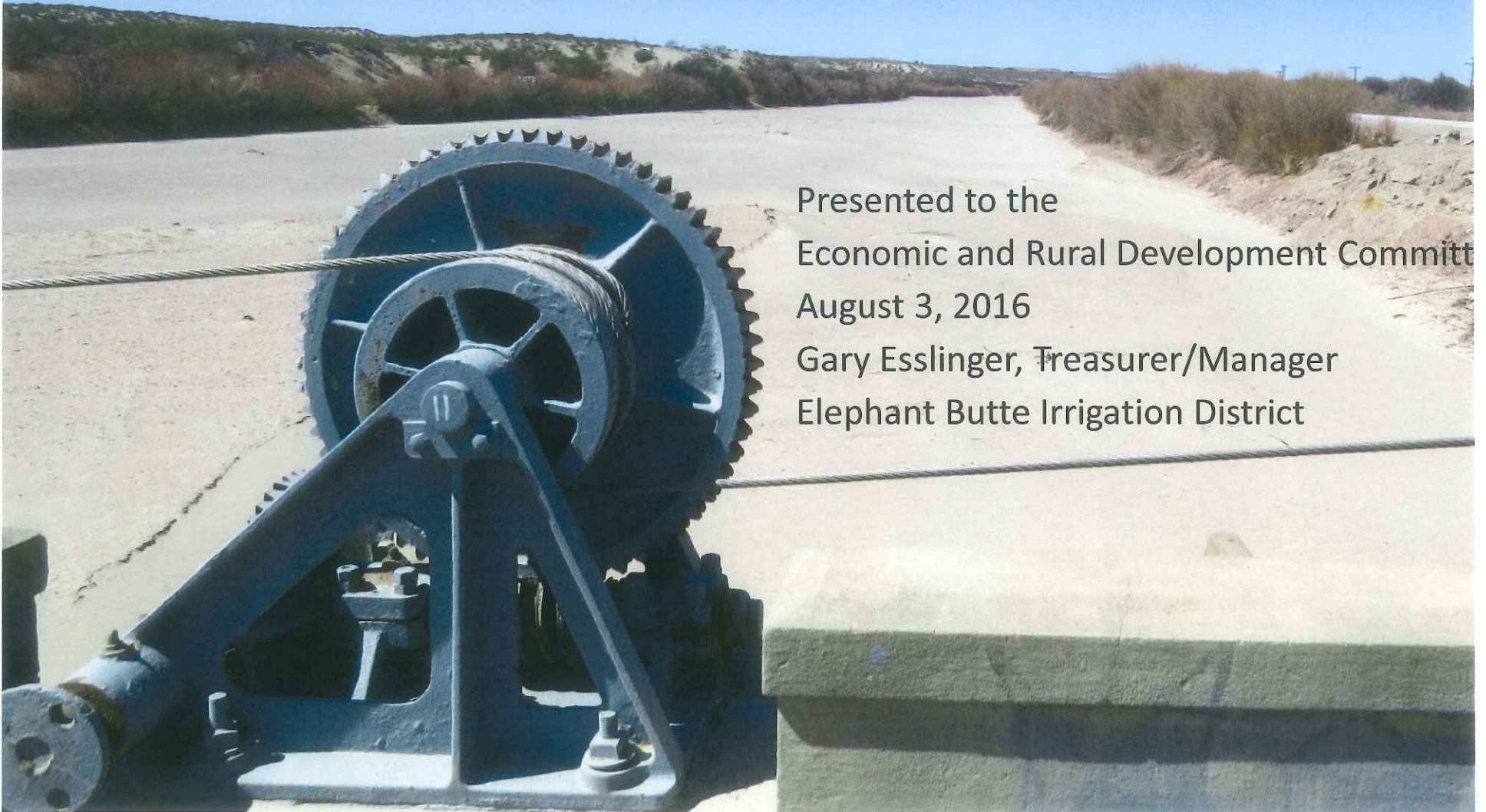
