



# UTTON TRANSBOUNDARY RESOURCES CENTER

University of New Mexico  
School of Law

Susan Kelly, Esq.



- The Utton Center is a Water Policy Center.
- We address transboundary water resource issues by providing expertise from a neutral standpoint.



# Overview of Rio Grande Legal and Transboundary Issues

October 17, 2006

Rio Grande Seminar

# Pueblos

- First water users of Rio Grande.
- Tewa people supported their dryland farming with irrigation ditches even before 1200 A.D.
- Irrigation ditches used by Native American people were observed by Europeans as early as the 1500s.

# Pueblos

- 18 Pueblos use water from Rio Grande.
- Estimates of irrigated areas:
  - 20,000 acres in 1896
  - 25,000 acres in 1924
  - over 8,000 acres today in MRG

# Six Middle Rio Grande Pueblos

- Cochiti
- Santo Domingo
- San Felipe
- Santa Ana
- Sandia
- Isleta

*ACEQUIAS*



## Acequias:

- Community-based systems of irrigation and water distribution.
- Formed the basis for settlement of Hispanic communities between two and four hundred years ago.
- 80% of water use in Northern New Mexico.



# Key dates in New Mexico water law

- Treaty of Guadalupe Hidalgo - 1848
  - Transferred sovereignty from Mexico to the United States.
  - Guaranteed property rights in existence at that time.

## 1907 Water Code

- Protected surface waters of the State.
- Office of State Engineer authority.
- Water rights in existence were vested.

# New Mexico Constitution

- Prior appropriation doctrine.
- Origin – early California mining law.
- First in time, first in right.
- Right continues as against subsequent appropriators as long as water is put to beneficial use.

## Beneficial use

- Application of water to a lawful purpose that is useful to the appropriator.
- Includes most uses – but “waste” is not a beneficial use.
- The **Basis**, the **Measure**, and the **Limit** of water rights in the West.

## Key word is **use**:

- Right can be lost if not put to beneficial use.
- Basis: water right is based on **when** first put to use and the type of use.
- Measure: The **amount of** a water right is determined by the amount put to beneficial use.
- Limit: Cannot use more than the amount of the permitted right.

## Water rights can be lost:

- Forfeiture (requires State Engineer action).
- Abandonment (requires evidence of non-use).

# Groundwater

- 1931 Water Code. Recognized groundwater connected to stream system.
- Permit required for withdrawals in declared basins.

# Middle Rio Grande Basin

- 1956 Declaration of the MRG Basin.
- *City of Albuquerque v. Reynolds* resulted in City's vested groundwater rights.



## Water rights required for groundwater pumping:

- Based on ground water flow models.
- Water rights requirements are based upon effects on Rio Grande.
- Effects of pumping on River are delayed.

## Rio Grande fully appropriated:

- All water in Rio Grande is appropriated.
- Therefore, any new or expanded use is required to be offset by the retirement of another use.
- This results in a “water market” and transfer process.

## Transfer of water rights

- Conveyance is by deed, because water rights are a property right.
- Appurtenant to real estate – but can be severed.
- Only the consumptive use amount is transferred.

## Transfer process

- Declaration (of vested rights).
- Application to Change Point of Diversion and Place and/or Purpose of Use from Surface to Groundwater.
- Advertisement.
- Opportunity for Protest.

## State Engineer Criteria

- No impairment of other rights.
- Not contrary to public welfare.
- Not contrary to water conservation.

