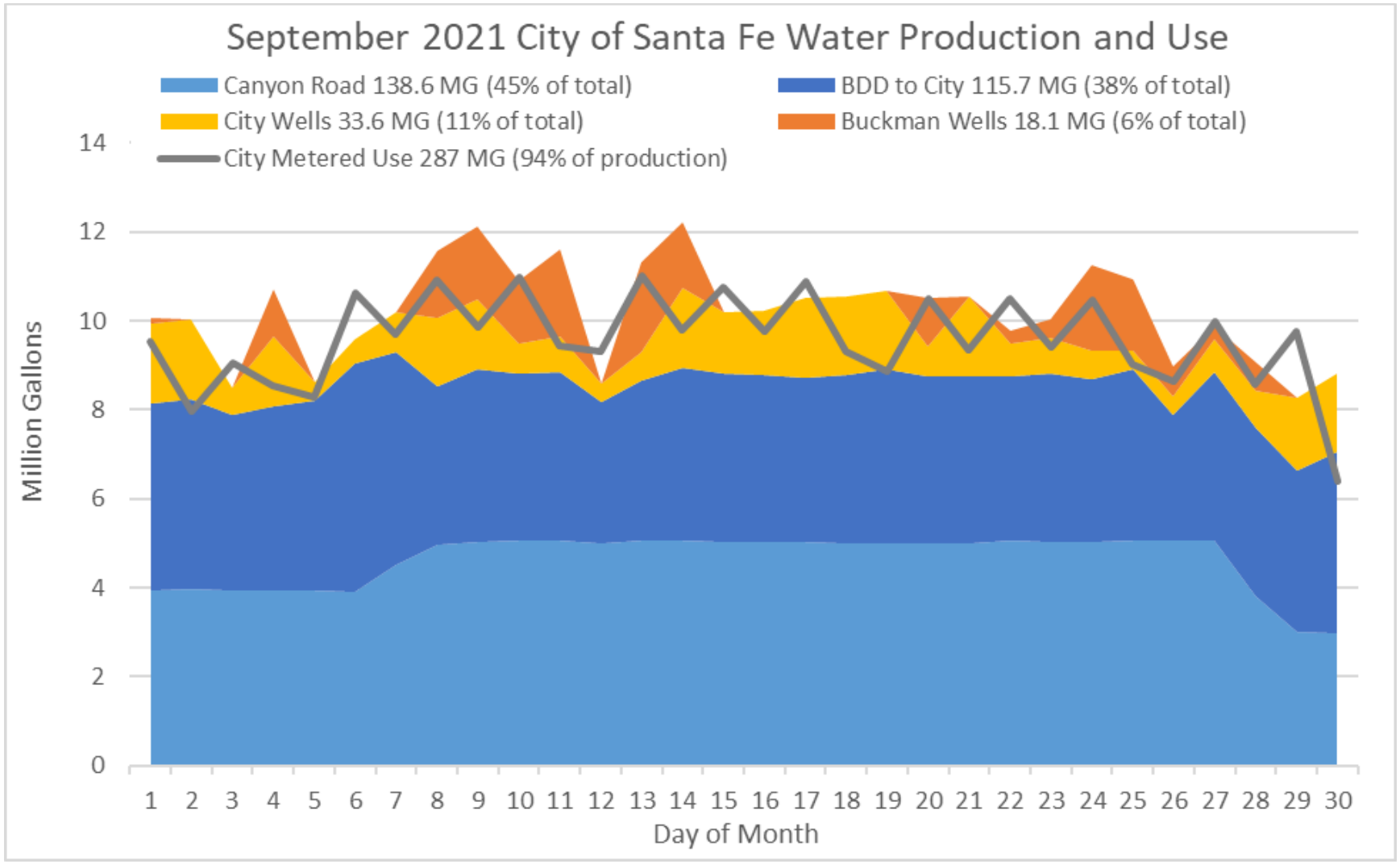
CoSF Water Supply & Demand Update: September 2021