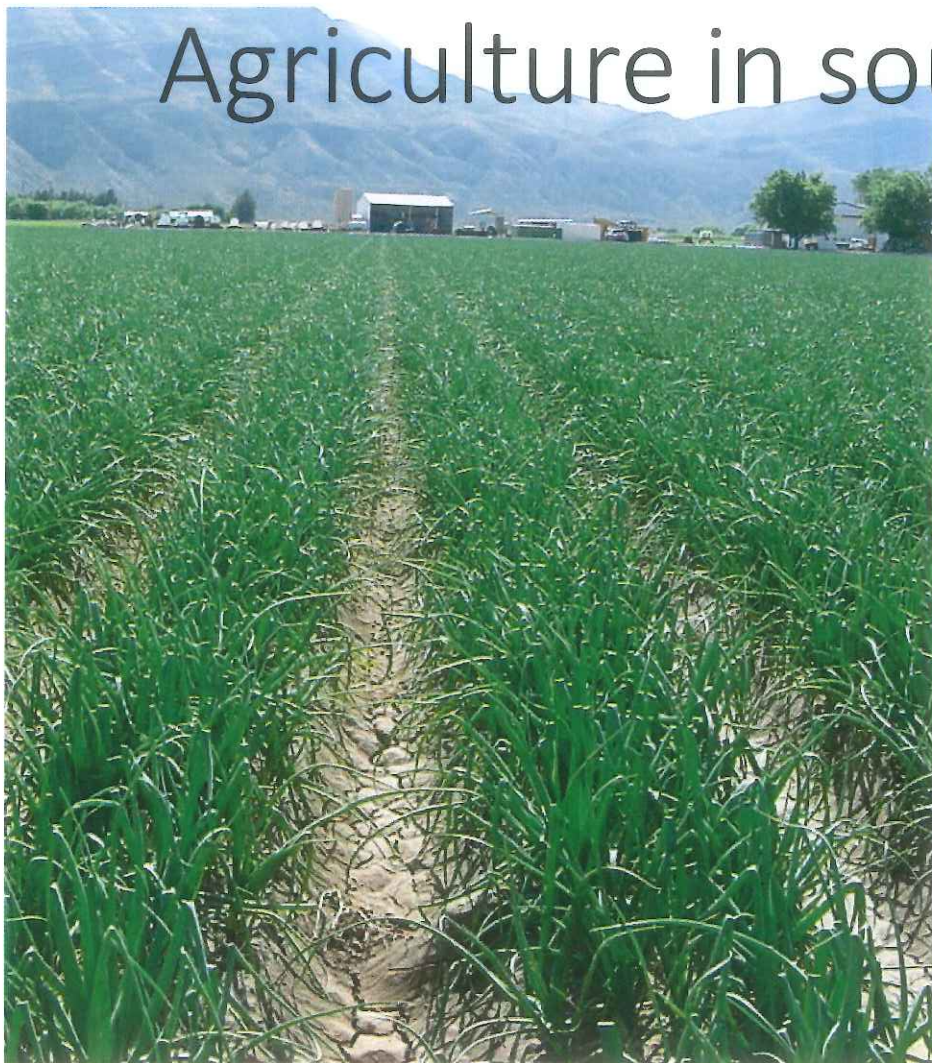


