



Agenda

**SANTA FE WATER CONSERVATION COMMITTEE MEETING
CITY HALL – 200 LINCOLN AVE.
CITY COUNCILORS' CONFERENCE ROOM**

September 11, 2018
3:00 PM TO 5:00 PM

1. CALL TO ORDER
2. ROLL CALL
3. APPROVAL OF AGENDA
4. APPROVAL OF CONSENT AGENDA
5. APPROVAL OF MINUTES FROM THE AUGUST 3, 2018 MEETING

CONSENT AGENDA:

6. WATER CONSERVATION PROGRAM SCORECARD UPDATE FOR AUGUST 2018 (Christine Chavez)
7. UPDATE ON CURRENT WATER SUPPLY STATUS (Christine Chavez)

INFORMATIONAL ITEMS:

8. UPDATE ON LONG RANGE WATER SUPPLY PLAN (William Schneider, Christine Chavez)
9. PRESENTATION FROM THE NMOSE (OSE representative, Christine Chavez)
10. SFWCC POTENTIAL CANDIDATE PRESENTATIONS (Christine Chavez)

MATTERS FROM PUBLIC:

MATTERS FROM STAFF:

MATTERS FROM COMMITTEE:

NEXT MEETING – (Councilor's Conference Room): TUESDAY, October 16, 2018

CAPTIONS: due by 3:00 pm, October 1, 2018

PACKET MATERIAL: due by 3:00 pm, Wednesday, October 3, 2018

ADJOURN.

Persons with disabilities in need of accommodations, contact the City Clerk's office at 955-6520, five (5) working days prior to meeting date.

RECEIVED AT THE CITY CLERK'S OFFICE

DATE: 08/31/2018

TIME: 1:14 PM

**SUMMARY OF ACTION
SANTA FE WATER CONSERVATION COMMITTEE
CITY HALL - 200 LINCOLN AVE.
CITY COUNCILORS' CONFERENCE ROOM
TUESDAY, SEPTEMBER 11, 2018, 3:00 PM**

<u>ITEM</u>	<u>ACTION</u>	<u>PAGE</u>
CALL TO ORDER		1
ROLL CALL	QUORUM	1
APPROVAL OF AGENDA	APPROVED	1-2
APPROVAL OF CONSENT AGENDA	APPROVED	2
APPROVAL OF MINUTES	APPROVED	2
<u>CONSENT AGENDA</u>		
WATER CONSERVATION PROGRAM SCORECARD UPDATE FOR AUGUST 2018	APPROVED ON CONSENT	2
UPDATE OF CURRENT WATER SUPPLY STATUS	APPROVED ON CONSENT	2
UPDATE OF LONG RANGE WATER SUPPLY PLAN	INFORMATION/DISCUSSION	2-6
PRESENTATION FROM THE NMOSE	INFORMATION/DISCUSSION	6-7
SFWCC POTENTIAL CANDIDATE PRESENTATIONS	INFORMATION/DISCUSSION	7-8
MATTERS FROM THE PUBLIC	NONE	8
MATTERS FROM STAFF	INFORMATION/DISCUSSION	8-9
MATTERS FROM THE COMMITTEE	INFORMATION/DISCUSSION	9-11
NEXT MEETING	OCTOBER 16, 2018	11

ADJOURN

ADJOURNED

11-12

**SANTA FE WATER CONSERVATION COMMITTEE
CITY HALL - 200 LINCOLN AVE.
CITY COUNCILORS' CONFERENCE ROOM
TUESDAY, SEPTEMBER 11, 2018, 4:00 PM**

1. CALL TO ORDER

The meeting of the Santa Fe Water Conservation Committee was called to order at 4:00 pm by Lisa Randall, Vice Chair, on Tuesday, September 11, 2018, at City Hall, in the Councilors Conference Room, 200 Lincoln Avenue, Santa Fe, New Mexico.

2. ROLL CALL

MEMBERS PRESENT

Councilor Carol Romero-Wirth, Chair
Tim Michael
Stephen K. Wiman
Scott Bunton
Robert Coombe
Lisa Randall
Bill Roth
Ken Kirk
(Vacancy)
(Vacancy)

MEMBERS ABSENT

Doug Pushard, Excused

OTHERS PRESENT

Christine Chavez, City of Santa Fe, Water Conservation Manager
Andrew Erdmann, City of Santa Fe
William Schneider, City of Santa Fe, Water Department
Alan Hook, City of Santa Fe, Water Department
David Carlson, Potential Board Member
Stephen Schmelling, Potential Board Member
Julie Valdez, Office of the State Engineer
Elizabeth Martin, Stenographer

3. APPROVAL OF AGENDA

MOTION A motion was made by Mr. Roth, seconded by Mr. Kirk, to approve the agenda as presented.

VOTE The motion passed unanimously by voice vote

4. APPROVAL OF CONSENT AGENDA

MOTION A motion was made by Mr. Roth, seconded by Mr. Bunton, to approve the consent agenda.

VOTE The motion passed unanimously by voice vote.

**5. APPROVAL OF MINUTES
AUGUST 3, 2018**

MOTION A motion was made by Mr. Kirk, seconded by Mr. Coombe, to approve the August 3rd minutes as presented.

VOTE The motion passed unanimously by voice vote.

Chair Romero-Wirth arrived at the meeting and took over as Chair

CONSENT ITEMS

6. WATER CONSERVATION PROGRAM SCORECARD UPDATE FOR AUGUST 2018

Approved on consent.

7. UPDATE OF CURRENT WATER SUPPLY STATUS

Approved on consent.

**8. UPDATE OF LONG RANGE WATER SUPPLY PLAN
William Schneider**

Mr. Schneider gave an overview presentation of the Water Supply Plan. His presentation is attached herewith to these minutes as Exhibit "1".

Mr. Schneider said ground water is considered a drought reserve.

Mr. Coombe asked is it your sense that there projections are conservative based on population.

Mr. Schneider said he did not look at the statistical range of population. We were

awarded a grant through the Bureau of Reclamation and are going to do another study with that. We are trying to intergrate water supply planning with capital improvment planning and tying to judiciously invest in terms of new supply over the next 40 years. It will be a basin study in increments of 10 years. We cannot conserve ourselves out of shortages over the years.

Mr. Bunton said that was done in 2015. Is this a new one.

Mr. Schneider said yes. We have to go to Council to authorize the work with Reclamation then is will be a 12 month project. The takeaway was to look at chipping away at what we think will be the shortages.

Chair Romero-Wirth said when you say we cannot conserve our way out of the shortages, what do you think the shortages will be.

Mr. Schneider said the shortage can be a range from 5,000 to 9,300 acre feet depending on what the climate scenario is. That is his position, not necessarily the City's.

Chair Romero-Wirth asked have you done any analysis about how far conservation will take us.

Mr. Schneider said yes. We are in the midst of doing that with the water supply update. We are in the preliminary stage.

