



**New Mexico Water Dialogue  
Upstream-Downstream Project**

**Workshop #3  
September 25, 2006**

***Reconciling the Numbers***

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# The Evolution of Recent MRG Water Budgets

- **MRG Water Assembly 1999**
  - 1972-1997 data; VERY wet during this period, results biased to high supply
  - Method doesn't handle actual scaling of Compact obligations
  - Details of calculations unpublished and unavailable for review
- **SSPA Water Supply Study Phase 2, 2000**
  - 1950-1998 data; reasonable representation of long-term average;
  - Used ET Toolbox, USBR later improved their riparian and agricultural consumptive use estimates;
  - Used earlier USGS groundwater depletion estimates; USGS later published updated groundwater model for Albuquerque Basin;
- **SSPA Water Supply Study Phase 3, 2004**
  - 1950-2002 period of record;
  - Scales agricultural consumptive use by average crop yield;
  - Includes updated ET Toolbox estimates of riparian and agricultural consumptive use;
  - Updated groundwater depletion estimates from USGS latest study
- **Regional Water Budgets, JySPR, MRGPR, SSPR**
  - Useful for focusing in on regional scale
  - Not yet easy to compare with other regions or basin-wide issues

# Why don't the regional water budgets speak to one another?

- **TIME OF CONDITION:**

- Current
- Future (2040? 2050? 2060?)

- **VOCABULARY:**

- "Additional demand", "deficit/gaps"
- "Groundwater depletion/mining", "Impact on stream"
- "Consumptive use", "Diversion"
- "Return flow", "Recharge"

- **HANDLING OF SHARED WATER BUDGET ELEMENTS:**

- Elephant Butte evaporation
- Compact obligation

- **TECHNICAL APPROACH:**

- Supply / Demand / Domain / Assumptions

# Jemez y Sangre Planning Region



- Currently, supply and demand appear to be in balance.
- Demand increases by 31,000 afy in year 2060, given additional demands of population increase by 200,000 (only 40% can be met by existing SJ contracts).

# MRG Planning Region

- Current deficit of 55,000 afy.
- Future regional deficit of 150,000 afy using 50-year growth projections (without alternatives).

# Socorro-Sierra Planning Region

The Socorro-Sierra Planning Region identified a current regional deficit of 77,900 afy. But, updating to 2004 MRGWSS data, the deficit is estimated at about 40,000 afy.

Supply reflects county line inflow; demand includes EB evaporation.

The “bottom line” in this region encompasses deficits manifested on the river not only in SSPR but also in upstream regions. Though it physically occurs in this region, the deficit is a result of upstream demand, not SSPR demand.

# Double-Counting!

- The Middle Rio Grande planning region, in their evaluation of deficit, makes an assumption about the water delivered downstream to Socorro-Sierra. **It appears the MRGPR is assuming delivery adequate to meet current Socorro-Sierra demand.**
- The Socorro-Sierra planning region uses inflow at the Valencia-Socorro county line that already has been impacted by the MRGPR deficit. **Thus, the SSPR deficit reflects not only their regional budget but also includes the MRGPR deficit.**

# What numbers should be used?

- The MRGWSS 2004 report provides the most recent water budget for region, based on best available data.
- The MRGWSS 2004 water budget is fully documented, allowing for easy substitution of values for supply and demand if better information becomes available, or as planning alternatives become implemented.
- The MRGWSS 2004 water budget provides a basinwide framework that makes sense for *shared* basinwide water supplies and demands.
- The MRGWSS can and should be revisited as new data are developed.

# Back to Double-Counting...does it matter?! YES!!

- The double-counting problem highlights the need for a consistent system to evaluate both current supply/demand/deficit, and to project changes to supply/demand/deficit resulting from implemented water planning changes.
- The regions and state will need to work together to coordinate planning and tracking with consistent accounting methods.

# Accounting/Management Options

## Basin as unitary system

- Deficits accrue at the bottom of the system
- Acknowledges that the system is singular under the Compact
- Tracks water as it physically exists
- Inter-regional articulation of planning and implementation goals to avoid conflicts
- Considerations
  - Existing water uses and water rights
  - **Active Water Resource Management (AWRM)** will play key role in management of water use at state level
  - Consistency with market realities and public welfare statements

## Regional allocation vs. regional planning goals

- Inter-basin allocation does not exist
- Are such approaches beneficial?

# Conclusions

*Accounting procedures are not consistent across regions, hence, results are not additive !*

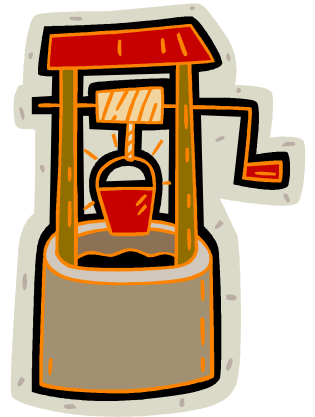
- **Downstream regions need to know what numbers to use to represent their inflow, and what those numbers include (Elephant Butte evaporation? Compact Deliveries? Upstream deficit?)**
- **A basinwide tabulation could be independently maintained. This would allow for comparison of Supply/Demand/Deficit with Compact Deliveries, and would serve as a double-check on regional accounting.**



# Other Considerations

## Groundwater use

MRGWSS “bottom line” includes two parts – surface water and groundwater; both are time-specific due to lagged impacts of pumping.



## Wastewater returns/precipitation

Accounting conventions are critical to avoid multi-regional disconnects: Are these separate inflows? Removed up front from urban/agricultural demand?



# Plan of Action?

*Accounting:* Develop consistent methods to support inter-regional planning and implementation assessment

*Hydrology/Water Use:* Continue to review and refine water budget

*Metadata:* Essential for transparency and value