Middle Rio Grande Water Cycle

Middle Rio Grande Water Cycle

Water comes into the MRG system through:

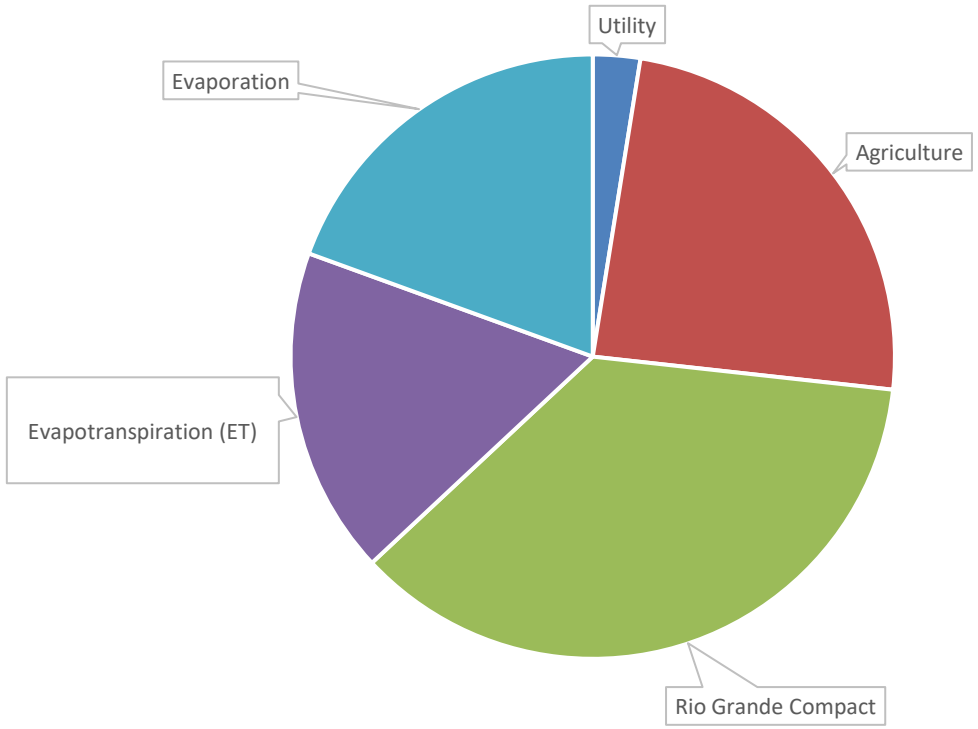
- Precipitation (monsoons!)
- Snow runoff
- Stormwater runoff
- Tributaries to Rio Grande (e.g., Jemez River)

Water demands in the MRG system include:

- Sublimation
- Evaporation*
- Low soil moisture
- Evapotranspiration
- Surface water diversions (agriculture and municipal)
- Groundwater pumping (municipal and private domestic
- Rio Grande Compact Deliveries

* Evaporation broadly refers to water lost to evaporation due to low ambient humidity from the mountains, reservoirs, and river

From concept to real numbers - 2024



*Pie chart **not** showing depletions, necessarily; values represented as "diversions" from river*

