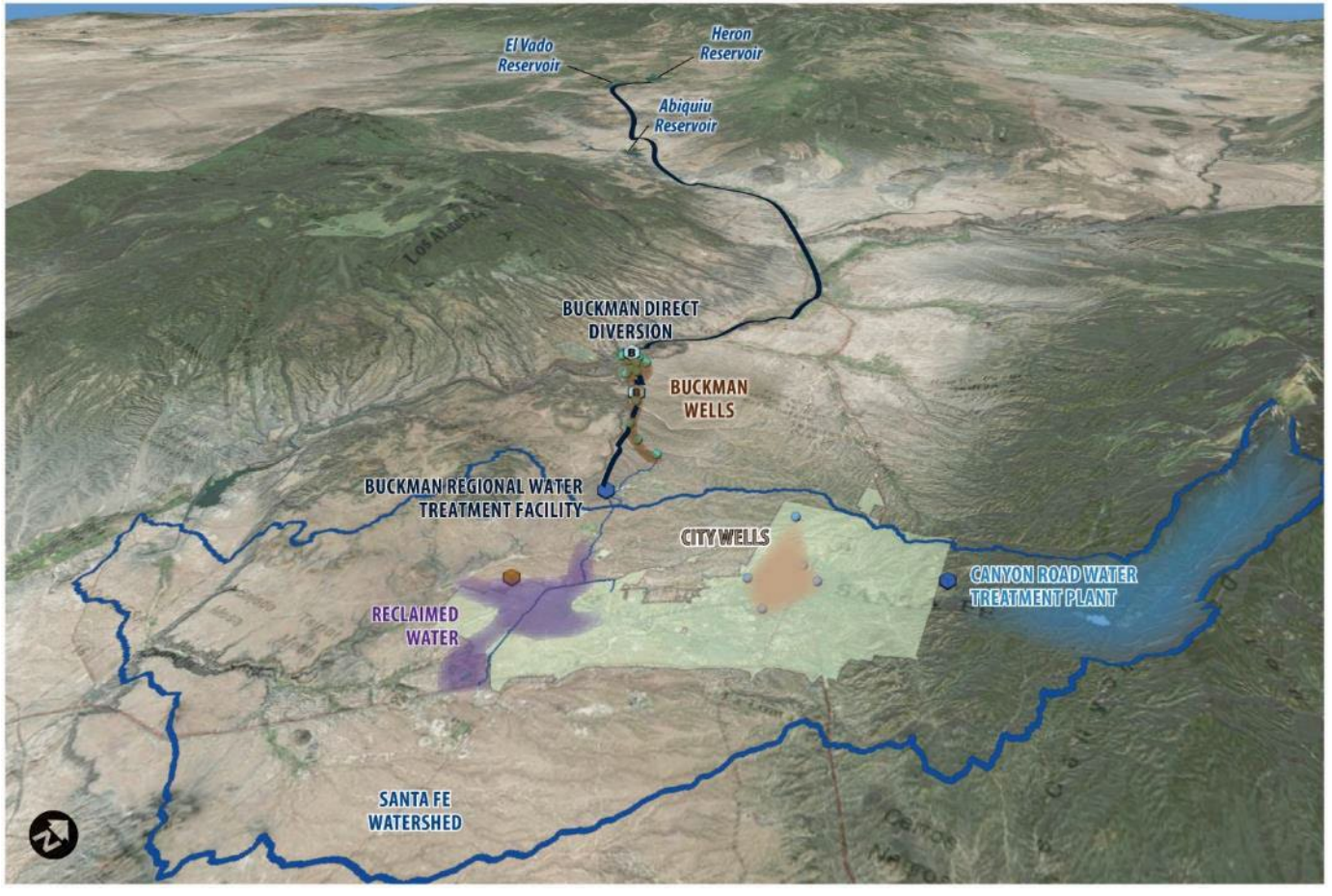
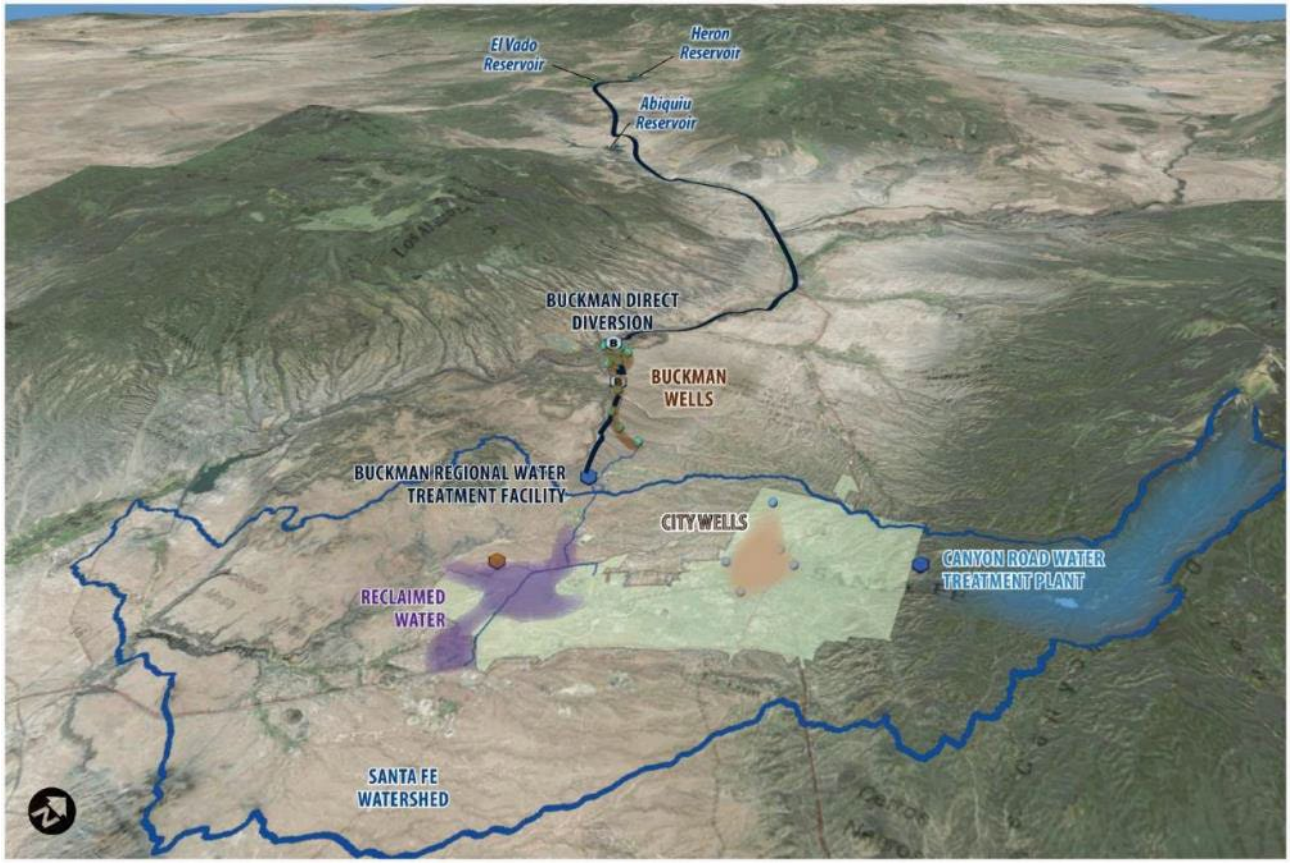


What's Up With Water? 2024 Edition

April 2024

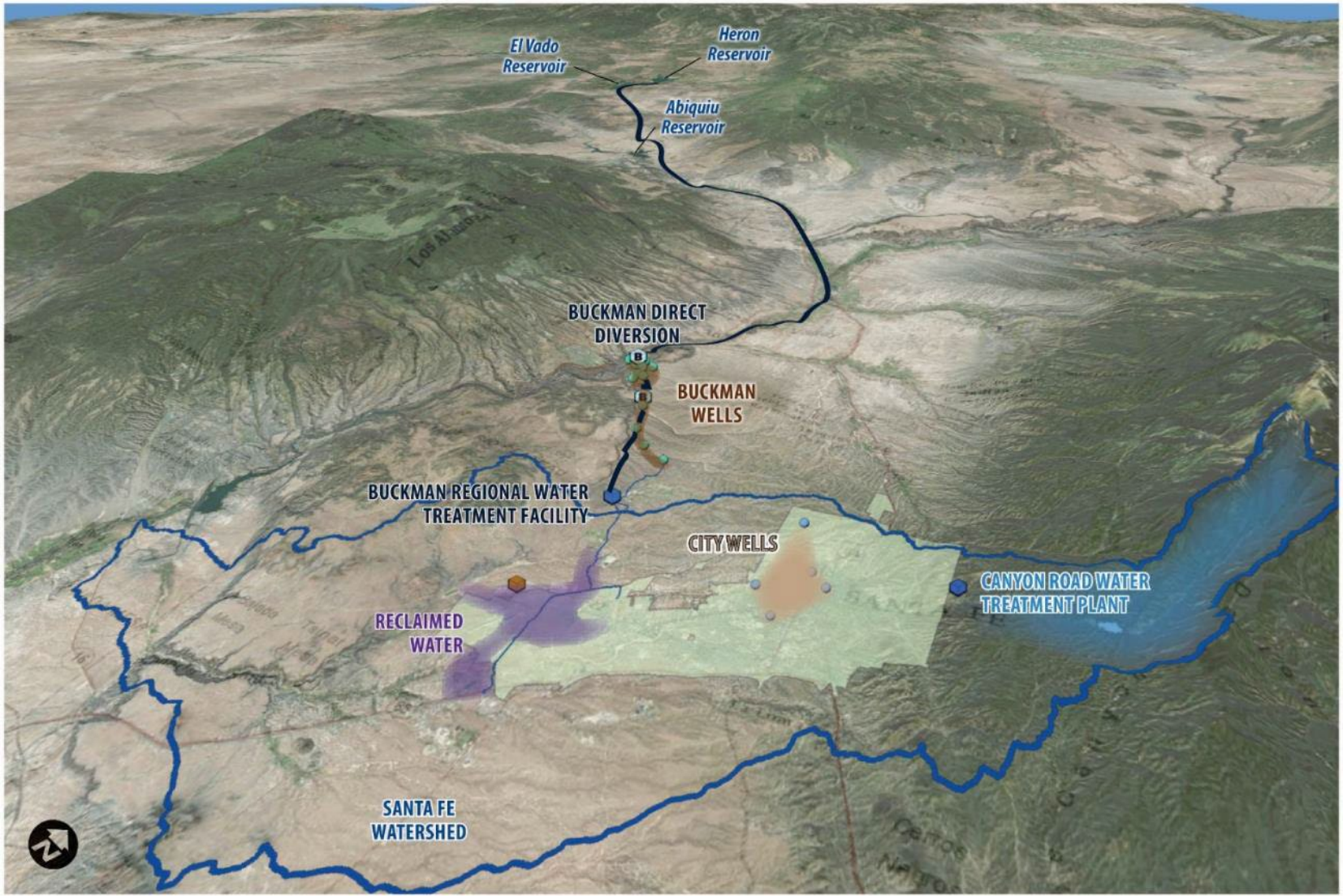
Outline

- System Overview
  - 3 slides #4-6
- Santa Fe Water Past
  - 7 slides #8-14
- Santa Fe Water Present
  - 10 slides #16-25
- San Juan Chama Return Flow Project
  - 15 slides #27-41
- Long Range Planning
  - 3 slides #43-45



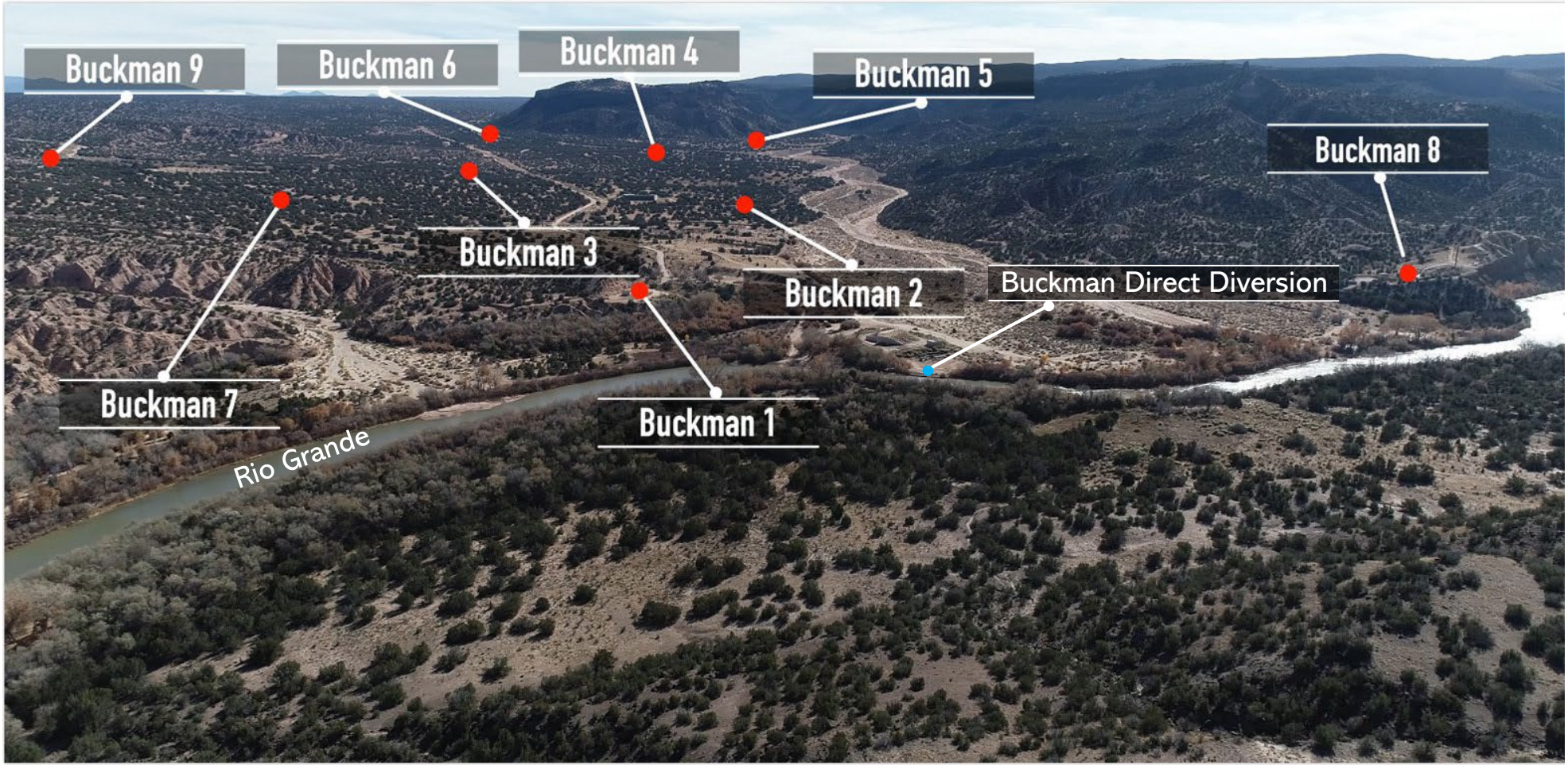
The System

- 4 Potable Sources
  - SF River
  - City Wells
  - Buckman Wells
  - BDD
- BDD jointly owned
  - City
  - County
  - Las Campanas
- City diverts SJC water at BDD
- Non-potable resource
- Santa Fe River watershed