Mr. Schneider said we are looking at how much can we realistically achieve through conservation efforts alone. We are trying to pick a top idea of what we think is most viable to invest in to accomplish the goal of reducing the demand.

Mr. Schneider said we hit a hurdle in taking all these studies and dovetailing them into a long range plan. Treated wastewater that comes out of the Paseo Rael is controversial on usage. There is no way to overcome that shortfall without doing a much better job of reclaiming treated wastewater and putting it to use.

Mr. Schneider said we looked at a series of alternatives. Where we are having a difficult time is until we can determine as a City and County how to put that wastewater to use, how much it will cost and when we can do it, it is hard to plan in a comprehensive manner. We need to quantify the cost and the amount of water we can reclaim through reuse. We looked at 7 alternatives. We want to see if taking water to the Rio Grande is feasible. September 30th we will be publicizing an implementation plan including cost and permitting implications,

Mr. Schneider said we did a pretty rigorous analysis and looked at water usage on the turf fields. We had national experts look at the numbers. At Las Companas the use is 4 acre feet per acre to keep the turf green. At MRC they are using 9 acre feet.

Chair Romero-Wirth said Las Companas has meters to tell them when to water.

Mr. Schneider said the question is the budgets and then not paying for water now and the challenges from the Governing Body that need to be implemented. We worked with Caryn Grosse to try to quantify the value of the rebates. Based on the number it could be a much better investment to fix the current reuse system to conserve water. We need to share this with Christine and see if she agrees. This is preliminary.

Chair Romero-Wirth said with the changes proposed for the soccer fields do your water calculations contemplate that.

Mr. Schneider said we don't have a water budget for expanding MRC. We resodded all the fields. There is a plan being put forth to Council regarding building a soccer complex. Some of that may be artificial turf.

Chair Romero-Wirth asked does that get factored in.

Mr. Schneider said if they asking for 5 fields we calculate the acreage and quantify from there. Even with SWAN Park when it expanded a water budget was not put before this Committee.

Chair Romero-Wirth asked how do we get so we make that systematic.

Mr. Roth said the 1,000 acre feet, is that the total amount of available reclaimed water.

Mr. Schneider said currently we are using 1,000 to 1,200 acre feet a year. We are proposing that we could put that system on a diet. The demand is 10,000 acre feet. 60% comes back to the Paseo Rael. We are consuming 40% in the City. Roughly 4,500 acre feet are available for reuse water. The issue is the users downstream. The City was very clear that our goal is to only recycle and reuse and fully consume our San Juan Chama Project water.

Mr. Michael asked how much is that.

Mr. Schneider said 5,230 acre feet for the City.

Mr. Michael asked if we could do that we could choke off La Cienega.

Mr. Schneider said his opinion is that none of the downstream users have any claim to San Juan Chama water. Andrew is involved with this to develop an administrative framework. Our goal is to leave water in the Santa Fe basin that originated out of the Santa Fe River or city well field and that would be returned to the Santa Fe River. That varies and could be as much as 5,000 acre feet. The variability of the Santa Fe River is so extreme. We have a permit for up to 5,040 acre feet of water.

Up to 4,865 acre feet is permitted for our use for the City well field.

Mr. Michael said it seems to him those questions about the amount of water we allow to go downstream to La Cienega are going to force the issue of adjudicating that water. Until that is clarified we can't go forward.

Mr. Schneider said he concurred. We are in close confidence talks with our legal team led by Marcos. The City position is if we are trying to divert and recycle San Juan Chama water no one can lay claim to that water therefore adjudication applies.

Mr. Roth said so half of what we are using is available for reuse.

Mr. Coombe said regarding the strategies for bridging the gap the total consumption is 22,000 acre feet with the City and County so the gap is 30% of that. With regard to strategies for reuse are we strictly talking about City water.

Mr. Schneider said under the amended resource agreement with the County any water that passes through the Paseo Rael is the property of the City. The County is not capturing the water through septic tanks that we capture.

Mr. Coombe asked does the amendment offer any potential.

Mr. Bunton said this group has talked previously about the importance of collaboration with the County. This reemphasizes the extreme importance of that. If he is doing the math right and we have the 5,000 plus acre feet we don't have to return, but that is being used, after it is treated, on golf courses and parks. Are you are getting some recycling into the acquire.

Mr. Schneider said you would be surprised of the rates of evaporation. That is why rates are so high on reclaimed water. It is a point well taken. In terms of what the County can contribute, the City is wasting an asset now by putting it into the Santa Fe River. It does not make sense. We are looking at \$50 million.

Mr. Roth asked is it cheaper to treat the water.

Mr. Schneider said yes it is. It would be \$25 million, so half.

Mr. Roth asked are you looking at the psychological barrier of using treated water.

Mr. Schneider said yes. The County is a 50/50 partner on BDD and they don't want a hiccup on delivery to them. The second is that the amount of environmental storage is 5 days with \$25 million gallons of storage would take a permit with constraints.

Mr. Wiman asked if Aquifer Storage and Recovery (ASR) is viable.

Mr. Schneider said it is not cost effective. We are finding more contaminated areas in the City than we thought.

Chair Romero-Wirth said this has been very informative. We may have to bring you back for follow up. Thank you.

9. PRESENTATION FROM THE NMOSE Julie Valdez

Ms. Valdez said she has been with the Office of the State Engineer for 15 years, 13 of which are with the Water Use and Conservation Bureau.

Ms. Valdez reviewed a power point presentation for the Committee. This presentation is hereby incorporated into these minutes as Exhibit "2".

Chair Romero-Wirth said we asked for someone from the State Engineer's Office to talk about domestic well areas. We hoped to get some information about private wells.

Ms. Valdez said she would have to email back to Christine the answers to those type of questions.

Mr. Wiman said his understanding is that Marcos Martinez suggested the City could establish a well monitoring area. His understanding is that well monitoring is allowed only in closed basins, but he would like verification of that.

Mr. Erdmann said Espanola has a Critical Management Area (CMA) and Albuquerque does as well. Both are due to ground water contamination.

Ms. Valdez said there are also some CMAs in Lea County.

Mr. Erdmann said Lea County does not have a water system at all. Everyone is on private wells and because of that the acquire is going down too fast.

Ms. Valdez said they are looking to us to help them create a water system there.

Mr. Wiman said one concern is a number of domestic wells in the City of Santa Fe are not monitored. Is there anything we can do now to retroactively cause those wells to be monitored or is it too late. He has suggested that we modify the program we have for drilling new wells.

Ms. Valdez said those wells, back in the day, had to submit meter readings and

then we put in permit conditions. Domestic wells do not have to report meter readings now. She will take these questions back to the State Engineer's Office and will respond back by email.

Mr. Wiman said new wells in Santa Fe are restricted.