# Water Needs and Concerns for Lower Rio Grande Users

Presented to the  
Economic and Rural Development Committee  
August 3, 2016  
Gary Esslinger, Treasurer/Manager  
Elephant Butte Irrigation District



# Agriculture in southern NM



- Agriculture is 1/3 of southern NM's economy
- Highest value pecan crop in country
- 23 % of seasonal onion production in country
- Hatch Chile – enough said.

# The Rio Grande Project

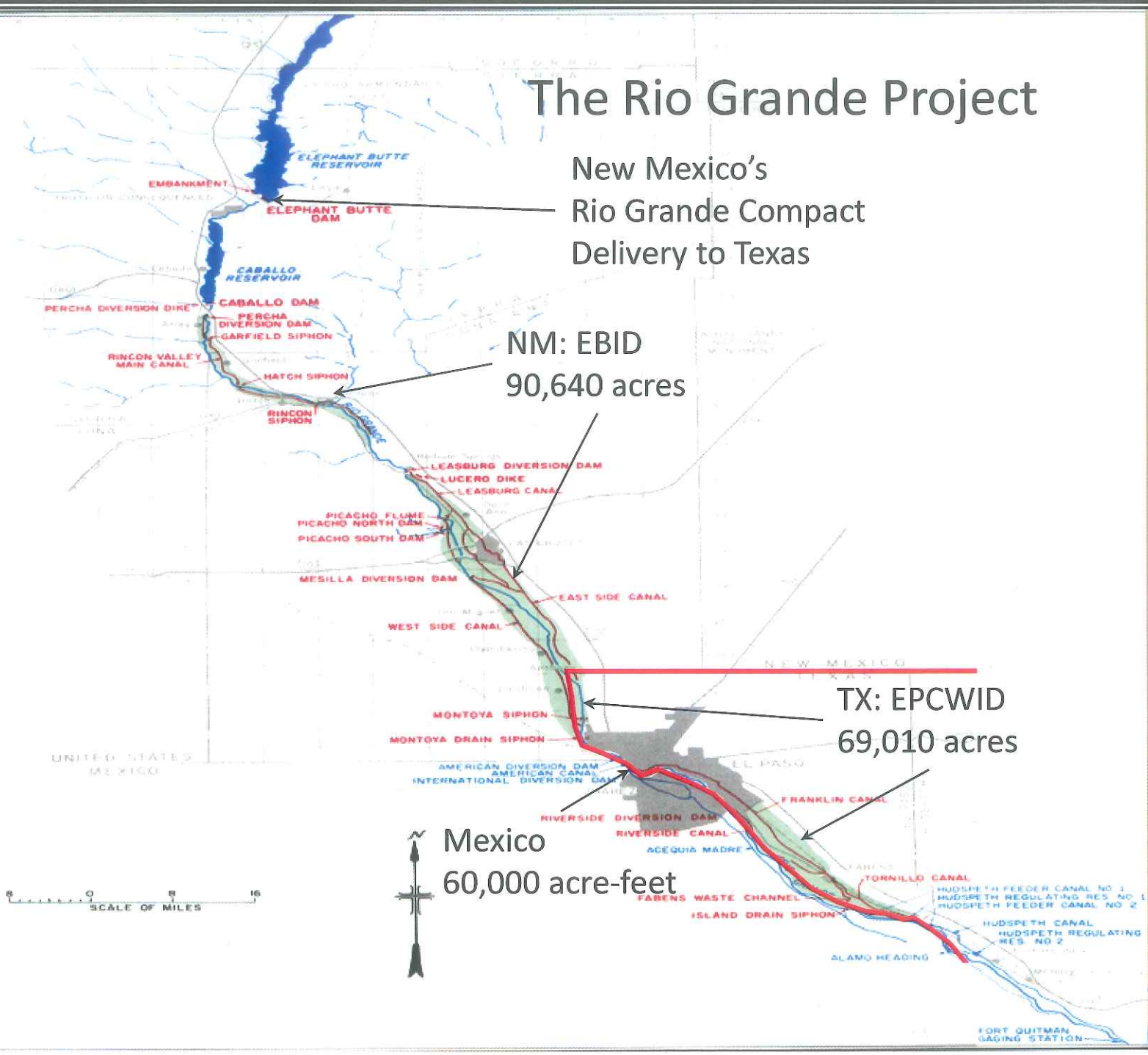
New Mexico's  
Rio Grande Compact  
Delivery to Texas

