
09/19/06

Rolf Schmidt-Petersen
NMISC Rio Grande Basin Manager
Rio Grande Water Management Agencies/Entities

- U.S. Bureau Of Reclamation
- U.S. Army Corps of Engineers
- U.S. Bureau of Indian Affairs
- International Boundary & Water Commission
- New Mexico Office of the State Engineer
- New Mexico Interstate Stream Commission
- State of Colorado DWR
- Rio Grande Compact Commission
- Pueblo’s and Tribe’s
- Conservancy and Irrigation districts
- Acequias
- Cities, counties, mutual domestic water associations
- Flood control authorities
The Upper Rio Grande Basin
Rio Chama below Abiquiu Dam
Cochiti Dam
San Acacia Diversion Dam
San Marcial Railroad Bridge
Elephant Butte Dam and Reservoir
Generalized History

- Late 1800’s – Drought and Increased Irrigation Diversion in Colorado
- 1896 – Federal Embargo on Water Development
- 1906 – Treaty of 1906
- 1916 – Elephant Butte Reservoir Operational
- 1925 – Federal Water Development Embargo Lifted
- Late 1920’s – Middle Rio Grande Conservancy District
  - Construct the MRGCD diversion dams, canals, drains, and El Vado Reservoir
- 1929 – Interim Rio Grande Compact
  - Sets limits on depletions of water
• 1935 – El Vado Reservoir Completed
  – Supreme Court Lawsuit by Texas
• 1938 – Rio Grande Compact Signed,
  – Supreme Court Lawsuit dismissed
The Rio Grande Compact

• Signed in 1938 in Santa Fe following those four decades of controversy to:
  – Effect an equitable apportionment of the waters of the Rio Grande above Ft. Quitman, Texas
  – Remove all causes of present and future controversy
  – Promote interstate comity
The Rio Grande Compact

• The Compact apportions the waters of the Upper Rio Grande Basin amongst the three States
• The Compact does not affect the obligations of the United States to Indian Tribes or impair their Rights
• San Juan-Chama Project Water is not subject to Compact apportionment
• Colorado is Required to Deliver Water to New Mexico at the Stateline
In above average year, flow in excess of 560,000 acre feet must be delivered to New Mexico.

Colorado Delivery Obligation to New Mexico

Available for Depletion in Colorado
In above average year, flow in excess of 224,000 acre feet must be delivered to Rio Grande.

Delivery Obligation to Rio Grande

Available for Depletion
The Rio Grande Compact – New Mexico

• New Mexico is Required to Deliver a Portion of the Flow at Otowi Bridge to Texas at Elephant Butte Reservoir
  – An explicit Middle Rio Grande allocation
• If depletions change between the Stateline with Colorado and Otowi Bridge, modify Middle Rio Grande allocation
The Upper Rio Grande Basin
Elephant Butte Dam
In above average year flow in excess of 405,000 acre-feet must be passed below Elephant Butte Reservoir.
The Rio Grande Compact - Texas

- From Elephant Butte Reservoir to Fort Quitman, Texas
  - 57% of the Rio Grande Project Supply delivered to New Mexican’s
The Rio Grande Project
Compact Storage Restrictions

• If We Accrue Debits to Texas:
  – Water Must be Retained in Storage in Post-1929 reservoirs to the extent of the debits and cannot be used

• If Usable Storage in Rio Grande Project Reservoirs is low:
  – cannot increase the amount of native water stored in post-1929 reservoirs
    • An accepted Relinquishment allows for some upstream storage
Credit, Debit, and Spills

- Colorado and New Mexico Credit Water is held in Elephant Butte Reservoir
- Colorado may accrue up to 100,000 acre-feet of debit
- New Mexico may accrue up to 200,000 acre-feet of debit
- Spills from Elephant Butte Reservoir eliminate credits and debits
• 1941 – Severe Flooding north of Elephant Butte Reservoir
• 1948 & 1950 Flood Control Acts
  – Jemez Canyon, Abiquiu, Galisteo, and Cochiti dams
  – Rehabilitation of the MRGCD
• 1950’s – Severe Drought
• Late 1950’s – Additional Supreme Court Compact Litigation
• Late 1960’s – San Juan-Chama Project
  – Diversions from San Juan Basin to Heron Reservoir
Looking downstream from south boundary of Bosque del Apache  
(courtesy of Reclamation)
The Middle Rio Grande Project – Flood Control Reservoirs
The Middle Rio Grande Project – Rehabilitate the MRG
The San Juan-Chama Project – Import Water to Rio Grande

Source: SSPA, July 2000 Water Supply Study of the Middle Rio Grande
New Mexico’s Compact Compliance

Rio Grande Compact Cumulative Delivery Departure
1940 - 2006

Departure in Thousands of AF

Time (Calendar Years)

2006 Credit = 37,100 AF
Variable and Limited Surface Water Supply
Hydrologic Reality at Albuquerque

Note: Period of Record is from 1941 - Present. USGS Gage No. 08330000

Rio Grande at Albuquerque, NM
Note: Storage values as of Jan 1 each year. Elephant Butte and Caballo Reservoirs included in analysis. Value for Jan 1, 2005 is estimated.
Some NMISC Rio Grande Basin Bureau Work

• Efforts to Balance/Increase Supply
  – River Maintenance with Reclamation
  – Elephant Butte Pilot Channel
  – Daily River Management
  – Compact Oversight
  – Hydrologic Investigations and Research

• Addressing Federal Natural Resource Issues
  – NEPA
  – ESA Collaborative Program
  – Litigation

• Addressing the Texas Litigation Threat