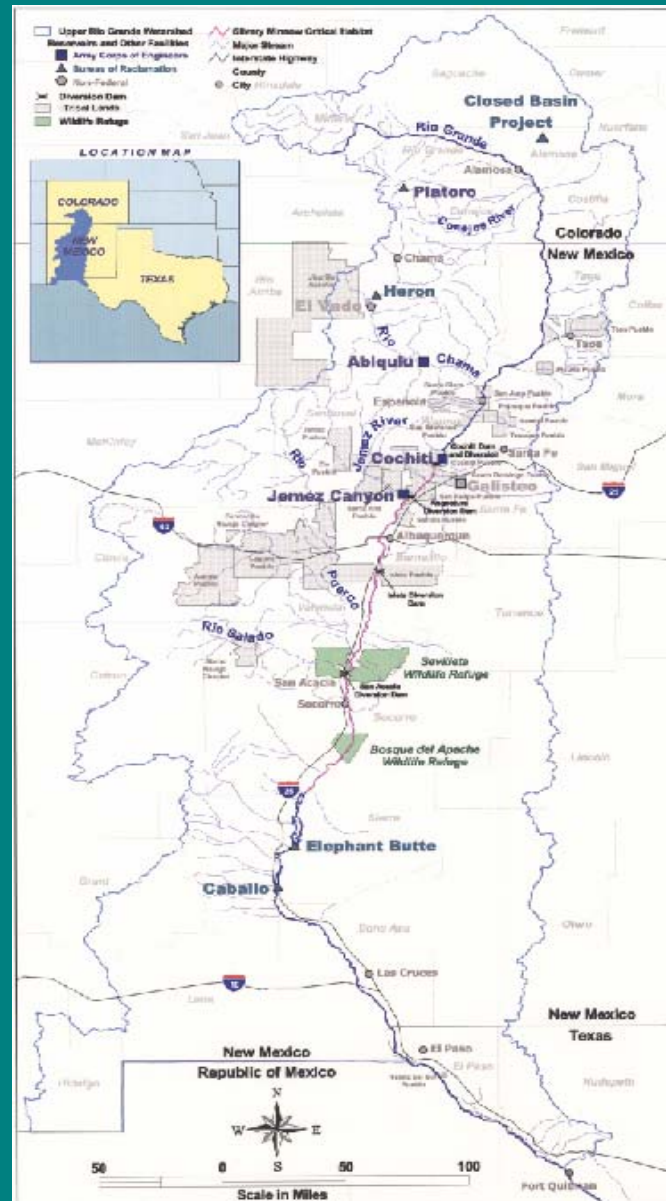
## Priority study required in Middle Rio Grande:

- 1917 maps.
- 1926 appraisal sheets.
- Continuous use (aerial photos – 1935, 1947, 1955, 1965).
- Other proof of pre-1907.

# Brief Overview of the Rio Grande water supply



# UPPER RIO GRANDE MAP



Courtesy of Upper Rio Grande  
Water Operations Model

US Army Corps of Engineers

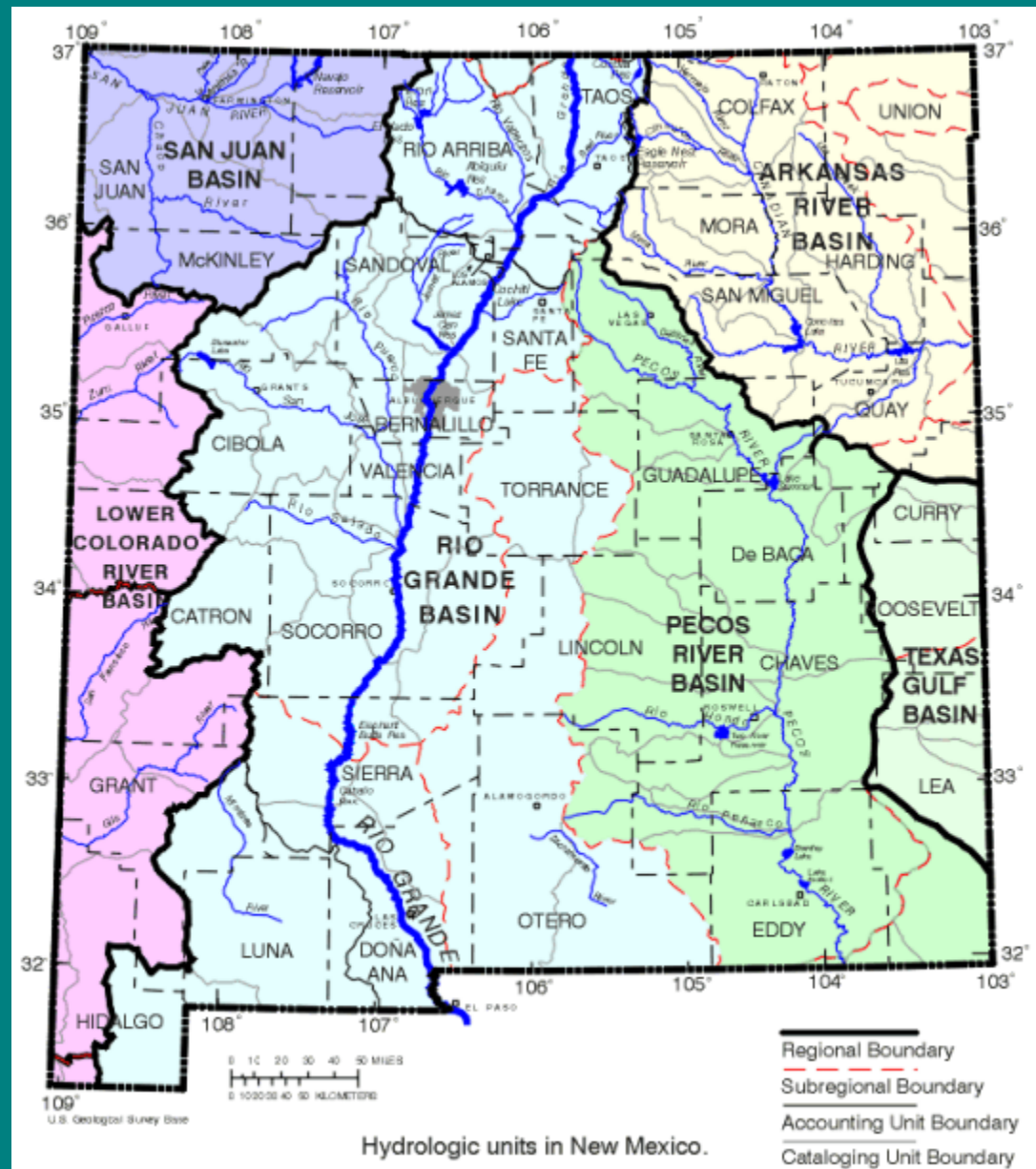
NM Interstate Stream Comm.

