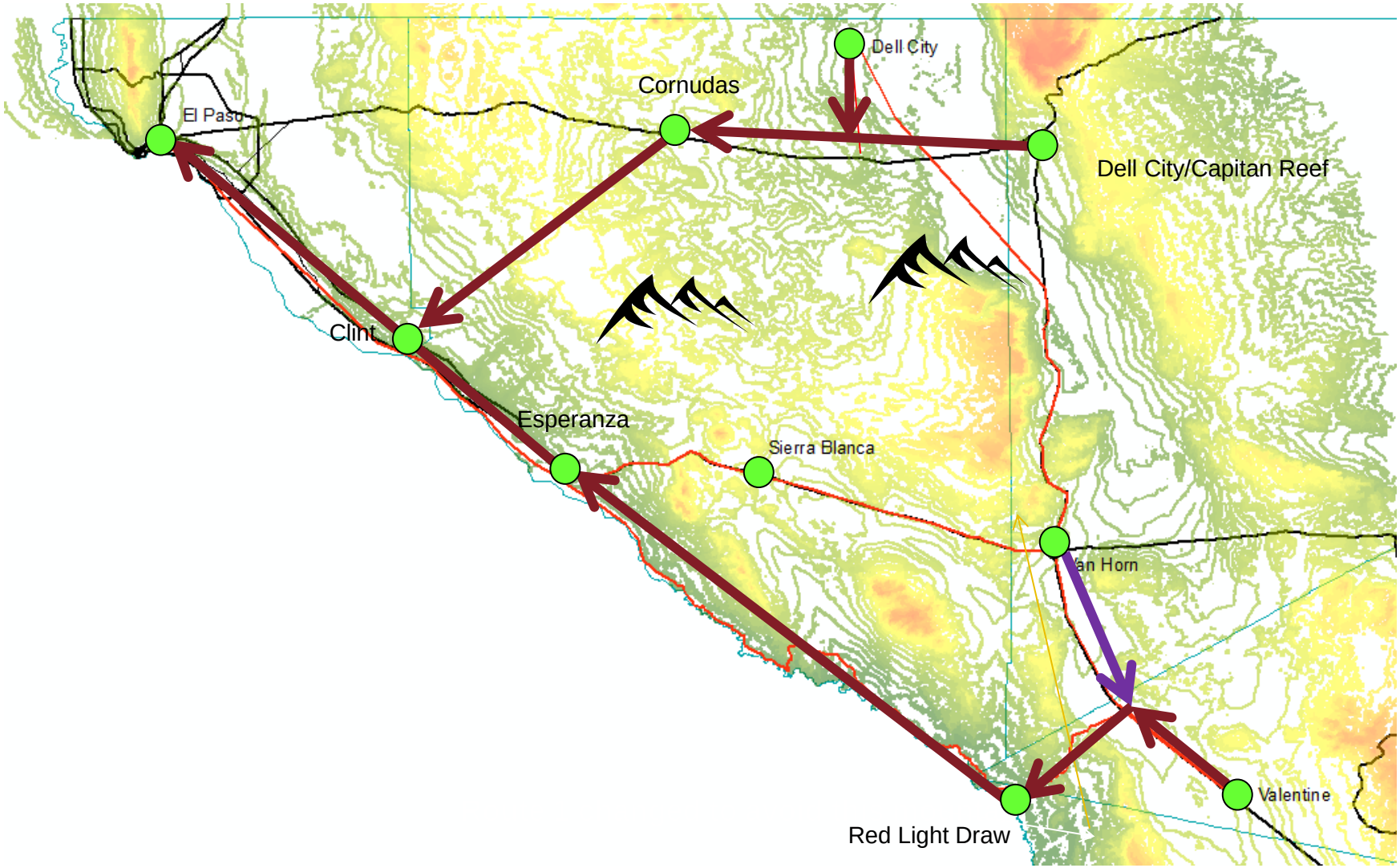
EPWU Property
County Line
0
12.5
25
50
75
100
Miles