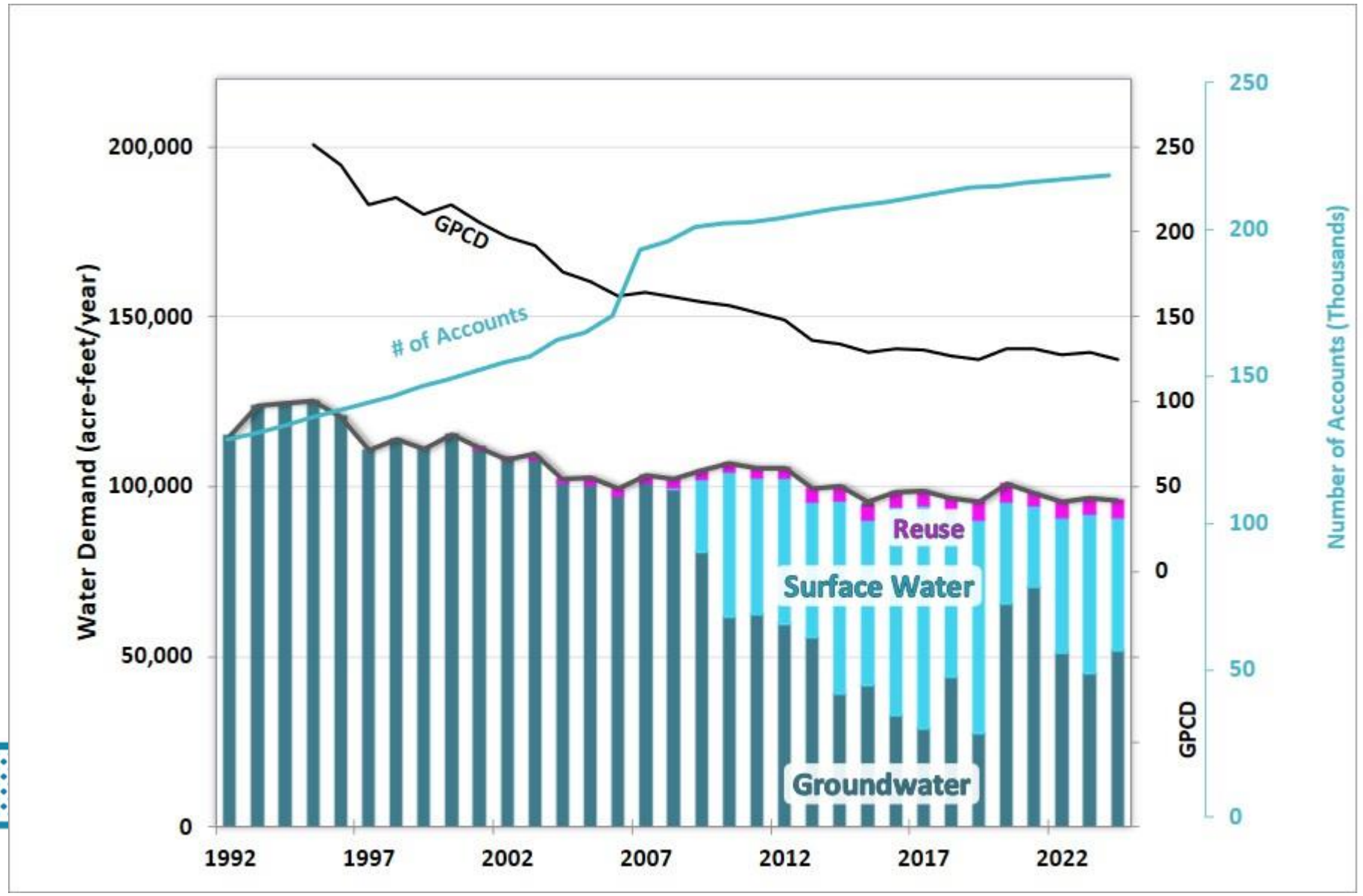
Other "diversions":

- Volume of snow lost to sublimation
- Volume of snow runoff lost to soil moisture
- River evaporation
- Private domestic well pumping effects

Key things to note:

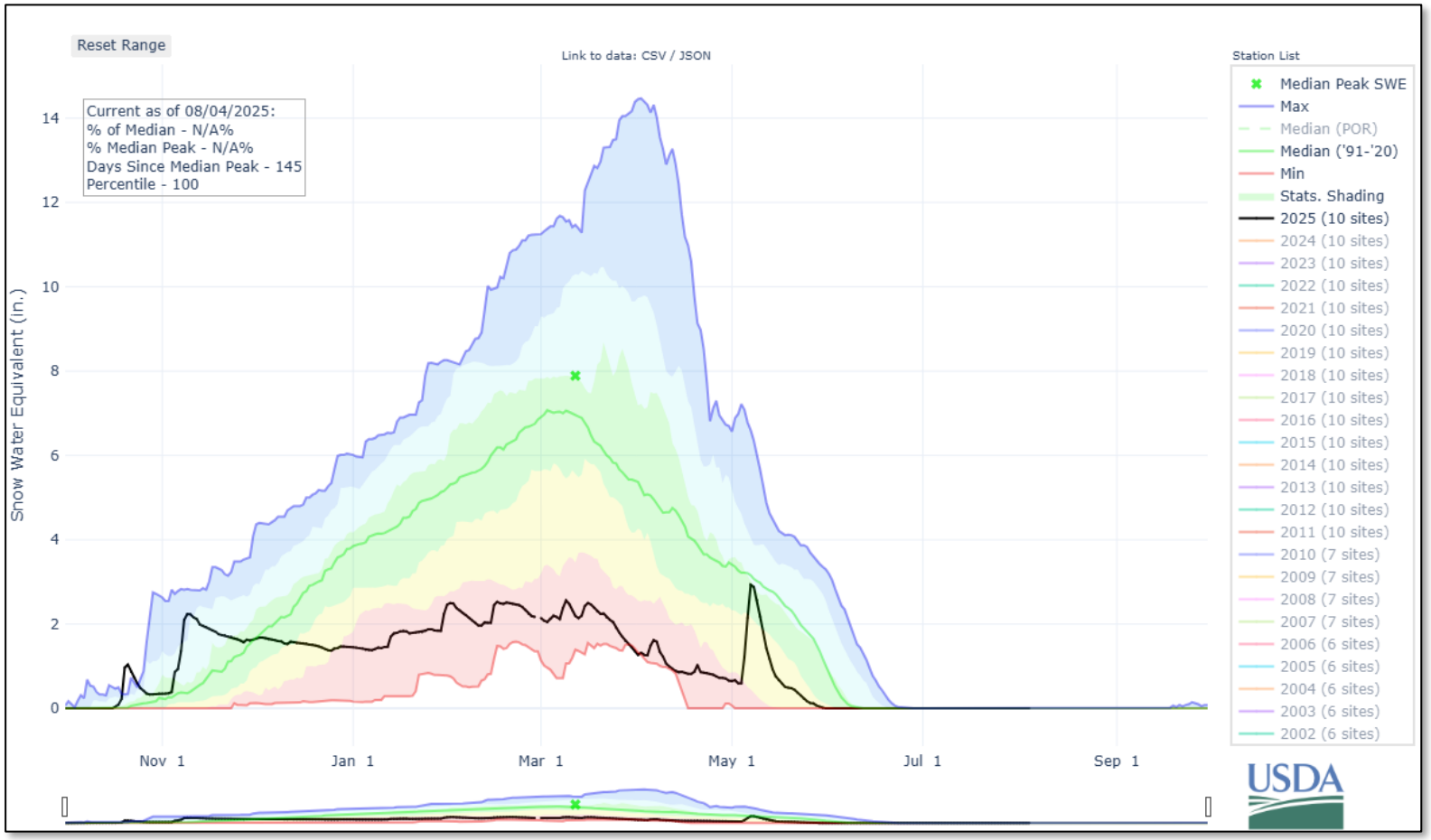
- Evapotranspiration (ET) from agriculture shown in the "Evapotranspiration" slice of the pie
- Values for ET and evaporation are 10-year averages since 2024 data was not available

Water Authority



- GPCD reduced by half, number of customer accounts doubled