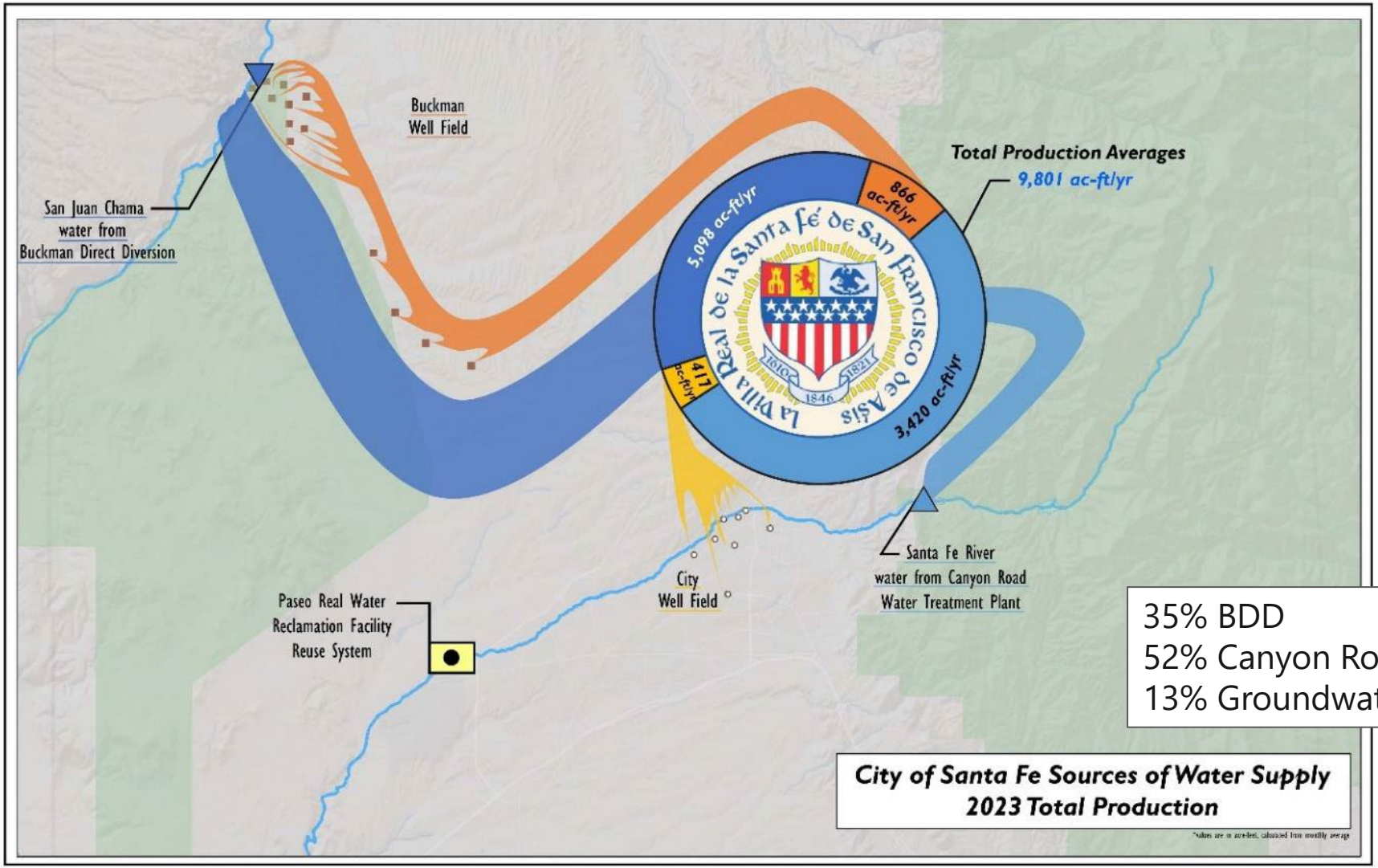


Buckman Wells 1-9

As seen from the Rio Grande looking towards Santa Fe

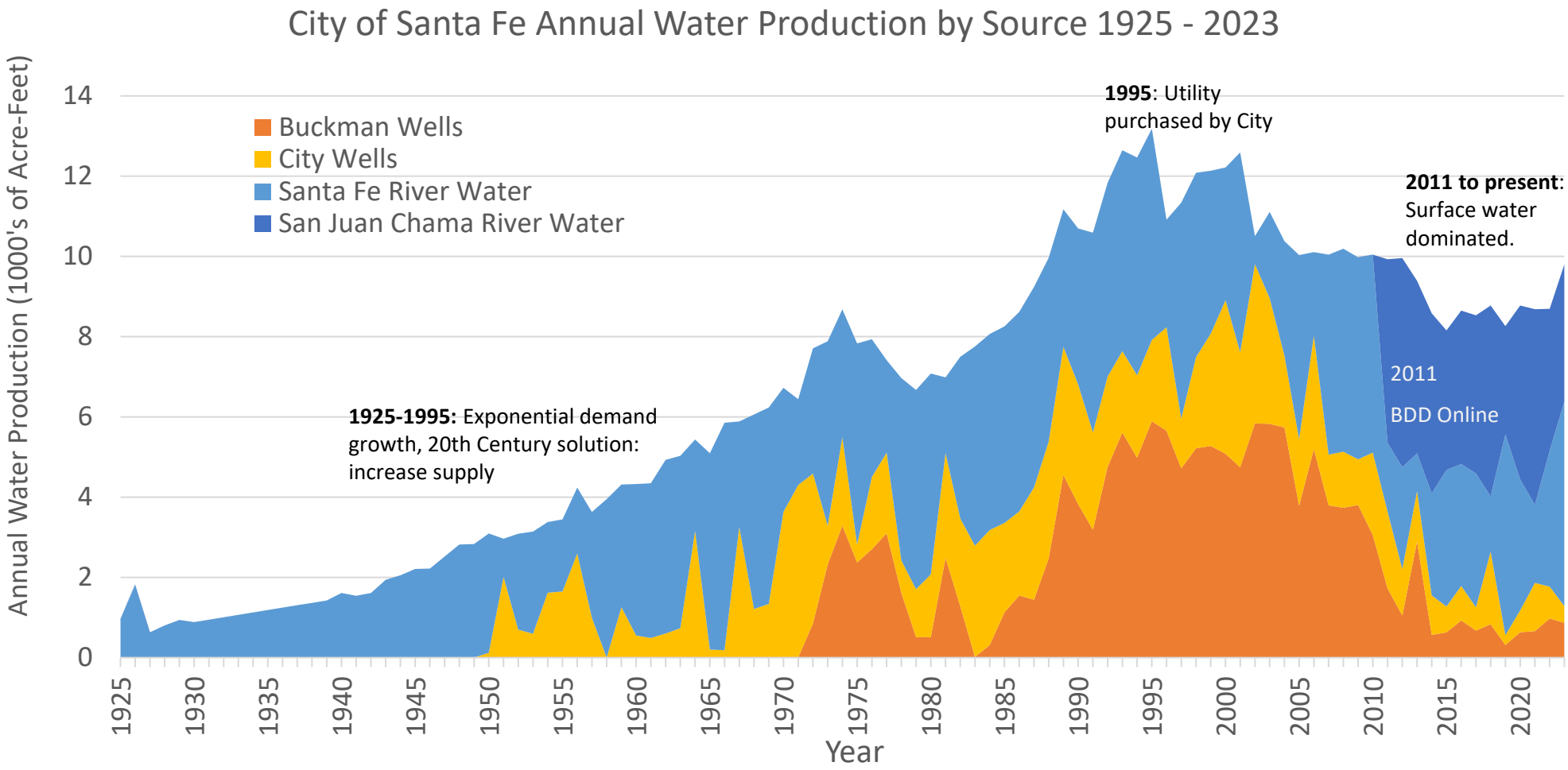


2023:

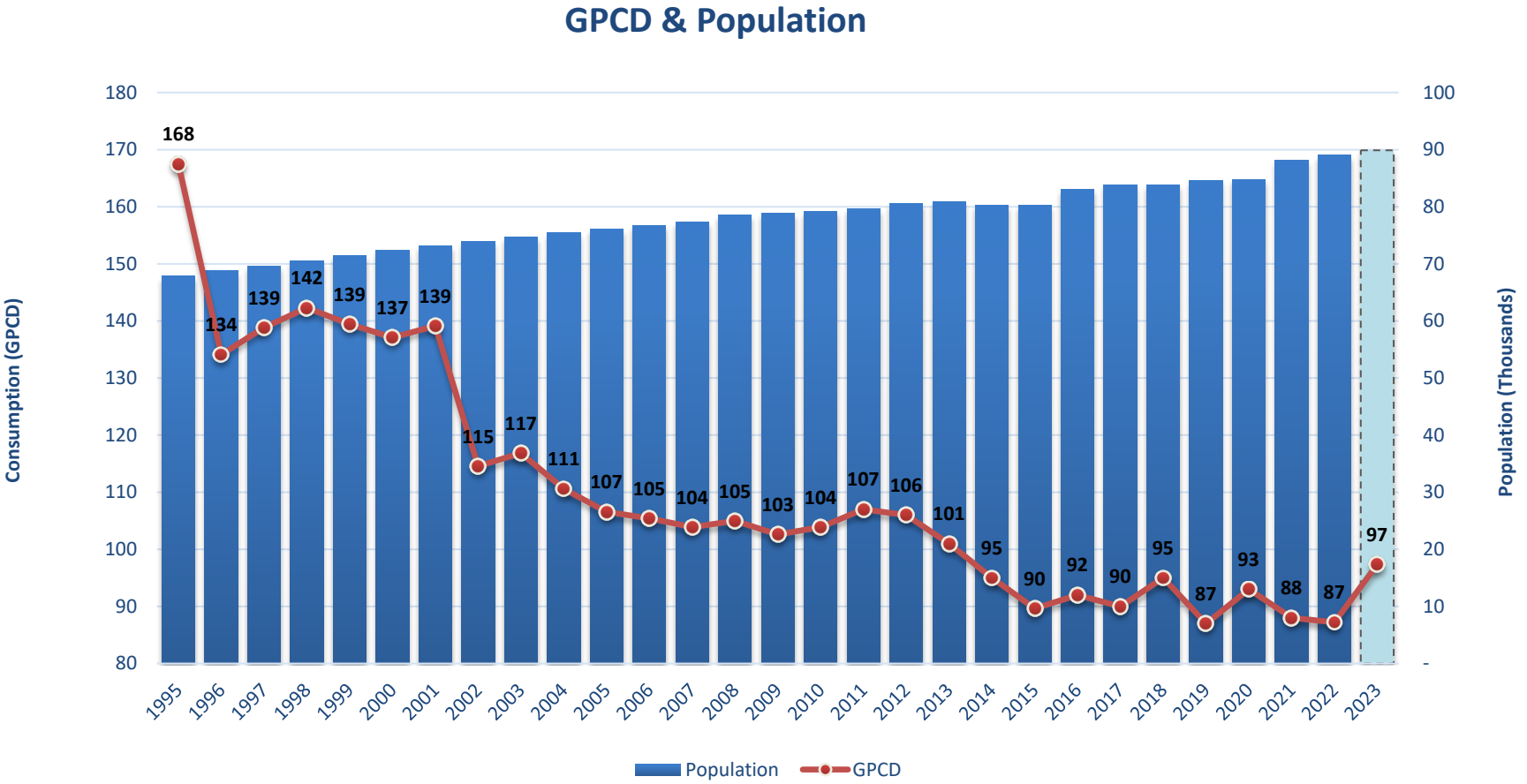


35% BDD
52% Canyon Road
13% Groundwater

CoSF Water Past: A Picture Is Worth…



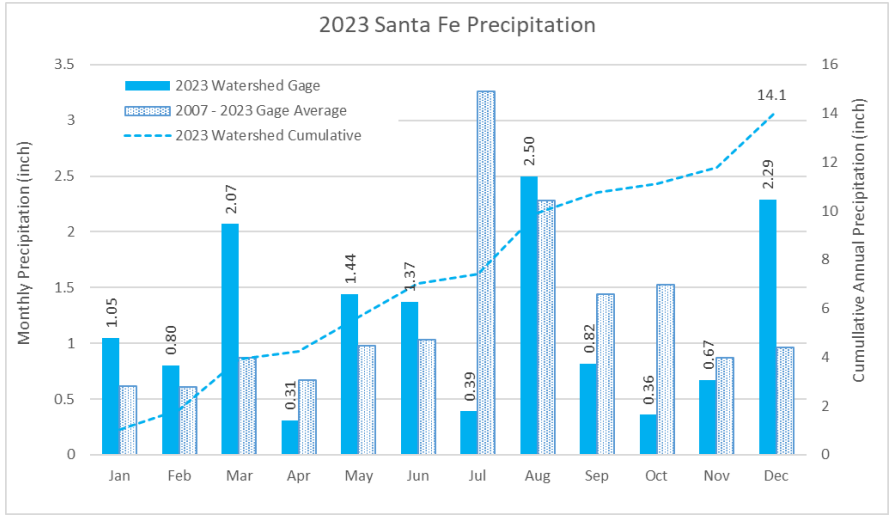
Water Conservation



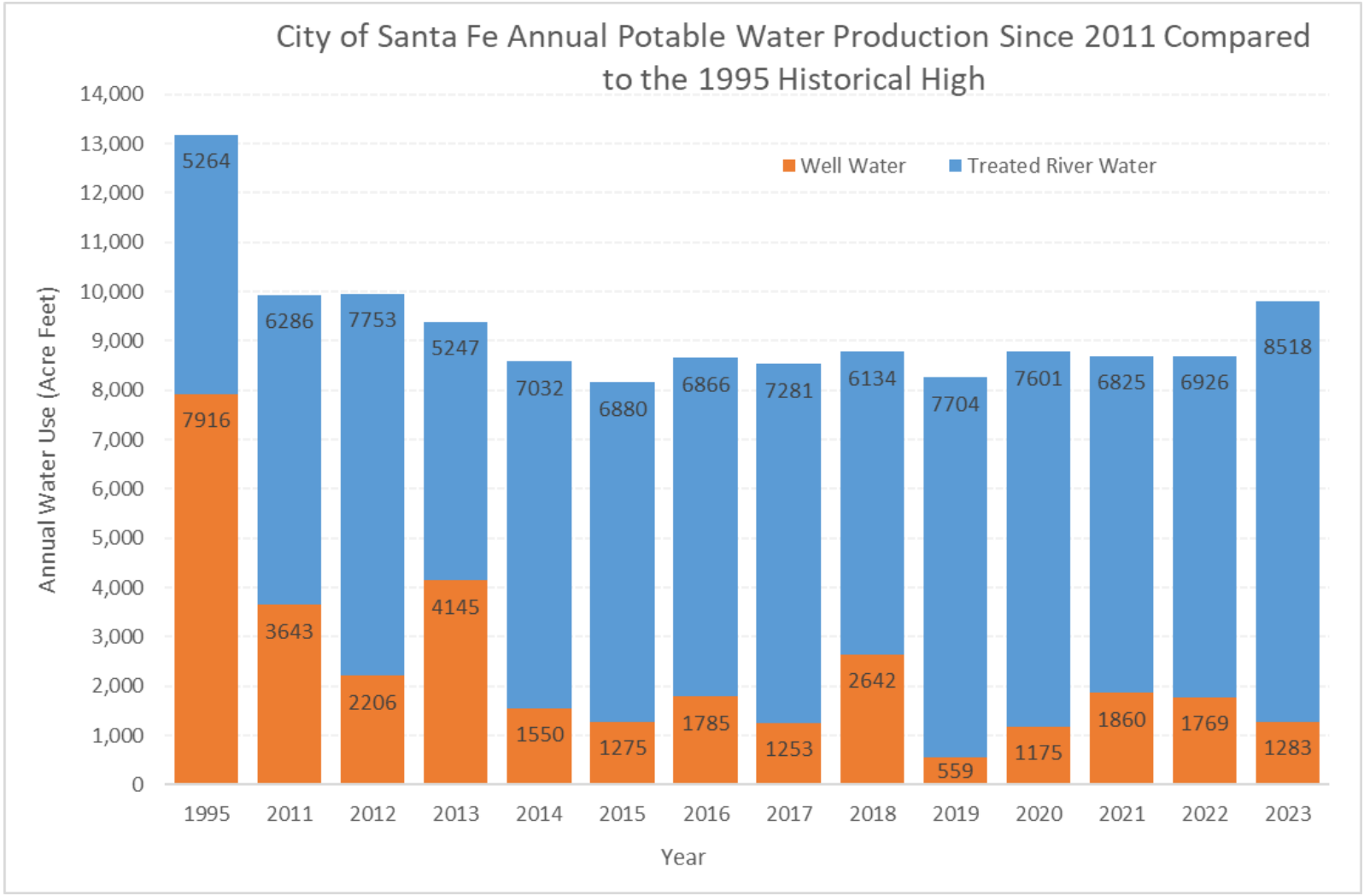
The 2023 GPCD Jump

Unprecedented GPCD increase of 10 gallons per person per day in estimated GPCD

- We have seen increases of 5 (2017-18) and 6 (2019-20) GPCD due to weather before
  - **A dry 2023 summer (especially July, September, and October) likely resulted in similar temporary increase. (3-5 gallons of the increase)**
- Potable water use on two golf courses in 2023. (4 gallons of increase)
- Population uncertainty, an increase in unaccounted water losses may explain the remainder (1-3 gallons of the increase)
- There is also +- 4 GPCD of “noise” seen through time in these numbers

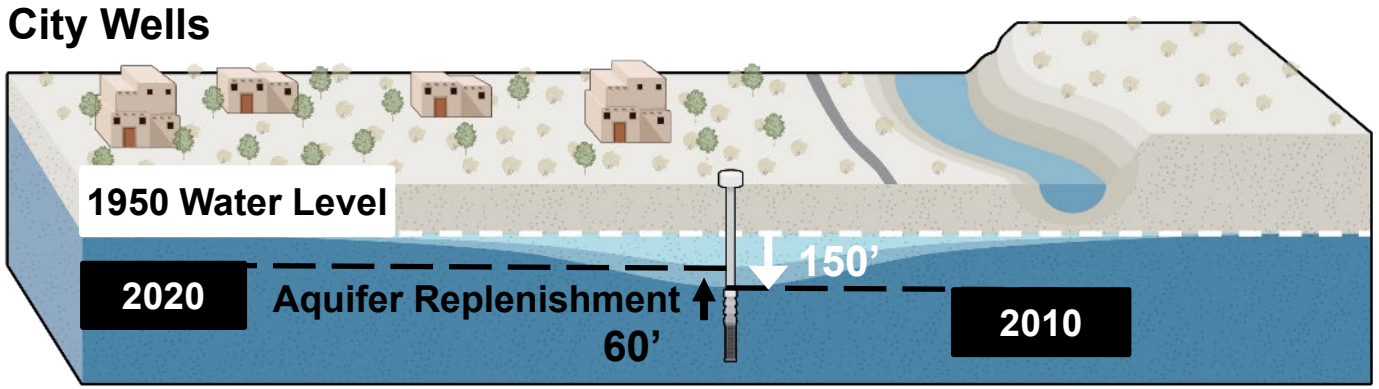


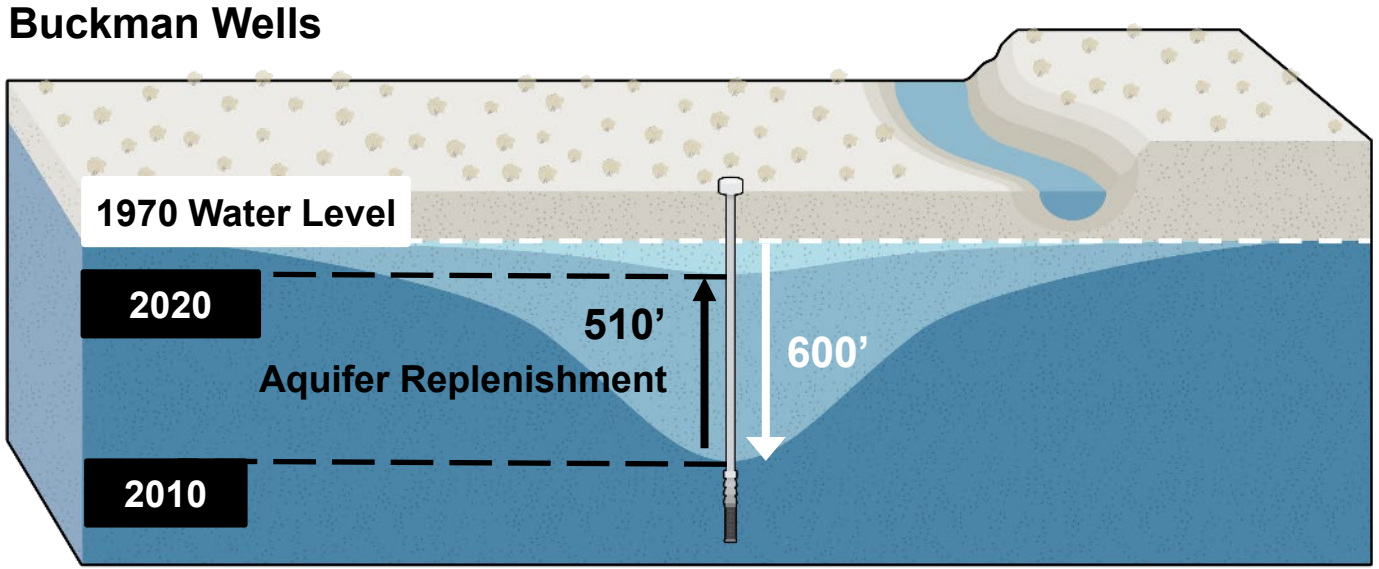
Shifting to surface water dominated production



Groundwater Recovery (our "savings accounts")

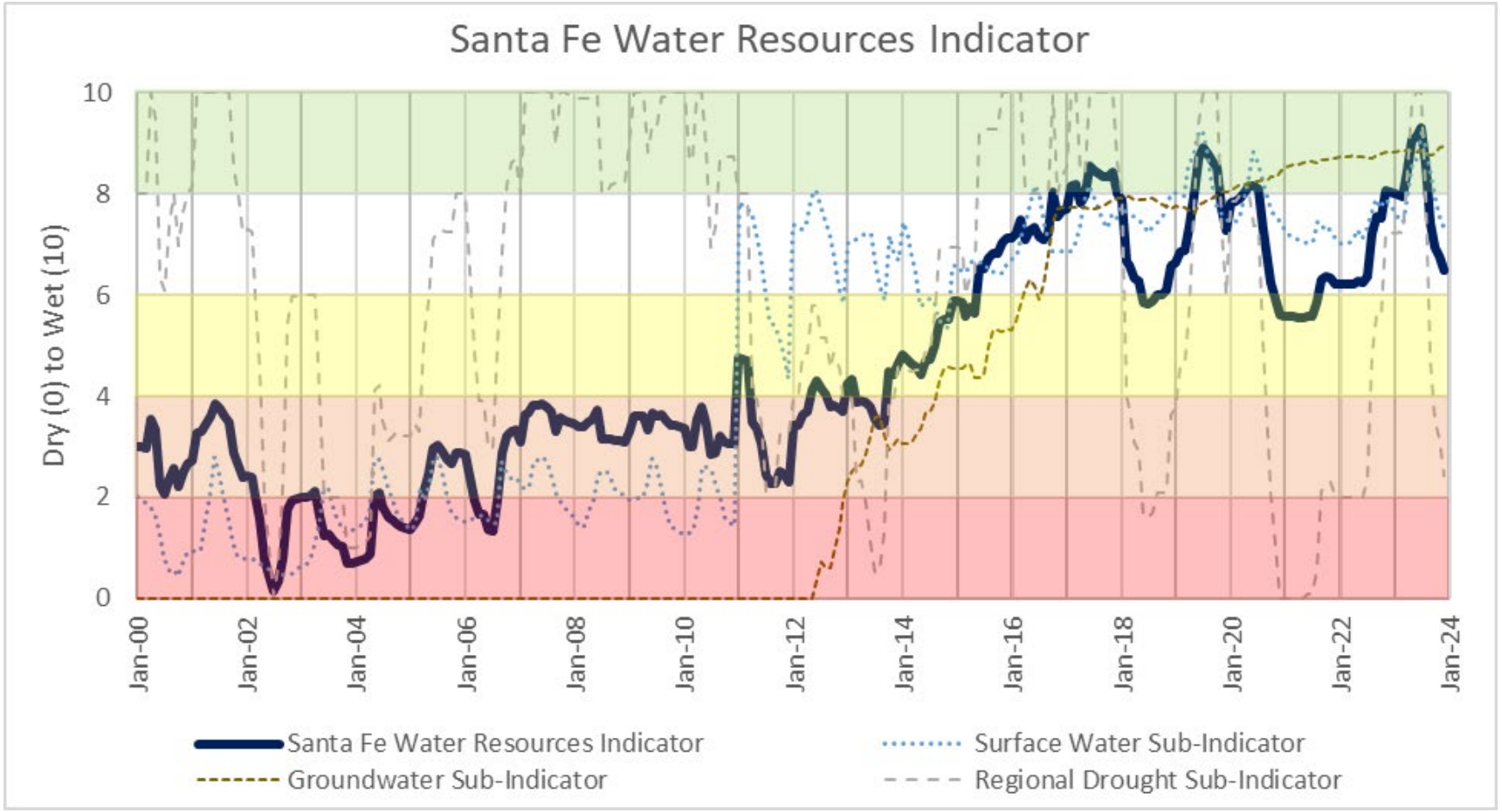
- Since shifting to surface water dominated production, our wells have been recovering
- We like to keep our wells in reserve as a "drought proof" backup