This report is available at https://www.santafenm.gov/water

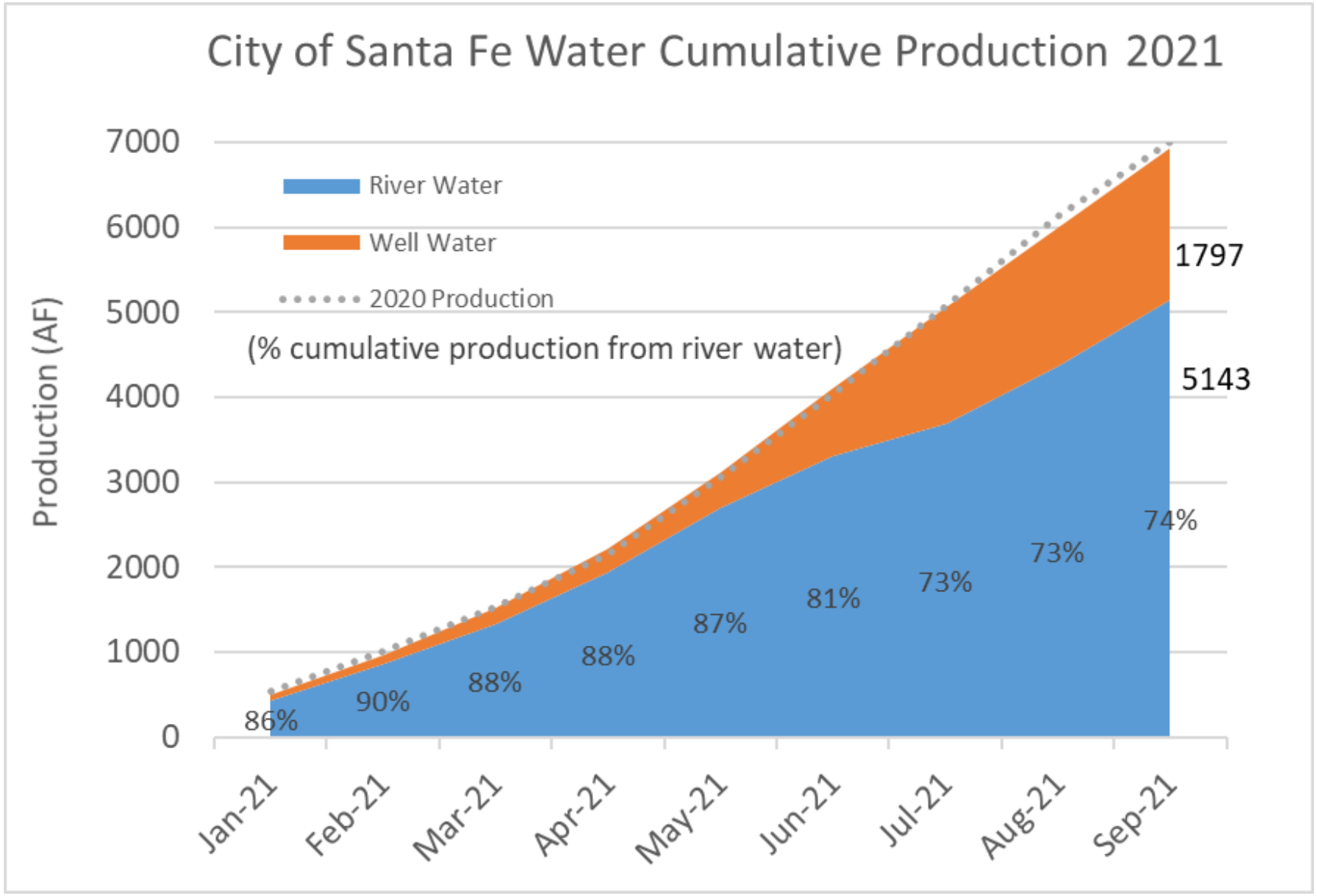
1. Monthly Supply and Demand Summary

- City of Santa Fe Water produced 306 million gallons of potable water in September.
- 83% of that production came from surface water sources (rivers).
- 94% of potable water produced was delivered to customers (6% "unaccounted" water loss).
- Potable production and use by day through the month shown on Page 2.
- Use numbers are provisional as they estimate use at 3 County meters.