Mr. Erdmann said that is a municipal restriction. The State gave 3 acre feet and the City 3/4 acre feet. It had to go to the Supreme Court

Mr. Michael said his understanding, after he met with the State Engineer's Office, was that it was a nonstarter and not going to happen. One suggestion made was that the State Engineer's Office, before permitting a well, could restrict to 1/4 acre feet after meeting with the City. On the draft water plan it says the State of New Mexico needs to meter all diversions. A well is a diversion. In his opinion a water well should be metered. We would like to see the City move forward with a plan over time to get the remainder of the wells metered. If a management area is not a possibility we need to do that so we can find out if it is the will of the City to meter.

Ms. Valdez said they have ideas of how to conserve water. She doesn't know if it is a policy. She will get with John Romero and get the information first hand and get back to Christine.

Mr. Wiman said Marcos pointed out that to do this in the City it would be more effective if you could include the larger area of the acquire with Native areas.

Chair Romero-Wirth said thank you for being here and sharing information with us.

10. SFWCC POTENTIAL CANDIDATE PRESENTATIONS

Ms. Chavez said we have two interested applicants with us tonight. We, in the past, have formed a subcommittee to review the applicants and then give recommendations to the entire Committee. This a starting point.

Mr. Carlson said he submitted his resume to apply to be a member of this Committee. He has a Masters Degree in landscaping and planning. He has been practicing as a landscape architect since 1995. He was licensed in 2004. He was a part of the team that submitted the Railyard Master Plan. He left Santa Fe in 2002 and moved back to Philadelphia. He spent 4 years in the Middle East working on large city master plans. He returned here in 2017. He works now for a large company in Albuquerque and lives in Santa Fe. His interest is while he is involved with water resource management he does not have a deep knowledge of some of the things you have talked about today. Gaining a bit more professional understanding of water use and water rights is his interest from a professional standpoint. How water informs his

work.

Mr. Schmelling said he is a resident of Santa Fe. He has lived here since 2012 up on the near north side. His background is that he has been retired for 10 years and worked for 25 plus years for the Environmental Protection Agency at their research laboratory in Oklahoma. He was an information source in water policy. Water quality and restoration of water quality was his focus. He lived in Oklahoma and served 10 years on an advisory committee dealing with issues similar to these you have talked about today. The primary source there was a sole source acquire. His interest is that these are topics he finds interesting and it is a chance to get involved about what is going on in the City in an area he is interested in. He is a member of the Northern New Mexico Citizens Advisory Board that gives citizen input to LANL on legacy waste. His term expires in less than 6 months. He would like to continue to be involved in civic affairs. He is active in Santa Fe Master Gardeners as well. A lot of water issues come up there as well. He is also the Secretary of Rotary Club who gives support to nonprofits. He is interested as a citizen with a professional background in this area.

Chair Romero-Wirth said thank you both for coming and sitting through our meeting. She appreciates your time.

Ms. Chavez said we will be in touch with you on the application process.

Mr. Bunton asked what is the time frame for the application process.

Ms. Chavez said she will be meeting with you before the next meeting. We will hold an interview process and bring recommendations to the next meeting. They are 2 year terms. You can serve 2 consecutive 2 year terms then take a 1 year break and you can come back.

Chair Romero-Wirth said we will be moving on this soon.

11. MATTERS FROM THE PUBLIC

None.

12. MATTERS FROM STAFF

Ms. Chavez said she has advertised for Lisa's position and got a good list of eligible applicants. Patricio got the promotion so we are still 2 people short. It was a well deserved promotion for Patricio. We did fill the Passport Program with 5 new schools. She appreciates more than ever all the work and contributions Caryn and Lisa did and gave for the Department. Also she would like to apologize for the meeting time mix up today.

Mr. Coombe asked what is the total number of kids in the Passport Program.

Ms. Chavez said close to 1,000. It is going well. That and the Water Fiesta are maxed out for participation.

Mr. Roth asked what about filling Caryn's position.

Ms. Chavez said we just got a list of eligible applicants from HR. It is a process. After we fill Caryn's position we will advertise Patricio's position. Probably it will be November by the time she is fully staffed again. The Water Fiesta is October 2nd and 3rd. The BDD tours will be after that.

Mr. Wiman asked who is handling the water abuse hot line.

Ms. Chavez said we are trying to keep on top of it and send Mario out. We are still getting a ton of phone calls. Patricio has signed up 250 people for Eye on Water. We are also helping with the Recycling Club at Santa Fe High.

13. MATTERS FROM THE COMMITTEE

Ms. Randall handed out a chart showing Santa Fe Public School's water use by month and year since 2010 and 2011. That chart is herewith incorporated into these minutes as Exhibit "3".

Ms. Randall said there are a variety of things we have done around conservation to reduce our water consumption. Last fiscal year we did not eliminate any grass turf and did not shut down any major fields. The major difference was the Eye on Water app. That means all 90 of our water meters alert her every morning when we have used more than a gallon every hour. On any given day she gets 8 to 12 email alerts that tell her what the meter reading is where it is and the use. We are on a leak now within 24 hours.

Chair Romero-Wirth asked what happens when a sprinkler system goes off, like a fire sprinkler.

Ms. Randall said that would alert via our BERG system. This is all irrigation or main building use.

Mr. Roth asked where it went up on the chart what was going on.

Ms. Randall said she would have to go back and pinpoint what that is. In 2014 we opened 2 new schools. Both of those schools have synthetic turf fields, but did have landscaping.

Mr. Kirk said in July he became President of Las Companas Water and Services Coop. We increased our technical staff by one and have a full time General Manger. We moved out of the home owners administrators building so we could have more space. If there is anything we need do let us know. We are putting in Eye on Water systems.

Chair Romero-Wirth said teach us how to use the water sensor system you have at Las Companas so we can use it at MRC.

Chair Romero-Wirth said she has 2 things. She wants to get to the chart at the next meeting about how you want to create a work plan and what to focus on. She appreciates the Committee's patience on this. She is curious and is hoping you will be interested in doing a joint meeting with the Water Policy Advisory Board at the County. She has been in conversation with County Commissioner Anna Hamilton. They also have couple of vacancies on their Board. She is envisioning a meeting in mid October and is looking at October 22nd, 23rd or 24th. This would be in addition to our next meeting which is the 16th of October. She does want to figure out how we open up a line of communication with the County. Someday maybe we can have a conversation around regionalization. Her vision is that we step back and talk about where we are and understand in greater depth what it is we have or don't have and what we need. The agenda is not set yet. She met with the City Utility staff. One possible agenda item is the Jemez Regional State Plan. We could have someone come and present from that plan. Gaining data and information around water structure and seeing the dynamics of that group is a gigantic interest. We need to get to a point where we understand our shared future and then figure out what are the ways we might work together and build trust and partnerships. We can start with smaller things and get a common understanding.

Mr. Kirk said he is on that County committee. They have been talking about meeting with the City. This is very timely.

