

Rio Grande Compact Accounting

New Mexico Texas Water Commission
Management Advisory Committee

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Rio Grande Compact Accounting

- Colorado and New Mexico must deliver a varying quantity of water annually.
- The accounting of water deliveries by Colorado and New Mexico under the Rio Grande Compact is based on gaged stream flows, reservoir storage, and index supply schedules.
- Colorado and New Mexico are allowed to accrue credits and to a limited extent debits.

Existing Status January 1, 2002

- Colorado 10,100 acre-feet credit
- New Mexico 155,700 acre-feet credit
- In computing the annual credits, any annual credits in excess of 150,000 acre-feet shall be taken as that amount.
- In the case of Colorado, no annual debit shall exceed 100,000 acre-feet. (100,000 total)
- In the case of New Mexico, no annual debit shall exceed 150,000 acre-feet. (200,000 total)

Rio Grande Basin

Calculation of Colorado's Debits and Credits

Balance beginning of the year

Compact delivery from Conejos River

Compact delivery from Rio Grande

Actual delivery @ Labatos plus 10,000 af

Reduction of credits/debits for evaporation

Balance at the end of the year

Conejos River Compact Index

Conejos Index	Conejos Delivery
• 100	0
• 150	20
• 200	45
• 250	75
• 300	109
• ~	~
• 700	476

Determining the Conejos River Index

- Gaged flow Conejos River @ Magote
- Gage flow Los Pinos nr Ortiz (Apr-Oct)
- Gage flow San Antonio nr Ortiz (Apr-Oct)
- Adjustments for change in storage (+/-) in post compact reservoirs and evaporation losses (Platora and 2 small reservoirs)
- Sum equals Conejos Index Supply

Rio Grande Compact Index

- | Rio Grande Index | Rio Grande Delivery |
|------------------|---------------------|
| • 200 | 60 |
| • 250 | 65 |
| • 300 | 75 |
| • 350 | 86 |
| • 400 | 98 |
| • ~ | ~ |
| • 1,400 | 840 |
- Once the index flow at Del Norte reaches 950,000 af, Colorado must deliver all increased flows to the stateline

Determining the Rio Grande Index

- Gage flow Rio Grande @ Del Norte
- Adjustments (+/-) for change in post compact storage and associated evaporation loss (several small reservoirs)
- Sum Equals Rio Grande Index Supply

Colorado Debits or Credits

- Credits or debits are stored at Elephant Butte
- Credits or debits are charged evaporation losses on a proportional basis
- If elephant Butte spills, credit/debit water spills before project water
- The compact defines “usable water” as “all water, exclusive of credit water, which is available for release in accordance with irrigation demands...”

Example Calculation

Colorado Summary

- Balance beginning of year 17.7
- Scheduled delivery Conejos 17.0
- Scheduled delivery Rio Grande 95.8
- Delivery @ Labatos plus 10,000 af 124.2
- Reduction of credits for evaporation 2.1
- Balance at the end of the year 27.0

Calculation of New Mexico's Debits and Credits

- Balance at the beginning of the year
- Scheduled delivery @ Elephant Butte
- Actual delivery @ Elephant Butte
- Reduction of credits/debits for evaporation
- Balance at the end of year

Otowi Index Compact Schedule

Otowi Index	Elephant Butte Delivery
– 100	57
– 200	114
– 300	171
– 400	228
– 500	286
– ~	~
– 1,500	1,095
– 1,600	1,195
– 1,700	1,295
– ~	~
– 3,000	2,595

Scheduled delivery @ Elephant Butte

- Otowi gage is New Mexico's delivery index
- Gage flow @ Otowi
- Adjustments (+/-) for change in New Mexico post compact reservoir storage above Otowi and associated evaporation loss (El Vado). *New Mexico "pays" for any water they have in storage at the end of the year as if were in Elephant Butte.*
- Adjustments (subtract) for San Juan-Chama water @ Otowi

Elephant Butte Effective Delivery

- Change in storage (+/-) Elephant Butte
- Gage flow below Elephant Butte
- *New Mexico is responsible for all losses at Elephant Butte. Evaporation, seepage, etc.*

Example

New Mexico Calculation of Debits/Credits