NM: EBID  
90,640 acres

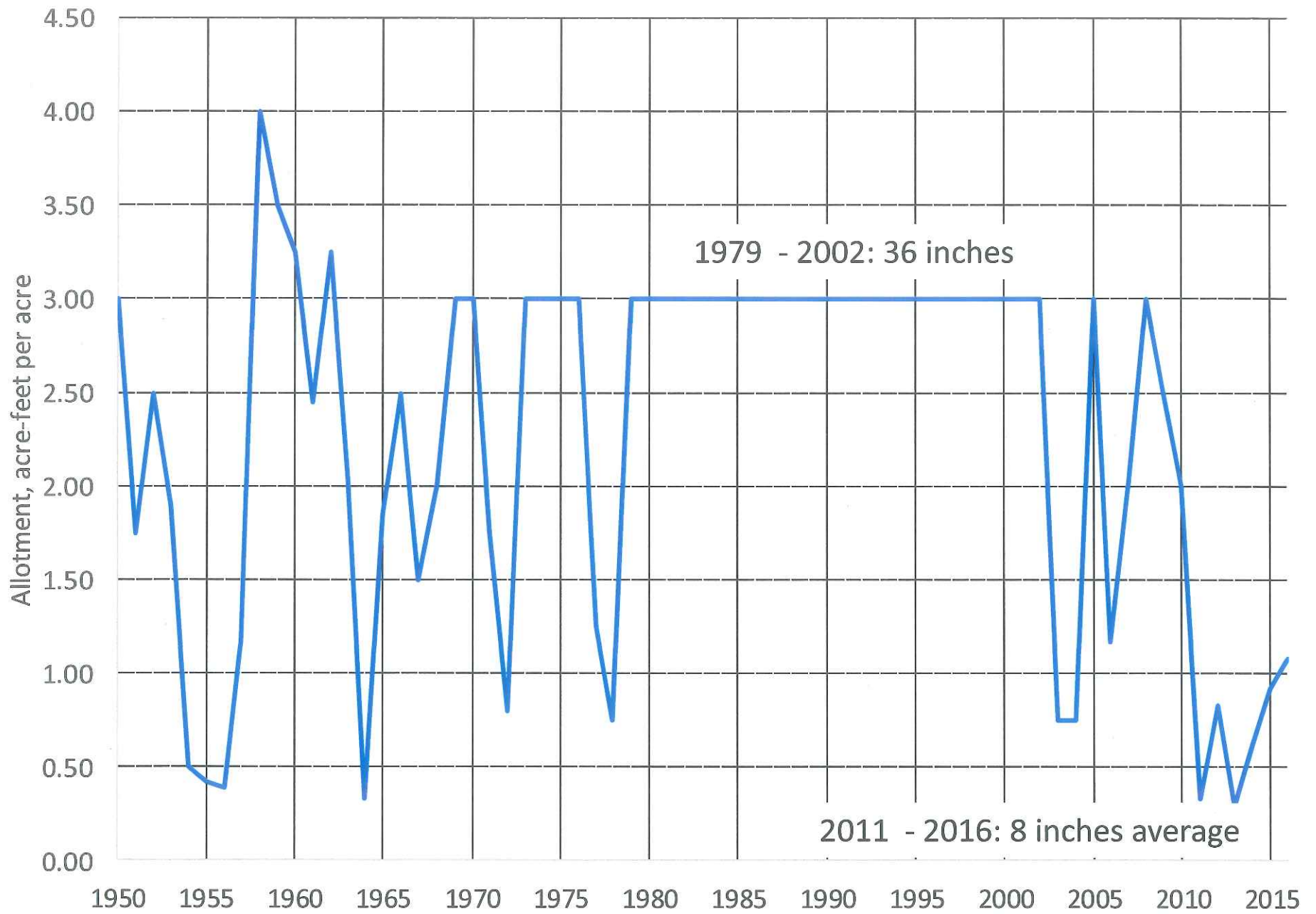
TX: EPCWID  
69,010 acres

Mexico  
60,000 acre-feet

SCALE OF MILES



# Annual Allotment



# Fallout from the current drought

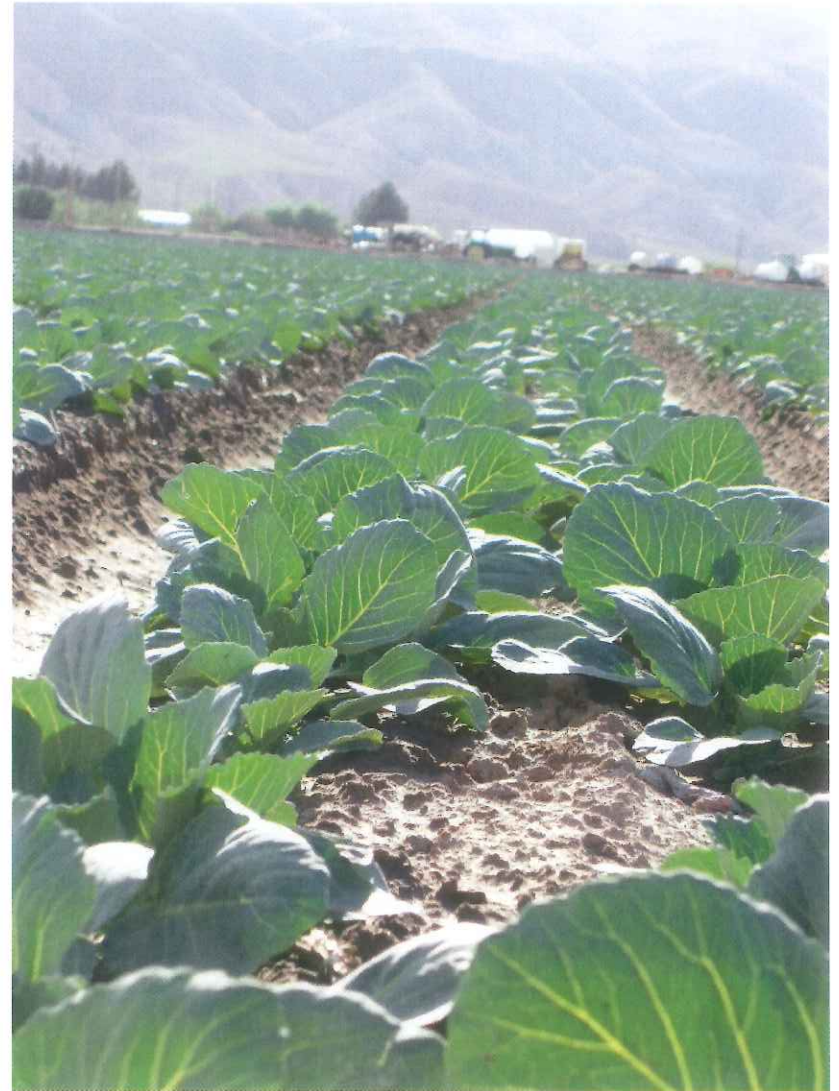


Release from Caballo Dam

- In 2003, NM farmers responded to surface water shortage by pumping more groundwater
- Texas complained that groundwater pumping in New Mexico was reducing the surface water supply available to EPCWID
- Lawsuits were filed in both states between EBID, EPCWID, and Bureau of Reclamation
- A negotiated settlement was achieved based on the 2008 Operating Agreement in which EBID offset impacts of groundwater pumping in New Mexico on the surface water supply to Texas

