



Agenda

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

September 10, 2019
4pm – 6pm

CALL TO ORDER

1. ROLL CALL
2. APPROVAL OF AGENDA
3. APPROVAL OF MINUTES FROM THE AUGUST 13, 2019 MEETING

INFORMATIONAL ITEMS:

4. STATUS UPDATE ON GROUNDWATER QUALITY AND CONTAMINATION IN SANTA FE (William Schneider, Water Resource Coordinator, whschneider@santafenm.gov, 955-4203 and Alex Puglisi, Environmental Compliance Specialist, aapuglisi@santafenm.gov, 955-4232)
5. PRESENTATION BY JESSE ROACH, WATER DIVISION DIRECTOR (Jesse Roach, Water Division Director, jdroach@santafenm.gov, 955-
6. UPDATE ON CURRENT WATER SUPPLY STATUS (Andrew Erdmann, Water Conservation Specialist Senior, paerdmann@santafenm.gov, 955-4223)
7. 2018 ANNUAL WATER REPORT (Andrew Erdmann, Water Conservation Specialist Senior, paerdmann@santafenm.gov, 955-4223)

MATTERS FROM PUBLIC:

MATTERS FROM STAFF:

MATTERS FROM COMMITTEE:

NEXT MEETING – (Councilor's Conference Room): TUESDAY, OCTOBER 8, 2019

CAPTIONS: DUE BY 3:00 PM, SEPTEMBER 23, 2019

PACKET MATERIAL: DUE BY 3:00 PM, SEPTEMBER 25, 2019

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: September 3, 2019

TIME: 2:48 PM

**SUMMARY OF ACTION
WATER CONSERVATION COMMITTEE MEETING
CITY HALL, COUNCILORS CONFERENCE ROOM
200 LINCOLN AVE.
TUESDAY, AUGUST 13, 2019, 4:00 PM**

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**WATER CONSERVATION COMMITTEE MEETING
CITY HALL, COUNCILORS CONFERENCE ROOM
200 LINCOLN AVE.
TUESDAY, AUGUST 13, 2019, 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 Councilor Carol Romero-Wirth, Chair, on Tuesday, August 13, 2019 at City Hall, in the City Councilor's Conference Room, Santa Fe, New Mexico.

2. ROLL CALL

MEMBERS PRESENT

Councilor Romero-Wirth, Chair
Scott Bunton
Ken Kirk
Stephen Schmelling
Bob Coombe
Jerry Jacobi
Maria DeAnda Hay
Beth Kirby
Three (3) Vacancies

MEMBERS ABSENT

OTHERS PRESENT

Andy Otto, Santa Fe Watershed Association
Andrew Erdmann, City of Santa Fe, Water Conservation
Elizabeth Martin, Stenographer

3. APPROVAL OF AGENDA

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

VOTE The motion passed unanimously by voice vote.

4. APPROVAL OF MINUTES

A. JUNE 11, 2019

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

VOTE The motion passed unanimously by voice vote.

B. JULY 9, 2019

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

VOTE The motion passed unanimously by voice vote.

INFORMATIONAL ITEMS

5. UPDATE OF CURRENT WATER SUPPLY STATUS

Mr. Erdman reviewed the report in the packet.

Mr. Schmelling said last year the GPCD went up a bit. Some thought it might go down this year. Is there any information on that comparison.

Mr. Erdman said our production is a bit lower than it was at the same time last year. That may cause our GPCD to go down a bit.

Mr. Coombe said we were up in the spring and summer last year so the difference would be seen at that time.

Mr. Erdmann said people started irrigating in April rather than May last year. That caused the additional use. We did use less water in those months this year.

Mr. Schmelling asked if we don't use all of or allotment from the San Juan/Chama water is it lost.

Mr. Erdmann said we can store it. We have a fixed amount of storage space the Federal government has given us and some storage that we use where other people are not using their storage.

Mr. Coombe said so we choose to use the San Juan/Chama water first.

Mr. Erdmann said correct. Last year was the year when we realized we needed to reprioritize.

6. 2019 SECOND QUARTER SCORECARD ACCOMPLISHMENTS

Ms. Chavez said the memo and scorecard results are in your packet. In 2015, when she started here, she had heard that this Division was very successful. She could not find any data. This Committee helped her to figure out how to manage the data and show accomplishment. The subcommittee worked with her on this method. Then the subcommittee helped us score the scorecard at the end of the year and then we brought it to the full Committee. For the 5 Year Plan we are going to come up with the 5 year scorecard. Andrew did great job with the memo. Are there any questions.

Ms. DeAnda-Hay asked geographically do you find people participate in certain sections of the City more than others.

Ms. Chavez said there is a lot we would still like to do regarding areas of the City. Right now our billing system nor the Eye On Water application have the capacity to do that. We are working on that. We are getting a pretty big pick up on Eye On Water sign ups due to leaks. We are also trying to build that into the leak assessment process.

Mr. Coombe said from time to time we have talked about data regarding water usage geographically throughout the City. It could help us inform where we focus conservation efforts. We have never seen that. Does it correlate with population density.

Mr. Bunton said there are a number of the items on the scorecard that have no entry on progress.

Ms. Chavez said we have not done a mid year review yet. Now is the time to do that. If a task is completed which just happened we can score that. There are other pieces we still need to do for these items and lots of information we still need to populate this with. We are a bit behind on it, but will get caught up.

Ms. Kerby said there was a great thread on Next Door on the southside about Eye On Water. She is curious how people find out about Eye On Water. It seems like such a smart thing that anyone would sign up on it.

Ms. DeAnda-Hay said she lives in a condo and her water bill was high she called the Water Department and they insisted she had leaks. They sent someone to check her neighbor's water and found that her meter had been crossed with her neighbors. The Water Department said most people never check their water bills. That is when they told her about Eye On water. She passed it on to neighbors.

Mr. Schmelling said they send out an annual report in the water bill. Do we send anything out on Eye On Water.

Ms. Chavez said year before last we did two bill inserts. Those are pretty costly. We get mixed responses on print material. We did not do any last year.

Mr. Kirk said we made Eye On Water available to everyone except the areas that get their water directly from the County. Now everyone has signed up for the app and we get great feedback from everyone in the complex.

Mr. Coombe asked is there a way of tracking usage in the scorecard.

Ms. Chavez said it is in there. We have discussed that the real goal is to get them to use the app, not just to sign up and to sign up for a threshold. We are changing the messaging on that. It is a challenge. Patricio does a lot of work on the phone with customers on this.

Mr. Schmelling asked do we know why people don't sign up. Are they concerned about invasion of privacy.

Ms. Chavez said some are. We don't know why people don't sign up. Elderly people and out of town people don't sign up. It is not just our utility. It is an issue with apps.

Chair Romero-Wirth said maybe we need to train the kids as part of the passport program to train their kids. It is the kind of thing kids would love.

Mr. Coombe said it would be interesting to track water usage of families of kids in the program.

7. AWWA AUDIT PRESENTATION

Mr. Erdman gave a Power Point presentation which is herewith attached to these minutes as Exhibit "1".

Chair Romero-Wirth asked where is the water for the Marty Sanchez Golf Course and the Country Club.

Mr. Erdman said it would show up as water used in the City. He will find out for the next meeting.

Mr. Jacobi asked where does hydrant water come in.

Mr. Erdman said there are two types of hydrants, billed and unbilled.

Ms. Chavez said before we changed out the meters this was very different. That would have fallen under unbilled consumption.

Mr. Erdmann said unbilled, unmetered losses.

Mr. Schmelling asked where does the base rate for the connection come into this.

Mr. Erdmann said there is no water that comes along with that so it is not in this chart.

Mr. Schmelling said it seems there have to be some errors in this in the numbers.

Mr. Erdmann said our data validity score is 67. The average validity score among utilities of our category is 70 so we are in the ball park. We looking at how to bring that number up and are focusing on meters.

Ms. Chavez said this piece of work belonged to the Water Resources Division, but we took it on two years ago because it also has to do with our GPCD analysis and where our work can have the biggest impact.

Mr. Schmelling asked will you make this available to the Committee.

Chair Romero-Wirth said send the presentation and report to the Committee electronically.

Mr. Kirk asked what is the City going to do with the recommendations.

Mr. Erdmann said we have gotten the same recommendation in the last several years. Now we are looking at some larger scale meters to look at accuracy. Those larger meters are also required under the amended water resource agreement. Five larger meters. The first step is submetering by zone then we can compare how much water is used in each zone to how much we billed for.

Ms. Chavez said we are using the data in our Division to capture sewer flows and augment water loss. The Fire Department and their hydrant exercises have lots of opportunities on small scale work with different departments to prevent water loss.

ACTION ITEMS

8. UPDATES ON SUBCOMMITTEE WORK ASSIGNMENTS

Chair Romero-Wirth said this Committee likes subcommittees. Assuming we keep working the way we have historically worked we thought it would be a good idea to talk about subcommittees and get your input. A lot of work has been done with

subcommittees focusing on certain areas and bringing their ideas forward to be considered by the whole group and advance it forward from there.