- Groundwater pumping reduced over time
- Relatively stable demand

Where we started – 2025 SWE



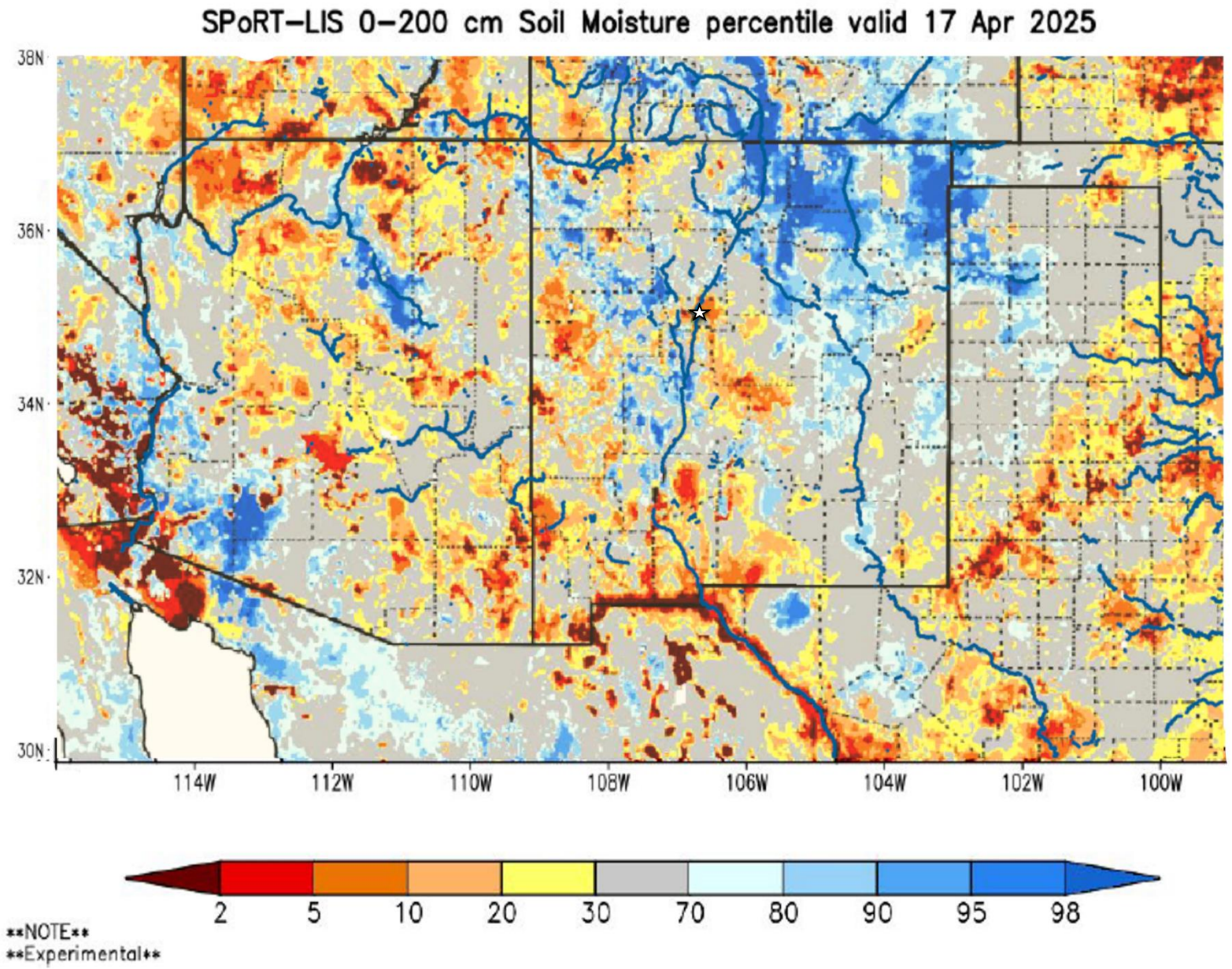
Natural Resources Conservation Service (NRCS) March 1, 2025 outlook "most likely" was 205,000 acre-feet at Otowi.