# Litigation rises again

- NM Attorney General filed a lawsuit in 2012 against EBID, EPCWID, and Reclamation to overturn the 2008 Operating Agreement settlement
- In January 2013, Texas filed suit against New Mexico in the US Supreme Court alleging NM officials have allowed the illegal taking of Rio Grande Compact water destined for Texas through groundwater pumping in NM.
- The United States intervened on behalf of Texas claiming that NM allowed interception of Rio Grande Project water by non-Project contractors.
- NM's defense is that the compact only requires delivery to Elephant Butte Dam ,and the state has no obligation to shepherd Texas' water to the state line.



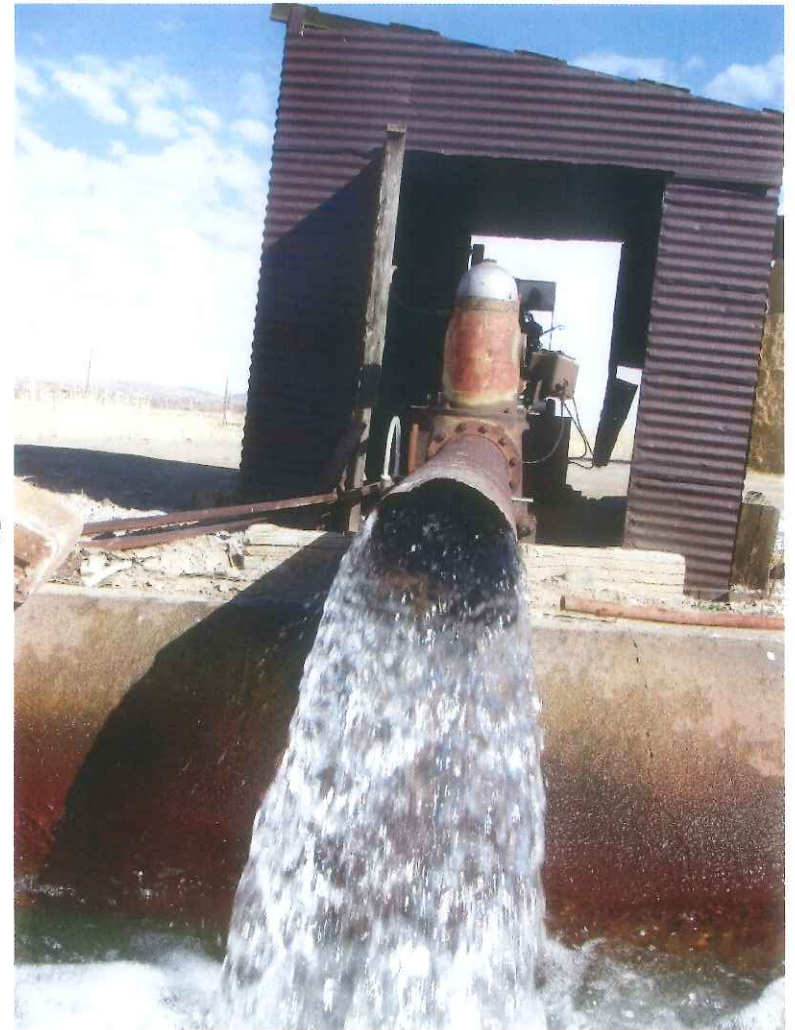
# Special Master's Report, June 28, 2016