Ms. Chavez said we would like your ideas. We can bring outside people in to work with us in the subcommittees. We do try to stick to the timeline and stay focused. With the restaurant pilot project we were involved in a pretty big pilot program on submeters that is the first of its kind in the country. This required us to change an Ordinance and build a whole new program. We still need to build out the administrative procedures. It would be great to get the Committee to help on that. Second is we had a subcommittee involved in our public input sessions. It was very active and very successful. We are jumping in to writing the plan and would like the Committee to help us with that. We will be starting that pretty quickly. For that subcommittee we would want your input and help with building out the scorecard for five years. That would be the Five Year Scorecard Subcommittee. That plan will eventually come to the entire Committee. The third one is the City/County joint effort to develop a Drought Management Plan. We will need technical assistance on that subcommittee to help move it along. Those are the three she came up with.

Chair Romero-Wirth said she has one more. A short stint to look at the draft we put together around the Committee structure. She has not given that the focus it needs. Maybe a subcommittee to meet three times and really look at the language. The Committee Restructure Subcommittee.

Ms. Chavez said another short term idea would be a Recruitment Subcommittee to recruit for the other vacancies and help us interview them. She is asking all of you to help in that effort. We need a home builder, a water catch person and a landscaper.

Chair Romero-Wirth said she does not want too much more time to go by on this. She will be at the Home Builders event tonight and will ask everyone if they want to be on or to point her to someone who has the time to do some work with us. If you guys are aware of folks lets try to get this done. She does not want too big a gap in not having these folks. We are looking for targeted skills we have lost and need on this committee.

Chair Romero-Wirth asked are there other thoughts or do you feel these are the right things to focus on in the next few months.

Mr. Bunton said in working with the County on the Drought Management Plan, he would love to think that would be the first step in a multi-step process to build a way to increase cooperation to look at regionalization.

Chair Romero-Wirth said we are not there yet. Lets see if we can work with this step right now. We need to take small steps. Right now we have Resolutions that say don't do that. We need to develop relationships and build some understanding and

maybe the need will surface and be understood. She does not think right now we can launch into that.

Mr. Coombe asked can we say yet what the principal objectives of the 5 Year Plan are going to be. That should inform these subcommittees and what they are going to be.

Chair Romero-Wirth said she think this Committee is about helping with the drafting of the plan. This may be something that will happen in a couple of months. Once we have that and it is adopted we may want to focus our work on the objectives outlined in that plan. We need to focus on the draft plan first.

Chair Romero-Wirth said she is not sure she sees these subcommittees as year long subcommittees. They will morph into other subcommittees.

Ms. Chavez said this Committee serves two purposes. Policy and day to day programs.

Ms. Chavez said the first step for the Drought Management Plan is to go over what each entity does and match those us. It should be all the same. We have to be speaking with one voice about what happens in drought. We interact every day with people who live in City and work in the County and vice versa.

Ms. Kirby asked are there standing subcommittees already.

Chair Romero-Wirth said no. It is what interests the Committee and they change periodically. They meet as long as they need to in order to meet the objective.

Chair Romero-Wirth said be thinking about this. She is happy to take other ideas.

Ms. Chavez said we are trying a new process to really take minutes of what happens in those subcommittees and document what happens in the subcommittees.

9. SPEAKER SCHEDULE FOR UPCOMING WATER CONSERVATION MEETINGS

Chair Romero-Wirth said she would like to know your ideas for speakers on topics you may want additional information about. Things you are interested in. What are your ideas for now and later. This is fluid.

Mr. Schmelling said the new water rate structure.

Chair Romero-Wirth said that is coming to a point where there will be something that starts to make its way through City committees and we should have that stop here for sure.

Mr. Bunton said the current status of the interstate stream litigation.

Mr. Coombe said the last we heard was that New Mexico was likely to lose with a potential multi-billion dollar price tag. It would be good to have an update.

Chair Romero-Wirth said maybe the Attorney General's office. We should talk to the Legislative Water Committee and look at their agenda to see if there is an update there. It is a question of what can be talked about publically.

Mr. Erdmann said the status of the Nambe, Pojoaque, Tesuque system.

Mr. Bunton said that dramatically effects the County if not the City.

Ms. Chavez asked who is the focus for the County.

Mr. Erdmann said he can find out. Maybe have that speaker at the City/County meeting.

Mr. Coombe said a number of us had a conversation with Bill Schneider about the pipeline project. We should have him come talk about that.

Chair Romero-Wirth said there will be more public process around that coming very shortly before the end of September. We are running up against the end of a contract whose job it is to do public outreach.

Mr. Coombe asked is it exclusively within the Water Department. Where does that conversation reside.

Chair Romero-Wirth said the public process will help inform that.

Ms. Chavez said we have a new Water Division Director, Jesse Roach. He will be taking a more active role in all the conversations as well.

Mr. Otto said he was on the Board of the Santa Fe Watershed.

Chair Romero-Wirth said we should probably have him come and talk about his vision for his new job.

Ms. Chavez said there are lots of people in the City who would be great to hear from. It is a matter of building a schedule and getting it on their calendars.

Mr. Erdmann suggested Eli Issacson with Land Use and Permitting.

Chair Romero-Wirth said maybe people like him could help identify places where there are problems and to develop solutions to issues they are having.

Mr. Kirk said Mark Sanchez heads up the Albuquerque/Bernalillo Water Authority and is Chair of the Interstate Stream Commission as well. He could talk about what it meant for the City and the County down there to come together.

Chair Romero-Wirth said she met with him last month about lessons learned.

Mr. Coombe said someone who can speak to the relationship between this Committee and the Water Department and the whole sustainability thing. Still it is not clear to him where policy is made with regard to things that touch the Conservation Office and this Committee.

Chair Romero-Wirth said some of that is because we have not had a Water Division Director. Lets invite Jesse for the next meeting. We need to meet him and hear his vision and know how we can support each other.

Chair Romero-Wirth said think about all that and if you have other ideas email her and Christine.

Mr. Erdmann said we could bring in people who have different opinions on things. There are some places in the community who do not like proposals that come through, like the pipeline.

Chair Romero-Wirth said lets wait for the public process that is coming. She is concerned about bringing the pipeline project here. We want to be careful that we don't confuse what the role of this Committee is and our decision making. We are not the Committee who will make the decision. We need to be knowledgeable about it and the role it plays.

Mr. Otto said there are folks that feel the Living River Ordinance wastes water.

Chair Romero-Wirth said we sent around the Resolution of what our charge is. Our charge is to look at ways to support conservation and our Conservation Division. She is not opposed to having different opinions, but want to be sure it is relevant to our work.

Ms. Chavez said on the Drought Management Plan she is not sure when to start work on that. The restaurant plan is something she would like to get started. She can send an email to everyone so you can let us know which issues/subcommittees you are interested in.

Chair Romero-Wirth asked who would like to help with the 5 Year Plan.

Mr. Jacobi, Mr. Schmelling, Mr. Coombe, Mr. Kirk and Ms. Kirby volunteered.

Mr. Bunton said he would like to work on the restaurant project.

Ms. Chavez said she will send out the scope of work for each subcommittee.

Chair Romero-Wirth said she and Scott will work on the restructuring of the Committee.

Chair Romero-Wirth asked who would like to work in the Drought Management Plan.

Mr. Kirk volunteered.

Chair Romero-Wirth said she needs to talk with Commissioner Hamilton to see how best that work might get done.

Chair Romero-Wirth said she sees the next meeting as a time to get the baseline information.

Chair Romero-Wirth said you can move forward with the 5 Year Plan subcommittee.

10. MATTERS FROM PUBLIC

None.

11. MATTERS FROM STAFF

Ms. Chavez said if there is any documentation or area of knowledge you need we will be a resource for you. Please let us know.

Mr. Erdmann said water systems are crazy complicated so feel comfortable asking questions.

Chair Romero-Wirth said we can cover stuff we have already covered if we want to.

Chair Romero-Wirth said another area at some point that we could focus on is the Water Bank. There are all kinds of stuff with that we could look at. What is it doing and what do we think it should do. This is where policy is developed.

Mr. Coombe said we are trying to get involved in developing activities for the office that can be at all kinds of levels. We can be in the weeds and take care of small things that support the office or we can inform policy issues having to do with threats like climate change. It seems as though we don't know where we stand with regard to that or where such matters are discussed in the City and if the opinions of this Committee are taken into account in those

Ms. Chavez said this Committee is an Advisory Committee to the Governing Body.

Chair Romero-Wirth said she thinks if there are things this Committee wants to develop as a policy recommendation it should be based on work you have done and things you see. That is part of the reason you have a Council member as Chair. We can draft stuff and bring it forward and she can carry it. She is willing to introduce things. What do you want to focus on.

Mr. Schmelling said you can take it to City Council. Is there another level of advise.

Chair Romero-Wirth said if we wanted to play with the Water Bank we would have appropriate staff in the Water Division inform us and help shape that. It can come from us, but requires information from staff. Staff is very over burdened and sometimes it is not possible to do policy development. We may get push back and we have to figure out how to navigate that.

Mr. Coombe said an example is the pipeline project. Whether that goes anywhere or not it has huge ramifications to water conservation. It would be good to know what that is all about.