Modeled Pipe Routes



Summary

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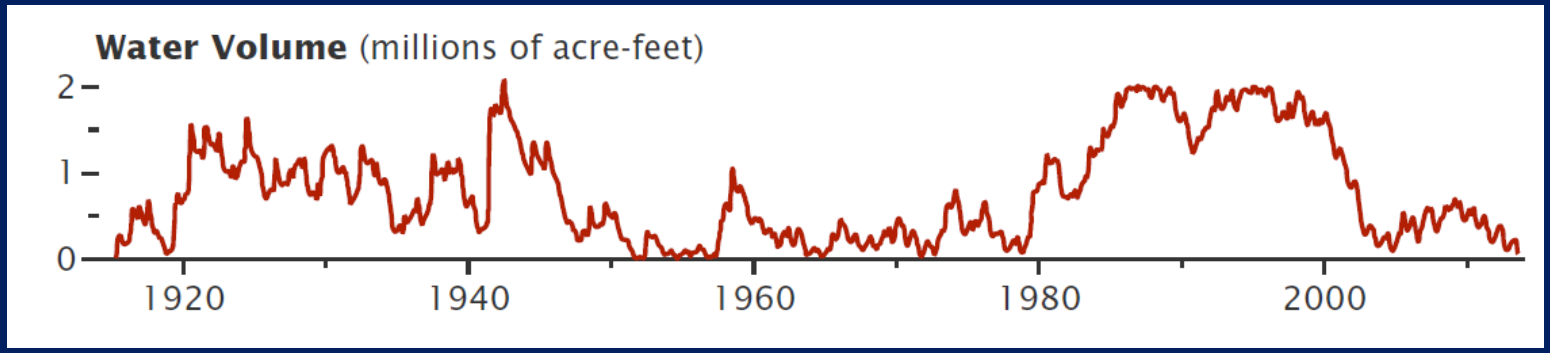
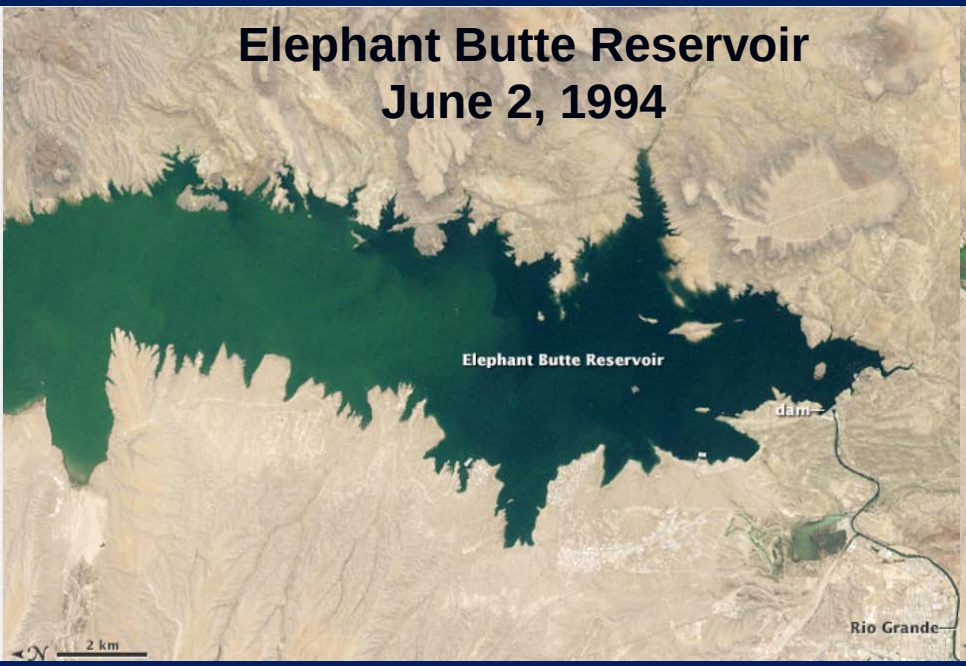
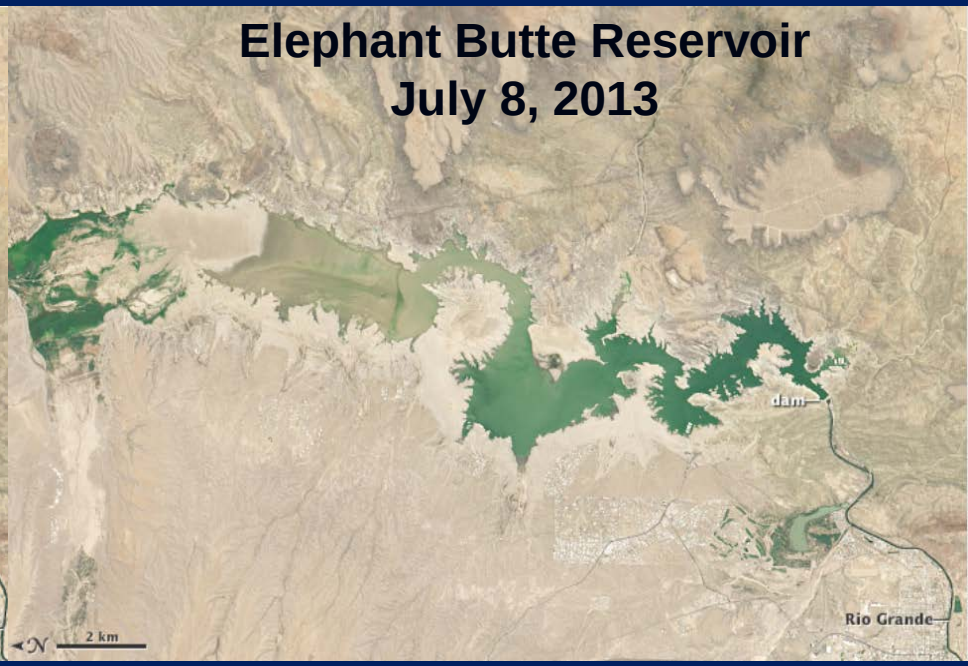
Drought in the Southwest