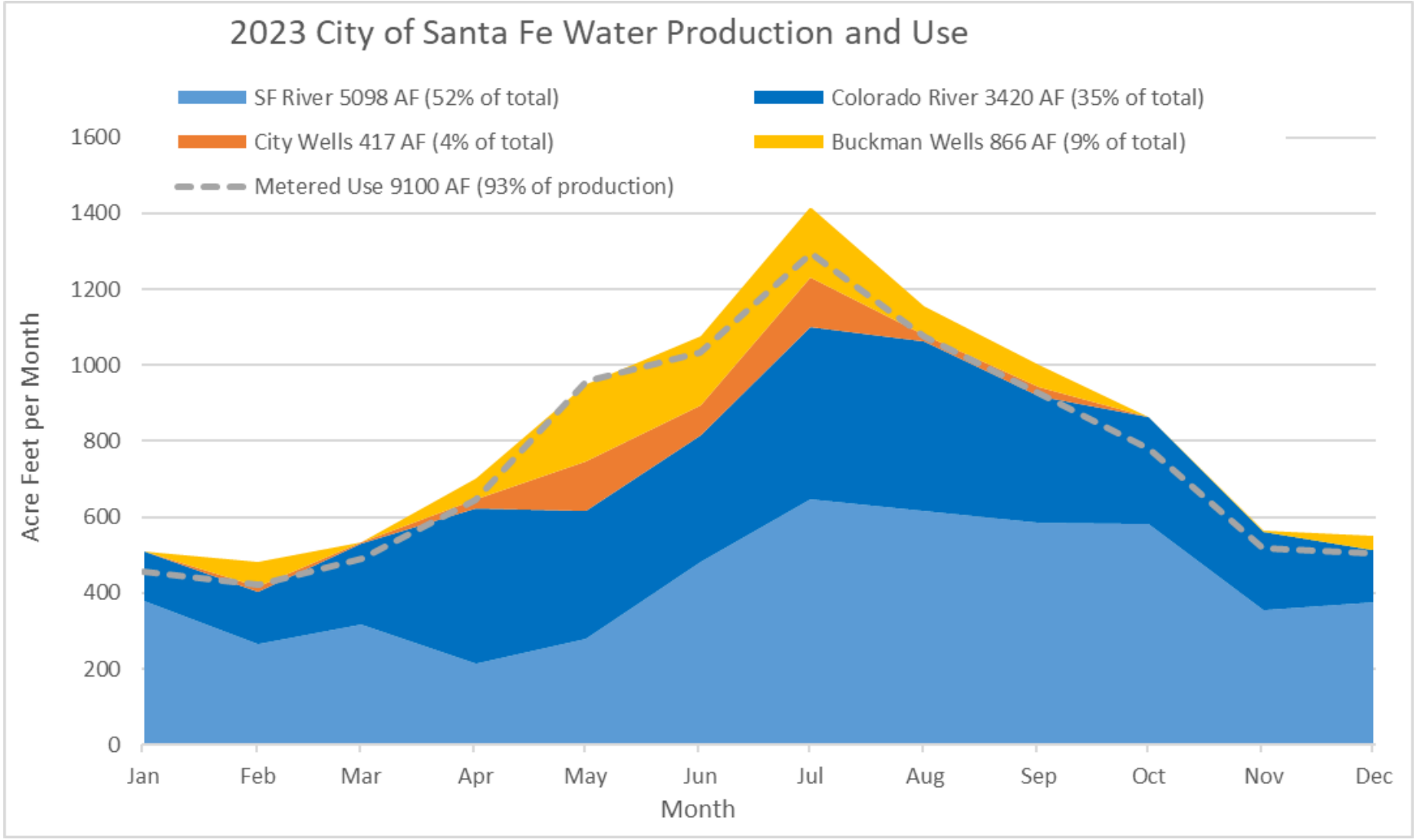
Water Resources Indicator

Combination of groundwater availability (40%), surface water availability (30%), and regional drought (30%)

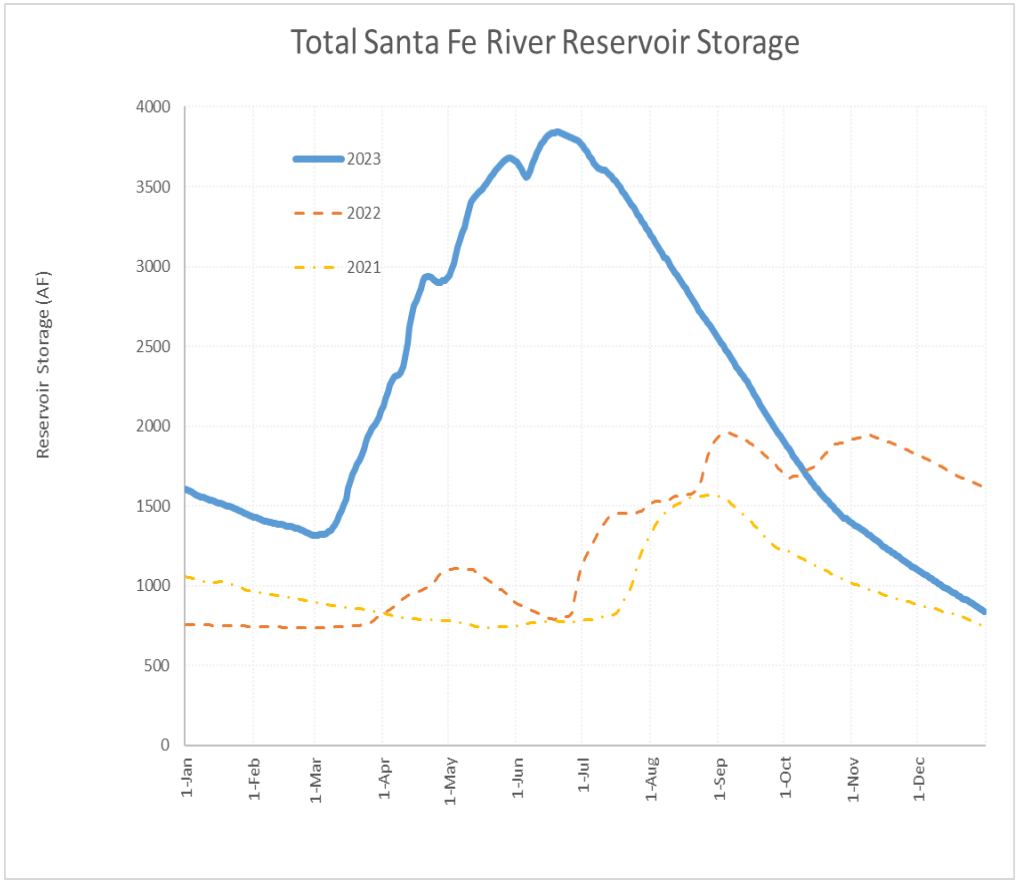


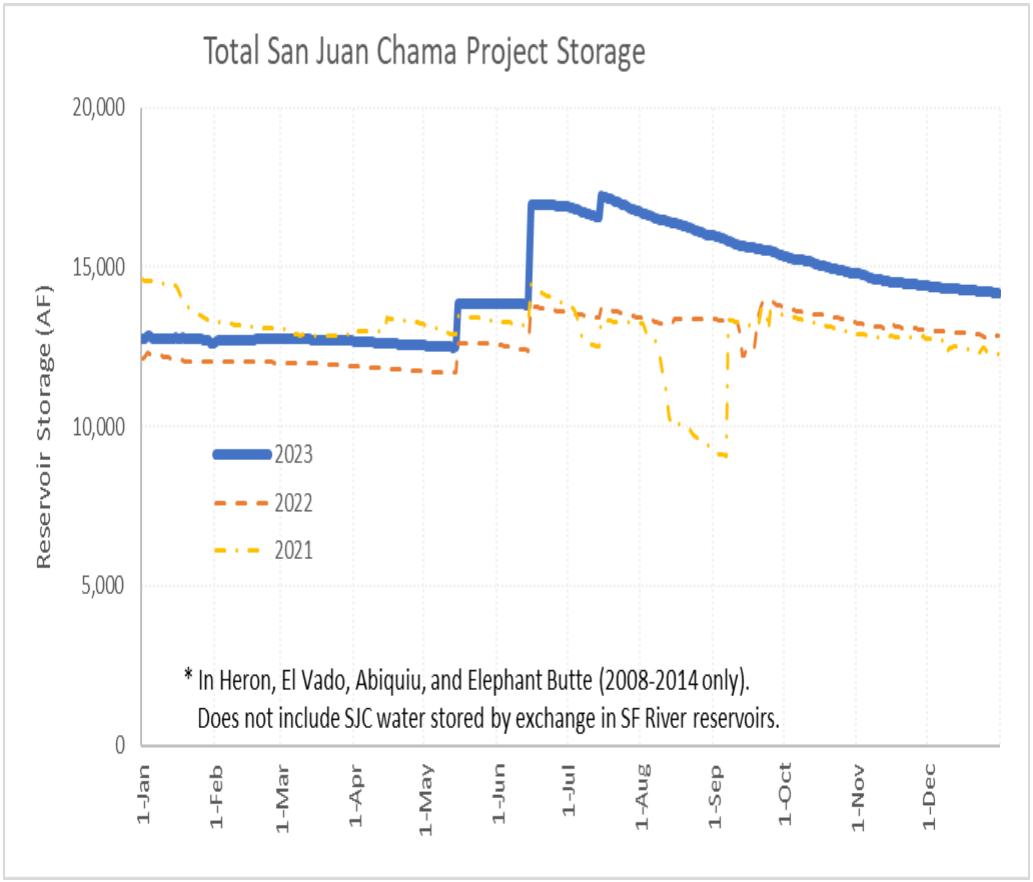
City of SF Water Current (average of recent 8 years) Demand and Supply