Chair Romero-Wirth said where it is right now is there is a consultant tasked with evaluating alternatives from the Feasibility Study. Also there is a public outreach piece. That has to happen by the end of September. Those are happening very quickly and then we can see what comes from those.

Mr. Coombe said if it is built it strikes him that we need to know how the City will approach that as to conserving water and reuse.

Chair Romero-Wirth said she knows the Water Division has applied again for the Bureau of Reclamation grant. If we get it Council will have to vote to accept it. That does not mean we are building a pipeline. It is part of the due diligence and assessment. She thinks there will be plenty of opportunity to comment. We can be engaged at that level.

Mr. Bunton said if the City is going to remain a leader in this we need to keep

pushing the envelope on policy.

Chair Romero-Wirth said we have to be a leader. We need to find out what other cities are doing that is interesting. We could work on the Chris Calvert idea.

Mr. Schmelling said you were going to have a public meeting with staff. Did that take place and was it helpful.

Ms. Chavez said what we decided to do instead is as part of the 5 Year Plan we are going to integrate a lead by example plan. She is meeting with all the Directors. We have to work on that for 5 years with every single Department within the City. There are opportunities across the board.

Chair Romero-Wirth said that could be something the Committee can get involved in to support them.

Chair Romero-Wirth asked will there be an art component.

Ms. Chavez said that came up in public comment.

12. MATTERS FROM COMMITTEE

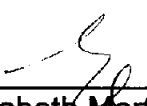
None.

**13. NEXT MEETING
SEPTEMBER 10, 2019**

14. ADJOURN

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

Councilor Carol Romero-Wirth, Chair



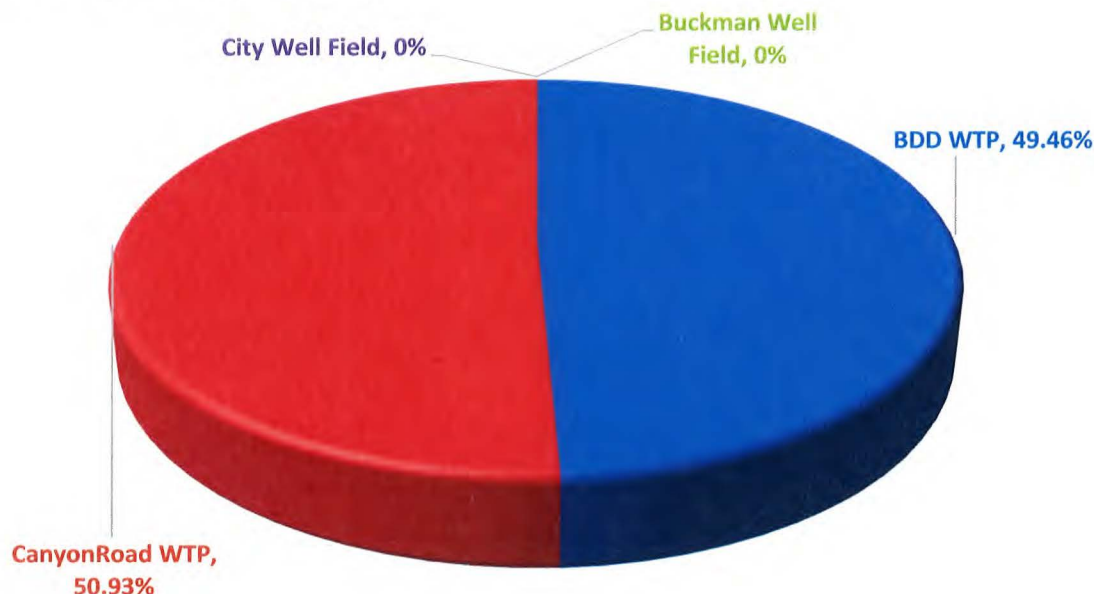
Elizabeth Martin, Stenographer

City of Santa Fe, Water Division
Water Production, Environment, Drought/Monsoon, ESA, and Storage Update
August, 2019

Total Production of System (July, 2019)

Jonathan Montoya

Sum: 376.89 million gallons (MG)



Daily Average Production: 12.15 MGD

Reservoir Storage Levels (as of August 25th)

McClure: 58.01% or 615.68 MG

Nichols: 80.00% or 172.89 MG

Combined: 61.72% or 788.57 MG

Santa Fe River Flow (as of August 25th)

Streamflow at Gage below Nichols: 1.82cfs or 1.17 MGD (Actual including Living River Flows)

Above McClure (Reservoir Inflow): 2.19cfs or 1.42 MGD

Water/Environment Update:

Alex Puglisi

Drilling of the final monitoring well for the Phase I investigation of the Santa Fe Generating Site was finished during the week of August 16th. Sampling of all new monitoring wells is planned for the week of August 26th. The new well will provide information about the extent of the plume to the N/NW of the former Santa Fe Generating Station. INTERA encountered contamination around ~303 to 308 ft. below ground surface(bgs) which is similar to where it was observed it at the nearby well, USTB-22, just slightly deeper.

In accordance with Methane Remediation Plan commitments to perform landfill gas monitoring at the Paseo de Vista landfill within two to four weeks after precipitation events of 0.25 inch or greater, a landfill-gas monitoring

event was performed on August 2nd after rainfall events of 0.45 inches on 07/16/19 and of 0.79 inches on 7/26/19, as recorded at the new Paseo de Vista meteorological station. The 8/2/19 landfill gas monitoring event also completes the second 2019 Quarterly landfill gas monitoring event for the landfill. The drilling of new soil vapor and groundwater monitoring wells at the former Ortiz landfill is expected to commence in late September or October.

NMED received applicable quarterly status reports for the College Plaza South chlorinated solvents voluntary remediation in June and July. The contaminants covered in the voluntary remediation include tetrachloroethene or perchlorethylene (PCE), trichloroethene, and their daughter products in soil vapor, indoor air, and groundwater. The reports indicate an overall decreasing trend of contaminants in soil vapor. However, dissolved phase PCE concentration still exceed New Mexico Water Quality Control Commission standards for groundwater. The NMED has, therefore, required the VRP applicant to submit a work plan to address remediation of the dissolved phase PCE. Including a technical proposal to further delineate the nature and extent of the groundwater contamination at the site.

Drought/Monsoon, Storage, and ESA Update

Rick Carpenter

NOAA has recently updated ENSO (El Nino/La Niña) status to:

A transition from El Niño to ENSO-neutral is expected through the Northern Hemisphere through fall and winter (55% chance).

Heron, Abiquiu, and El Vado reservoir levels on the Chama River are still experiencing runoff, although it is slowing due to lack of monsoonal flow. Abiquiu Reservoir is out of “flood ops,” which means that not only native water but also SJCP flows can be called for from the reservoir. Local Upper Santa Fe River reservoir storage volume is at high capacity but the CRWTP is pulling high amounts of water from the reservoirs as the watershed heads into Fall. The City has received normal delivery from BoR of full firm-yield of San Juan-Chama Project (SJCP) thus far in 2019 and is projected to be 100% full firm yield by the year end. Updates on ESA issues will be made as needed. Rio Grande Compact Article VII storage restrictions are not in effect (restrictions on storage were lifted in early May). This means the City is now allowed to impound “native” runoff into Nichols and McClure Reservoirs above the pre-Compact pool of 1,061 acre-feet (AF). Updates to this condition will be made as needed. The current absence of Article VII storage restrictions are expected to stay in effect for the foreseeable future.

Most current City of Santa Fe SJCP Reservoir Storage:

Heron:

9,283 AF.

El Vado:

0 AF.

Abiquiu:

4,851 AF. SJCP carry-over from previous years plus 2018 deliveries. No time limit to vacate due to storage agreement with ABCWUA

TOTAL:

14,134 AF

City of Santa Fe, New Mexico

memo

Date: August 22, 2019
To: Public Utilities Committee
Via: Shannon Jones, Public Utilities Department Director
Jesse Roach, Water Division Director
Rick Carpenter, Water Resources & Conservation Manager
Christine Chavez, Water Conservation Manager
From: Andrew Erdmann, Water Conservation Specialist
Re: 2018 Annual Water Report

Purpose:

The 2018 Annual Water Report compiles and summarizes useful information about the City of Santa Fe's Water Division (Water Division) including the water supply, water production, deliveries, conservation, potable and wastewater resources, and customer use. All data in the report is for calendar year 2018 except for the Living River, which reports on a 12 month cycle from April to April.

The purpose of this report is to provide the Santa Fe community with an annual report that summarizes the state of the Water Division and the water supplies we depend on. This report is submitted pursuant to City Code Section 25-9.6 SFCC 1987 and summarizes information about the Water Division's water supplies and the customer's drinking water usage.

Highlights of this report include:

- 2018 Water Supply production, including Buckman Regional Water Treatment Plant deliveries to the City of Santa Fe, of 8,953 acre-feet.
- A very dry winter followed by a windy and dry spring brought an early start to the high demand season for outdoor irrigation, which began in April and resulted in a slight increase in overall water usage and a per capita increase in GPCD to 95.