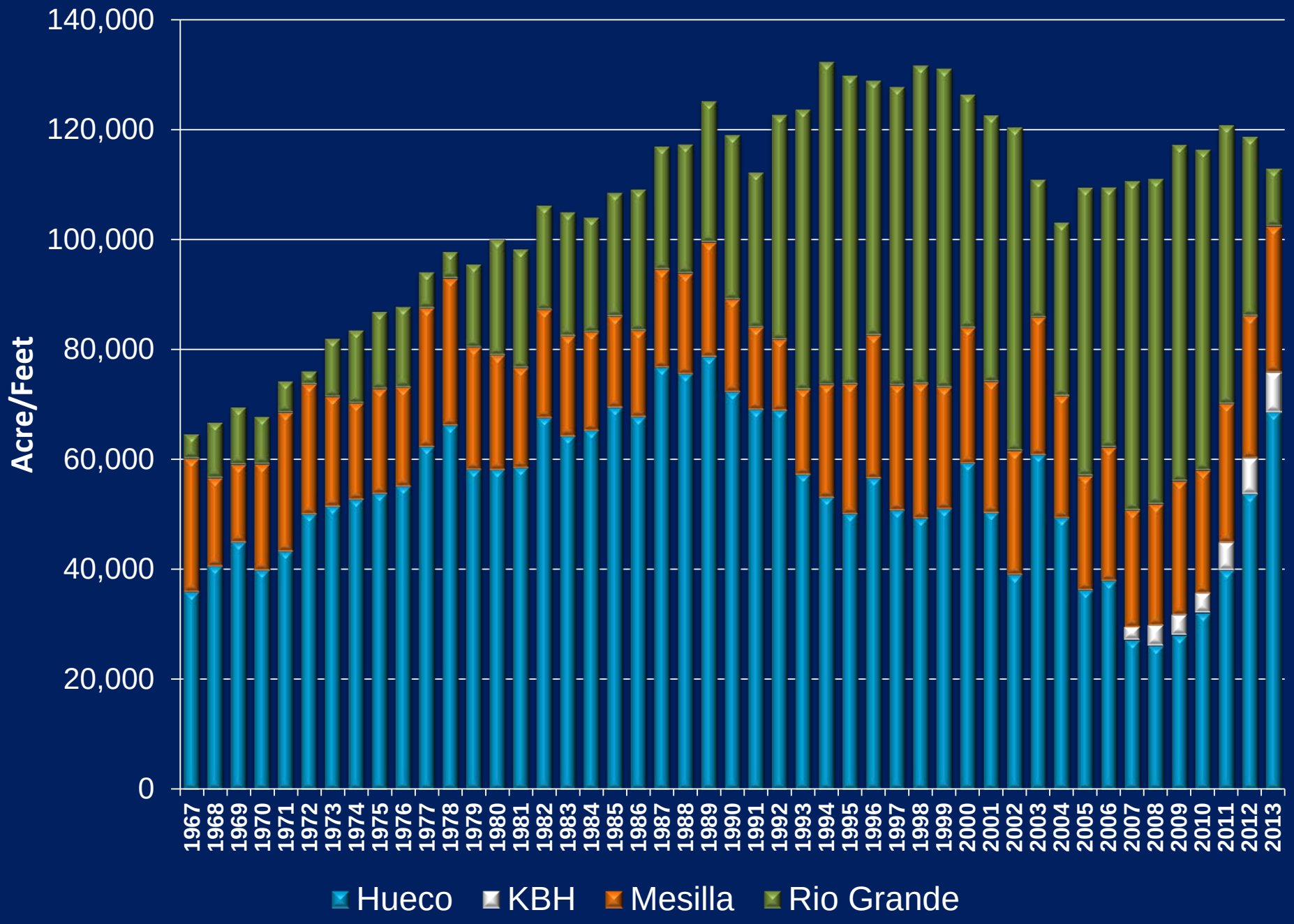






Images from the NASA Website

EPWU Total Water Production



Estimated Capital Needs Projected Five to Seven Years

Needs	Cost
Expand desalination	$30 M
Agricultural drain water purification	$30 M
Rogers Plant expansion and recharge	$115 M
Advanced purified	$100 M
Water rights land purchase	$50 M
Near importation project	$80 M
Regulating reservoir	$80 M
Far importation project	$400 M
TOTAL	**$885 M**

These capital needs are in addition to the normal CIP