2023 Specific Information



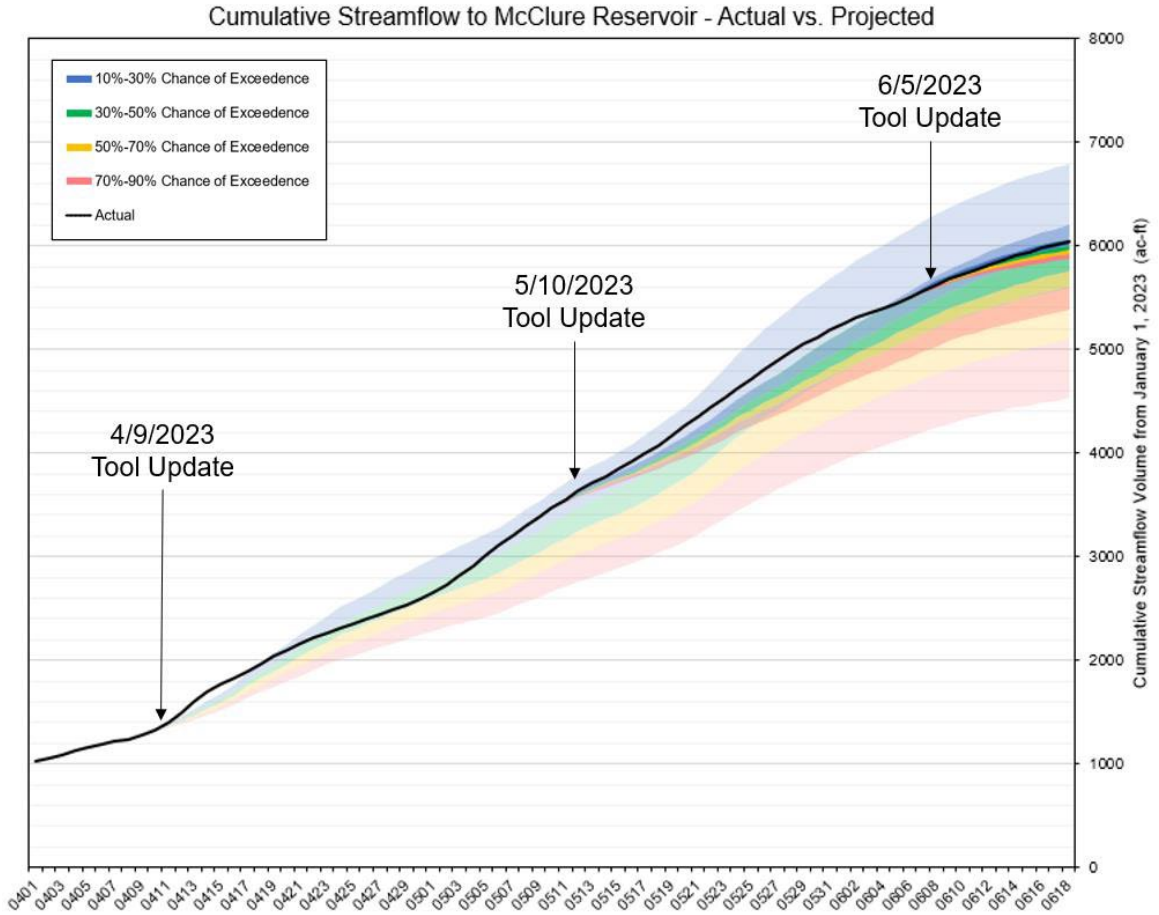
2023 Reservoir Storage

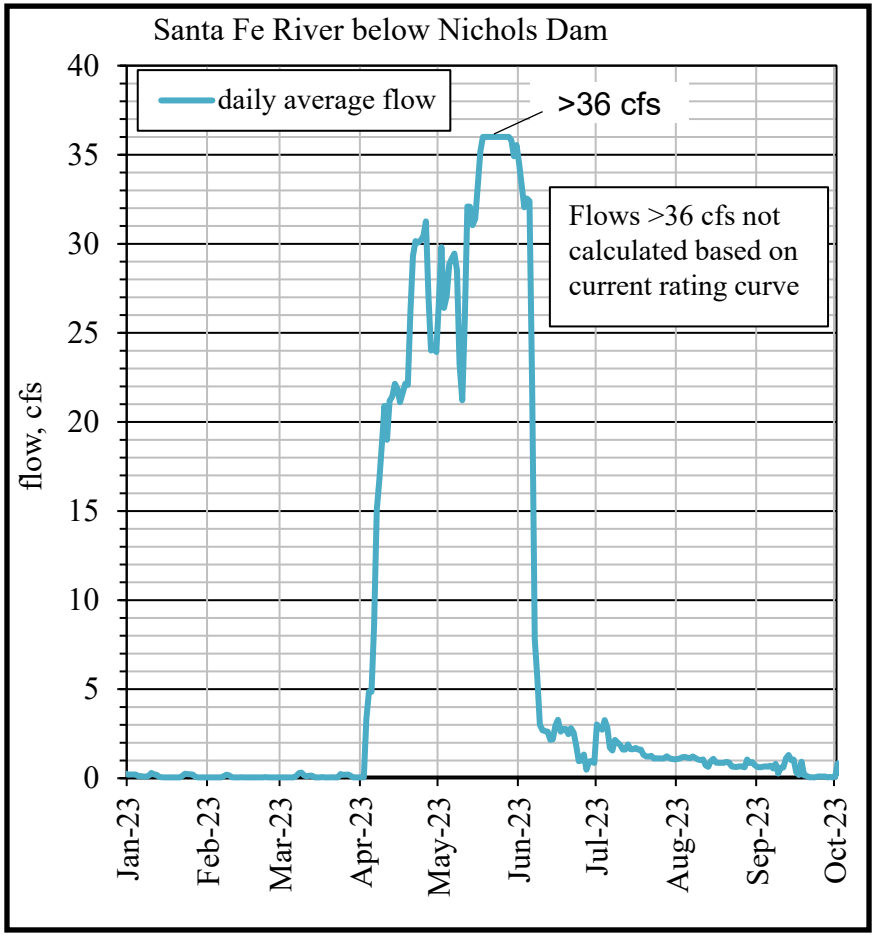




Santa Fe River and Reservoir Operations 2023

Exceptional runoff year

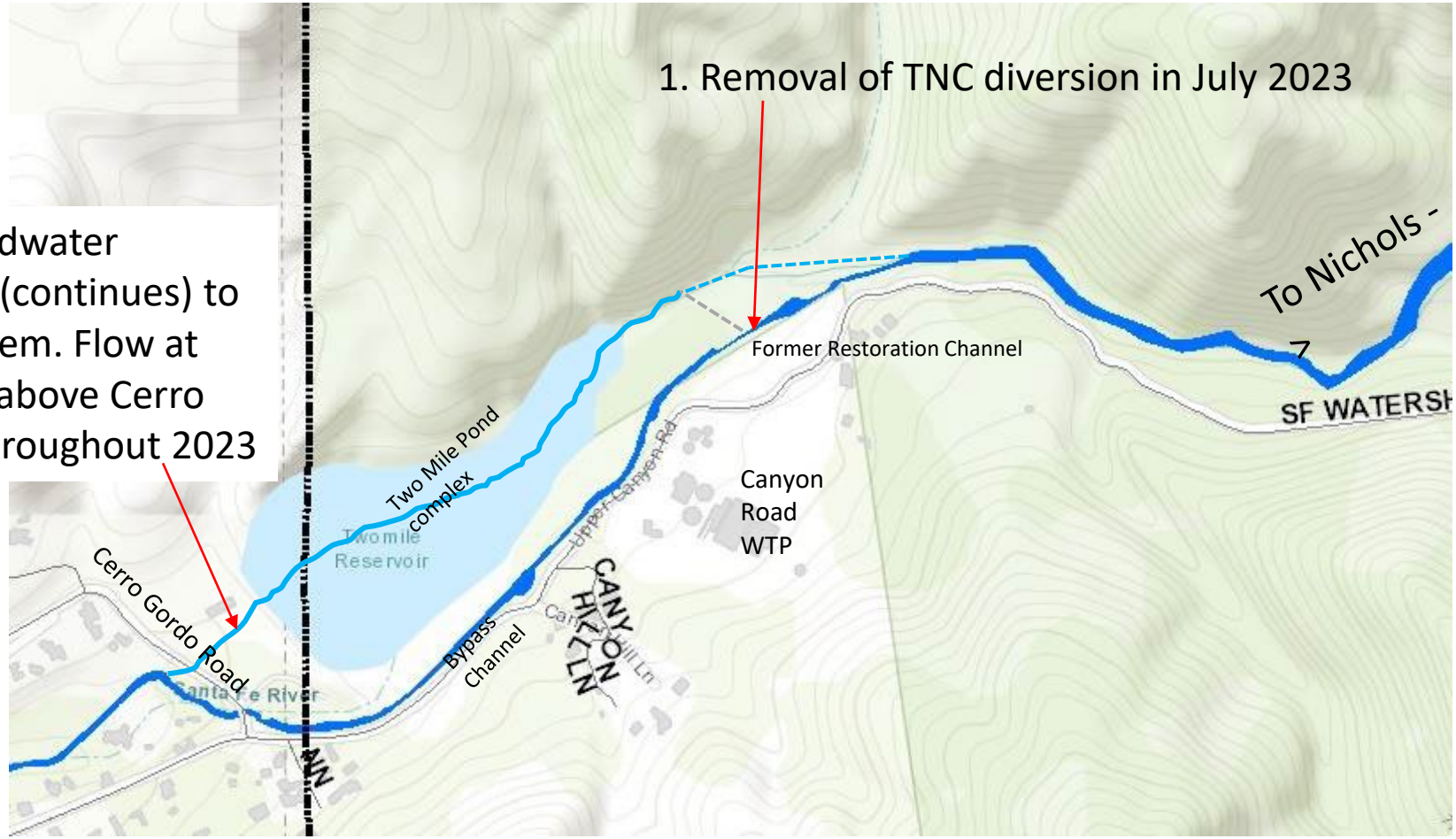




Two Mile Pond

2023 changes to surface water infrastructure and pond level

2. Groundwater seepage (continues) to feed system. Flow at location above Cerro Gordo throughout 2023



Two Mile Pond

2023 changes to surface water infrastructure and pond level

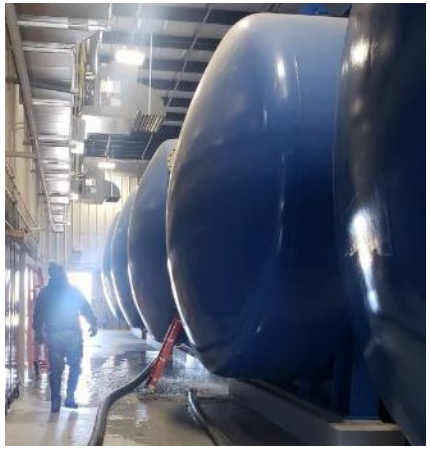
- Storage in the pond is controlled by the outlet structure
- Prior to July 17th a clogged outlet structure meant the pond was above 1994 engineering design level
- Hydrologic and ecologic monitoring studies are underway to inform policy discussions/decisions

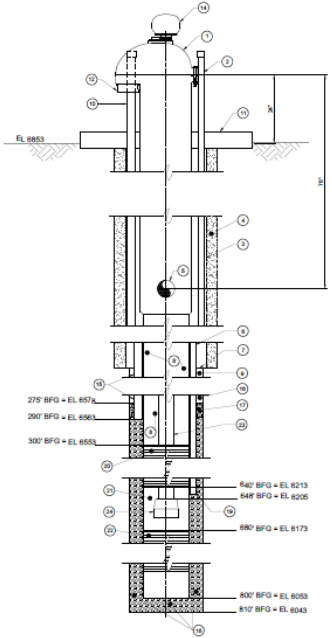
July 17th, 2023

April 10th, 2024

Large Project Updates

- BDD
  - Replaced GAC in 2/6 Contactors early 2024
  - Replaced 2/7 filter racks early 2024
  - RFQ/P for repair design build released April 2024
- Canyon Road
  - Floc Sed
  - Filters
- Nichols
  - Outlet conduit
- Wellfields
  - 100% design on St. Mike's rehab
  - Started BWF characterization tests last year, continuing this year
- SJC Return
  - 30% design
  - OSE permit conditions tentative approval
  - Draft ESA target deadline
- Transmission and Distribution
  - Updates to "pipe model"
  - Catastrophic supply disruption model scenarios
  - Working towards a "digital twin" of our transmission and distribution system

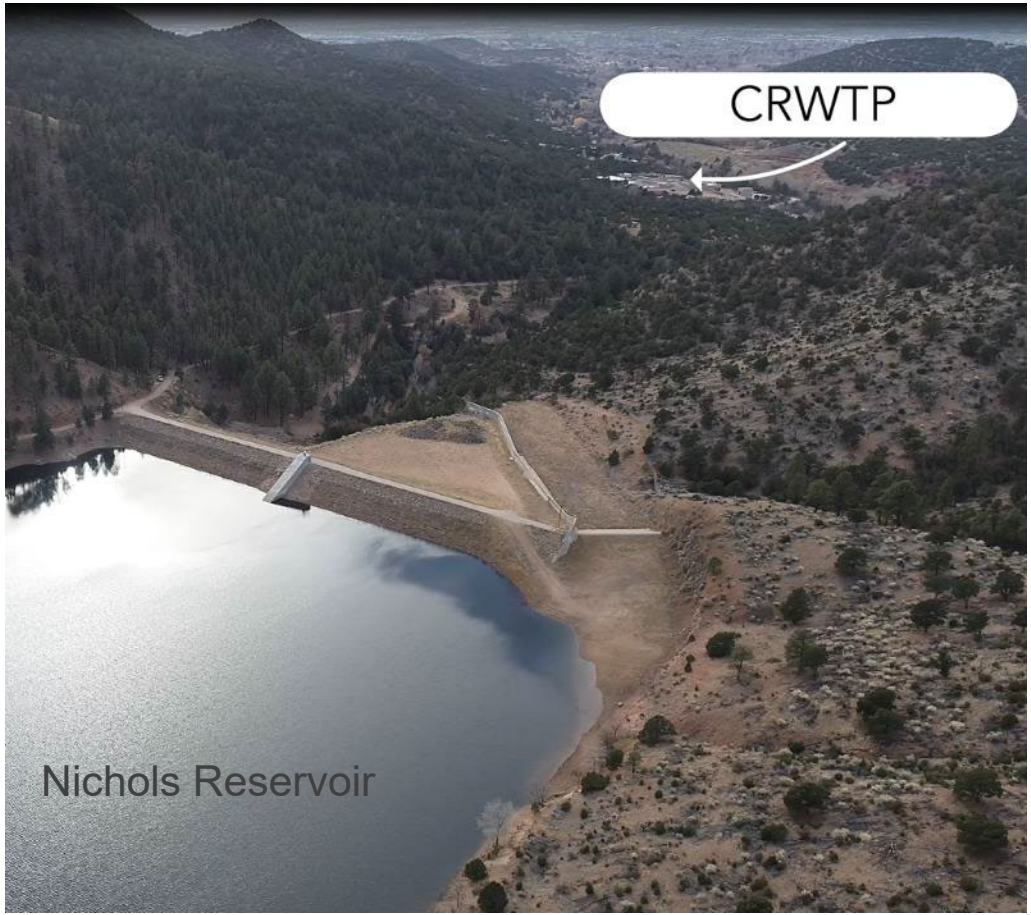




Nichols Reservoir and Canyon Road Water Treatment Plant (CRWTP)

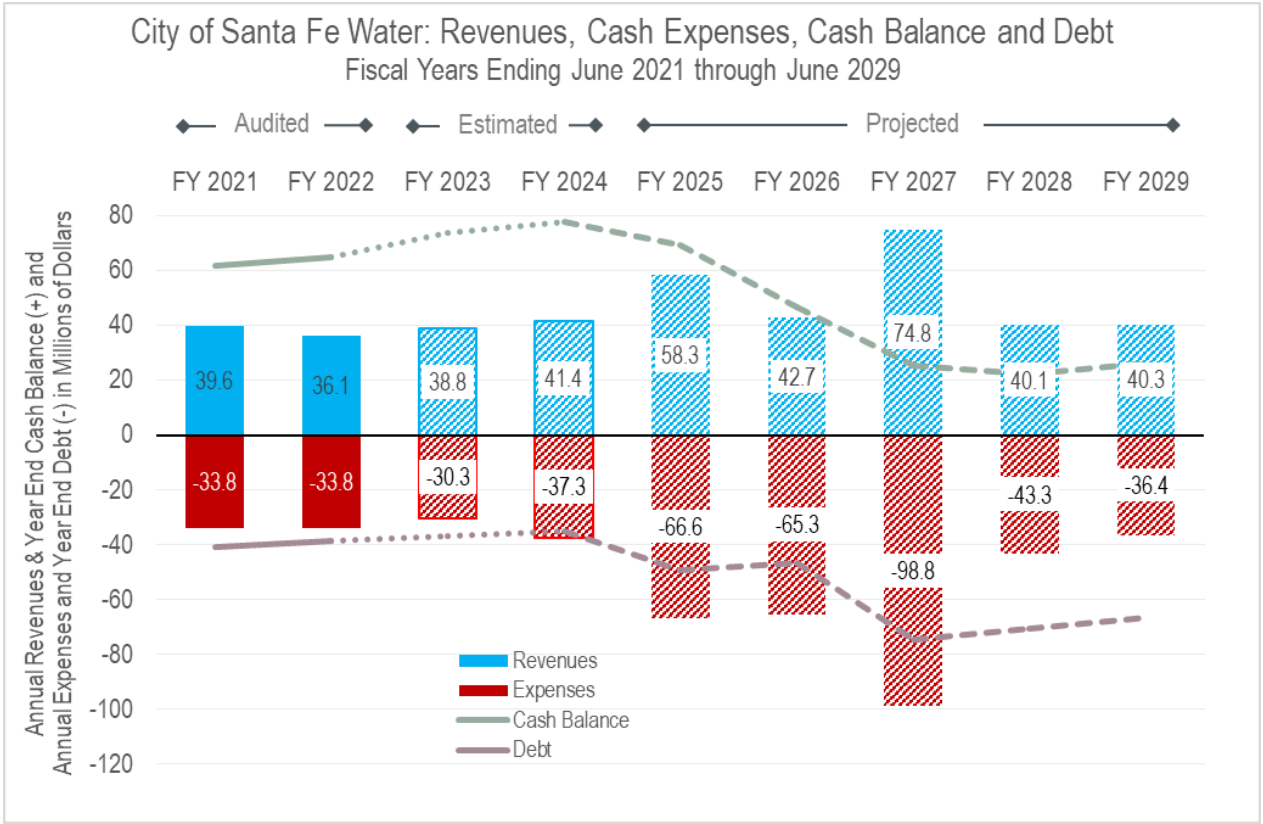
- Nichols Dam Outlet Works Rehabilitation Project
  - **~$18M construction project**
  - **Nichols slated to be empty starting August 2024**
  - **Improves safety and extends dam's life by addressing potential failure modes**
  - **Will allow for aeration of reservoir to reduce Manganese in water**

- CRWTP Upgrades
  - **Going out to bid in May**
  - **Replaces key flocculation and sedimentation infrastructure that is at "end of life"**
  - **Improves and increases water treatment capabilities**
  - **Estimated cost ~$16.5M**



Financials

- 6/30/2022 Cash balance: 65M
- 6/30/2022 Outstanding debt: 38.5M
- Projected water revenues current FY through June 2029 (not including loan revenues): 40M/yr to 43M/yr
- Projected cash expenditures including CIP current FY through June 2029: 37M/yr to 98M/yr
- ~82M in only four capital projects on the near horizon that will drawdown cash reserves and likely result in increased debt and potential rate increases (for the first time since 2010).
  - **Nichols Dam Outlet Conduit Rebuild (~19M)**
  - **Flocculation Sedimentation Upgrades CRWTP (~15M)**
  - **McClure Dam Outlet Conduit Rebuild (~21M)**
  - **San Juan Chama Return Flow Project (~27M)**

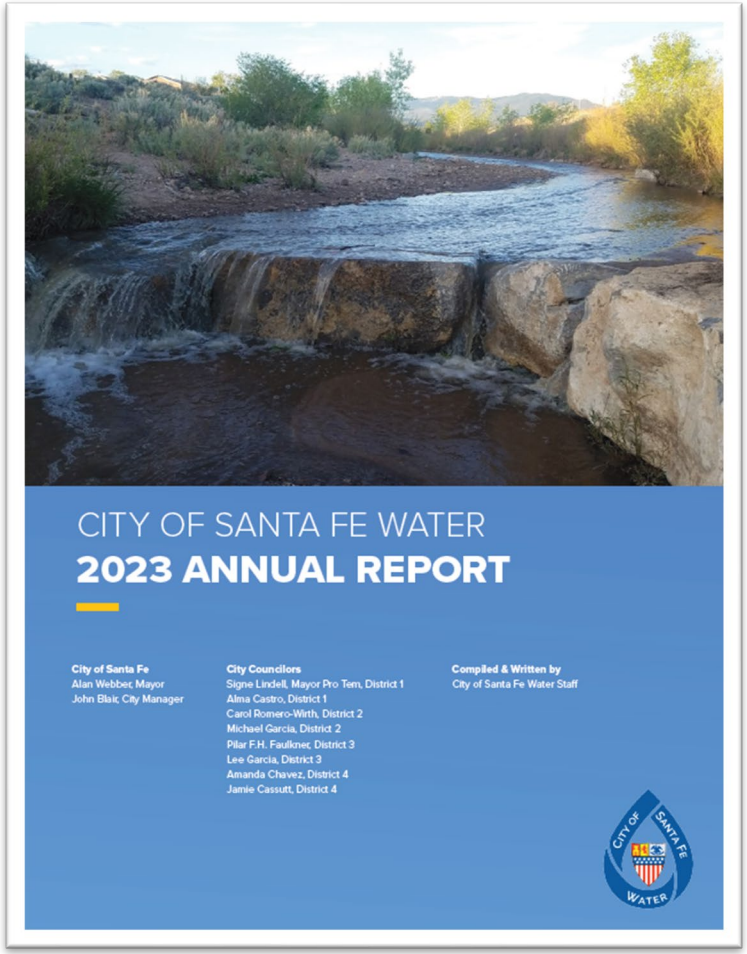


2023 City of Santa Fe Water Annual Report

- Key figures from the report are included in this presentation.