City of Santa Fe
2018 Annual Water Report



CITY OF
Santa Fe

City of Santa Fe, New Mexico

Alan Webber, Mayor
Erik Litzenberg, City Manager

City Councilors

Signe Lindell, Mayor Pro Tem, District 1
Renee Villarreal, District 1
Peter Ives, District 2
Carol Romero-Wirth, District 2
Chris Rivera, District 3
Roman Abeyta, District 3
JoAnne Vigil Coppler, District 4
Mike Harris, District 4

Contributing Departments, Divisions, and Sections

City Attorney's Office
ITT Department
Land Use Department
Utility Building & Customer Service Division
Wastewater Division
Water Budget Office
Water Conservation Office

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Acknowledgements

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Shannon Jones
Marcos Martinez
Maya Martinez

Michael Moya
Alex Puglisi
Christine Chavez
Patricio Pacheco
Mario Torres
Bill Schneider

For more information visit www.santafenm.gov/water_division
Cover Photo: BDD Booster Solar Array

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Figure 1 - Students on a field trip to the Santa Fe Municipal Watershed

Executive Summary

2018 was a very dry year in Santa Fe. The year began with a warm winter which gave way to an early, dry, and windy spring – National Resource Conservation Service projections for available water in the Santa Fe watershed were below 17% of normal. Starting in mid-July, monsoon rains came to the City leading to a significant flooding event on July 23rd and which built into significant accumulated precipitation over the winter of 2018-2019.

In response to low projections, the City Water Division projected high demand and a high need for groundwater to compensate for increased demand and reduced surface water availability. Projections were used to provide a roadmap for operations during 2018 and, thanks to a combination of effective foresight, little impact from wildfire, and the diligent water conservation efforts of Santa Fe Water customers, total water demand was lower than projected and groundwater use was substantially lower than projected.

The Water Division supplied 8,953 acre-feet (af) of water to its water utility customers in 2018 and the gallons per capita per day (gpcd) usage increased from 90 in 2017 to 95. The Water Division also provided 1,700 af of Santa Fe River target flows for the ‘Living River’ Initiative which measures from April 2018-April 2019 and so includes 1400 af of 2019 spring runoff, while meeting its acequia irrigation deliveries for the 2018 irrigation year.

Introduction

The mission of the Santa Fe Water Division is to provide reliable, safe, and sustainable water to meet the needs of our customers and community.

Submitted pursuant to City Code Section 25-9.5 SFCC 1987, the purpose of this report is to provide information about the state of the City of Santa Fe's Water Division and summarize information about the City of Santa Fe's Water Division including water supply, water rights, production water demand, types of water use, drought and precipitation, and water utility management.

The City's surface water comes from the Santa Fe River and San Juan-Chama Project (SJCP) water via the Rio Grande, which are treated through conventional and advanced treatment processes.



Figure 2 - Water Conservation Ambassadors learn about the water cycle at the Children's Water Fiesta

The City Well Field is mostly located in close proximity to the Santa Fe River and consists of seven active wells located within the City limits of Santa Fe. The Buckman Well Field consists of 13 wells located near the Rio Grande, approximately 15 miles northwest of Santa Fe.

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The City of Santa Fe experienced a very dry winter in early 2018 which contributed to an increase in Gallons per Capita per Day (GPCD) from 90 in 2017 to 95 in 2018. The end of 2018, however, was wetter than normal – beginning with a series of storms in late July that led to substantial flooding in town and on the Santa Fe River.

2018 Water Demand and Supply Picture

2018 was predicted to be hot and dry and the production projections prepared by Water Division staff were designed to strategize for a year of high demand and low surface water availability. The 2017 annual report included the graph below (figure 1) which shows the demand and production projections for 2018, which included an anticipated total demand of 10,000 acre-feet.

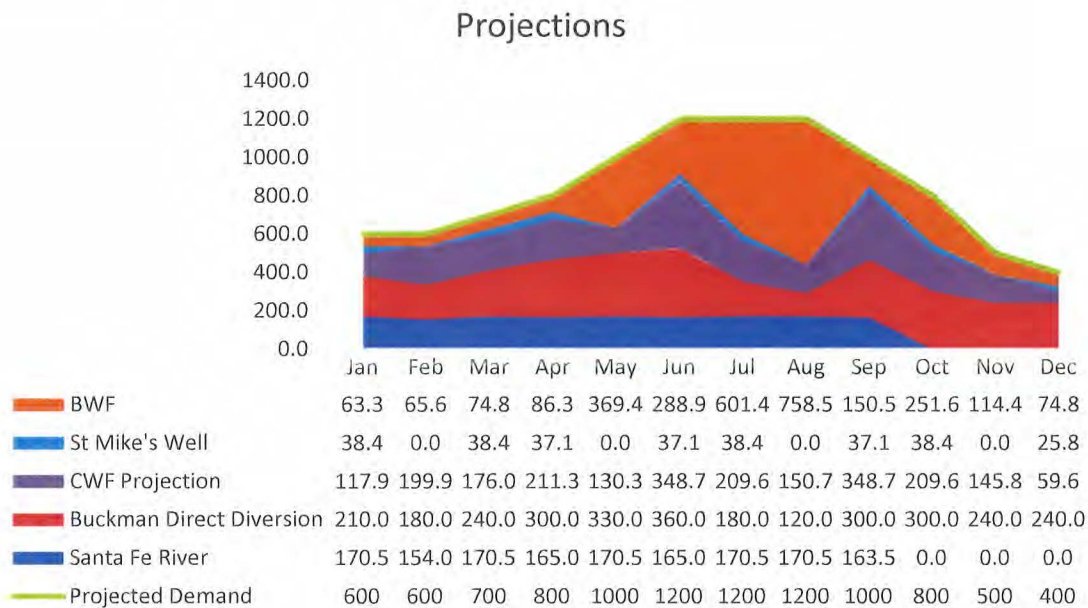


Figure 3 - Projected Water Demand by Source for 2018

The predicted production schedule, above, projected significant groundwater use – particularly from the Buckman Well Field which was expected to produce nearly 3,000 af of water – and anticipated low- to no-production from surface water sources.

Looking back, 2018 was hot and dry, but the combination of Santa Fean's water conservation efforts, forward looking cooperative management of surface water resources, and good luck in terms of Rio Grande flows and the fire season resulted in lower overall demand and groundwater use than projected.

Total demand was 8,953 acre-feet, slightly up from 2017 but significantly below projected demand. The increase was primarily due to a short, warm, and dry winter which led to an early start to irrigation season in April instead of in May. Peak demands were roughly the same, but the high demand season began a month earlier than the average.

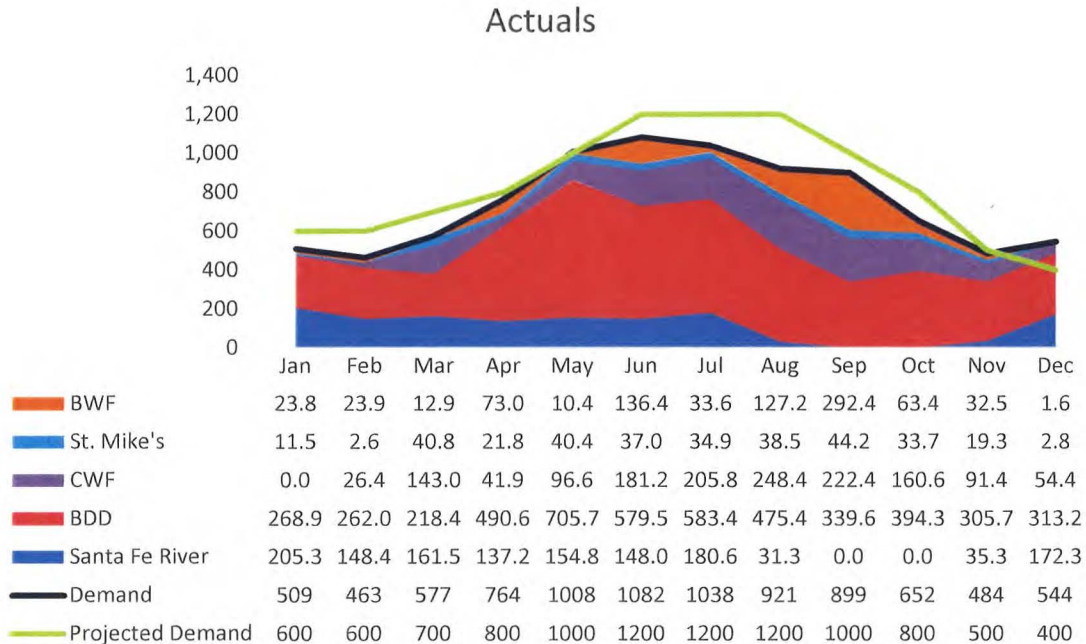


Figure 4 - Actual Demand by Source for 2018

The Santa Fe River is the historic source of water for the City of Santa Fe and originates in the mountains above Canyon Road. The City is permitted for 5,040 af per year of water from the Santa Fe River including storage rights in the Nichols and McClure reservoirs. In 2018 there was very little precipitation in the Santa Fe Watershed. Staff projected a total annual supply of 1500 af from the Santa Fe River which very nearly matched the actual production of 1374 af with a shut-down starting in August and start up in late November. City Water Division staff also worked with local acequias, initiating regular meetings to strategize on how best to efficiently deliver and utilize water given the hot dry conditions and low available flows which allowed for a cooperative relationship between the city and irrigators through a scarce water year.