September 2021 City of Santa Fe Water Production and Use
Canyon Road 138.6 MG (45% of total)
BDD to City 115.7 MG (38% of total)
City Wells 33.6 MG (11% of total)
Buckman Wells 18.1 MG (6% of total)
City Metered Use 287 MG (94% of production)
Million Gallons
0
2
4
6
8
10
12
14
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
Day of Month

2. Cumulative Annual Surface Water and Groundwater Production

- Through September of 2021, City of Santa Fe Water has produced 6940 AF of potable water
- 74% (5143 AF) of this production has come from river water, and 26% (1797 AF) from wells.
- City of Santa Fe Water estimates renewable groundwater availability from all of our wells of approximately 5000 AF per year.
- 2021 well water use is approximately double 2020 amounts, but still less than half of our estimated renewable groundwater availability.
- Total production through September 2021 is slightly below 2020 levels.
- Cumulative annual production from rivers and wells is shown on Page 4.


City of Santa Fe Water Cumulative Production 2021
Production (AF)
7000
6000
5000
4000
3000
2000
1000
0
River Water
Well Water
2020 Production
(% cumulative production from river water)
1797
5143
86%
90%
88%
88%
87%
81%
73%
73%
74%
Jan-21
Feb-21
Mar-21
Apr-21
May-21
Jun-21
Jul-21
Aug-21
Sep-21

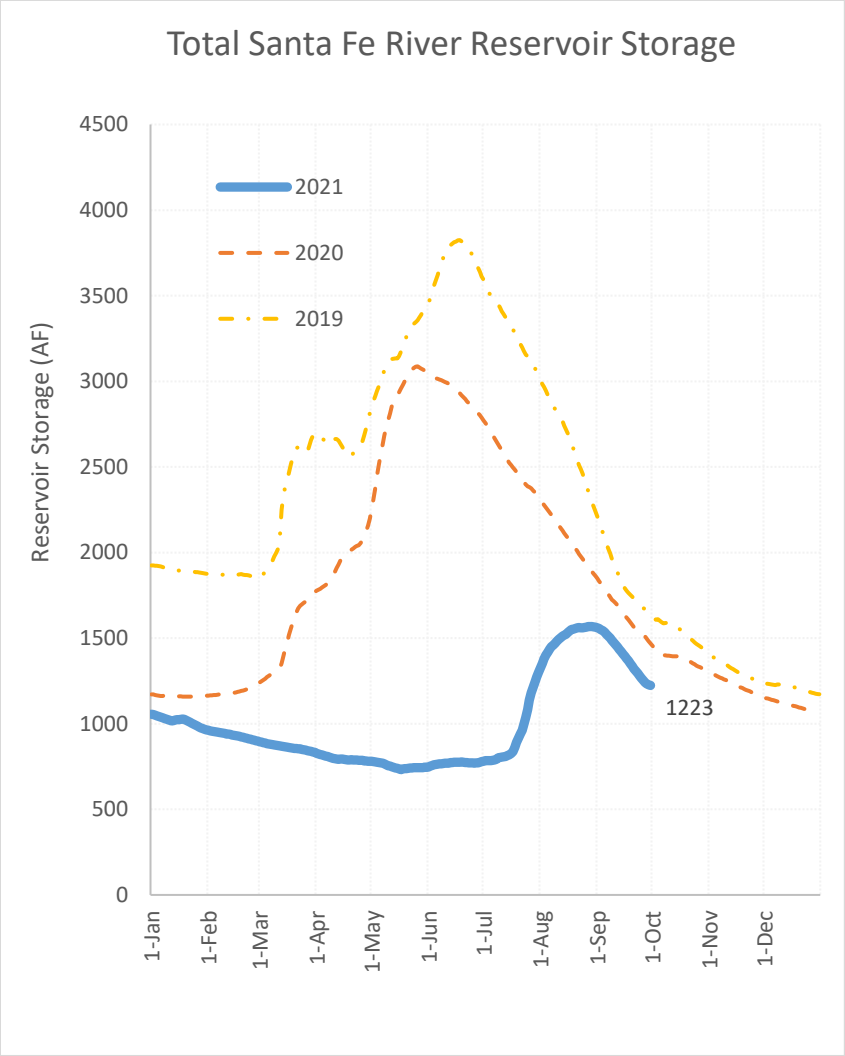
3. City of Santa Fe Water Reservoir Storage

