

May 19, 2013

## MEMO

RE: Story of Water for Albuquerque

### Historic Overview:

See: Human Use of the River and Bosque 1540 to 1800s.pdf

### Middle Rio Grande Regional Water Plan (2004):

The Middle Rio Grande Region (MRG Region) is one of 16 water-planning regions in New Mexico. It comprises Sandoval, Bernalillo and Valencia counties—an area covering more than 5,000 square miles. More than half of New Mexico's population lives here, making the region the largest urban water user in the state. The region averages nine inches of rain per year, and relies on both surface and ground water to support the region's industry, agriculture, environment and people. Surface-water sources include the Rio Grande, the Rio Jemez, the Rio Puerco and the San Juan-Chama Project. Until recently, limited ground-water resources supply all of the region's municipal and drinking water needs. These resources are not as extensive as once believed. Downstream neighbors are entitled to their share and therefore impact water issues.

### San Juan-Chama Drinking Water Project (currently operating)

[<http://www.abcwua.org/content/view/31/24/>; Last updated Tuesday, 03 May 2011]

A Grand Opening ceremony on Dec. 5, 2008 marked the completion of the Albuquerque Bernalillo County Water Utility Authority's San Juan-Chama Drinking Water Project, which will make surface water the metro area's primary drinking water source for the first time. The project will supply up to 90% of the metropolitan area's future water. San Juan-Chama water diverted from the river will be transported to a treatment plant, from which purified water will be delivered to Albuquerque area homes and businesses. Under the Upper Colorado River Compact, New Mexico annually receives water from the Upper Colorado River's basin for consumptive use. To bring this water into the state, federal legislation has authorized construction of diversions, conveyance channels, pipelines and tunnels, in addition to a dam (Heron Reservoir). The primary purpose of the San Juan-Chama Drinking Water Project is to provide water for the Albuquerque Metropolitan Area. City leaders have contracted for perpetual, or permanent, rights to 48,200 acre-feet of the water per year. We are now moving quickly to begin using the San Juan-Chama water because our current system, which relies entirely on pumping groundwater from an underground aquifer, is being seriously depleted. Right now, only about 50 percent of the water pumped from that aquifer is recharged, or replenished. The rest is lost forever. A future piece of the project involves putting water into the aquifer, then pumping it out in times of need.

## **Waste water**

The Southside Water Reclamation Plant serves the entire Albuquerque and Bernalillo County area. Water is processed and returned to the Rio Grande.

## **Greywater**

In the City of Albuquerque, you technically do not need a permit for applying less than two hundred fifty gallons per day of private residential gray water originating from a residence for the resident's household gardening, composting or landscape irrigation if certain criteria are met. In my experience in new construction, the plumbing inspection approval is partially dependant on the approval of grey water system design and components, and so far every job has included educating the inspectors and plumbers on the system design and components. I have had greywater systems approved in the City of Albuquerque, Bernalillo County (outside city), and Tarrant County. Requirements for approval are inconsistent - which is consistent with the building inspection process.

## **Rainwater**

The Middle Rio Grande Regional Water Plan includes support for rainwater harvesting.

## **Rebates**

Rebates available for xeriscape install, irrigation systems, rainwater harvesting barrels, attending class on irrigation efficiency, tree maintenance. Indoor rebates for toilets, shower heads, washing machines, hot water recirculation systems.

## **Restrictions**

Time of Day watering ordinance.

## **Groundwater**

[[http://www.abcwua.org/education/23b\\_Recharge.html](http://www.abcwua.org/education/23b_Recharge.html)]

Aquifer Recharge: Even the San Juan-Chama Drinking Water Project, which will draw Albuquerque's allotment of San Juan-Chama water from the Rio Grande, will require the aquifer as a backup supply in times of drought. The Water Authority in 2007 initiated a pilot program for aquifer storage and recovery, in which a small amount of San Juan-Chama water was released into the Bear Canyon arroyo and tracked to see if it reached the aquifer. results were positive, and the Water Authority is moving forward with plans to recharge the aquifer on a larger scale. We will be using direct injection as well as infiltration to get the water into the aquifer. We hope to put up to 40,000 acre-feet back into the aquifer in the first couple of years. After that, we will continue to add purified San Juan-Chama water to the aquifer primarily during winter months when demand is low."

See documents:

- Albuquerque Aquifer
- History of water use in the Greater Albuquerque area - 33\_p0351\_p0355.pdf

## **Rio Grande Compact**

*Albuquerque Journal; By John Fleck / Journal Staff Writer on Wed, Jan 9, 2013*

Texas moved Tuesday to drag New Mexico before the U.S. Supreme Court, charg-

ing that New Mexico is mismanaging the Rio Grande in a way that deprives Texas farms and cities of water that rightly belongs to them. The lawsuit alleges widespread groundwater pumping between Elephant Butte Reservoir and the New Mexico-Texas border that has effectively reduced flows in the river. As a result, New Mexico is failing to deliver water as required under the Rio Grande Compact, a 1938 deal among Texas, New Mexico and Colorado dividing up the river's sometimes scarce water.

### **PUEBLO WATER RIGHTS ON THE RIO GRANDE**

There are six Middle Rio Grande pueblos. The 1938 Rio Grande Compact limits New Mexico's access to surface and ground water in the Rio Grande generally and in the Middle Rio Grande in particular, but the Pueblo claims come before the compact, which exempts them from its terms. No one has ever formally and finally determined the nature and extent of Pueblo water rights outside the Middle Rio Grande although the numbers are everywhere.

*"The Middle Rio Grande—Short on Water, Long on Legal Uncertainties"; G. Emlen Hall, School of Law, University of New Mexico; DECISION MAKERS FIELD GUIDE 2007*

### **Acequias**

See document: NMSU Hydrology study benefits of acequia.pdf

### **Storm Water**

Biggest issue seems to be contamination as it goes into the river (as with most municipalities)

Excerpts from ARID-LID-2011-Workshop-Full-Summary

<http://www.aridlid.org/wp-content/uploads/2010/10/ARID-LID-2011-Workshop-Full-Summary.pdf>

"Water rights and the ESA: Demands for stormwater exist due to New Mexico's water rights law and the Endangered Species Act. AMAFCA rules that detention basins may hold stormwater for 96 hours. Owners may get a waiver for a longer period in order to avoid holding a water right (even if the water does not reach the river). Yet, the NM Office of the State Engineer has a rainwater harvesting policy for residential and commercial properties. The North Diversion Channel sends 10,000 acre-feet of stormwater annually into the Rio Grande, equal to 1% of the Rio Grande allocation that must be delivered downstream. Water rights are secured for farmers in southern NM, and allocations to Texas are required to comply with the Interstate Stream Compact.

A study of cumulative discharges into the North Diversion Channel operated by AMAFCA shows that between 1969 and 1978, 10.6% of all precipitation was runoff, an average of 500 acre-feet (af) with one inch of rain over the 88 square mile drainage basin. Since 1979, 15.9% of all precipitation has been run-off, an average of 745 sf per inch of rain.