Chair Romero-Wirth said Commissioner Hamilton is doing her part on her side meeting with staff. Would you all be available on one of those days. It will be 2 hours, from 4:00 pm to 6:00 pm. There are lots of things we could be talking about. She did talk to Anna about regionalization. She does not have an agenda and time table. There are no preordained objectives other than to have a better understanding of the situation we are in, more trust and for the Committees to look for ways to work together. It is open ended.

Mr. Bunton said he thinks that is exactly right not to go in with a preordained agenda for the first meeting, but hopes you keep in the back of your mind the regionalization. We can work together hand in hand or separately once we are through the ice breaking.

Chair Romero-Wirth said there was a Resolution by the City saying there is no

reason to collaborate from awhile back. We need to back up and not be in a confrontational stance. Common understanding and why we need to collaborate is critical. We need to give it time to develop. There are a number of things we can do that on and it will take a few meetings. She is sure the County has things they would like to talk about. Once a meeting and time are set we will see where it goes and open up some dialogue.

Ms. Chavez said she will put out a Doodle Poll.

Mr. Coombe said this is terrific. Thank you for moving this ahead. While there may not be a specific agenda we need a specific objective. It should not just be about socializing.

Chair Romero-Wirth said we will not be socializing. We will have a substantive agenda mostly about our current water situation. She still needs to circle back with the County.

Mr. Roth said maybe the City does a presentation like Bill's presentation on long term and short term plans and then the County does theirs.

Chair Romero-Wirth said Amy Lewis who is a State Water Planner and worked on the Jemez Plan is someone we are looking at to do a presentation.

Mr. Bunton said he would like us to save 20 minutes to discuss the objective for the 2nd meeting.

Chair Romero-Wirth said we have a couple of ideas for subsequent meetings.

Mr. Roth said it would be interesting to discuss the fact that 80% of our water is going to agriculture. Maybe a presentation by agriculture users.

Ms. Chavez said in the back of your packet is our 2019 meeting schedule. This will be on the agenda for next month for a vote.


Chair Romero-Wirth asked is anyone interested in being involved in the interviewing of the potential Committee members.

The interview committee will be Chair Romero-Wirth, Mr. Wiman, Mr. Bunton and Mr. Roth.


**14. NEXT MEETING
OCTOBER 16, 2018**

15. ADJOURN

There being no further business before the Committee the meeting adjourned at 6:00 am.