Actual volume of runoff at Otowi was ~206,000 acre-feet.

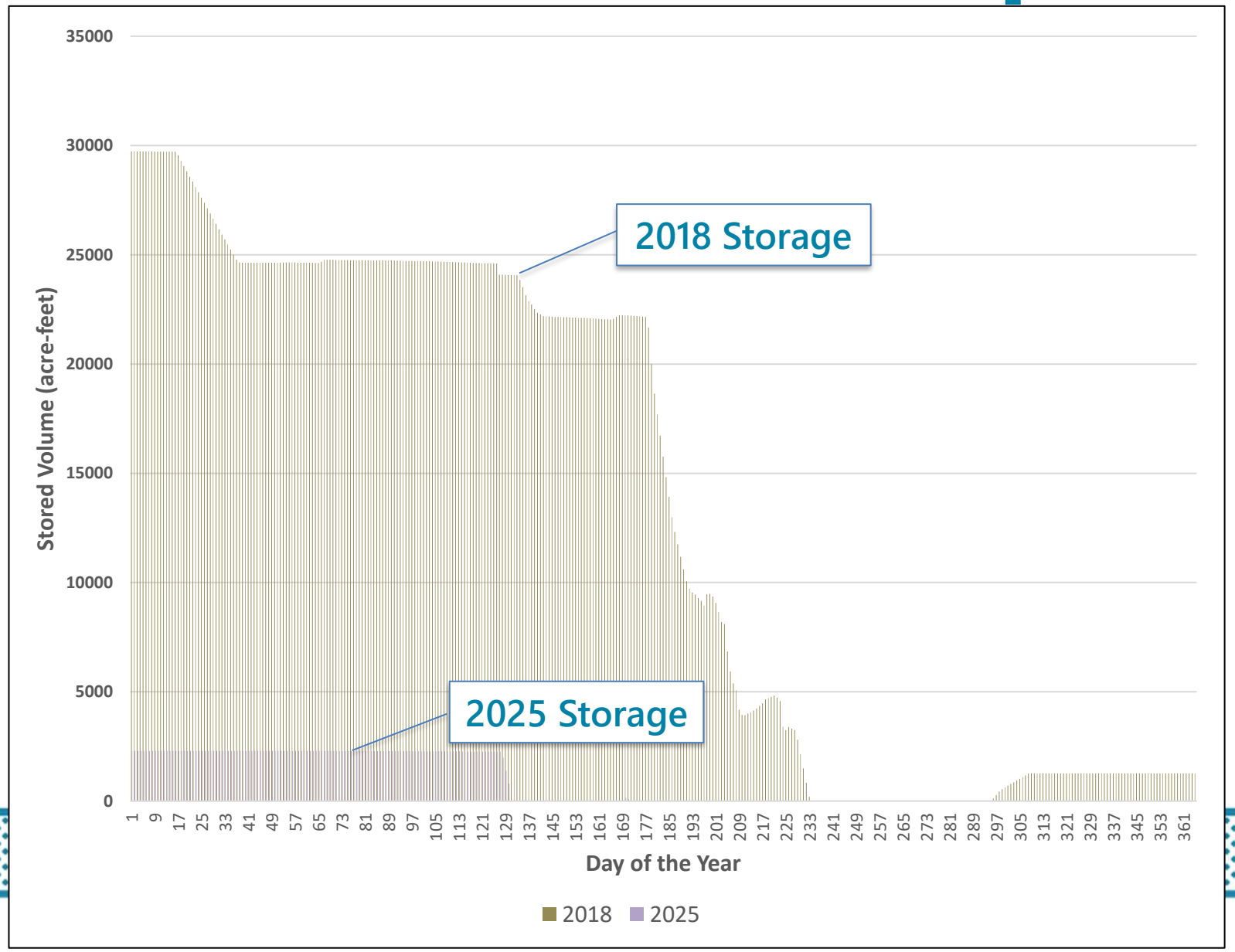
Where we started – 2025 Soil Moisture

Low soil moisture in headwaters through Middle Rio Grande

Low soil moisture → greater infiltration of melted snow, less runoff



Where we started 2025 – Upstream Storage



El Vado stores usable storage for Middle Rio Grande plus Prior and Paramount water

