

ACTION SHEET PUBLIC UTILITES COMMITTEE MEETING OF 5/6/15

ISSUE NO. 11 2015 Annual Water Budget Report. (Andrew Erdmann) Public Utilities Committee – 5/6/15 City Council – 5/13/15
PUBLIC UTILITES COMMITTEE ACTION: Pulled by Councilor Bushee. Move to Council for approval
SPECIAL CONDITIONS OR AMENDMENTS:
STAFF FOLLOW UP: Reports that are required should not be placed on Consent Agenda. Place them to be heard at committee.

VOTE:	FOR	AGAINST	ABSTAIN
COUNCILOR RIVERA, CHAIR	Excused		
COUNCILOR MAESTAS	X		
COUNCILOR BUSHEE	X		
COUNCILOR DIMAS	Excused		
COUNCILOR IVES	X		

City of Santa Fe, New Mexico

memo

Date: April 27, 2015
To: Public Utilities Committee
Via: Nick Schiavo, Public Utilities Division Director NSA
Via: Rick Carpenter, Water Use and Conservation Director RC
From: Andrew Erdmann, Water Resources Coordinator AC
Re: 2015 Water Budget Memo

Summary

The City Water Division is required by City Code (Section 25-9.5 SFCC) to submit an annual water budget in which is compiled information about water supply and demand. The purpose of this memo is to address this requirement.

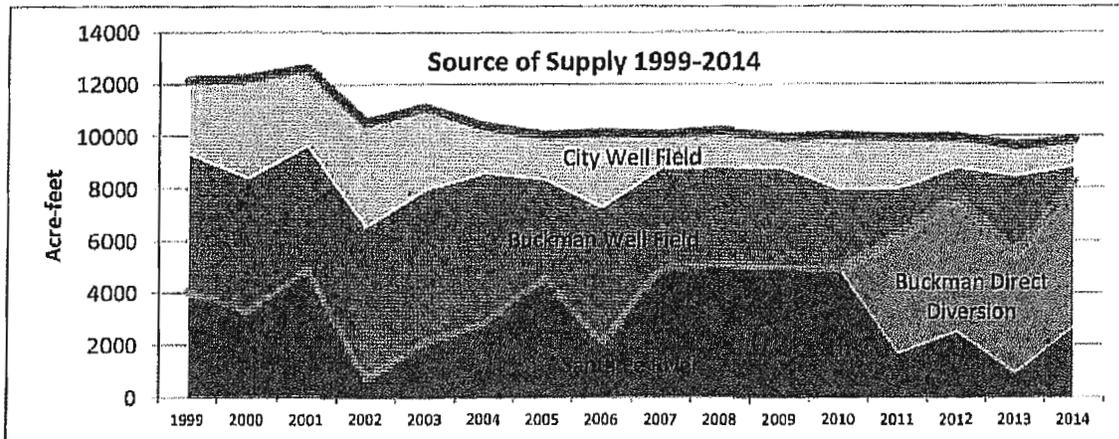
The overall water picture for the City of Santa Fe looks good for 2015. Infrastructure upgrades are underway at both of the City's surface water facilities, and the city has excess San Juan – Chama water in storage to more than make up for reductions in annual allocations. Groundwater wells are in working order and groundwater reserves have been recovering under minimal pumping since the completion of the BDD in 2011. Water rights credit balances, used for offset compliance and internal policies relating development to available water, are sufficient to handle anticipated demand. Long term planning efforts to help identify potential climate change impacts and to optimize the use of the City's resources are ongoing and the City continues to be a national leader on conservation, watershed management, and system resiliency.

Background

Water Supply

The City of Santa Fe has four sources of supply, two surface water sources and two sources for groundwater. These are managed with the goal of primary reliance on surface water and secondary reliance on groundwater as a backup supply.

Since bringing the BDD online in 2011, the city has substantially reduced the use of groundwater in order to preserve that water for future emergency use and to allow the impacted aquifers time to recover. In terms of surface water reliance, the city is currently constructing a new intake structure for the McClure reservoir (scheduled for completion in November 2015) in order to ensure the continuing reliability of the City's surface water diversion and treatment infrastructure.



Surface Water

The City has two sources of surface water – Santa Fe River Water which originates in the municipal watershed and enters the City water system through the Canyon Road Water Treatment Plant, and San Juan – Chama water which originates in the San Juan mountains at the top of the Colorado River watershed and then enters the City water system through the Buckman Direct Diversion facility. Recent climate change modelling conducted by the City Water Division in collaboration with the Bureau of Reclamation suggests that the average quantity of water available from these two sources combined may be reduced by one third by the year 2045. *Canyon Road Water Treatment Plant* – During the majority of the 2015 Calendar year, McClure Reservoir will not be storing water which will substantially reduce the available ‘wet’ water available from the Santa Fe River Reservoirs. Because storage is largely unavailable, water production from the Santa Fe River via the Canyon Road Water Treatment facility will be optimized. The Canyon Road Water Treatment facility is expected to produce 3,200 acre-feet of drinking water for 2015.