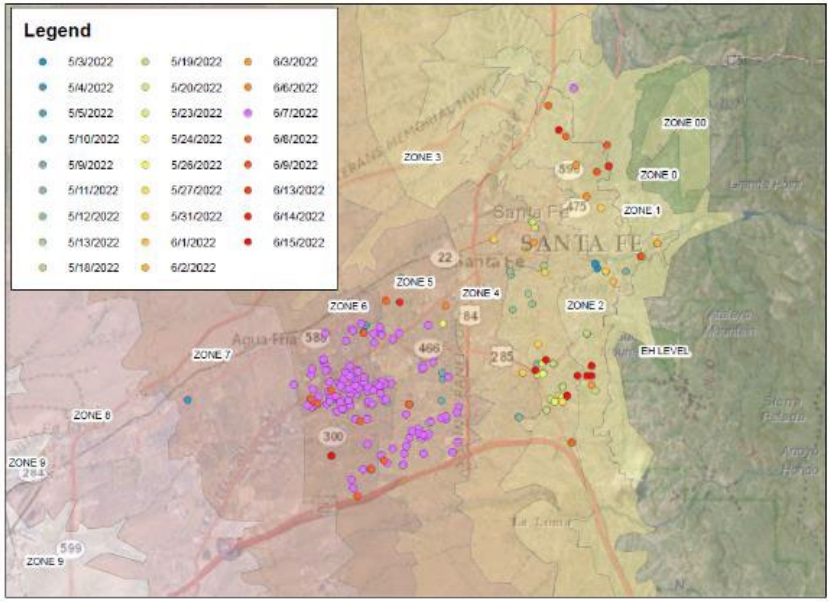
- Full report:

https://santafenm.gov/SantaFe2023AnnualReport.pdf

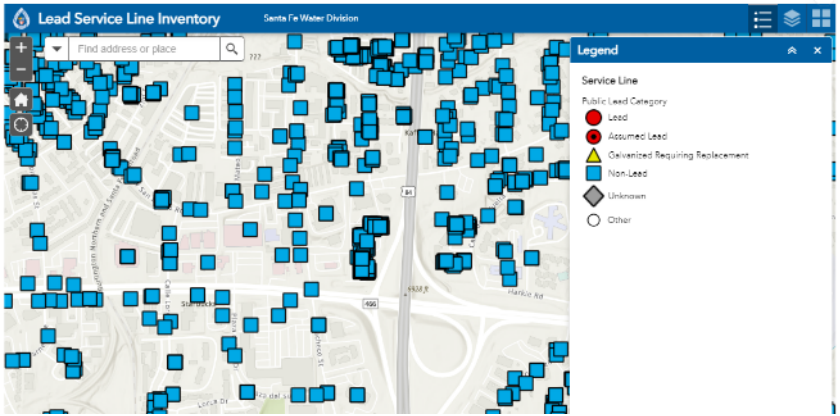


2024 Outlook & Plans

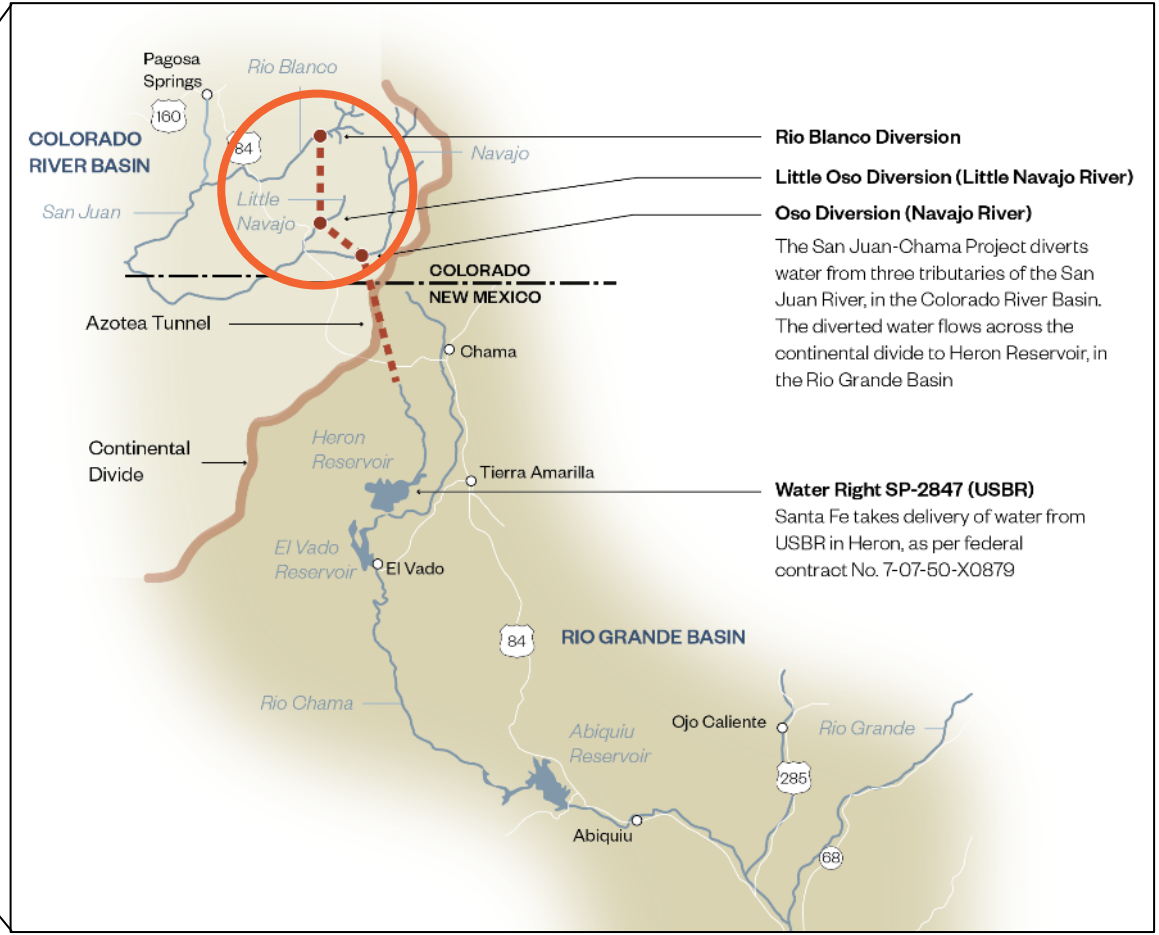
- Manganese control
  - **2022 brown water events:**
    - *Subsequent corrosion control study confirmation of large amounts of manganese accumulation in system pipes*
    - *Recommendation of system wide flushing event. Targetting 2024*
    - *Update of infrastructure at CRWTP to allow centrate discharge to sewer*
    - *Nichols update will allow aeration of reservoir to reduce need for Manganese in treatment process*



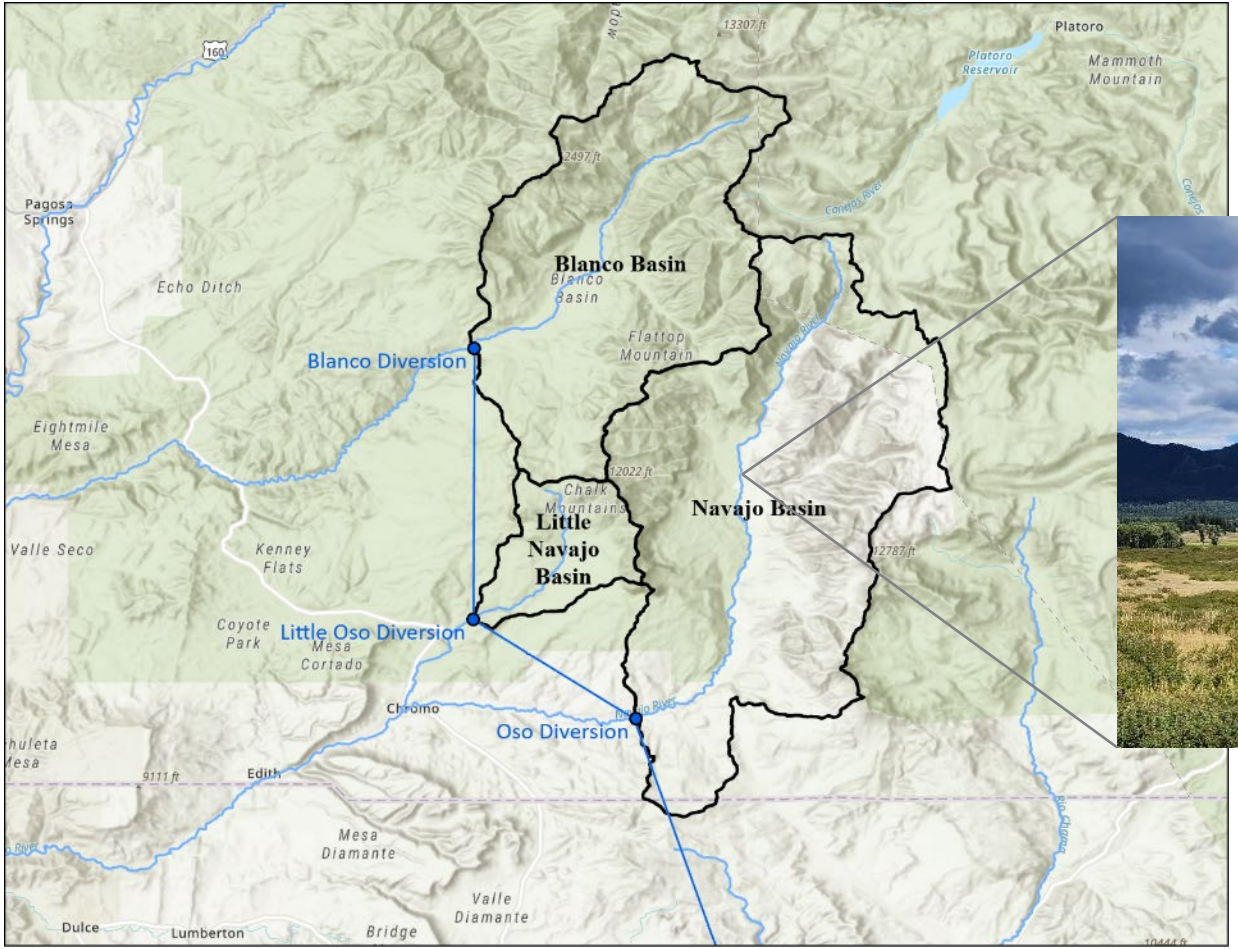
- Lead and Copper Rule Improvements
  - **Development of an inventory of service line material**
    - leadsafe.santafenm.gov
    - *Service lines are the smaller lines that connect large mains in the street to a meter on the property line*
    - *Free testing of customer water for lead in older homes*
    - *Order of testing is first come first served for customers in homes built before 1986 who fill out the inventory survey at leadsafe.santafenm.gov*



San Juan-Chama Project Overview



San Juan-Chama Project Headwaters

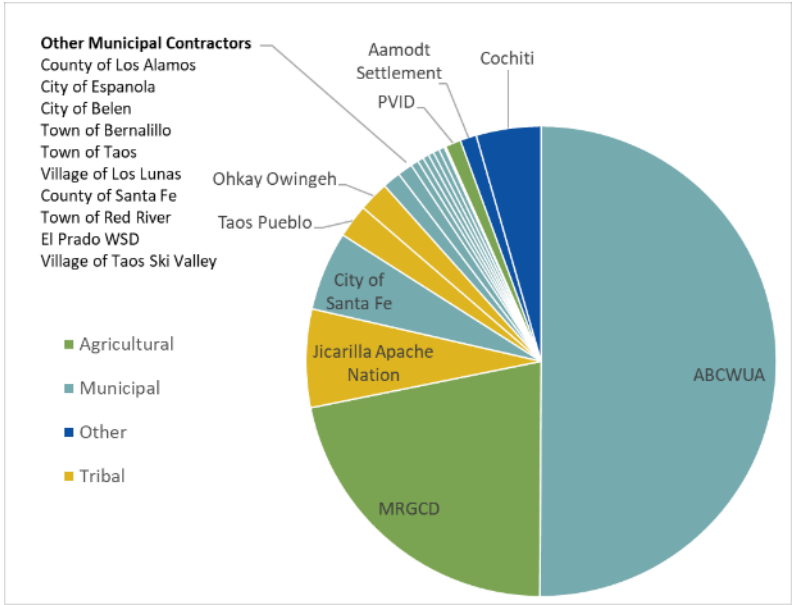


San Juan Chama Project- Blanco and Oso Diversions

San Juan Chama Project- Heron Reservoir

San Juan-Chama Project: Contractor Association

- Project = 96,200 ac-ft/yr
  - **Some years, reduce deliveries**
    - *Bypass Flow Requirements*
    - *Drought Limitations*
  - **Provides critical supply to Rio Grande Users**
    - *Agriculture, Municipal, Tribal*
    - *Not subject to Rio Grande Compact Requirements*
    - *Federal Contract allows for full Consumption of Supply*
  - **Subject to Colorado River Compact (Law of River)**



- SJCP Contractors Association
  - **Asset Management for 50-year old Infrastructure**
  - **Source Water Protection**
  - **Funding Opportunities**
  - **$$ Cost Controls for Operations and Maintenance**

San Juan Chama Project- Blanco Diversion Major Repairs

San Juan Chama Project- Azotea Tunnel Outlet Repairs

San Juan Chama Project- Blanco Diversion Sediment Management

San Juan Chama Project- Oso Diversion Sediment Management

San Juan Chama Project- Source Water Protection

WHAT DO THE SOURCE WATERSHEDS LOOK LIKE?