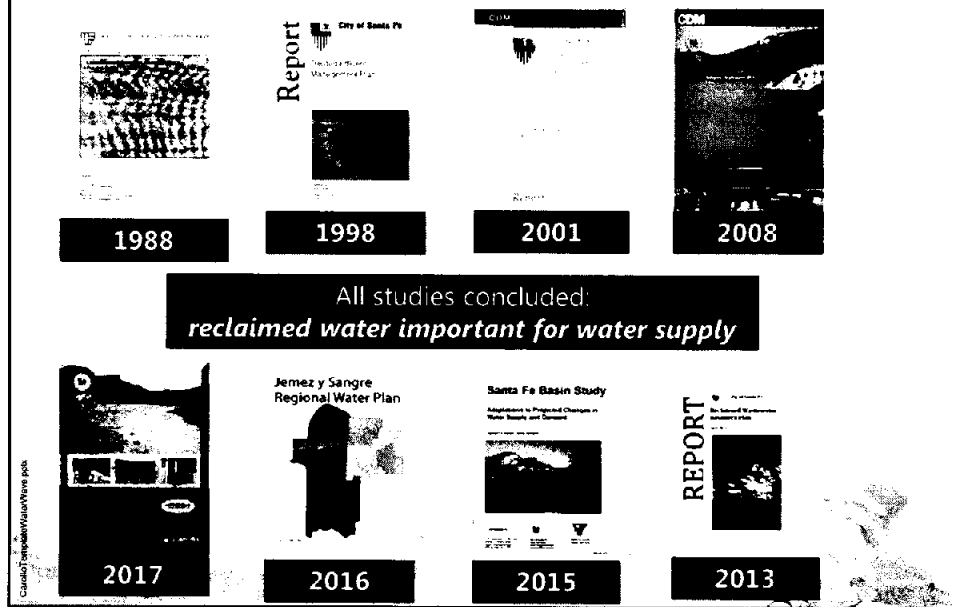


Councilor Romero-Wirth, Chair



Elizabeth Martin, Stenographer

Long History of Water Planning Supports Expanding Reuse in Santa Fe



City of Santa Fe Water Supply

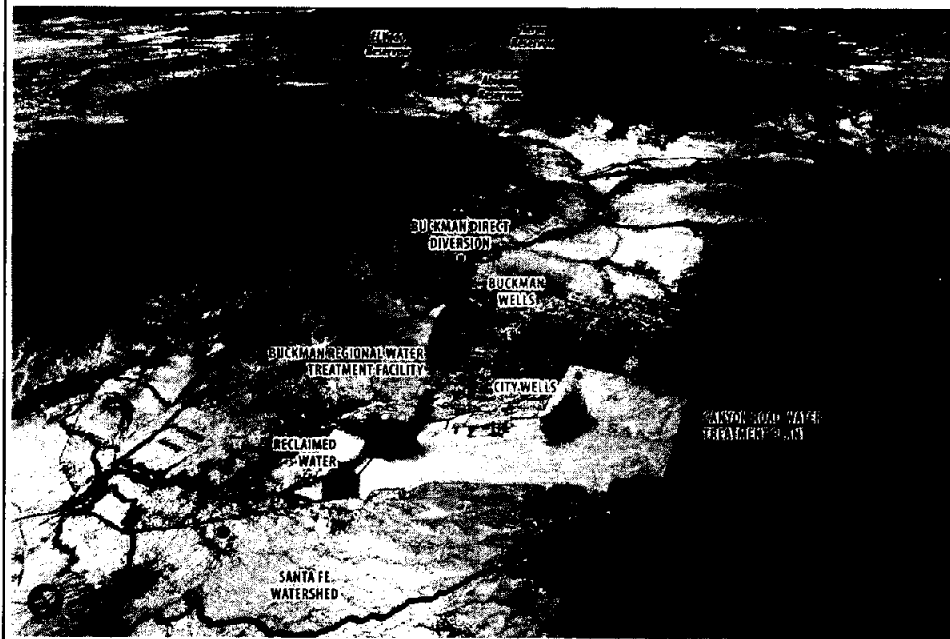
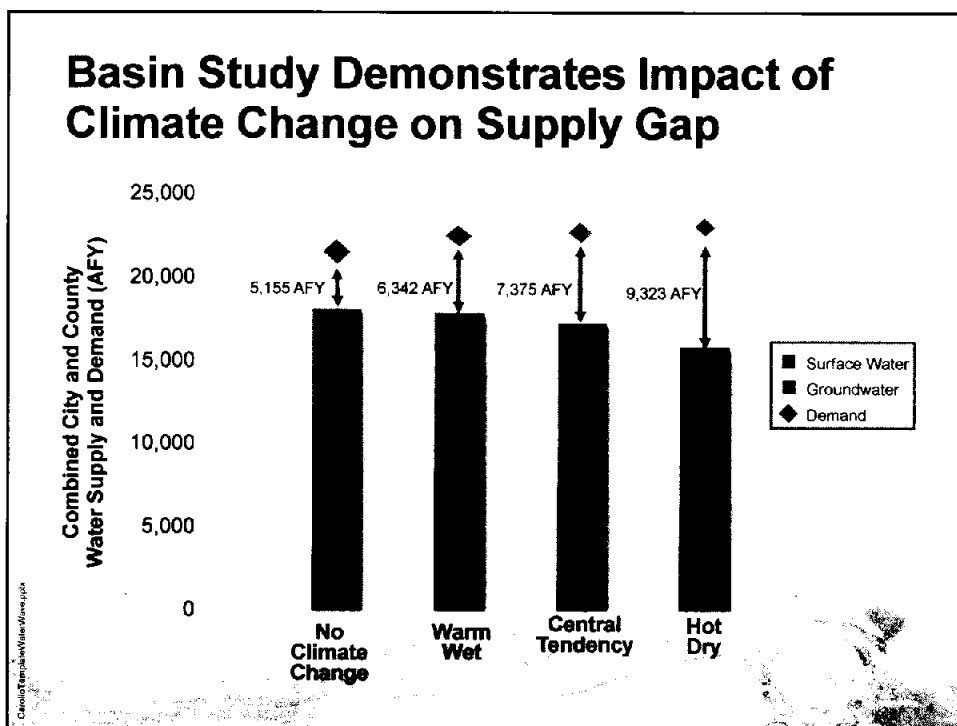
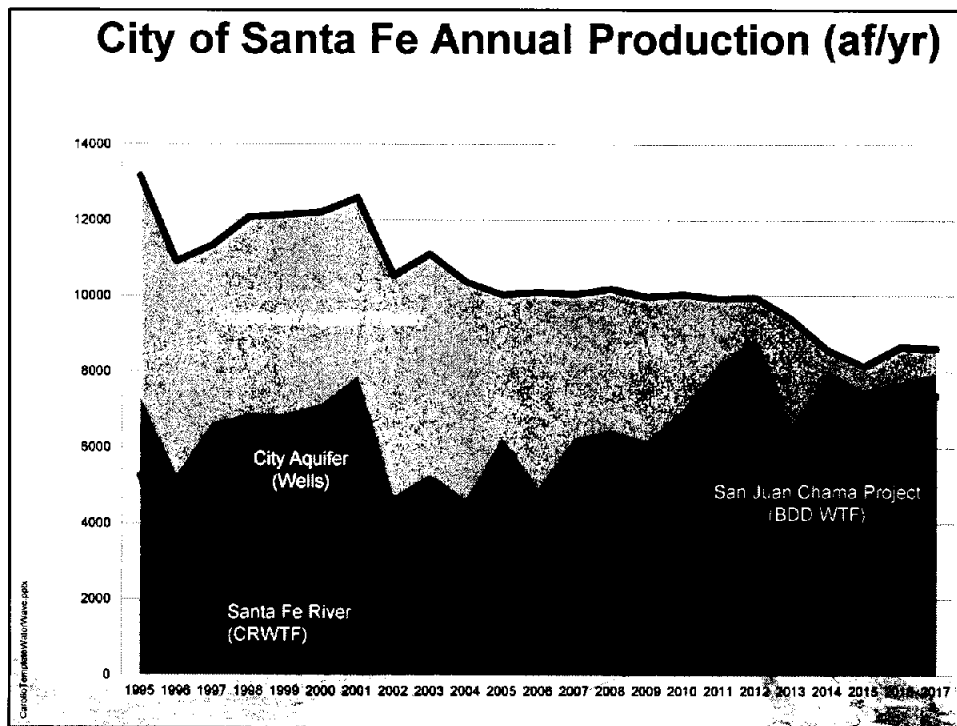


EXHIBIT 1

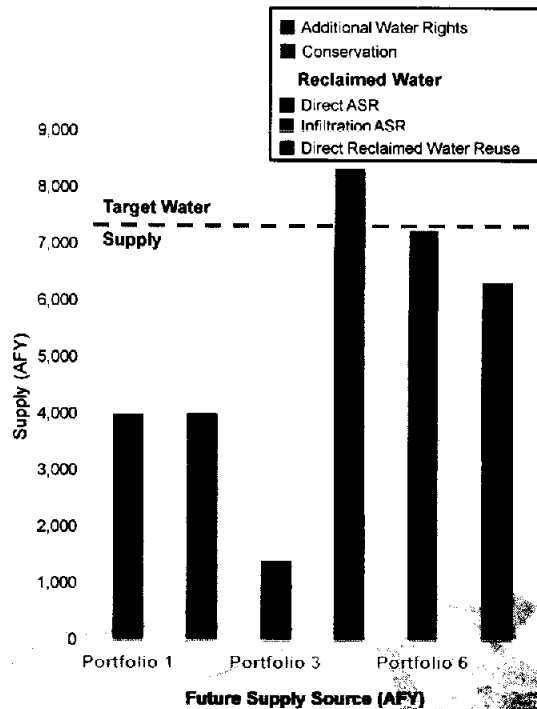


Slide 4

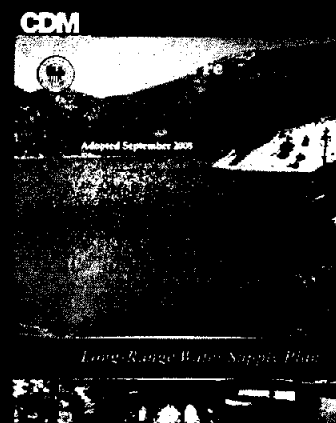
CKA16 Collins, Kelly A., 06/17/2016

Adaptation Strategies: No Silver Bullet

- No single strategy will meet projected demands
- Portfolios of adaptation strategies will be necessary to address the water supply gap
- Reclaimed water use is a key a part of all the portfolios



- Reclaimed Wastewater Feasibility Study
- Water Audit
- Long Range Water Supply Plan Update (2008)
- Well Field Sustainability Analyses*
- Aquifer Storage and Recovery Preliminary Assessment**