Figure 5 - Public Utility Division Director Shannon Jones leads students on a tour of the Wastewater Treatment Plant.

The BDD facility, co-owned by the City and County, diverts the City’s San Juan Chama Project (SJCP) water from the Rio Grande. The City has 5,230 af of SJCP water delivered from the upper Colorado River Basin into the Chama River by the Bureau of Reclamation (BoR) via tunnels beneath the Continental Divide. BDD operations are vulnerable to low flows in the Rio Grande due to permit restrictions, potentially high silt content, and increased transmission losses (infiltration & evaporation) of SJCP water and because of these vulnerabilities, projected production of SJCP water was 3,000 af. Through regular coordination with SJCP partners including the BoR, efficient facility maintenance and project management, and departmental coordination, the BDD was able to produce close to 5,000 af and to remain operable during the installation of new delivery pipelines, metering equipment, and valves.

Water Supply

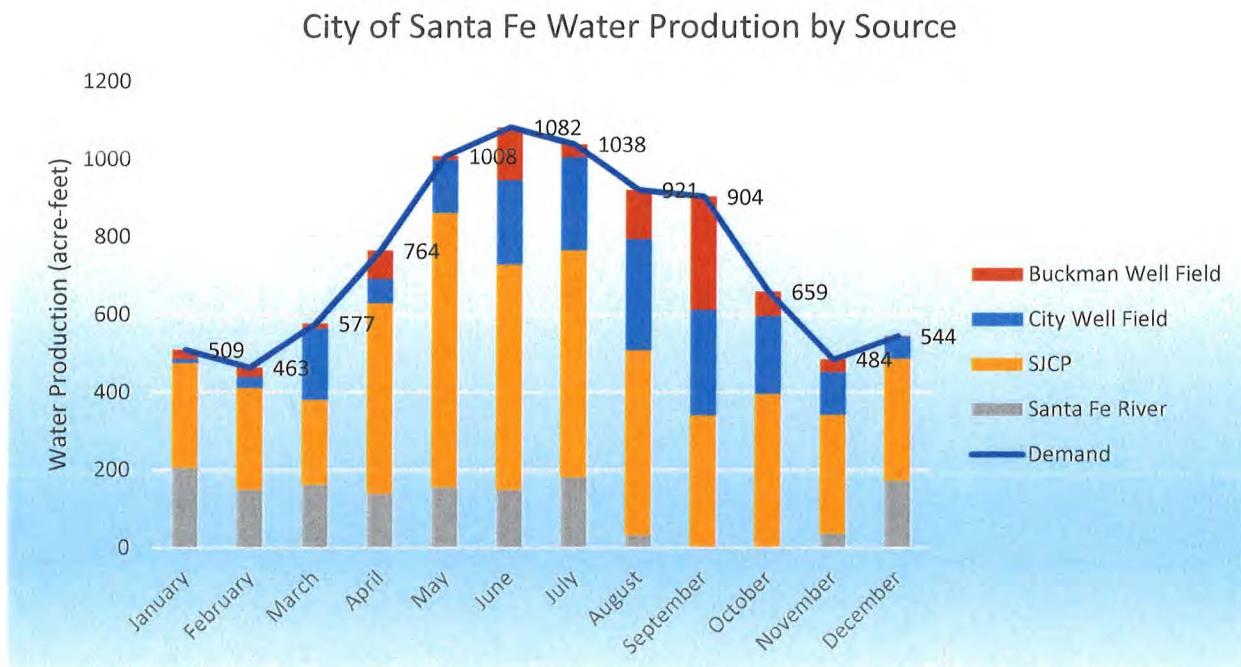


Figure 6 - Total Production by Source by Month for 2018

Production by Supply Source

As usage pattern shown in the Production by Supply Source figure above (figure 3), shows the early irrigation season – in April and May instead of May and June – resulting from a dry and warm winter. Low reservoir levels throughout the year led to low reservoir levels and poor water quality in the Santa Fe river resulting in the shut down of the plant from mid-August to mid-November. Groundwater use was higher than it has been in recent years though much lower than projected. Groundwater is the only source of water available in times of drought and water managers strive to preserve and protect groundwater reserves to be prepared for future shortage.

Santa Fe County Water Deliveries

The Santa Fe County Water Utility is a ½ owner of the BDD facility which provides up to 5,230 acre-feet of water to the City each year in addition to being the source of all of Santa Fe County Water Utility water. The City Water utility also provides up to 1,350 acre-feet per year of backup water to the County Utility and an agreement between the City and County on the terms of that arrangement was signed at the end of 2016.

Las Campanas receives drinking water service from the County Water Utility and also diverts untreated water via the BDD Diversion to be used for turf irrigation.

The Santa Fe County Water Utility typically is delivered potable water from the City of Santa Fe when the BDD facility is not producing drinking water due to poor water quality or low flow conditions in the Rio Grande. Thanks to coordinated efforts among water users along the Rio Grande, and good fortune in regard to late summer weather and fires, the BDD remained operational throughout 2018 and Santa Fe County did not utilize any backup water.

Water Demand

Per Capita Consumption

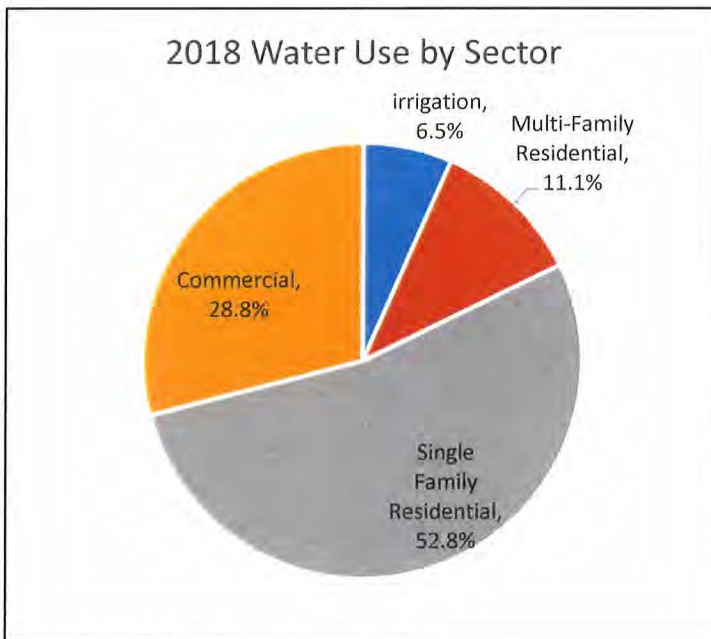


Figure 7 -2018 Total Water Demand by Sector

To better regulate municipal water use, the NMOSE began to condition municipal water- rights permits with the GPCD measurement and began a program to standardize the GPCD methodology. On March 16, 2009, the NMOSE released the standardized GPCD methodology using the GPCD calculator. The City has calculated GPCD using this tool since 2010.

The 2018 GPCD was 95. The previous year, the GPCD was calculated at 90. This increase is the result of increased annual

water use for outdoor watering resulting in a dry, warm, and short winter.

For the second year in a row, the Water Conservation Office has used PEPA NARES data rather than census projections to estimate population. The result of this is that the

population is slightly lower, resulting in a slightly higher GPCD that is likely more representative of the actual level of use in Santa Fe.