BLANCO

92% SJNF, 8% private

55% spruce-fir, 17% aspen

LITTLE NAVAJO

78% SJNF, 22% private

34% spruce-fir, 33% aspen, 14% gambel oak

NAVAJO

86% private, 15% SJNF, 1% BLM, 1% state

44% spruce-fir, 18% aspen, 8% ponderosa

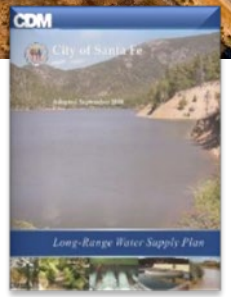
2-3-2 Cohesive Strategy Partnership

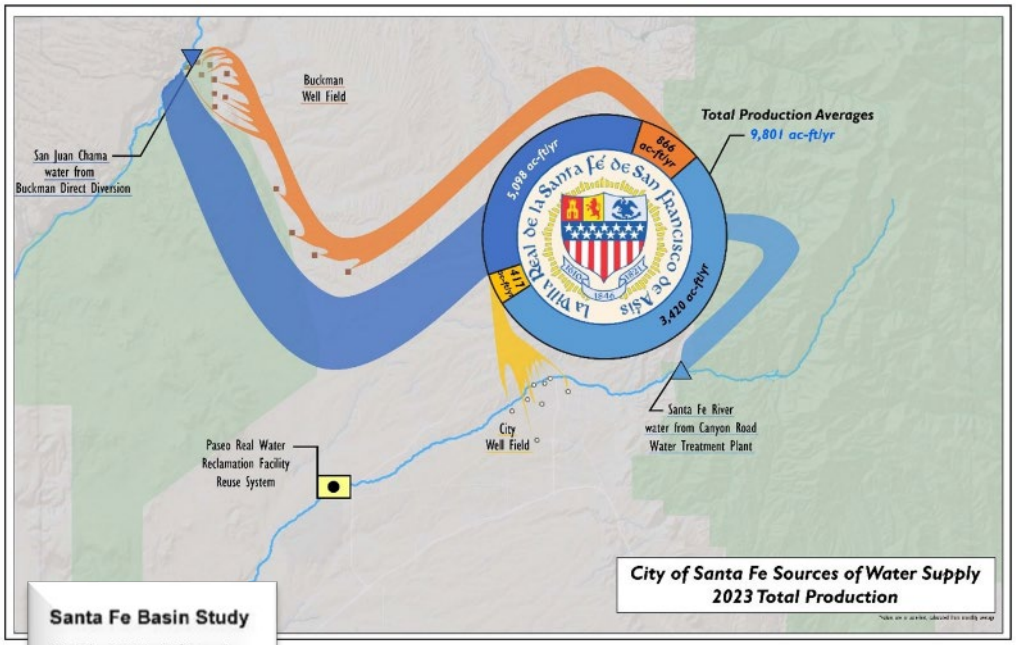
Chama Peak Land Alliance – Responsible Land Stewardship

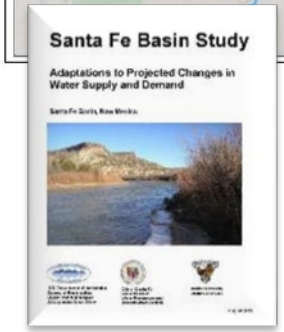
Mountain Studies Institute – San Juan Mountains Colorado

Forest Stewards Guild

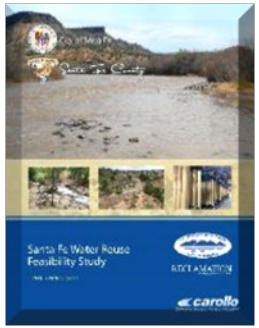
San Juan Chama Project- Buckman Direct Diversion

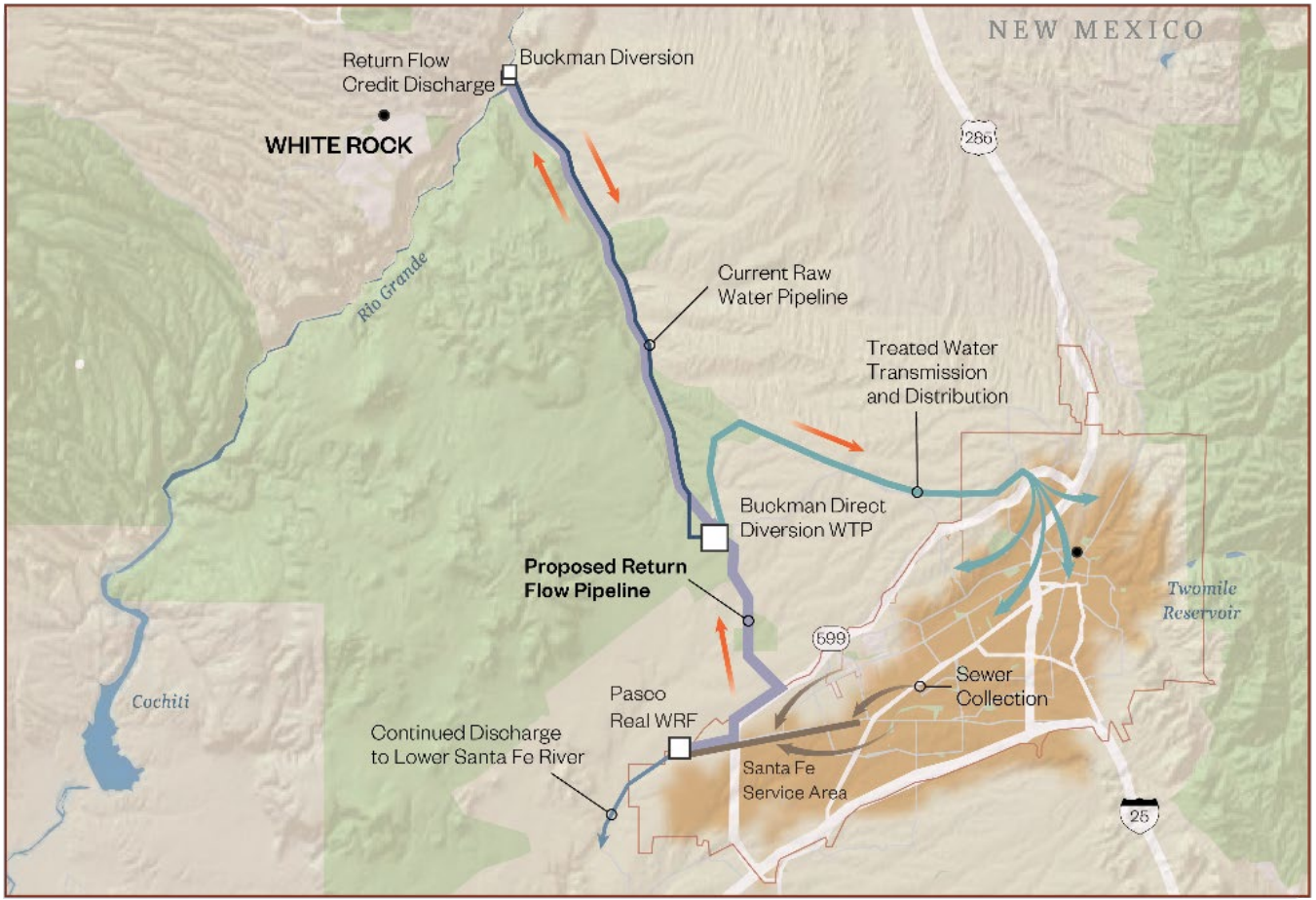






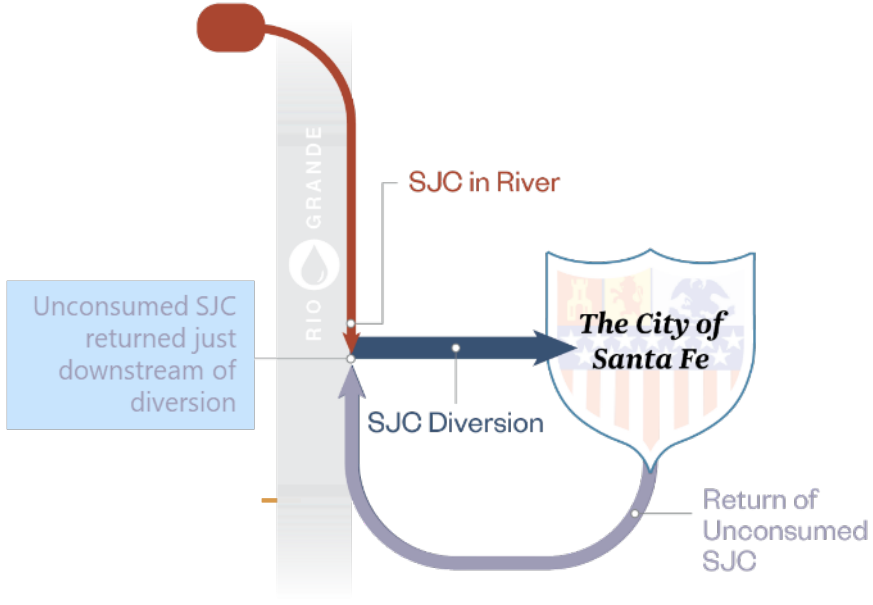
San Juan Chama Return Flow Project (SJC Reuse)





San Juan Chama Return Flow Project: Permitting and Engineering Design, and Grant Funding (to date)

- **New Mexico State Engineer (~April 2024)**
  - *OSE File No. SP-4842-RFP*
  - *Return Flow Credit up to 13,451 AFY*
- **30% Engineering Design Complete (April 2024)**
- **US Bureau of Reclamation Title XVI**
  - *$6M award*
  - *To seek additional funding*
- **New Mexico Water Trust Board**
  - *$2M award*

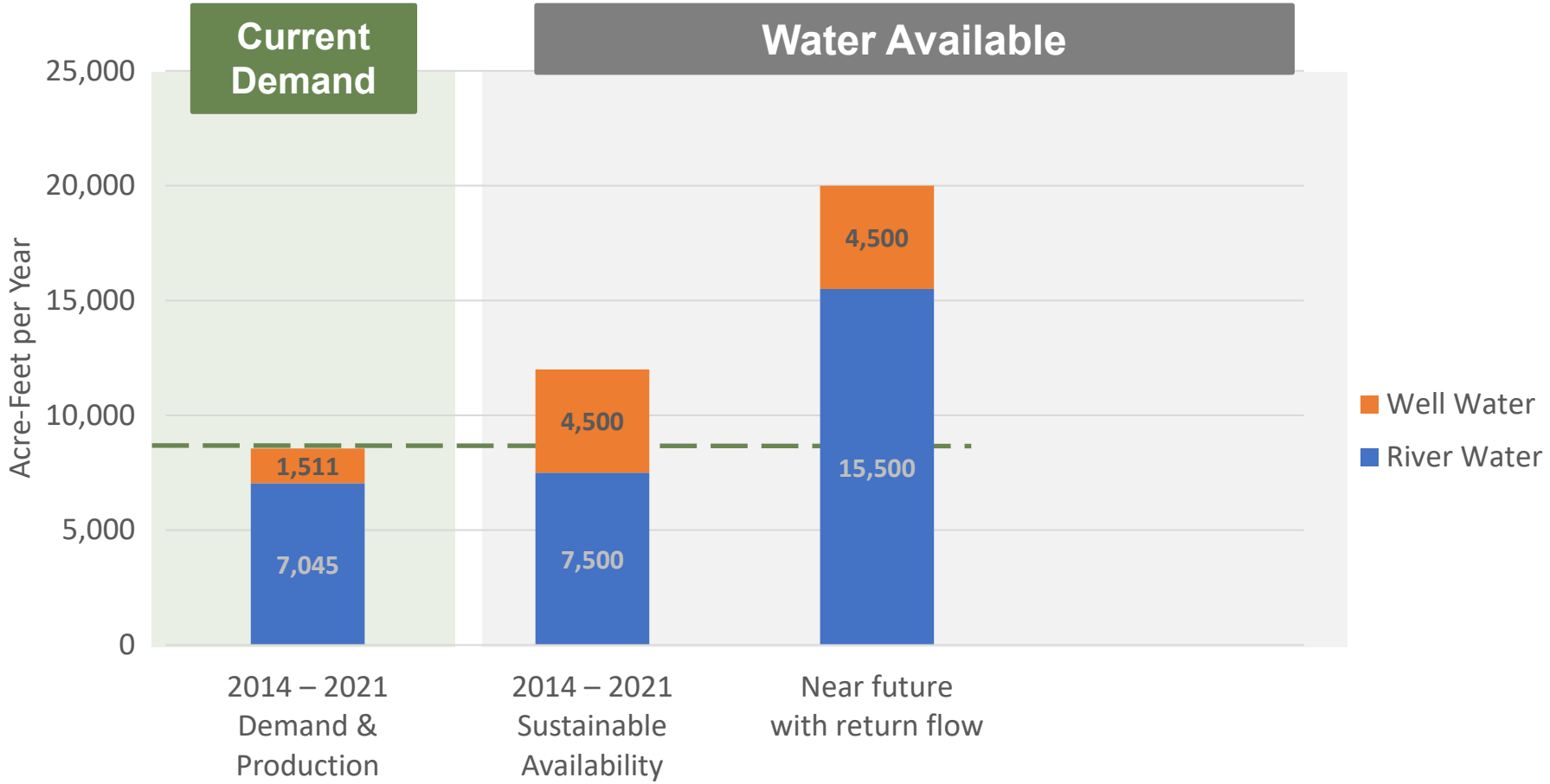


With project: same diversions at BDD with less release from upstream reservoirs. River "made whole" with effluent return.