Long-Range Water Supply Plan Update

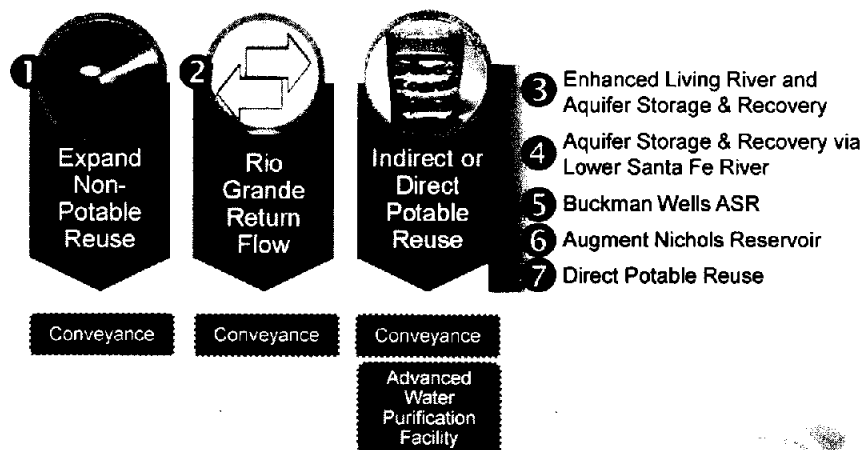
• Evaluate Supplemental Water Supply Strategies

- Purchase Pre-1907 Middle Rio Grande rights
- Non-potable reuse optimization
 - Existing reuse system
 - Expanded reuse system
- Enhanced water conservation
- Grey water and rooftop catchment programs
- Storm water recharge
- Aquifer Storage and Recovery
- Well Field improvements

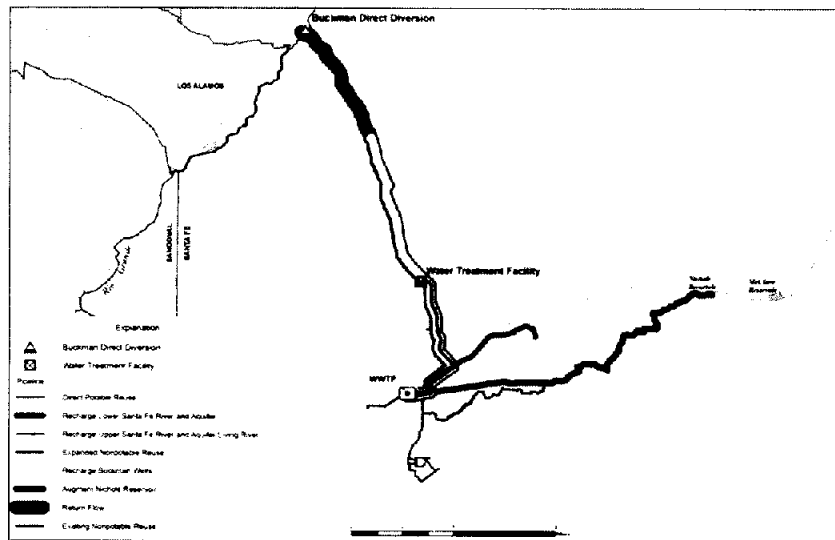
• Integrated Strategic Plan

- Water System Master Plan, Long Range Water Supply Plan, Capital Improvement Plan, Conservation Plan

Water Reuse Feasibility Study Alternatives

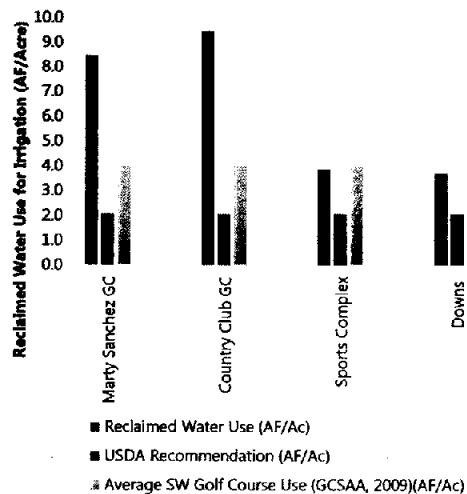


Feasibility Study Reuse Alternatives



Irrigation Unit Water Use

- USDA irrigation requirement unit water use is 2.1 AF/Ac for the Santa Fe Area
- An average golf facility in the Southwest region uses an average of 4 acre-feet of water per irrigated acre per year (Golf Course Superintendents Association of America, 2009)
- All 4 facilities exceed the USDA irrigation requirement
- The golf course facilities are more than twice the average Southwest golf course use

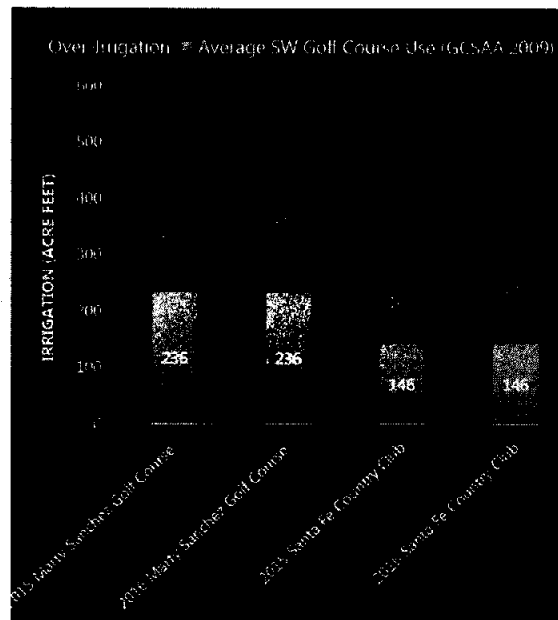


Slide 10

AC2 Might want to make a comment about this graph using 2016 data
Andrew Carroll, 09/08/2017

Potential Reclaimed Water Savings (relative to GCSAA rate)

- 358 AFY (2015)
- 463 AFY (2016)
- Potential savings
~ = 1/3 of total
reclaimed water used
for existing contracts



Baseline.ppt/11

Basin Study Update

Department of Interior Bureau of Reclamation

SANTA FE BASIN STUDY 2017 UPDATE MEMORANDUM OF AGREEMENT

The United States Department of Interior, Bureau of Reclamation (Reclamation) and the City of Santa Fe, New Mexico (City) agree to work collaboratively to perform the Santa Fe Basin Study Update as part of the WaterSMART Basin Study Program. This Memorandum of Agreement (MOA) defines the terms that will guide the performance of the Study.

The Study will build on the initial Santa Fe Basin Study (2015 Basin Study) (Jewell et al., 2015) to assess the onsets and timing of climate change-induced shortages in water supply, and to identify and implement viable water supply alternatives for addressing projected shortages. The Study Area comprises the City of Santa Fe and its water sources in the Santa Fe River watershed of the Rio Grande Basin, and source water basins for San Juan-Chama Project. The proposed Basin Study Update will utilize advanced analytical methods to assess the effects of climate change on the management of Santa Fe's surface water supply, coupled with climate change projections, to define a timeline of shortages.

The resulting Basin Study Update will provide a projection of the relative timing of shortages for the City and an implementation plan for mitigating them, as a direct compensation alternative. The result will be greater security in long-term supply for the City, consistent with economic, environmental, and cultural goals.