- Supreme Court's Special Master recommends that the lawsuit can proceed and Texas can begin to prove its damages in water or money
- SM also finds that the US complaint that NM has not protected the surface water supply of the Rio Grande Project should also proceed
- SM's report states that Texas Compact water destined for the supply of the Rio Grande Project is superior in right to all other uses in NM's Lower Rio Grande.
- EBID is the only authorized user of RG Project water in New Mexico.

# Possible Solutions

- Settlement negotiations should begin immediately with the 2008 Operating Agreement as the foundation
- EBID members already offset the effects of their groundwater pumping through the 2008 Operating Agreement
- Other groundwater users need to do the same
- EBID's Depletion Reduction Offset Program (DROP) will allow Municipal and Industrial (M&I) water users to become Rio Grande Project contractors and offset their impact on RG Project surface supply.





# Depletion Reduction Offset Program (DROPS)



- Entry into DROPS is on a lease basis, and is voluntary.
- Land entering program must have been irrigated four of the past five years, and must have surface water and groundwater rights.
- Farmers may enroll up to 20 percent of their land, though the EBID board has the ability to waive this limit.
- Lands under the program are fallow, and not irrigated with surface water or groundwater.
- Farmers rotate land in the program through entire acreage, with a given parcel being fallowed for no more than three consecutive years.
- Land in the program must be maintained according to a land management plan.
- Lasts for up to the term of the 2008 Operating Agreement.

## DROP Example: 50 acre farm, 12" allotment

20% = 10 acres in DROP

- No surface water or groundwater use on 10 acres
- Depletion reduction (offset) = 2.6 ft CIR x 10 acres = 26 AF

50 acre account  
40 acres in production

- Surface water allotment: 12" to 50 acres (50 AF)
- 15" surface water on 40 acres in production (50 AF)
- 15" – 12" = 3" reduced groundwater use on 40 acres in production (10 AF)

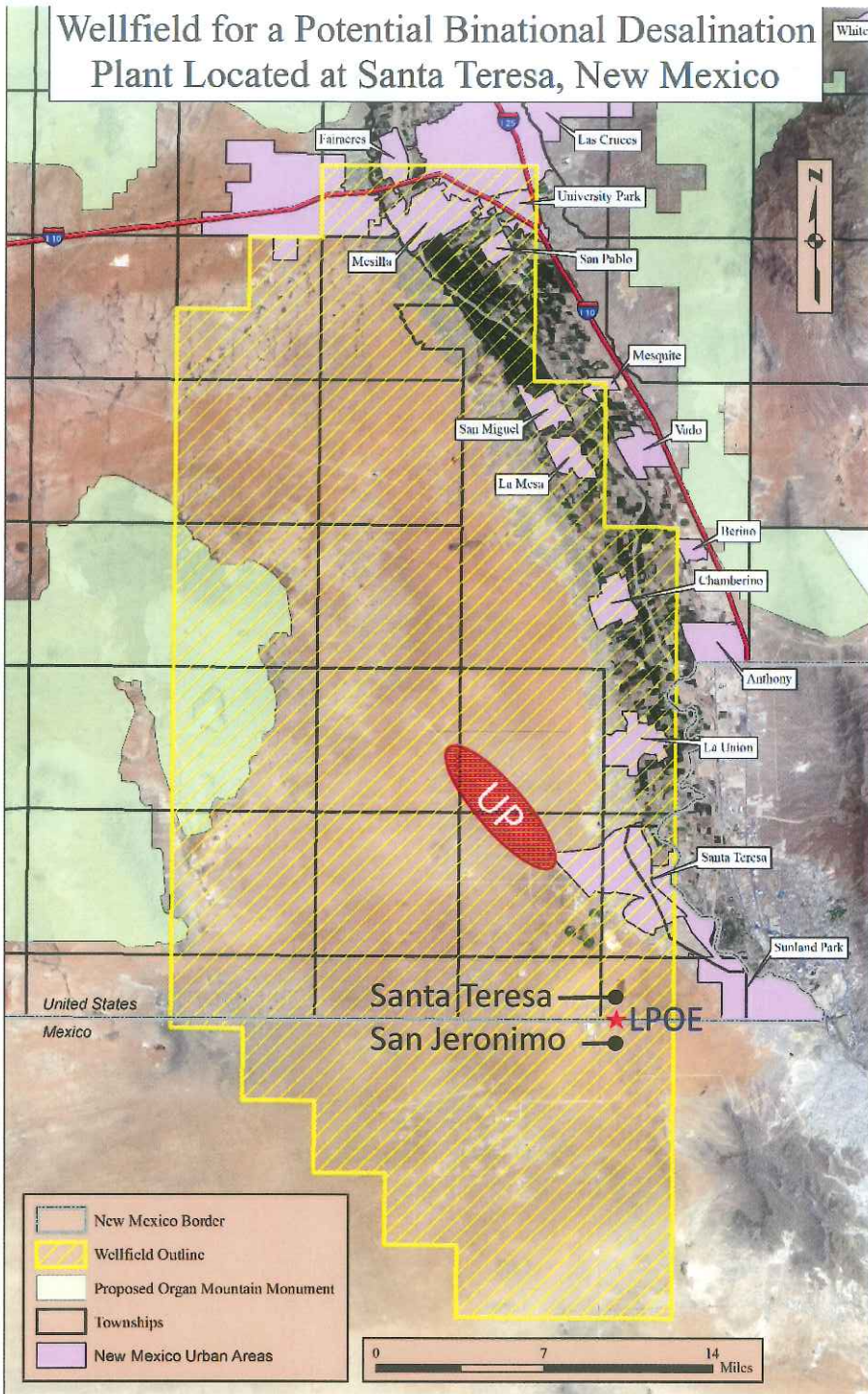
# Water Supply Enhancement Opportunities