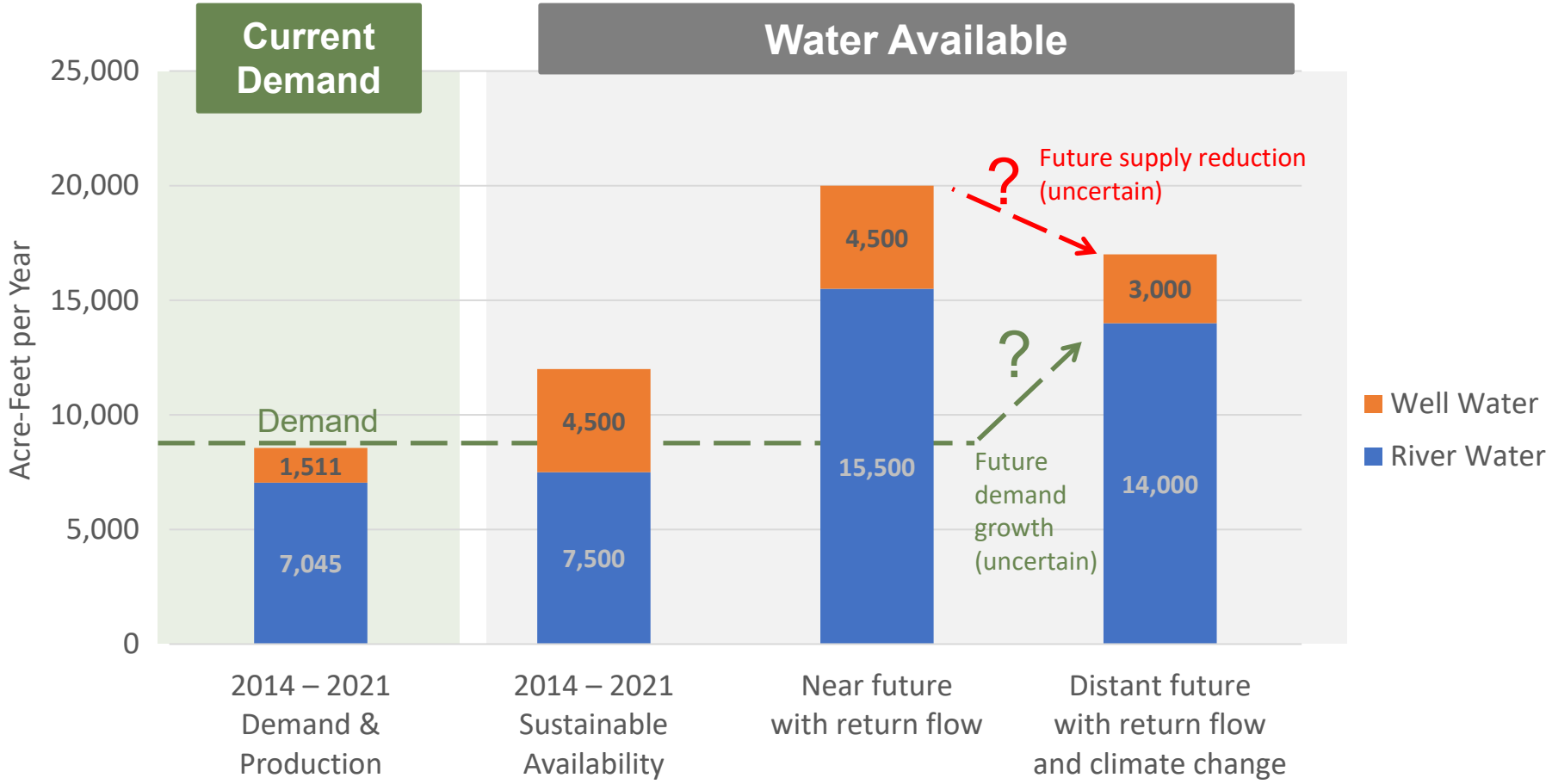
San Juan Chama Return Flow Project: Environmental Permitting under NEPA

Environmental Assessment (EA) Pre-Work	Nov 2023
USFS Approval of Discharge Structure	Mar 2024
Proposed Action Complete	Mar 2024
Draft Biological Survey Report	Apr 2024
Cultural Class I Survey	May 2024
Meet with SHPO	Nov 2024
Set up Flow Monitoring Program	Mar 2024
Initiated Pueblo Consultations	Feb 2024
Preliminary Permit Agency Contacts	April 2024
Draft Basis of Design Report	Summer 2024
Draft Environmental Assessment (EA)	Oct 2024
Final EA/Draft FONSI	Feb 2025
Final EA/Signed FONSI	

Near term plan: San Juan Chama Return Flow Project

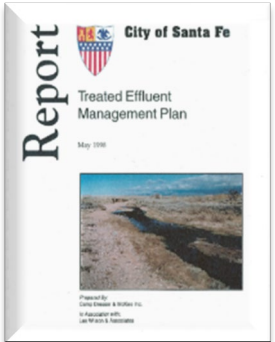


Long Term Planning

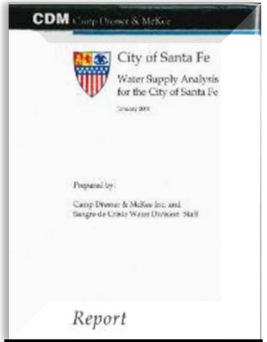


Long Range Water Resources Planning (City Water Future)

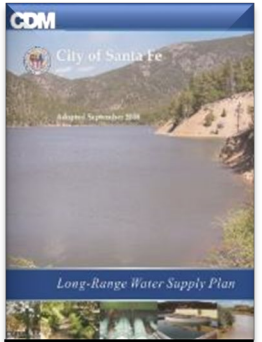
1988



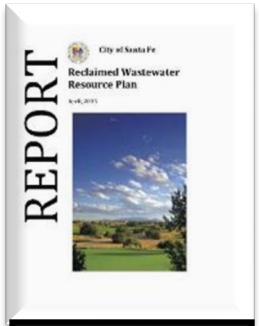
1998



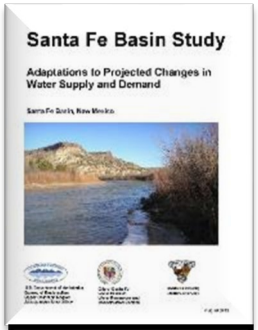
2001



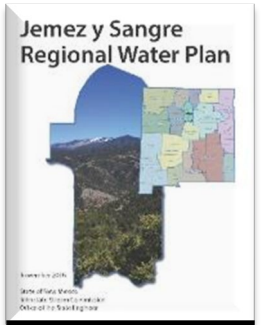
2008



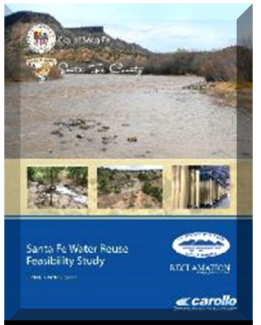
2013



2015

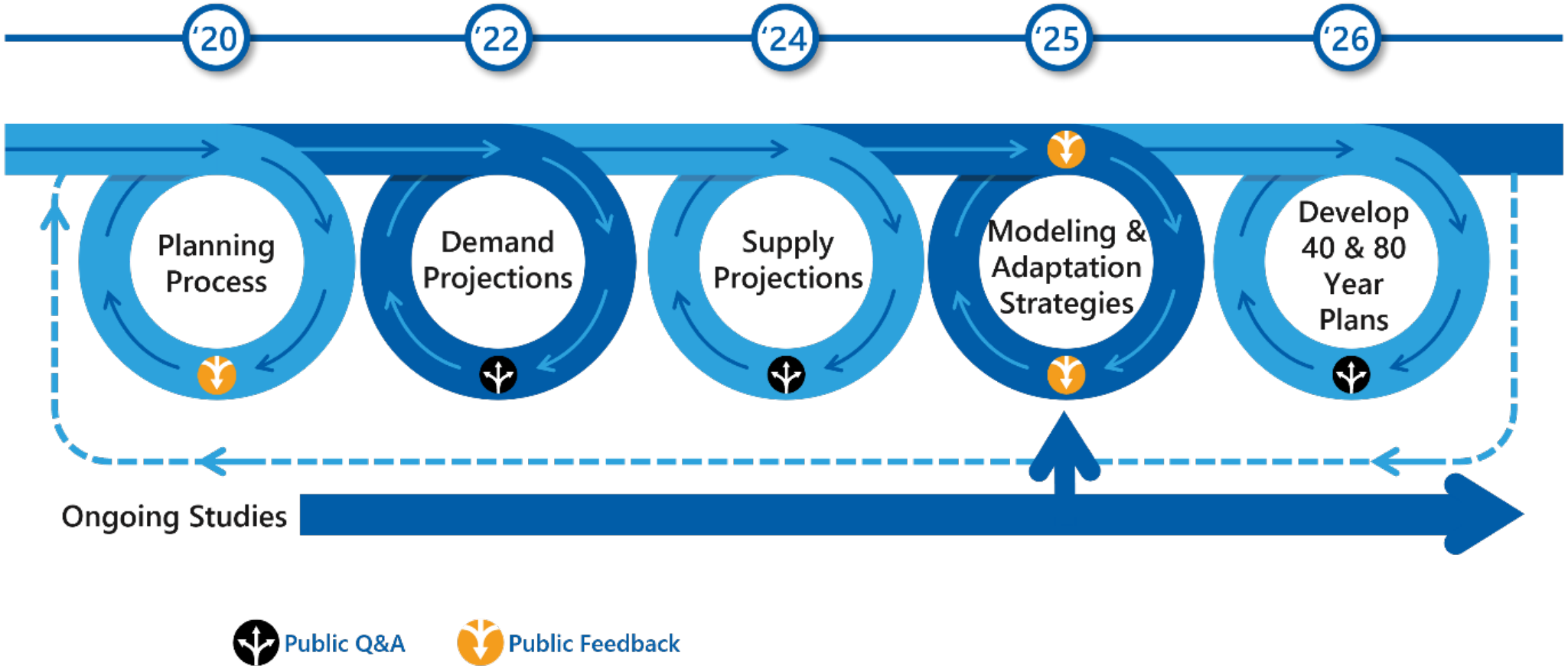


2016

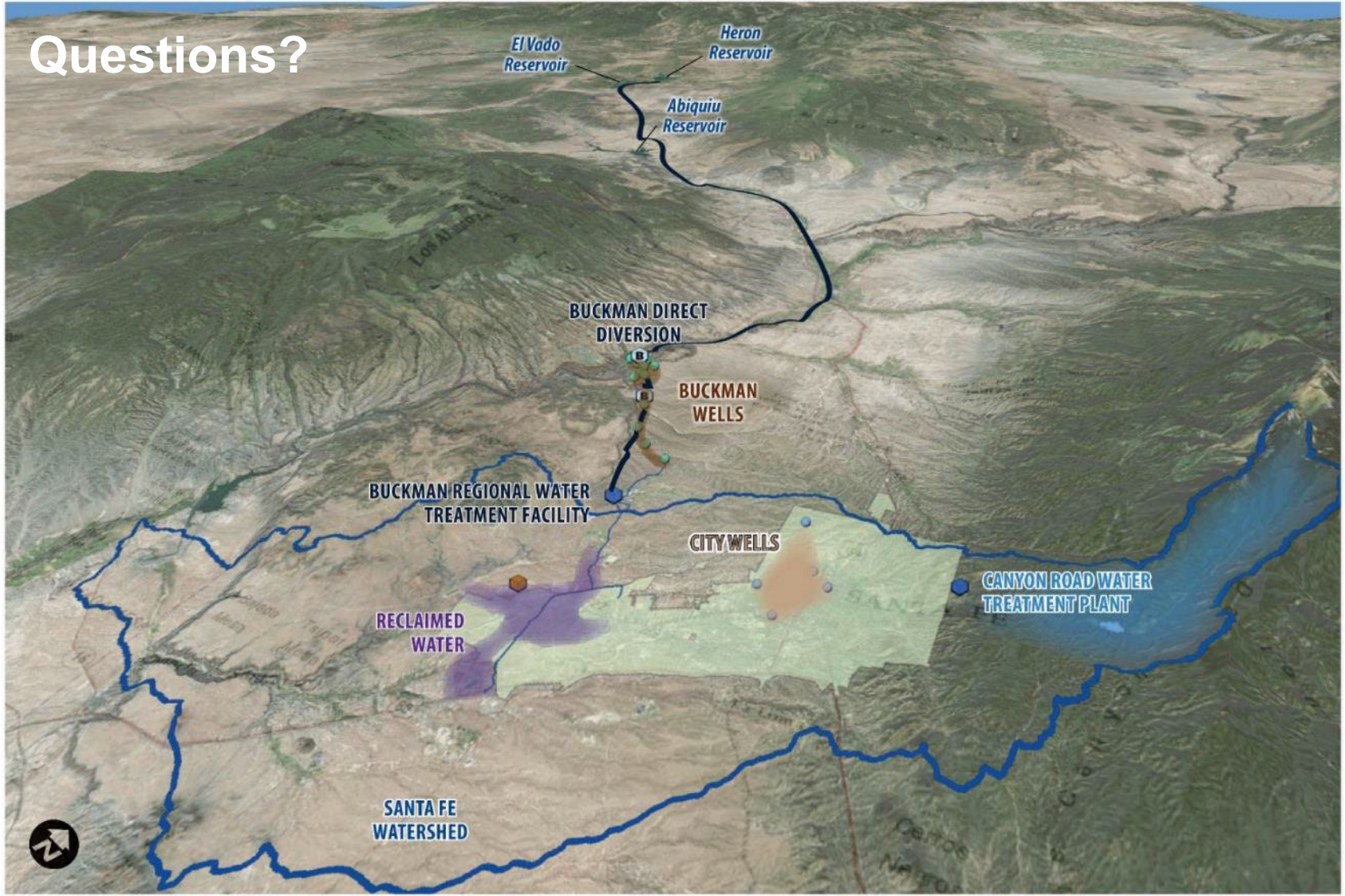


2017

Water Resources Long Range Planning: “Water 2100”



Questions?


El Vado Reservoir
Heron Reservoir
Abiquiu Reservoir
BUCKMAN DIRECT DIVERSION
BUCKMAN WELLS
BUCKMAN REGIONAL WATER TREATMENT FACILITY
CITY WELLS
CANYON ROAD WATER TREATMENT PLANT
RECLAIMED WATER
SANTA FE WATERSHED