The total study costs will be \$263,784. The City anticipates support from Reclamation in the form of technical expertise and reporting estimated to be \$115,000 (44%). The City will provide \$148,784 through matching funds and in-kind services as a fiscal cost-share.

Baseline.ppt/12

New Mexico Water Use Santa Fe Water Conservation Committee Meeting

Julie Valdez
NM Office of the State Engineer

September 11, 2018



NMOSE's Mission

The Office of the State Engineer is charged with administering the state's water resources. The State Engineer has authority over the measurement, appropriation, and distribution of all surface and groundwater in New Mexico, including streams and rivers that cross state boundaries.

Water Use and Conservation Bureau Overview

Subdivision Review

Water Conservation Plan Review

Water Development Plan Review

Irrigation Water Requirements

Water Use by Categories Report

NM Drought Monitoring Workgroup

Outreach Program

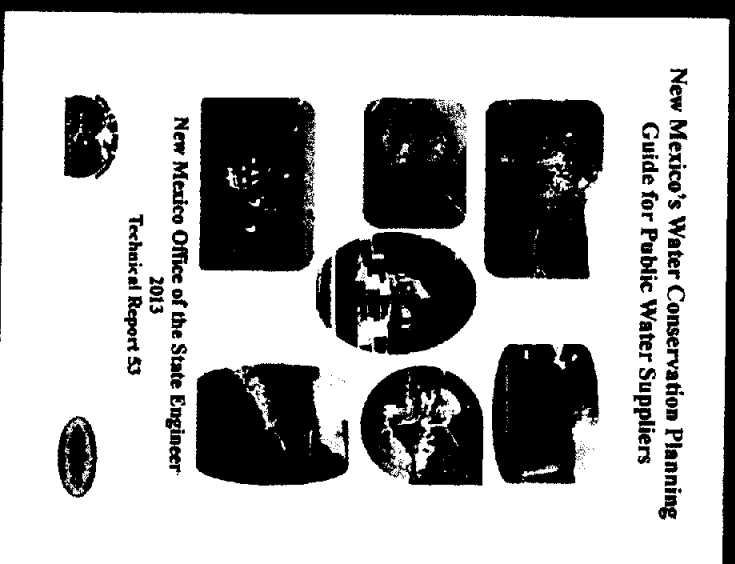
Subdivision Review

State Statute 47-6-11 f (1) requires that the NMOSE review and provide an opinion within 30 days for preliminary plat proposals. A positive or negative opinion is generally given regarding

- whether the subdivider can furnish water sufficient in quantity to fulfill the maximum annual water requirements of the subdivision, including water for indoor and outdoor domestic uses; and
- whether the subdivider can fulfill the proposals in the disclosure statement concerning water, excepting water quality.

Water Conservation Plans

New Mexico's Water Conservation Planning Guide for Public Water Suppliers



Why Develop a Water Conservation Plan?

Water Conservation Plans are required for:

- Water Trust Board Funding
- NMOSE permit conditions

Water Development Plans

State Statute 72-1-9

the state “promotes the public welfare and the conservation of water within the state for municipalities, counties,... to plan for the reasonable development and use of water resources. The state further recognizes the state engineer’s administrative policy of not allowing municipalities,... to acquire and hold unused water rights in an amount greater than their reasonable needs within forty years.”

What do Water Conservation & Water Development Plans Have In Common?

