MEMORANDUM

TO: **City of Santa Fe Public Utilities Committee**
City of Santa Fe Water Conservation Committee
Buckman Direct Divrsion Board

FROM: **Rick Carpenter, Water Resources and Conservation Manager** RC

VIA: **Brian Snyder, Public Utilities Department and Water Division Director** BLS

DATE: **April 18, 2013**

SUBJECT: Update on Drought, Monsoon, and Water Resource Management

---

CURRENT PUC UPDATE

As the Committee is aware, our region is still suffering through a severe drought. Our region has gone through two consecutive years of record drought and heat. It is now apparent that we are in a third consecutive year of severe drought and heat which will present significant challenges to all water purveyors and irrigators. This situation is unprecedented and the City's Water Division takes this situation very seriously.

The National Oceanographic and Atmospheric Administration (NOAA) recently updated its monthly report on its El Nino/Southern Oscillation (ENSO) Diagnostic. This report indicates that current model predictions more strongly favor El Nino conditions to be neutral to weak (dry) through the Spring of 2013. Above average temperatures are also expected.

The City of Santa Fe has invested in a robust and diverse portfolio of four distinct water supply sources that allows for flexibility in meeting demand: Buckman well field, City well field, Canyon Road Water Treatment Plant on the Upper Santa Fe River, and the Buckman Direct Diversion on the Rio Grande.

Water Resource Management

Some recent BoR/USACoE models indicate the possibility of critically low flows that could affect BDD diversion capability later this summer. The Canyon Road Water Treatment Plant may also experience significant supply shortfalls later this year. However, City water resource managers are closely monitoring the water supply situation and are prepared to offer a variety of options to decision-makers. For example, the City has several years-worth of San Juan-Chama Project water stored in reservoirs, in case deliveries from the federal Bureau of Reclamation of San Juan-Chama Project water are curtailed. The City could therefore choose to release some of that water if needed. Additionally, the City has been "resting" the Buckman well field since early 2010 in case decision-makers opt to pump significant amounts of water from the aquifer. Also, policy makers may consider implementation of Emergency Drought Stages pursuant to the Conservation Ordinance. Therefore, City decision-makers and resource managers have a variety of policy options available in order to meet water supply demands during times of drought.

Local Conditions

	Reservoir Level	Santa Fe Snow Gage	Reservoir Inflow
April 18, 2013	33.8%	29 inches	0.71 MGD
5-Year Average This Date (2008 – 2012)	66.40%	41.25 inches	9.85 MGD

The City of Santa Fe has rights to a total of up to 5,040 acre-feet per year in Nichols and McClure Reservoirs. City Water Division staff are estimating receiving only about 1,200 – 1,300 acre-feet of water from the upper Santa Fe River watershed this year.

Rio Grande Basin

Surface flows in the Rio Grande and its tributaries have been well below normal, storage levels in regional reservoirs are very low currently, and the federal BoR recently stated that if there is no "meaningful moisture" received this winter/spring then this would mark the lowest water levels ever in New Mexico reservoirs prior to entering into a new irrigation season. With large moisture deficits deeply entrenched across the region, meaningful improvement seems unlikely. For example, the most recent forecast of runoff into the Rio Grande at Otowi Gage (upstream from the BDD diversion structure) is for about 30% of normal flow.

San Juan Basin

According to the NRCS' March 1, 2013 Basin Outlook Report, "streamflow forecasts for the San Juan River Basin is 75 percent of the 30 year avg. (1981-2010). The San Juan-Chama Project delivery forecast was recently updated by BoR (March 18th). BoR is now projecting a full allocation of San Juan-Chama Project water to San Juan-Chama contractors for this year (up from a previous forecast of only 80%); however, conditions could significantly worsen for San Juan Chama Project deliveries next year if the drought persists due to a lack of carry-over storage in Heron Reservoir. If conditions do not change, after deliveries are made out of Heron Reservoir this year, that reservoir will be heading into the next water –year at historically low levels.

For the last two weeks, the snowpack, as measured in inches of snow water equivalent (SWE), in the San Miguel, Dolores, Animas, and San Juan basins has been declining. These basins may have already reached their peak snowpack, around March 22nd, and begun to melt. April 1 snow surveys reported the snowpack at just 73 percent of the median, which is a drop of 10 percentage points from the March 1 surveys. Mountain precipitation recorded at the SNOTEL sites in these basins during March was just 56 percent of average. Year to date precipitation has also decreased from last month to 70 percent of average as of April 1.

PAST PUC UPDATES

For the past 19 months, the Water Division has provided the PUC a monthly memo as part of the consent agenda. These memos, collectively and individually, provide a comprehensive background of the status of drought, winter precipitation, and summer monsoonal precipitation.