Buckman Direct Diversion – The Buckman Direct Diversion facility diverts and treats imported San Juan – Chama water from the Rio Grande. At this time, the Bureau of Reclamation is projecting San Juan – Chama allotments to be in the range of 50-55% of normal, 2,615 acre-feet. Additionally, due to a transfer of 8,400 acre-feet from Elephant Butte to the upper Chama reservoirs and an additional 4,800 acre-feet of Heron Reservoir carryover, the City of Santa Fe has over 15,000 acre-feet of water in storage and available for diversion. The Buckman Direct Diversion facility is expected to produce up to 5,230 acre-feet of drinking water for 2015, its maximum permitted amount, barring unanticipated challenges such as water quality.

Ground Water

City Well Field - The City Well Field is the City of Santa Fe's oldest source for groundwater. It is located within the city limits, has low electrical costs for pumping and delivery, and has less stringent permitting requirements than the Buckman Well Field. For these reasons, this source of supply is generally used preferentially over the Buckman Well Field. There are a few wells, such as the St. Mike's well and the Osage well, which are located within the City but which are not part of the same permit as the other city wells. For purposes of this memo, these wells are considered as though they were a part of the City Well Field and anticipated production from these sources is included in estimates for the City Well Field. The City Well Field is expected to be capable of sustainably producing at least 1,500 acre-feet of drinking water annually with the ability to legally produce up to 4,865 acre-feet per year if necessary.

Buckman Well Field - The Buckman Well Field is located 10-15 miles NE of the City of Santa Fe and is the city's largest source for groundwater. Due to permitting restrictions and the energy required to move water from the Buckman Well Field to the city, this well field is generally reserved to meet emergency demand. Water produced from the Buckman Well Field is advantageous for operational reasons due to its proximity to storage facilities and the fact that the water is marginally warmer than surface water. Warmer water is useful in the winter to help prevent frozen water lines. The well field is primarily used for this reason. The Buckman Well Field is expected to be capable of sustainably producing up to 3,000 acre-feet of drinking water annually, although recent years have seen production levels of below 1,000 acre-feet.

Water Demand

Existing Demand

For the past several years, demand in the City of Santa Fe has held near flat, with a slight decline, at roughly 10,000 acre-feet per year. Preliminary analysis suggests that consumption in 2014 was below 10,000 and this trend is expected to continue through 2015. Additional draws on City water include line losses, which have been estimated at 12% in the past. At this time, the City Water Division is in the process of contracting for a water loss audit as well as an extensive meter replacement program. One of the goals of both of these projects is to better quantify system losses through the existing inaccurate meters and line losses in order to address those losses. The Water Division is also evaluating the possibility of conducting more frequent, regular audits.

Projected Increases in Demand

The City Land Use Department has sold an average of just over 16 acre-feet per year from the City Water Bank for development annually from 2011 to 2013. At this time, reconciliation of records between the land use and water divisions for water consumed through new land use permitting is handled on an annual basis and for that reason it is not known what the status is of 2015 to date.

The Basin Study Report, which the City Water Division collaborated on with the Bureau of Reclamation and Santa Fe County, projects water demand and availability for the City of Santa Fe until the year 2045 taking into account both population growth and climate change. The report identifies a possible demand gap at that time and the Water Division is working on many fronts to address this issue, including strategizing on how to refine the Report and the predictive model on which the report is based in order to better correlate demand and available supply in smaller time steps for planning purposes.

WaterBank Status

The City of Santa Fe WaterBank stores water credits for development – both water credits owned by the city and available for use in small developments and water credits held by private developers. The City's credits are in the form of water rights as well as water conservation credits, while the privately held credits are all in the form of water rights. All of the water rights, both privately held and city owned, are used to help the City of Santa Fe meet the required offsets set up by the Office of the State Engineer for the pumping of the Buckman Well Field. These offsets are incurred in five separate stream systems and are complex to describe, but the City had more than adequate water resources to meet the requirements in 2014 and expects the same to be true in 2015 as groundwater pumping remains minimal.

At this time, the City has 522.27 acre-feet of privately held water rights in the bank as well as approximately 35 acre-feet of water rights available for purchase for small development projects as allocated by the governing body.

Action

City Code (Section 25-9.6 SFCC) calls on the governing body to determine if water is available for allocation based on review of the annual water budget. It is the recommendation of the staff of the City Water Division that the governing body determine that water is available for allocation in 2015 for use in both public and private projects. The Water Division expects to be able to meet demand.