AWWA Audit

GPCD Calculator

Irrigation Water Requirements

Adjudications

Water Right Permits

Water Use by Categories Report

Nine water use categories

Public Supply

Self-Supplied Domestic

Irrigated Agriculture

Self-Supplied Livestock

Self-Supplied Commercial

Self-Supplied Industrial

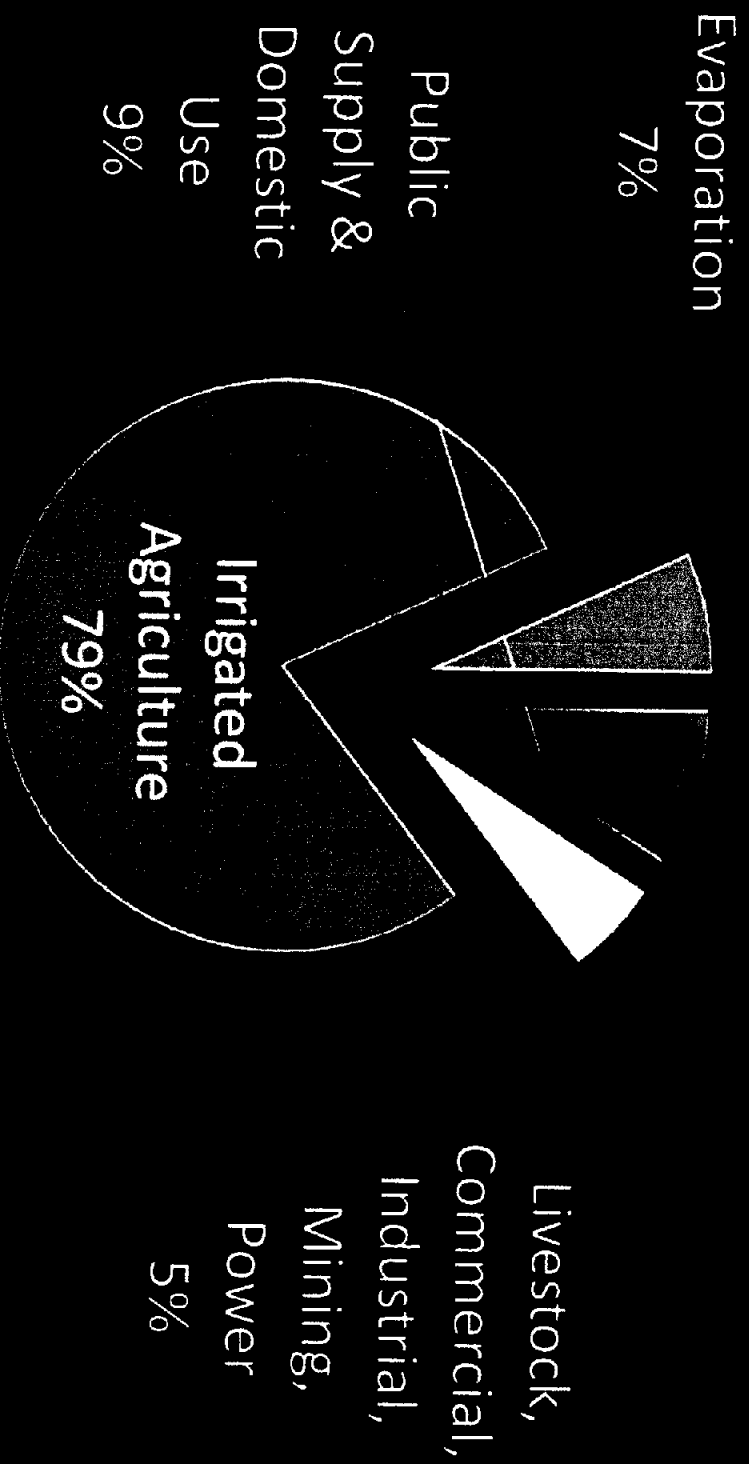
Self-Supplied Mining

Self-Supplied Power

Reservoir Evaporation

2010 Water Use State Totals

2010 State Totals



Drought Monitoring Work Group

National Weather Service

U.S Bureau of Reclamation

Natural Resources Conservation Service

U.S Geological Survey

NM Office of the State Engineer

NM Department of Agriculture

NM Energy, Minerals & Natural Resources -Forestry
Division

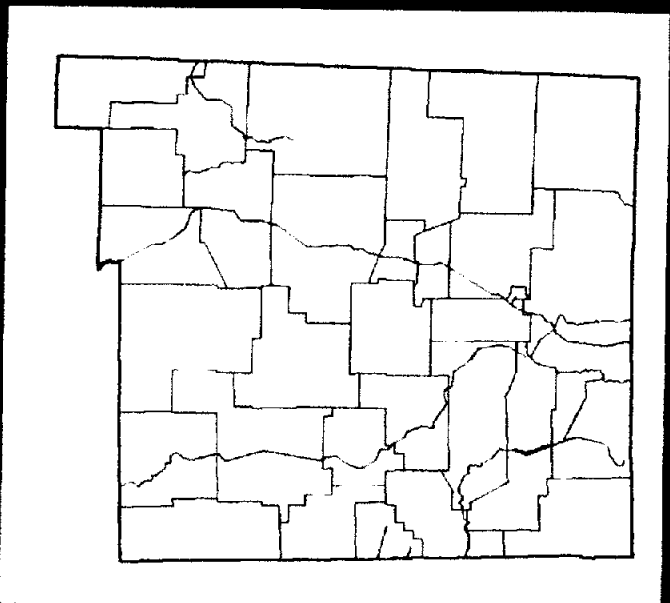
USDA Farm Service Agency

Drought Status

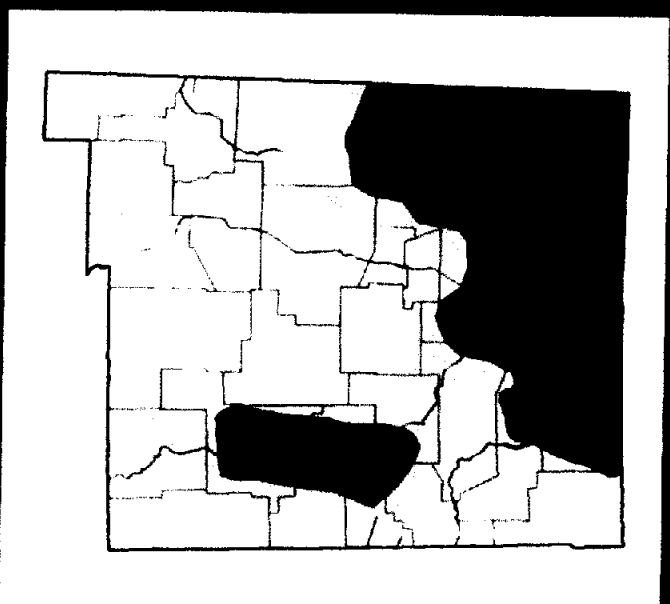
Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



September 5, 2017



September 6, 2018

Outreach Program Overview

K-12 Education Program

Public Water Suppliers

General Public

Landscape Industry

Fix A Leak Webpage

Building Use Comparison

Building Types : All Building Types

Utility Type : Water

Unit : Gal.

Building : All Buildings

Year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
2011	5659910.00	6685460.00	8452260.00	12330430.00	1923300.00	1348300.00	2854310.00	1995020.00	2247590.00	3180900.00	3586140.00	4595329.00	54858949.00
2012	26.15 %	-1.37 %	-26.12 %	-61.91 %	23.73 %	-21.62 %	-59.27 %	-20.21 %	-3.77 %	1.68 %	67.53 %	27.19 %	-12.29 %
2012	7140180.00	6593880.00	6244550.00	4697020.00	2379750.00	1056750.00	1162500.00	1591740.00	2162880.00	3234420.00	6007760.00	5844830.00	48116260.00
2013	-7.67 %	-4.16 %	-8.35 %	19.12 %	-17.86 %	67.80 %	1.80 %	10.39 %	8.88 %	-14.29 %	-39.85 %	-13.33 %	-7.09 %
2013	6592180.00	6319300.00	5723150.00	5594856.00	1954666.00	1773196.00	1183470.00	1757080.00	2355010.00	2772090.00	3613700.00	5065680.00	44704378.00
2014	-45.30 %	-30.00 %	-38.45 %	-47.25 %	-26.33 %	-39.61 %	32.72 %	-26.23 %	-10.11 %	-12.09 %	-2.96 %	-32.68 %	-29.87 %
2014	3606050.00	4423330.00	3522750.00	2951470.00	1439940.00	1070850.00	1570700.00	1296200.00	2116900.00	2436940.00	3506630.00	3410070.00	31351830.00
2015	35.24 %	-30.66 %	42.67 %	33.05 %	24.44 %	23.28 %	-0.62 %	22.12 %	-12.07 %	6.44 %	-35.68 %	-30.87 %	2.77 %
2015	4876703.00	3067133.00	5026003.00	3927043.00	1791813.00	1320159.00	1560969.00	1582929.00	1861393.00	2593783.00	2255483.00	2357438.00	32220849.00
2016	-11.02 %	1.81 %	-22.16 %	-24.89 %	59.31 %	12.44 %	-44.01 %	-1.11 %	12.80 %	13.16 %	44.20 %	87.30 %	4.90 %
2016	4339083.00	3122643.00	3912142.00	2949599.00	2854609.00	1484326.00	873986.00	1565291.00	2095836.00	2935186.00	3252296.00	4415416.00	33800513.00
2017	35.63 %	7.19 %	13.81 %	6.78 %	-35.91 %	0.51 %	12.24 %	-1.71 %	-17.11 %	-12.76 %	-6.08 %	-14.57 %	0.00 %
2017	5884946.00	3347156.00	4452506.00	3149736.00	1629466.00	1491966.00	980991.00	1538458.00	1737297.00	2560566.00	3054626.00	3772146.00	33799860.00
2018	-31.28 %	4.11 %	-9.10 %	-7.33 %	-7.78 %	-17.05 %	-11.44 %	5.99 %	-17.54 %	-2.32 %	9.72 %	-2.91 %	-8.68 %
2018	4044256.00	3484762.00	4047433.00	2918934.00	1687112.00	1237529.00	868770.00	1630680.00	1432550.00	2501160.00	3351500.00	3662250.00	30866936.00

EXHIBIT

3