US Bureau of Reclamation



# Interstate Compacts

- Like a treaty between states.
- Regulate the right to use water coming into and leaving the state.
- New Mexico is a party to 9 interstate compacts.
- The Rio Grande Compact, The Pecos River Compact and the Colorado River Compacts are the most significant.



Hydrologic units in New Mexico.

# Rio Grande Compact

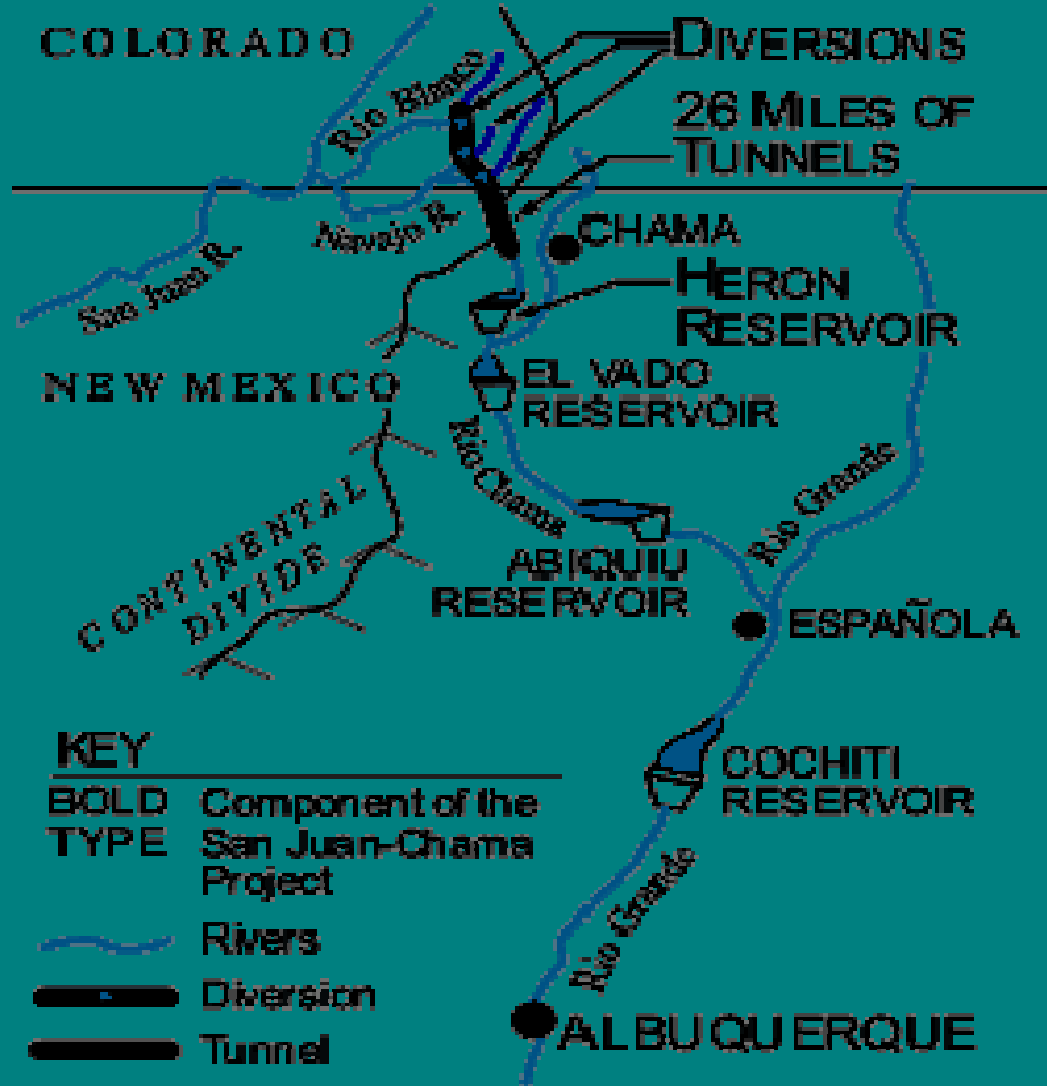
- Colorado, New Mexico, Texas.
- NM delivery requirement determined at Otowi gage.
- New Mexico delivers at Elephant Butte.