2018 analog year – started with nearly 30,000 acre-feet of usable storage

Stored volume at start of 2025 all San Juan-Chama

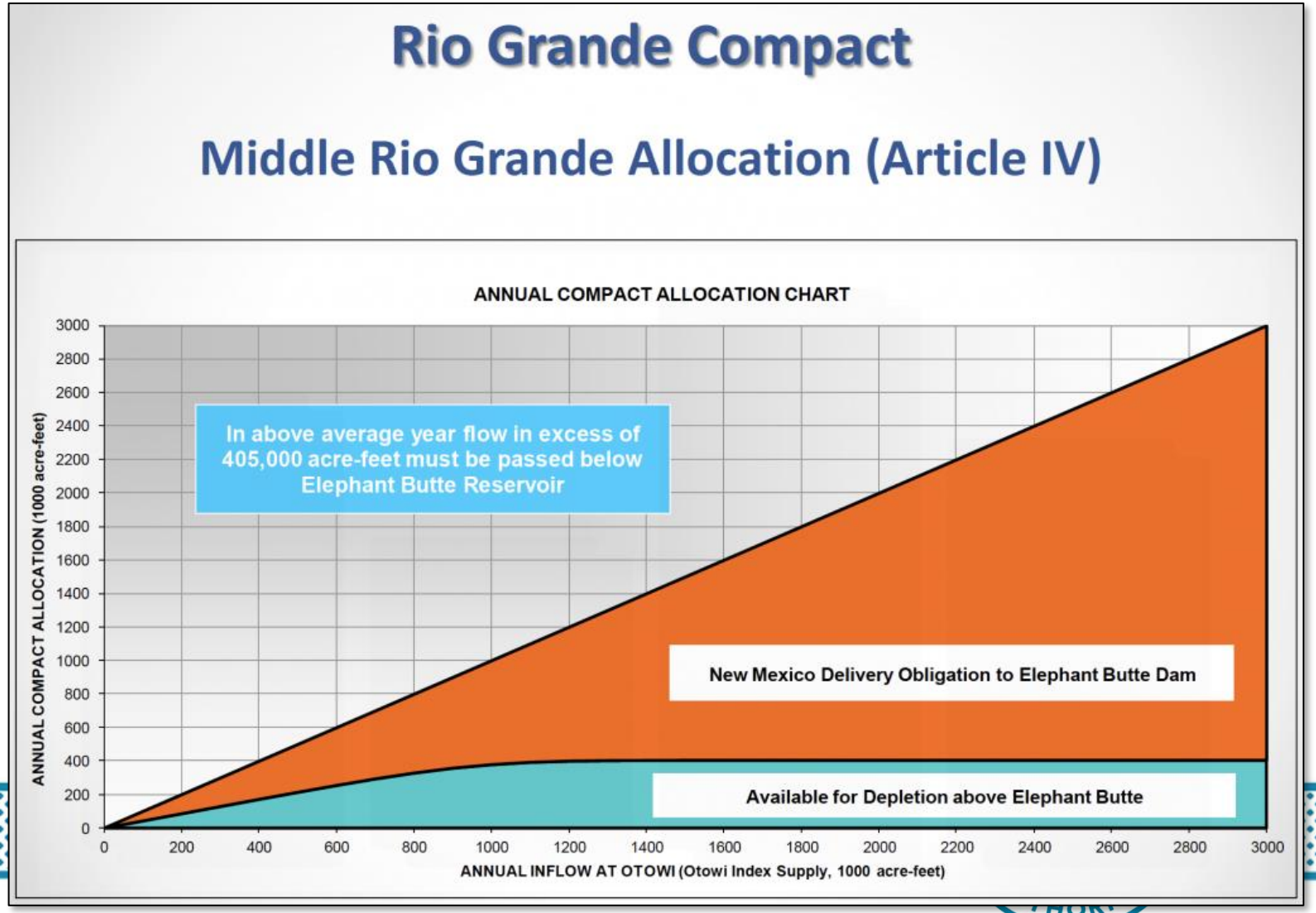
Where we started – Rio Grande Compact

Compact requires half the flow at the Otowi gage to be delivered through the Middle Rio Grande.

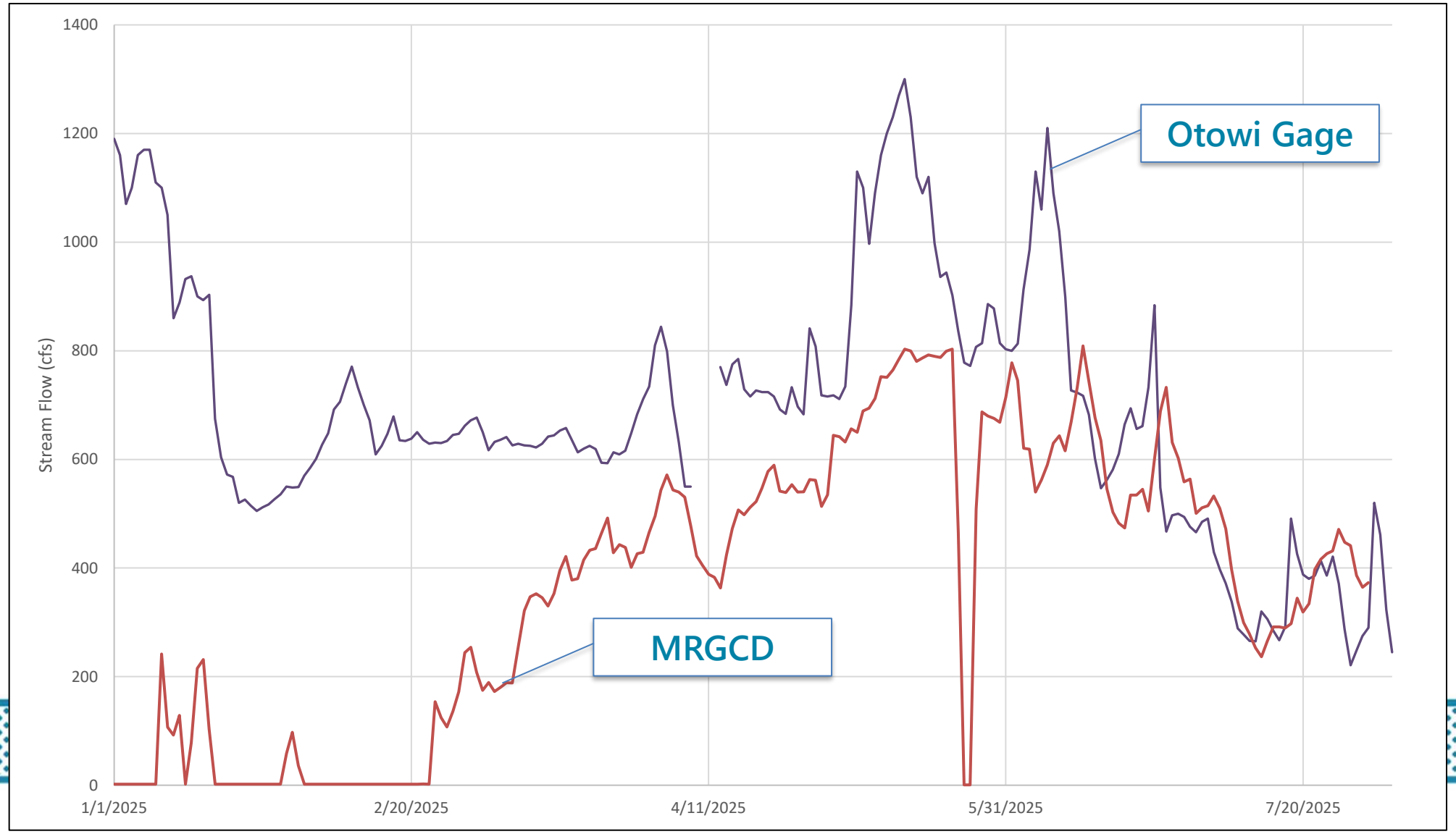
New Mexico has an accrued debit of 124,000 acre-feet (as of January 1, 2025.