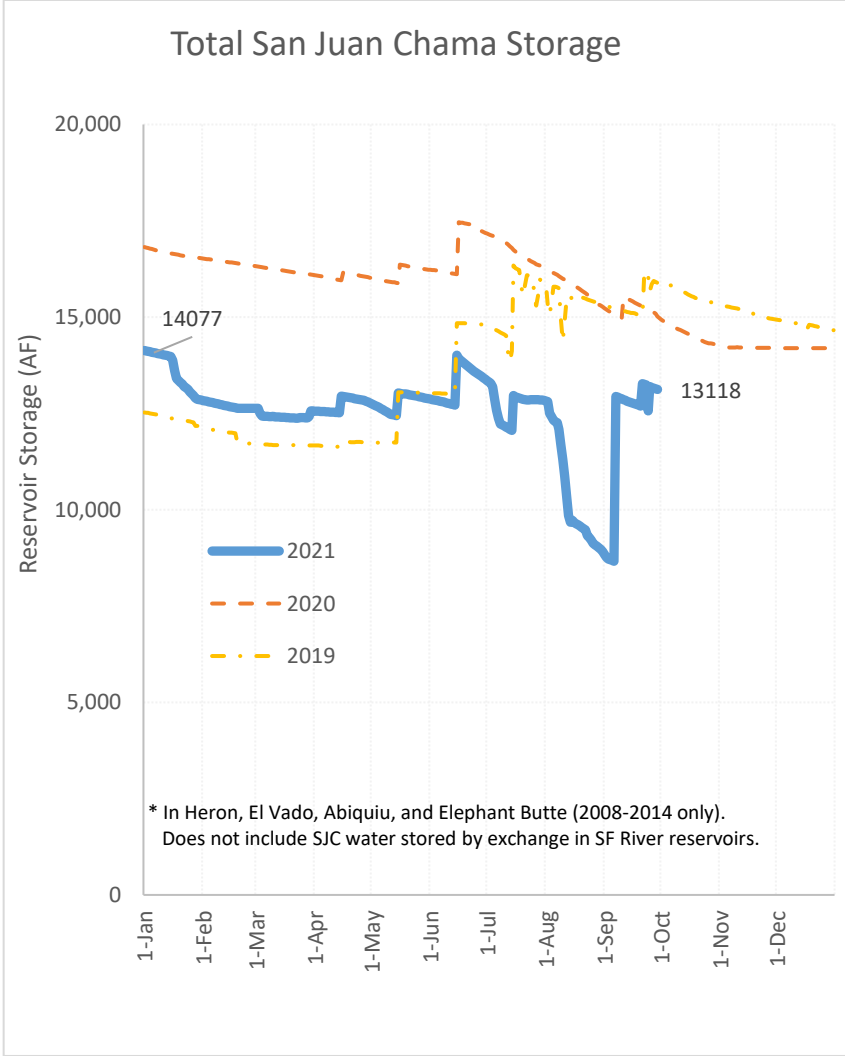
- Santa Fe Reservoirs had 1223 AF of water in storage at the end of September (31% capacity).

- Santa Fe Reservoirs have 1061 AF of "pre-compact" space, and 3921 AF of total capacity.

- City of Santa Fe Water had 13,118 AF of water in storage at midnight on September 29th (~1.5x total annual potable demand).

- Reservoir storage in 2021 compared to 2019 and 2020 is show on Page 6.


Total Santa Fe River Reservoir Storage
Reservoir Storage (AF)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
2021
2020
2019
1223
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
1-Oct
1-Nov
1-Dec

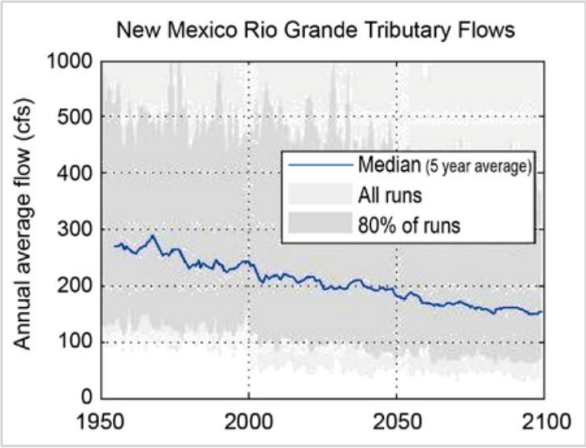

Total San Juan Chama Storage
Reservoir Storage (AF)
20,000
15,000
10,000
5,000
0
14077
13118
2021
2020
2019
* In Heron, El Vado, Abiquiu, and Elephant Butte (2008-2014 only).
Does not include SJC water stored by exchange in SF River reservoirs.
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
1-Oct
1-Nov
1-Dec