# Heron Reservoir – Chama River



## San Juan – Chama Project

- 1971 – tunnels through Continental Divide take water to Heron.
- Bureau of Reclamation project.
- Benefits City of Albuquerque, MRGCD, and other contractors.
- Subject of silvery minnow litigation



# Little Navajo Diversion



# El Vado Reservoir – on Chama River





## El Vado Reservoir

- Built to store water for Middle Rio Grande Conservancy District.
- Stores prior and paramount Pueblo rights.
- Article VII restriction on post-1929 reservoir storage of native RG water.

# Abiquiu Reservoir – on Chama River



# Abiquiu Reservoir

- Built by Army Corps of Engineers for flood and sediment control.
- Stores San Juan-Chama water.
- Native Rio Grande storage authorized by federal law.

# Cochiti Reservoir – on mainstem of Rio Grande



# Cochiti Reservoir

- Built by Corps of Engineers - flood control for Albuquerque.
- Permanent storage - small recreational pool.
- Cochiti Pueblo concerns.

## Uses in the MRG Valley

- Municipal 5%
- Riparian 37%
- Irrigation 37%
- Evaporation 21%

# Municipalities using Rio Grande in New Mexico



# Municipal

- Taos
- Espanola
- Santa Fe/Santa Fe County
- Bernalillo
- Rio Rancho
- Albuquerque
- Los Lunas, Belen, Socorro
- Truth or Consequences
- Las Cruces
- El Paso



# Irrigation



# Agriculture

- Peaked in Middle Valley between 1850 and 1880:
  - 125,000 acres irrigated.
- Today:
  - 50 – 70,000 acres irrigated through Middle Rio Grande Conservancy District works.

# Middle Rio Grande Conservancy District

- Established in 1923.
- A system of diversions and dams for flood control and irrigation.
- The MRGCD operates ditches, reservoirs and dams.
- Raises revenues from its members to pay for construction and maintenance of projects.

## Elephant Butte Irrigation District:

- Below Elephant Butte
- 90,000 acres

## Lower Rio Grande Adjudication

- Elephant Butte to State Line
- 16,000 claimants.

# Elephant Butte



# Elephant Butte

- Storage for Rio Grande Project.
- Constructed by Bureau of Reclamation in 1916.
- 57% of water delivered to Texas pursuant to Rio Grande Compact is used in New Mexico.

# Elephant Butte

- Evaporative loss 10-30% of basin depletions.
- 140,000 acre-feet or 2.5 times usage of City of Albuquerque.
- 1999 storage: 2 MAF.
- 2006 storage: 400,000 a-f.

# Riparian





Evapotranspiration – The sum of evaporation and plant transpiration

Steps to reduce:

- Non-native species removal
- Water salvage potential
- Who gets savings?

## Treaty with Mexico - 1906

- 60,000 acre feet delivered to Mexico at Ft. Quitman.
- Deliveries reduced proportionate to reductions in Rio Grande Project storage.

# 1944 Treaty

- Rio Grande below Ft. Quitman essentially a different river.
- Runoff from Mexican mountains.
- Roughly:  $\frac{2}{3}$  goes to Mexico and  $\frac{1}{3}$  to Texas.

## Transboundary Issues with Mexico:

- Groundwater pumping
- Data exchange
- Water quality
- Extraordinary drought