Due to debit and volume of storage in Elephant Butte, upstream storage is restricted.

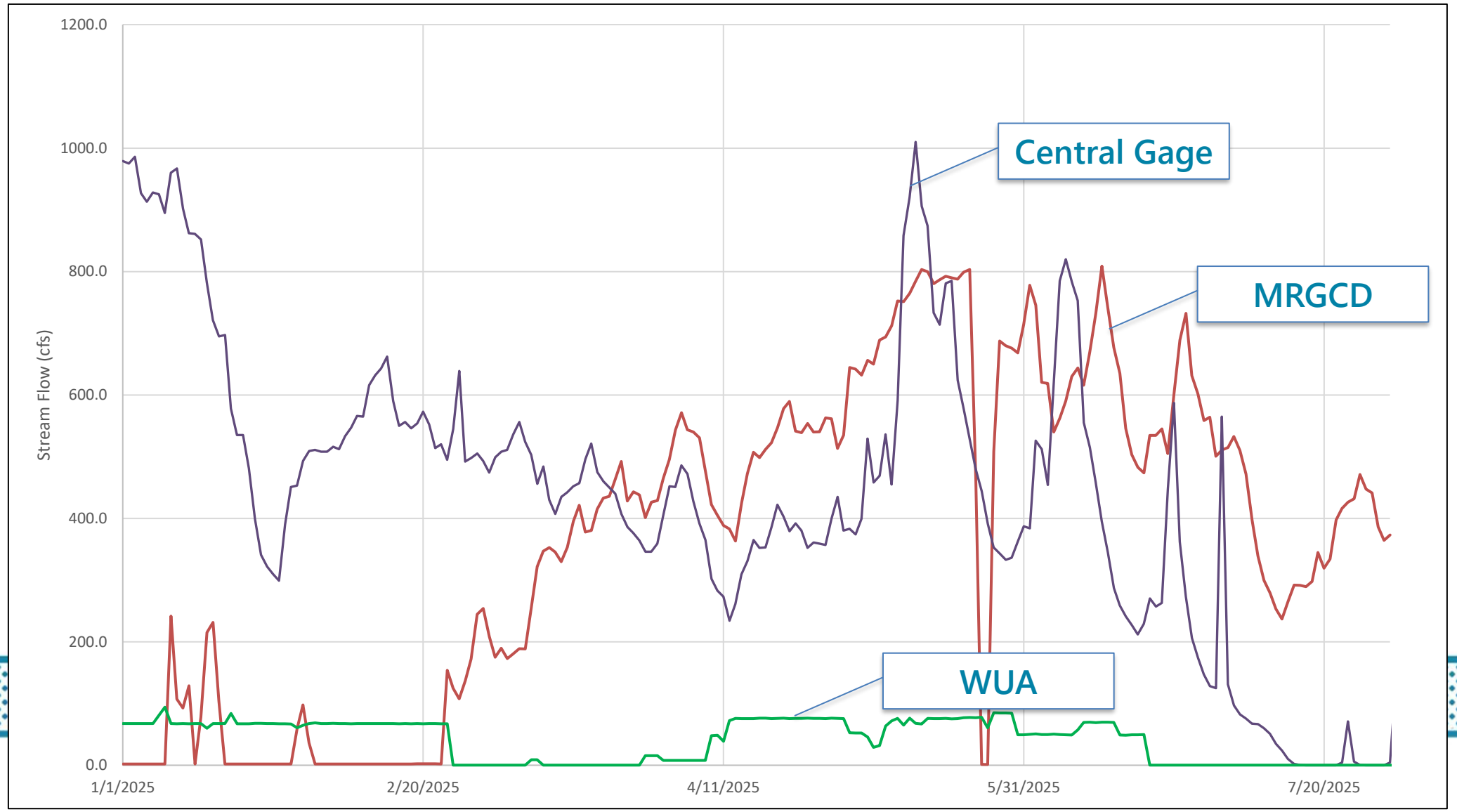
Debit in excess of 200,000 acre-feet is violation of the compact.