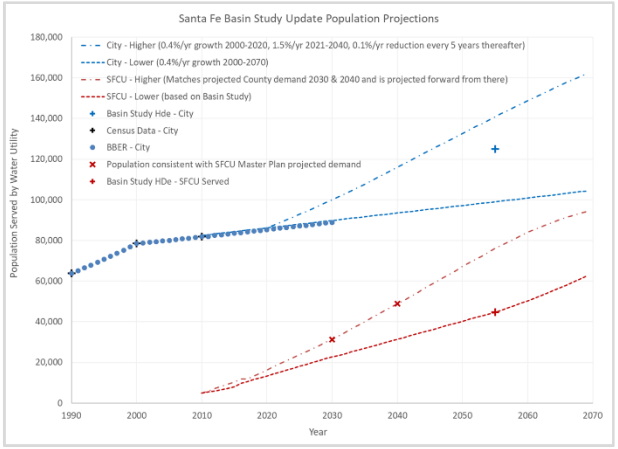
4. Miscellaneous

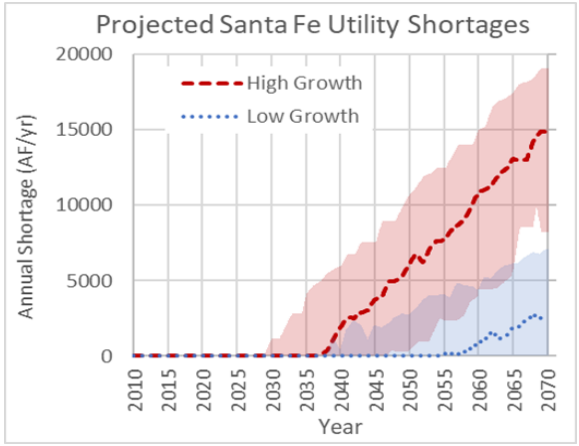
- Are we putting all of our eggs into one (return-flow) basket?
  - The short answer is no. We have and will continue to consider and assess a wide range of adaptation strategies to assure a resilient water future.
  - Of these, the return flow project is the most resource effective new adaptation strategy available and therefore the focus of much current attention.
  - Existing adaptation strategies (conservation and water rights acquisition) remain part of day to day efforts.
  - Adaptation strategies based on aquifer storage and recovery are under active consideration.
  - The figures on the next several pages provide additional details.