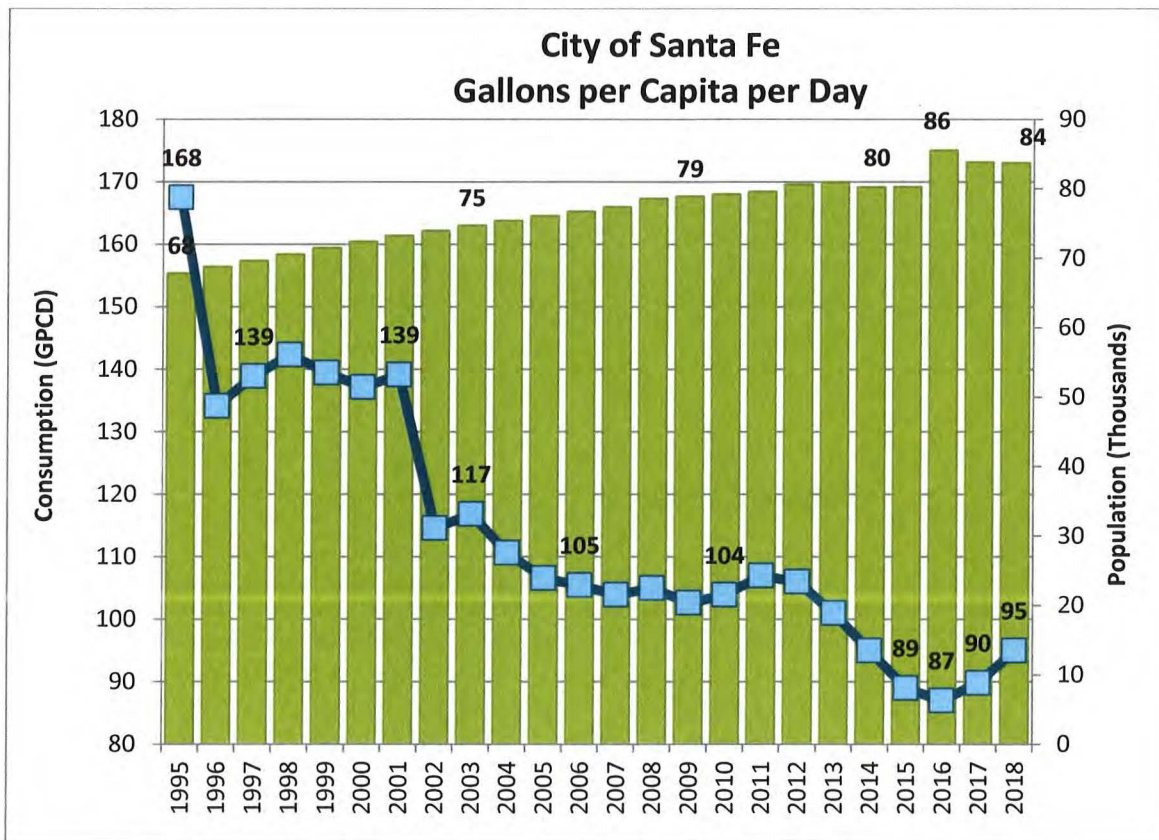


Figure 8 - GPCD & Total Consumption 1995-2018

Other Water Demands

Water demands in Santa Fe are not met entirely with treated drinking water and the water utility also delivers raw water to acequias for irrigation and to the Santa Fe River channel through town to comply with the Living River Ordinance, and – working with the Wastewater Division of the Public Utilities Department – also provides reclaimed wastewater for irrigation.

Santa Fe's Living River

The purposes Santa Fe's Living River Program are to help support the river's green corridor of trees, grasses, and other plants; to support healthy wildlife habitat; and to add to the beauty of free-flowing water to the parklands along the Santa Fe River. Benefits of maintaining a vegetated, green river corridor include shading and cooling of the urban environment; supporting plants that convert carbon dioxide into oxygen; helping to clean stormwater runoff; and controlling erosion. The target flow hydrograph establishes a schedule for the release of Living River water from April to April in proportion to anticipated water availability.

In 2018, the Natural Resources Conservation Service (NRCS) forecast for the upper Santa Fe River was equal to or less than 17% of the thirty-year average streamflow yield;

therefore, the Living River target flows represented a critical-dry hydrograph of 300 acre-feet for the 2018-19 target flow year. The 300 af target was reached gradually with releases beginning in April 2018 and continuing through early spring of 2019. In February of 2019, in response to significant snowfall, reservoir emergency management operations released an additional 1,400 af of Santa Fe River water to maintain adequate space in the reservoirs for anticipated 2019 runoff. Emergency management releases of water in March of 2019 brought total releases for the 2018-2019 Living River water year to 1,700 af.

A number of considerations determined the nature of the Santa Fe River Target Flow Hydrograph (for both the timing and volume of the flows) that had been developed for the 2018-19 target flow year. Due to the fact that it was a critical-dry year, and by recommendation of the River Commission, the most notable changes were the following:

- 1) As called out in the administrative procedures the Annual Childrens' Fishing Derby was suspended;
- 2) the two-pulses (Spring and Summer) were combined into one Spring pulse.

The combined pulse allowed for more saturation to occur in the newly planted reach of the Santa Fe River below Frenchy's Field, a project completed by Santa Fe County, and one in which the city will be taking over the maintenance of these reaches upon completion of construction. City and County staff were collaborating on alternative measures to provide additional irrigation to the newly planted reach when flooding damaged the site in July 2018.

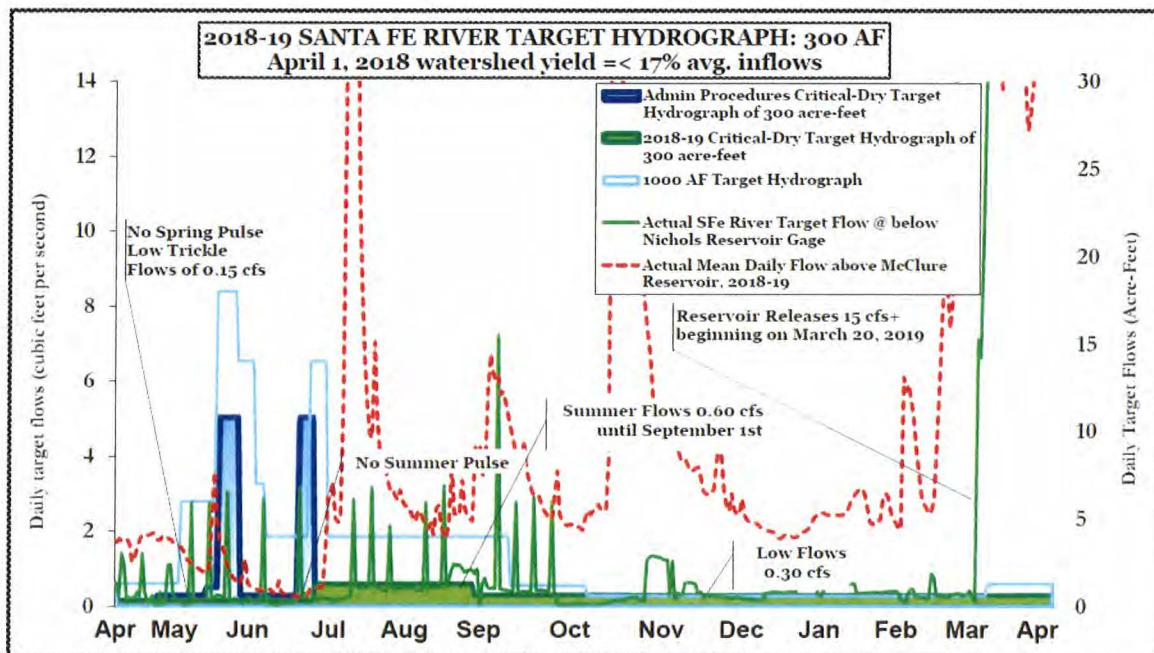


Figure 9 - 2018-2019 Santa Fe Living River Hydrograph

Treated Effluent Water Deliveries

Treated effluent from the City's treatment plant is sold directly to contractors via an onsite standpipe. The total production of treated effluent was 6,085 acre-feet in 2017, or 68% of the City's total production of 8,935 acre-feet. 49% of the treated wastewater was reused and the remaining 51% flowed into the lower Santa Fe River.

The City of Santa Fe's reclaimed wastewater (treated effluent) has many uses including:

- irrigation to recreational fields;
- irrigation at local golf courses;
- dust control at the regional landfill and for other construction projects;
- watering for livestock and wildlife on the Caja del Rio mesa;
- contribution to the on-site, wildlife, education pond at the NM Game & Fish facility;
- and supporting the lower Santa Fe River downstream of the City's wastewater treatment plant.

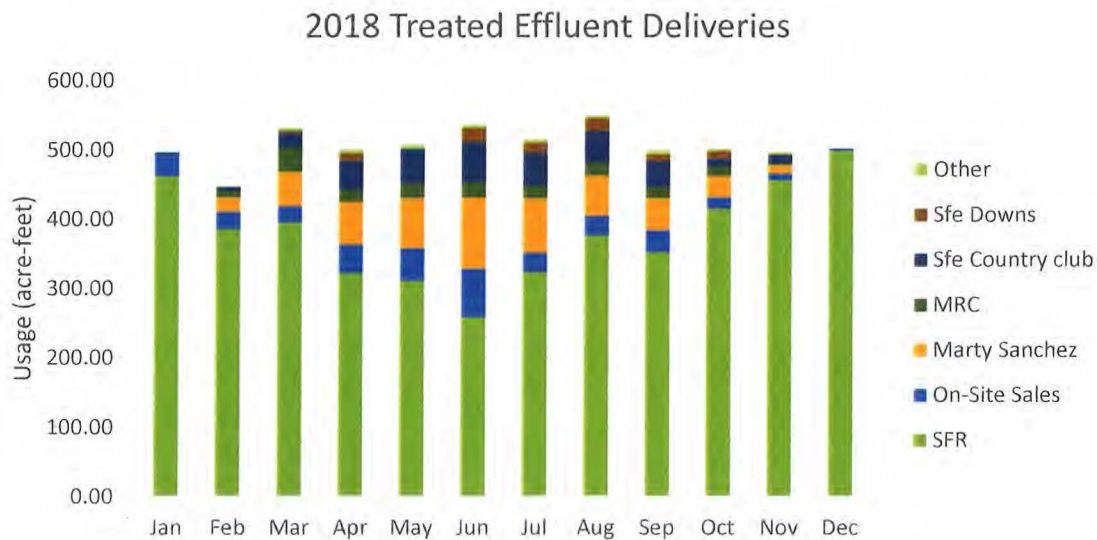


Figure 10 - 2018 Reclaimed Wastewater Deliveries

In 2015, the City Water Division completed the Santa Fe Basin Study: Adaptations to Projected Changes in Water Supply and Demand. The purpose of this report was to evaluate the impacts of population growth and climate change on the Water Division's ability to meet future potable water demand. The report identified a potential shortfall of several thousand acre-feet by the year 2055 due to a combination of population growth and climate change reducing surface water availability in the Santa Fe River and Colorado River Basins. The report also identified Reclaimed Wastewater as the most viable alternative for augmenting future water supplies.