- Desalination of brackish groundwater
- Central Palomas Basin development
- Storm water management improvements
- River channel maintenance



## Desalination of Brackish Groundwater

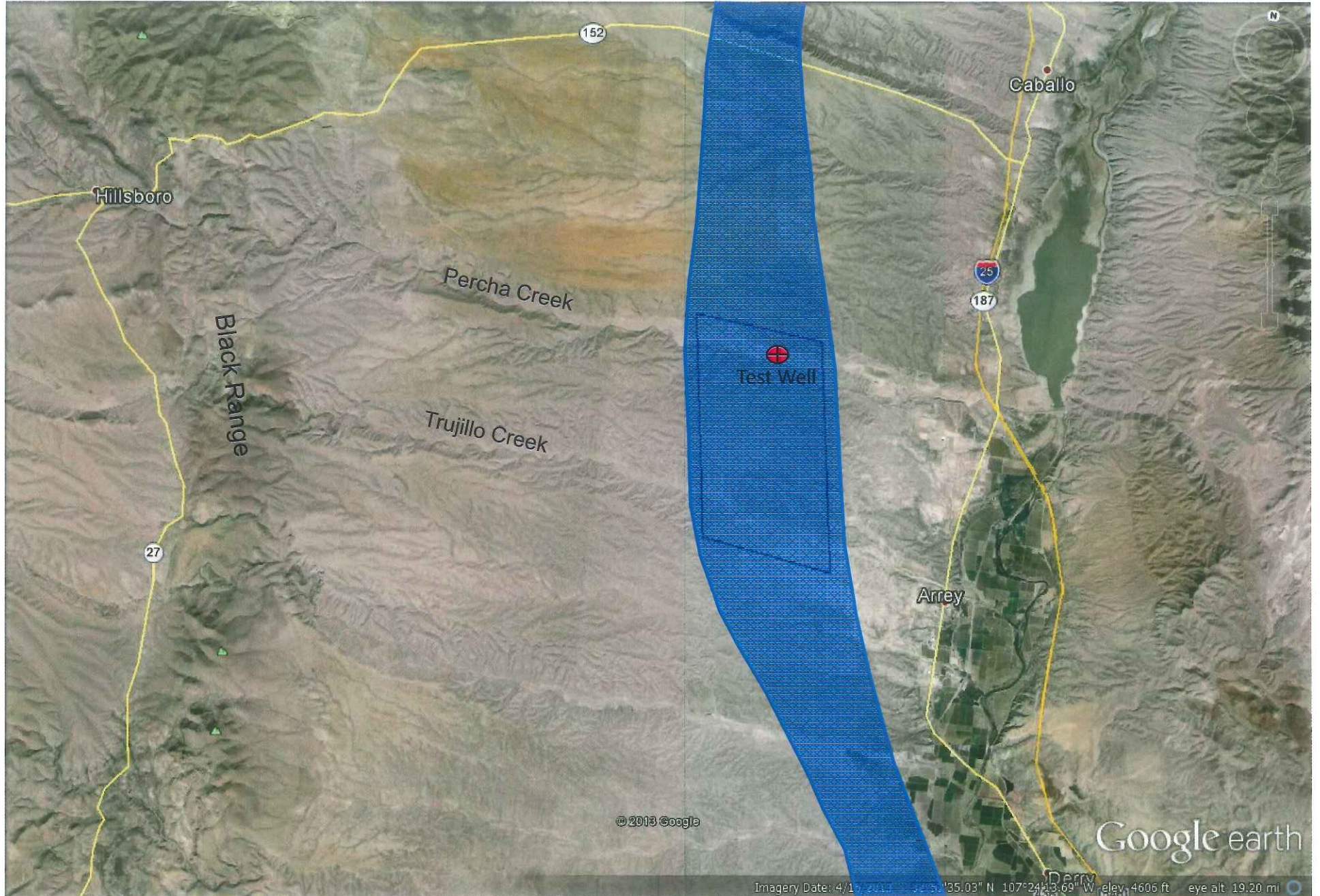




## The Booming Border Region Santa Teresa/San Jeronimo

- Binational effort to develop trade, Land Port of Entry infrastructure
- Access to deep water ports in Long Beach, Houston, Mazatlán
- Development for 200 k platted in Santa Teresa
- Grande plans for San Jeronimo
- Deep Upper/Middle/Lower Santa Fe aquifers
- Lots of brackish water, little fresh
- Development will come looking for fresh water
- 50,000,000 acre-feet of economically extractable (for M&I) brackish to saline water in the yellow area
- Binational development potential, and disposal of brine
- Needs LEADERSHIP!

# Central Palomas Basin Aquifer





## Central Palomas Basin Aquifer

- Surface exploration and test well indicated a viable source of renewable groundwater
- High-quality, recharged from Black Range
- Potential water supply for Hatch, Garfield, Arrey
- Drought reserve for Hatch – Rincon Valley irrigators with limited usable groundwater supply
- Feasibility study needed

# Flood Control: Danger and Opportunity



- Storm water is a threat to life and property
- Existing infrastructure is inadequate
- It can also be a valuable source of new water
- Historical management aimed to evacuate storm water downstream
- With physical and information infrastructure improvements, storm water can be infiltrated to recharge groundwater, used directly, or used to make downstream deliveries, making more water available in reservoirs







## Flood Control Facilities

- Over 100 aging, under-designed PL-566 flood control dams
- False sense of security
- Inadequate laws on development below dams