Threats to a resilient water future

Climate Change + Demand Uncertainty = Potential Supply Shortages

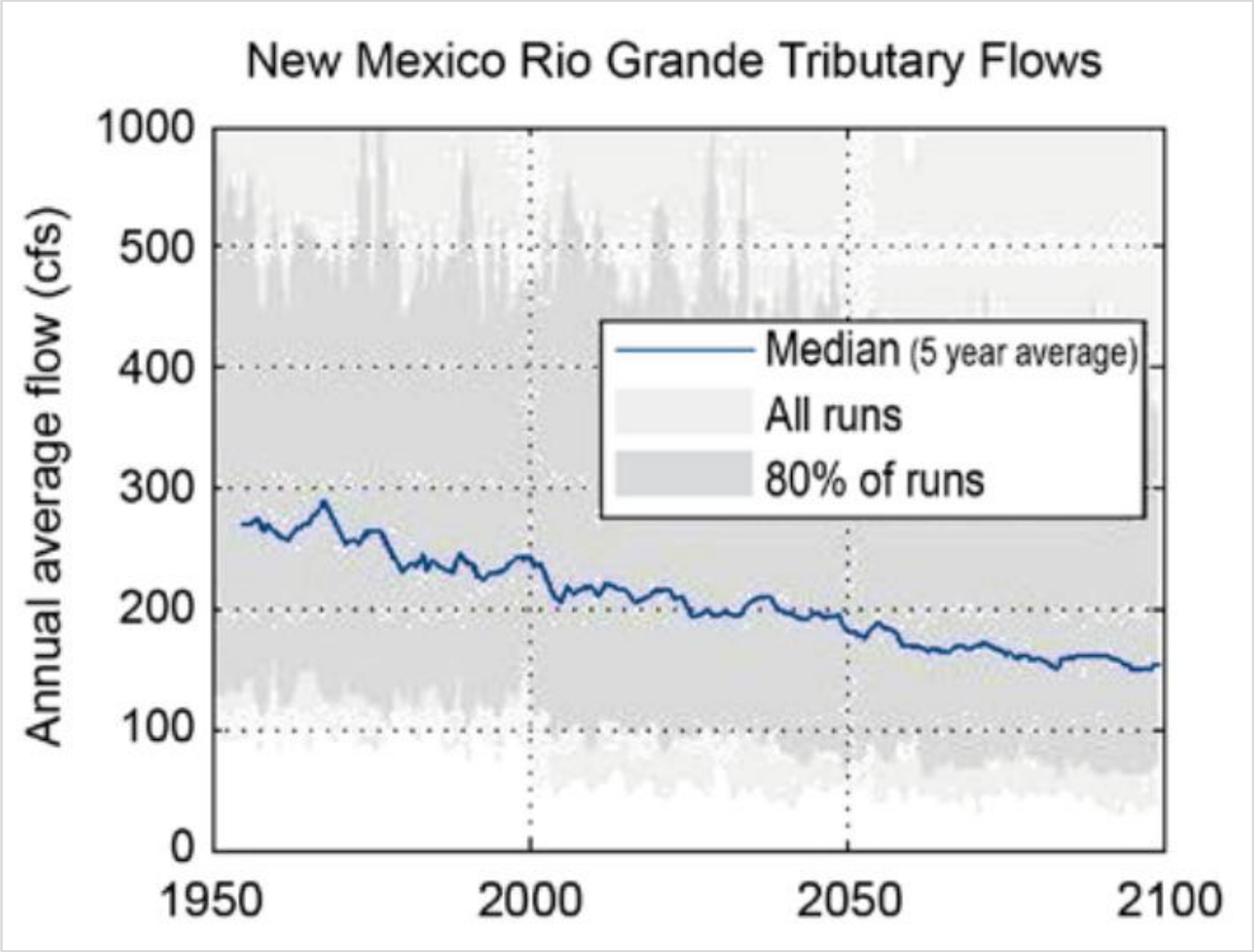






Threats to a resilient water future

Climate Change + Demand Uncertainty = Potential Supply Shortages



In 2013 The Bureau of Reclamation projected up to a one third reduction by 2100 in average annual water supply associated with Santa Fe's local water resources. Although an update is currently in the works, this remains the best available published estimate of potential climate change impacts on our water resources.

Figure 15 of 2013 Upper Rio Grande Water Impact Assessment. https://www.usbr.gov/watersmart/baseline/docs/urgia/URGIAMainReport.pdf