Hydrograph - Otowi



Hydrograph - Central



Middle Rio Grande Water Cycle

Water comes into the MRG system through:

- Precipitation (monsoons!)
- Snow runoff
- Stormwater runoff
- Tributaries to Rio Grande (e.g., Jemez River)

Water demands in the MRG system include:

- Sublimation
- Evaporation*
- Low soil moisture
- Evapotranspiration
- Surface water diversions (agriculture and municipal)
- Groundwater pumping (municipal and private domestic
- ? Rio Grande Compact Deliveries

* Evaporation broadly refers to water lost to evaporation due to low ambient humidity from the mountains, reservoirs, and river

Planning for the Future

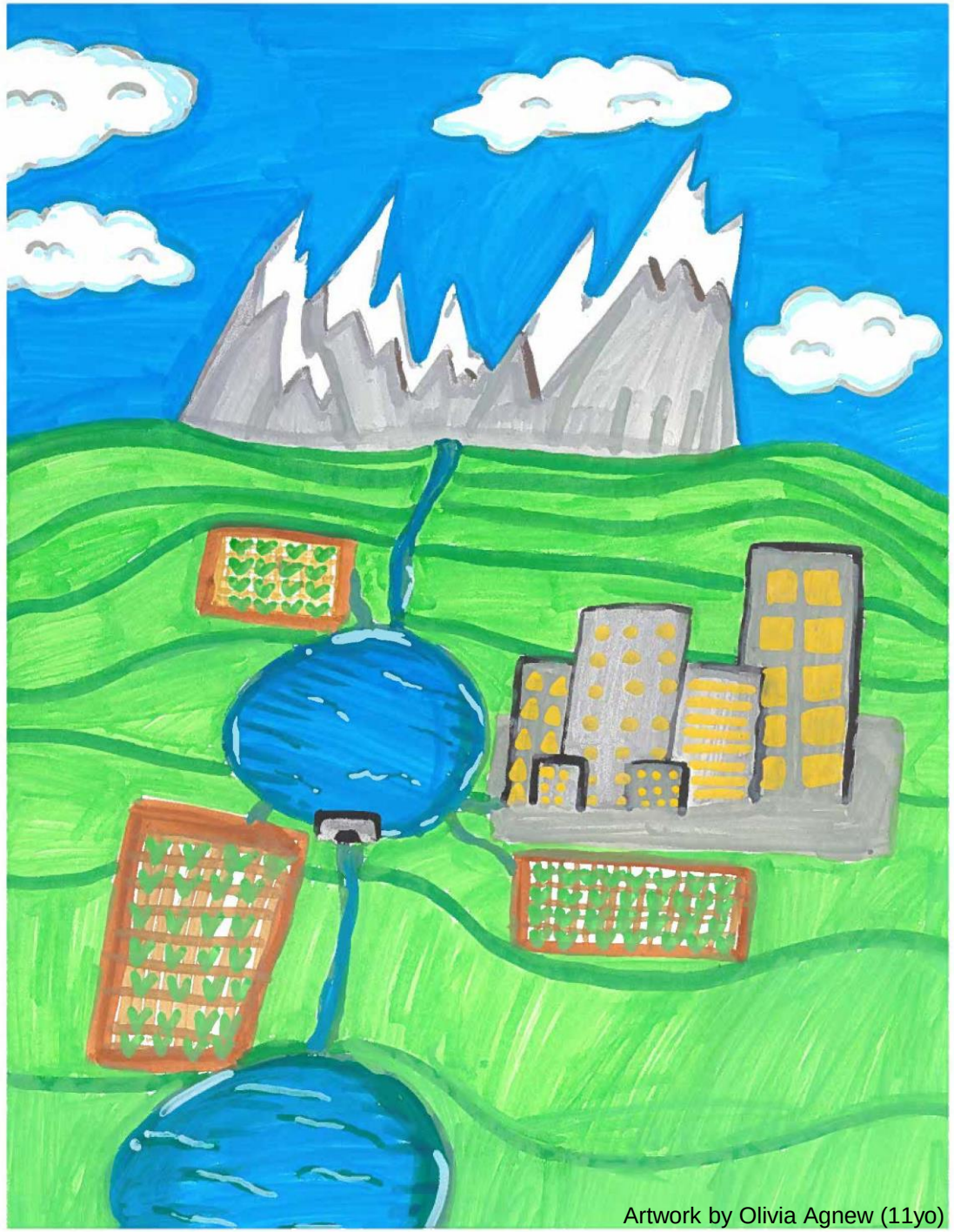
Bosque Water Reclamation Facility (WRF) outfall – potential for increasing connected reach of Rio Grande, even in low flows.

Water Authority wastewater outfall returns flows to the river to offset groundwater pumping.

Ongoing conservation and customer outreach continues progress towards reducing GPCD goals.

Water 2120 provides long-term strategies to increase supply options into the future, including reduced surface water availability.

BERNALILLO COUNTY AUTHORITY



Artwork by Olivia Agnew (11yo)

Questions?

Main Stream New Mexico

[What's the link between snow and our rivers?]