- Rehab, upgrade is \$\$\$, logistically impossible
- Watershed management is necessary
- Consequences of failure



## Challenges of Storage

- Flood control dams are inadequate for normal operations, not designed for storage
- Storing water increases likelihood of failure
- New operations may increase liability
- Poor watershed conditions result in steep hydrographs, high debris and sediment concentrations

# USIBWC Channel Maintenance



- Originally constructed as part of the Canalization Project, 1938-1942
- Efficient conveyance, flood capacity were chief objectives
- Levees decertified after Katrina, placing many homes and businesses in potential flood zones
- ARRA funding to raise and reinforce levees
- Five year O&M plan required environmental mitigation

# Channel Maintenance problems



- **IBWC has essentially abdicated channel maintenance responsibilities for nearly 20 years**
- **Environmental Water Policy intended as part of an integrated adaptive channel maintenance plan**
- **Increased river seepage exacerbating low surface water supplies**
- **Channel aggradation, island formation**
- **Costs of maintenance, sediment disposal growing with the action of inaction**
- **Increasing sediment loading in canals**
- **Farm field aggradation, compromising delivery efficiency**
- **Loss of agricultural drain function**
- **Loss of flood conveyance capacity**
- **Levee certification not feasible**
- **Lots of studies, little action**

# Key Action Items

- Invest in a feasibility study for a desalination plant in the Santa Teresa border area
- Invest in a feasibility study for development of the Central Palomas Basin aquifer
- Invest in storm water management infrastructure
- Pressure IBWC to do their job and maintain the river channel
- Settle the lawsuit with Texas – we have much better things to invest in