In 2016, another report was completed – the Santa Fe Water Reuse Feasibility Study – which evaluated how to best utilize reclaimed wastewater to address the future water

shortages predicted in the 2015 Basin Study. Seven potential options were evaluated and the alternative, which scored the highest, largely due to providing the greatest benefit in terms of acre-feet of water available and doing so at the lowest cost per acre-foot provided, was to pursue return flow credits on the Rio Grande. This alternative would involve construction of a pipeline to convey the portion of the City's treated effluent that is derived from imported SJCP water to a discharge location on the Rio Grande. Returning unconsumed water to the Rio Grande from which it was delivered would enable the City to divert additional water from the Rio Grande until the entire SJCP portion of the City's water rights – 5,230 acre-feet – is fully consumed. The City only consumes about 35% of the water that runs through the system this could be a benefit of several thousand acre-feet per year.



Figure 11 - The Santa Fe River below Guadalupe St.

Water Supply Sources

The City of Santa Fe has four sources for drinking water:

- The Santa Fe River
- San Juan-Chama Project water via the Rio Grande
- The City Well Field
- The Buckman Well field

A fifth water supply source is the utilization of reclaimed water from the Paseo Real Wastewater Treatment Plant. Reclaimed water reduces the demand on the total supply of potable water.

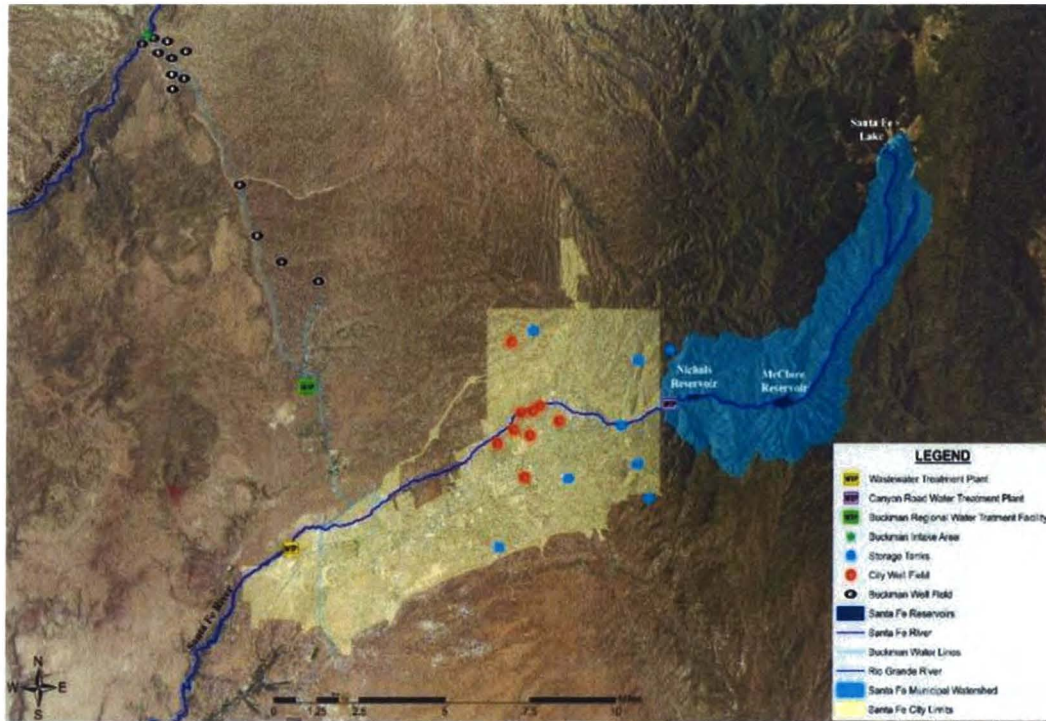


Figure 13 - Map of the Santa Fe Water System

Surface Water

The Buckman Regional Water Treatment Plant (BRWTP) treats San Juan-Chama Project water imported from the Colorado River Basin and delivered via the Rio Grande through tunnels constructed by the BoR. As a contractor of the SJCP, the City of Santa Fe can divert up to 5,230 acre-feet per year of drinking water. A joint City of Santa Fe and Santa Fe County board governs the BRWTP and the Buckman Direct Diversion (BDD) Project facilities.

Source	Water Rights (acre feet)	Available Water (acre feet)
Santa Fe River	5,040	4,040 assuming 1,000 bypassed to the river
City Wells	3,507/4,865	sustainable use when needed
Buckman Wells	10,000	sustainable use when needed
Buckman Direct Diversion	5,230	Imported San Juan-Chama water per the Colorado River Compact

Figure 14 - Table of Available Production Water Rights

The City of Santa Fe has a license to store up to 3,985 acre-feet (combined) of Santa Fe River water in McClure and Nichols Reservoirs located in the closed Santa Fe River Municipal Watershed as shown in Figure 1. The Santa Fe River is the historic source of drinking water for Santa Fe and the City has a water right to produce up to 5,040 af per year from this source.

The management responsibility for the Santa Fe River includes source water protection and watershed management under the City of Santa Fe's Municipal Watershed Program. In 2018 with exceptional drought conditions, the USFS closed the Santa Fe National Forest on June 1st, including the Santa Fe Municipal Watershed, until July 9th. With improving soil moisture and weather conditions, the Santa Fe National Forest conducted a prescribed burn in the beginning of October, 2018 on approximately 545 acres within the municipal watershed, just south of McClure Reservoir. Since 2015, the City of Santa Fe's Water Division customers, as the beneficiaries of a healthy watershed, have paid for over 5,500 acres of fuel treatments for vegetation management by the Santa Fe National Forest to protect the City's municipal reservoirs from wildfire and improve forest resiliency (see Figure 20).

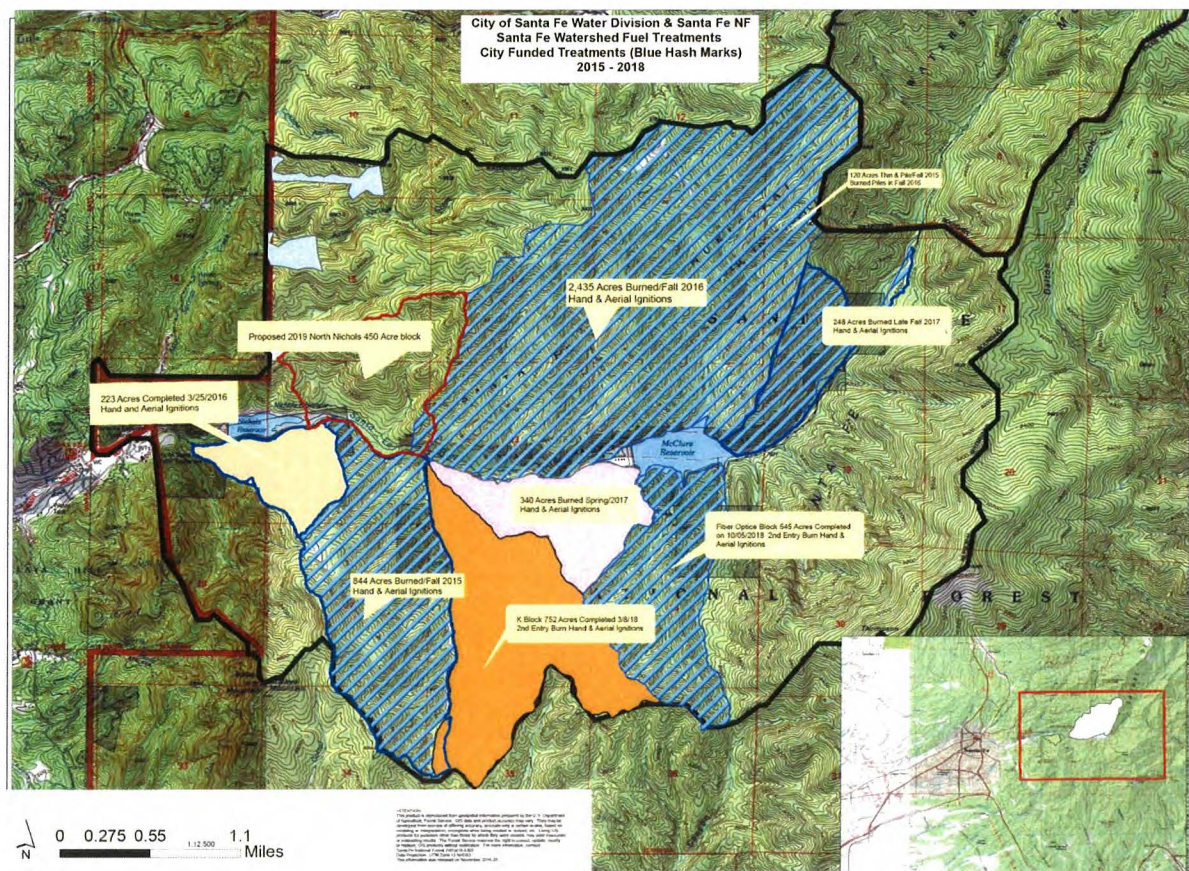


Figure 15 - Map showing prescribed burn treatments in the Santa Fe Municipal Watershed 2015-2018

Ground Water

The City of Santa Fe has seven active groundwater wells in the City Well Field, most of which are focused near the Santa Fe River (see figure 1). Combined, the wells are permitted to produce up to 4,865 acre-feet per year of drinking water supply for Santa Fe and not more than 35,070 acre-feet per 10 year period.