Climate Change + **Demand Uncertainty** = Potential Supply Shortages

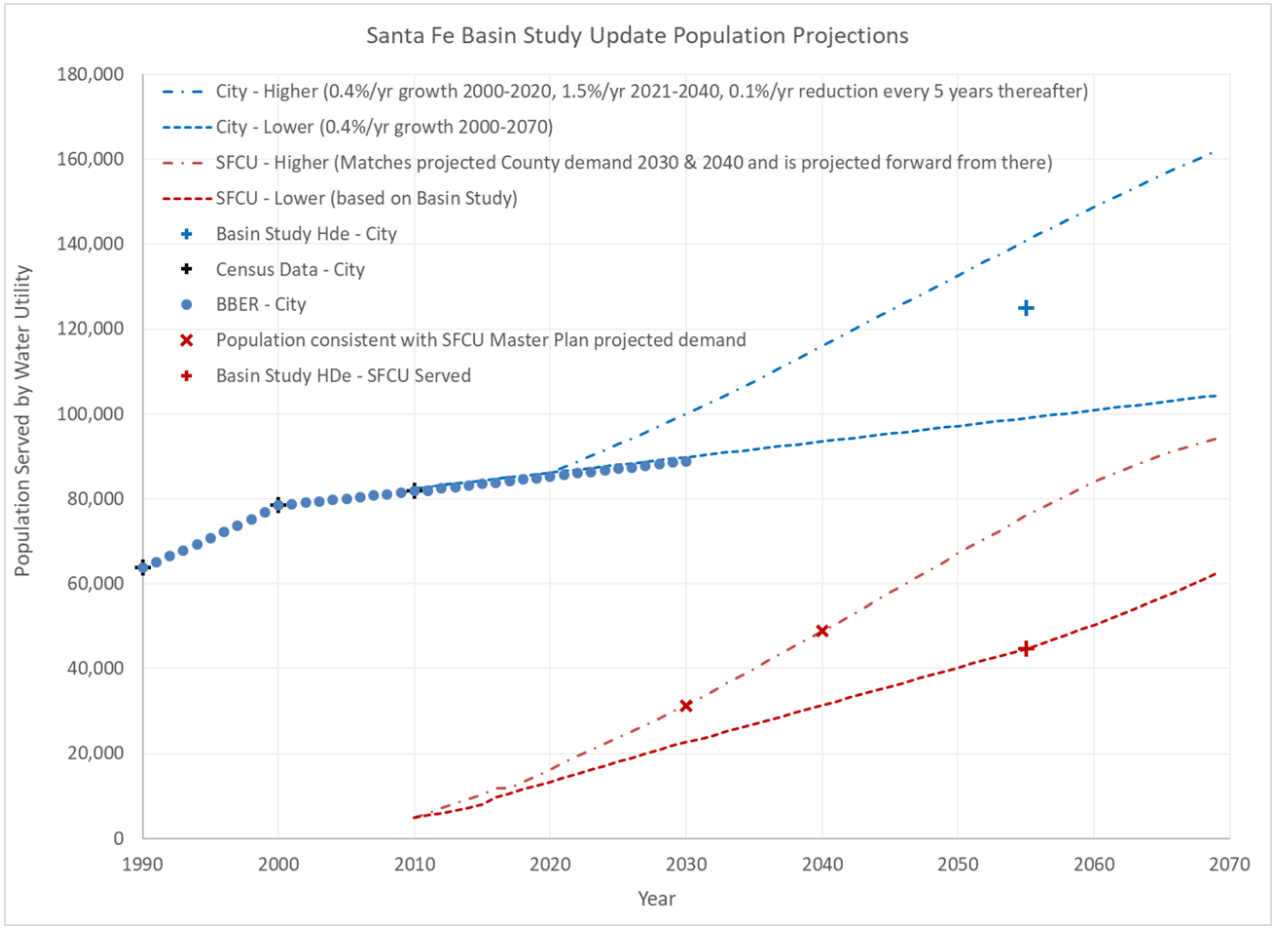


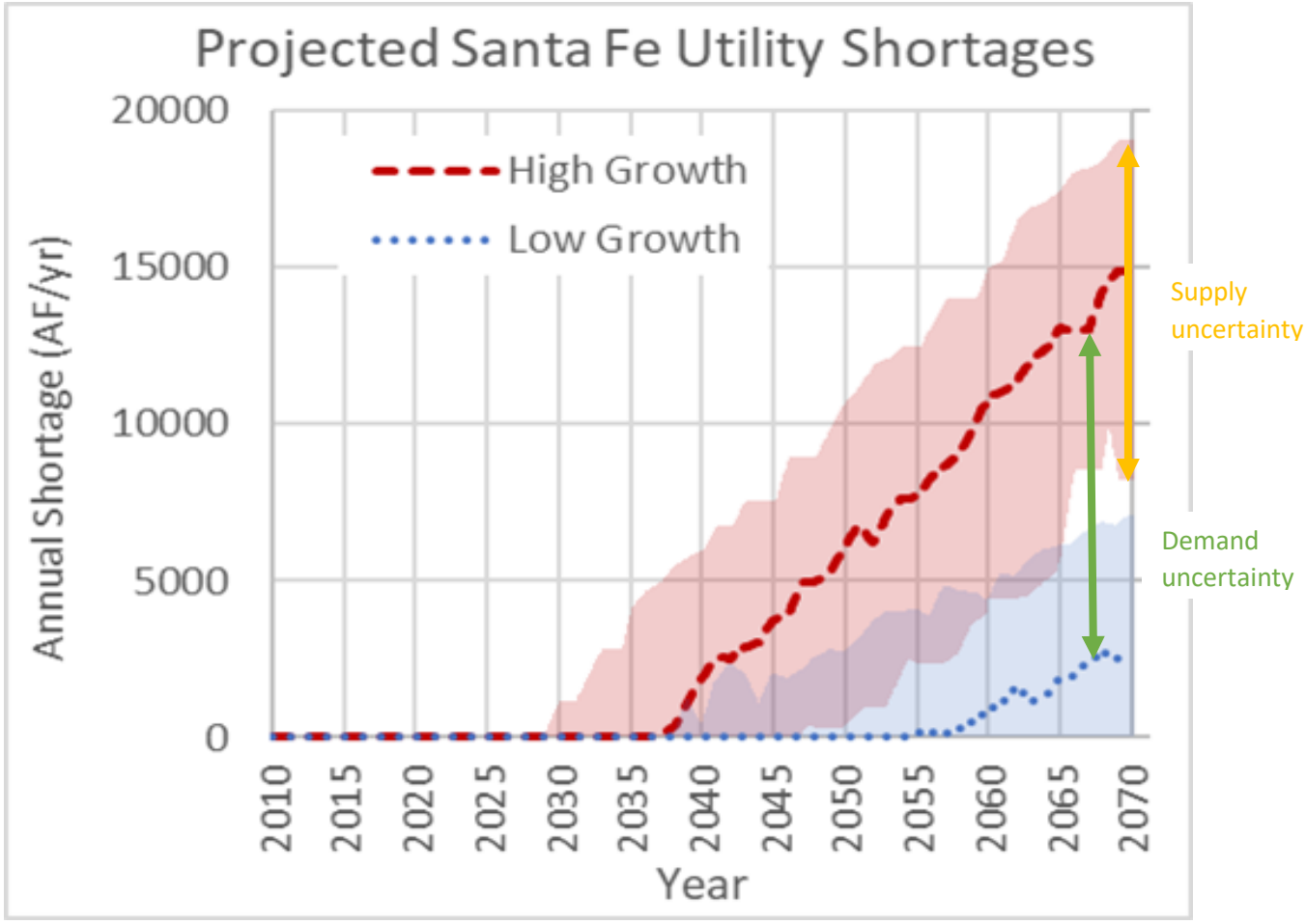
Figure 2 of Santa Fe Basin Study Update available at https://www.santafenm.gov/water_resources_1#lrwsp

Population projections were multiplied by a constant average use per person to estimate future demand. This conservative method assumes no additional conservation.

Threats to a resilient water future

Climate Change + Demand Uncertainty = **Potential Supply Shortages**

Potential shortages to Santa Fe City and County Water Utilities may occur by the 2030s if we don't implement adaptation strategies, *and* actual climate changes are similar to the worst case models, *and* we see high demand growth.



From the Santa Fe Basin Study Update available at
https://www.santafenm.gov/water_resources_1#lrwsp

Adaptation Strategies to Avoid Shortages (our different baskets)

- Adaptation Strategies considered in the 2015 SF Basin Study :
    - (and what we have done since)
    - Water Conservation
        - CoSF Water believes in a water conservation ethic and budgets about $1.6 million per year in support of conservation.
    - Direct /Indirect Reclaimed Water Reuse
        - We are moving towards the SJC Return Flow Project.
    - Aquifer Storage and Recovery
        - Staff is evaluating concepts for ASR of Santa Fe River Water in or near the river channel.
        - Staff is evaluating concepts for potential infiltration of effluent or raw river water for recovery with Buckman Wellfield Wells 11-13.
    - Additional Surface Water Rights
        - CoSF Water continues to purchase water rights and require large developers to do the same on our behalf.
- City of Santa Fe Water has and will continue to evaluate all reasonable options to maintain a resilient water future within a wide range of potential future scenarios.