The Buckman well field is located near the Rio Grande, approximately 15 miles northwest of Santa Fe (see figure). The Buckman Well permit allows the City a maximum pumping rate of 10,000 acre-feet per year for drinking water supply provided significant groundwater pumping offset rights are in place in five groundwater basins: the Rio Grande above Otowi Gage, the Rio Grande below Otowi Gage, the Nambe, Pojoaque and Tesuque basins, and on the lower Santa Fe River in La Cienega.



Figure 16 - Student Ambassadors learning from a groundwater model at the Children's Water Fiesta

Surface Water Rights Used for Offsets

In addition to water rights directly diverted for water supply, Santa Fe maintains a portfolio of 'offset' surface water rights that are associated with the Buckman well field and the Northwest Well.

The purpose of offset water rights is to allow the city to comply with the conditions of approval attached to the Buckman Well Field and Northwest well permits issued by the NM Office State of the Engineer (OSE). When wells are pumped surface water is likely to be absorbed into the aquifer at a greater rate in order to fill the void created by pumping the well. The OSE uses a computer model to estimate these impacts and then requires that the City offset reduced surface water availability by acquiring water rights in each impacted basin and reducing the demand for surface water. City water planners are working on strategies to minimize groundwater pumping and to meet offset obligations in different ways.

The City of Santa Fe has acquired sufficient water rights to satisfy its current obligation on the Rio Grande, Rio Tesuque, and Rio Nambe/Rio Pojoaque through acquired surface water rights.

Stream system	Water rights (af)
Rio Tesuque	57.25
Rio Pojoaque / Rio Nambe	101.87
Rio Grande	1,066.12
La Cienega	0

Figure 17 - Offset Water Rights by Stream System

Drought & Precipitation

Drought is a normal recurrent feature in the arid southwest. Santa Fe has a very dry, high desert climate with intense sunlight. The highest temperatures in July and August are 80-90 °F with only 3-6 days per year with highs over 90°F. Santa Fe began 2018 in the midst of a warm, dry winter that ended early. By the middle of 2018, Santa Fe and Northern New Mexico was in an exceptional drought.

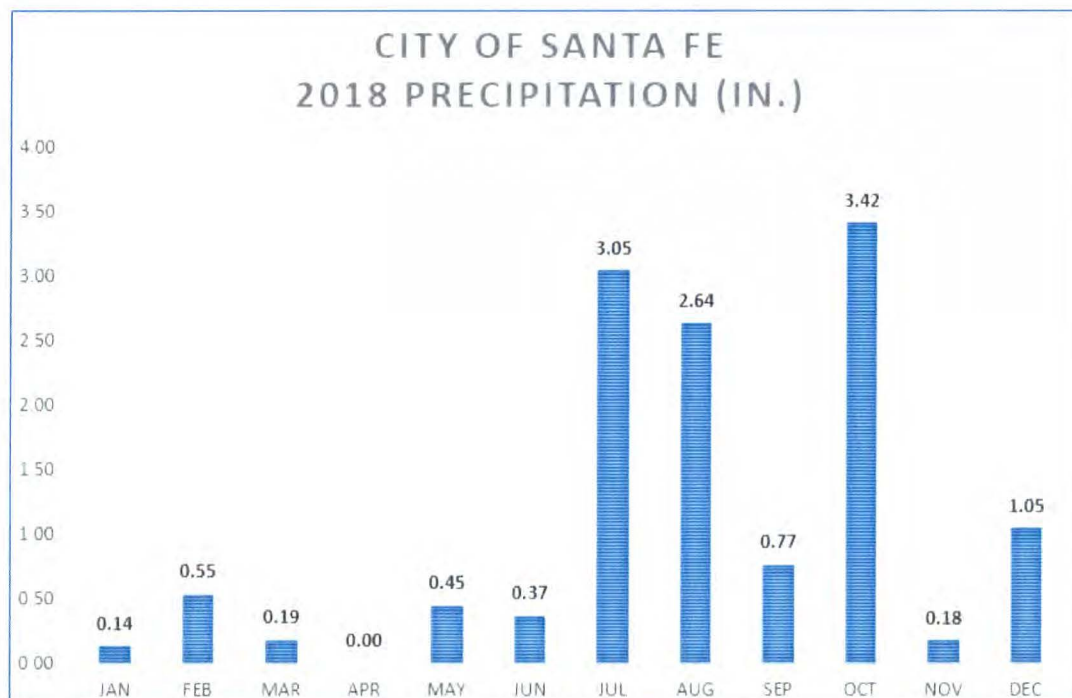


Figure 18 - Precipitation by month in Santa Fe 2018

Description	Possible Impacts
Abnormally Dry	Going into drought: short-term dryness slows growth of crops/pastures. Coming out of drought: some lingering water deficits; crops/pastures not fully recovered.
Moderate Drought	Some damage to crops/pastures; streams, reservoirs, or wells are low with some water shortages developing or imminent; voluntary water-use restrictions requested.
Severe Drought	Crop/pasture losses are likely; water shortages are common and water restrictions are imposed.
Extreme Drought	Major crop/pasture losses; widespread water shortages or restrictions.
Exceptional Drought	Exceptional and widespread crop/pasture losses; shortages of water in reservoirs, streams, and wells creating water emergencies.

July 3, 2018

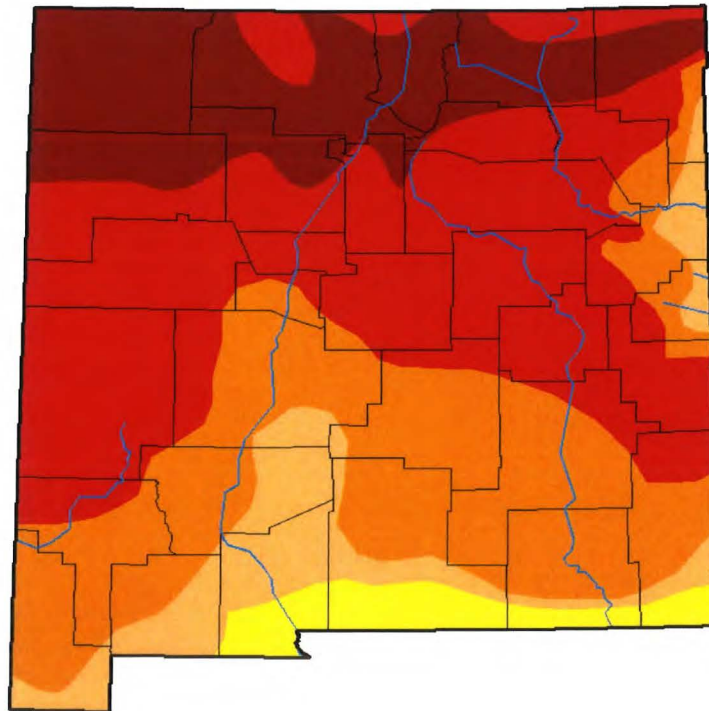


Figure 19 - NOAA Drought Status for New Mexico 2018

In 2018, precipitation in New Mexico was well below the average rainfall. Spring 2018 snowmelt and subsequent runoff started early and was well below normal due to strong La Niña conditions throughout the Southwest. 2018 had well above normal temperatures in early spring with dry and windy conditions quickly reducing the snowpack runoff in both the Rio Grande and Santa Fe River basin. The monsoons arrived late and produced heavy rains, see Figure 11, including the July 23rd exceptional rain event causing downstream flooding and property damage.

According to the Western Regional Climate Center, the Santa Fe Watershed weather station, at an elevation of 7,674 ft., receives on average 13.84 inches annually of precipitation. In 2018, the Santa Fe Watershed station recorded 17.41 inches of precipitation. Higher in elevation within the municipal watershed are two National Resource Conservation Service (NRCS) ‘SNOTEL’ weather stations that measure accumulated precipitation (see Figure 14).

SNOTEL Station	Elevation (Feet)	Accumulated Precipitation (inches)
SNOTEL Station	Elevation (Feet)	Accumulated Precipitation (inches)
Santa Fe	11,445	32.2
Elk Cabin	8,210	25.6

Figure 20 - Precipitation levels in upper Santa Fe watershed 2018

In 2018, despite decent precipitation at high elevation, lower elevation areas – including the irrigated areas throughout the city – received very little precipitation with cumulative precipitation reduced by nearly half between 11,445’ and 7,674’.



Figure 21 - Installation of underground fiber optic cables in the upper Santa Fe watershed