

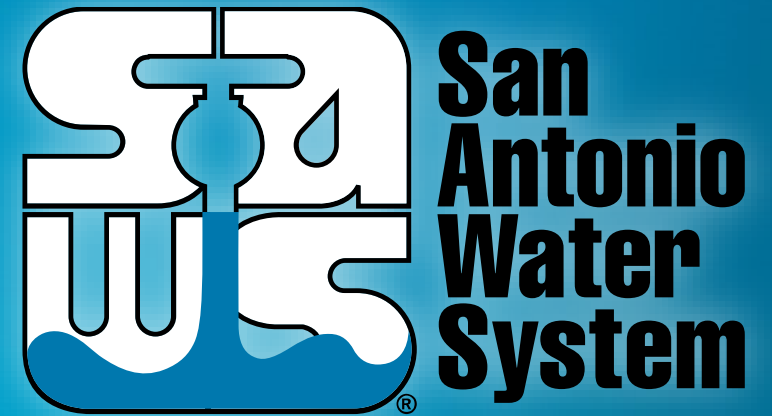
Water Management Plan Introduction

Steven Siebert

Project Coordinator/ Water Resources

Capital Improvements Advisory Committee

October 28, 2022



MAKING SAN ANTONIO
WATERFUL



Outreach and Community Engagement

Prior-During-Post

- Continuous community engagement
 - Water News
 - bill insert
 - SAWS Community Committees
 - CEC and CIAC
 - Neighborhood Groups
 - Chambers of Commerce
 - SAWS microsite WaterCitySA
 - Social Media and News Media

SAWS Is Always Planning for Your Water Future

Bexar County's population is constantly growing, and the demand for water is growing with it. That's why San Antonio Water System is always working to ensure the community has plentiful water supplies for generations to come.

SAWS' Water Management Plan, the organization's guiding document to project water demands and identify firm water sources, includes details about population projections, conservation goals, development and

timing of new water sources, as well as other important water-related topics that influence San Antonio's water supply.

The plan is updated about every five years and that means the new year will bring an opportunity for you to get involved in the conversation for the development of the 2022 plan.

Expect to see more information on this exciting opportunity in the months ahead.

In the meantime, you can read the 2017 Water Management Plan at WaterCitySA.com.



WATER CITYSA

SAWS by the Numbers

One of the nation's largest municipally owned utilities

- Over 2.0 million population
- 928 square mile service area
- 13,200 miles of pipe (water & wastewater)
- 4 major treatment plants
- \$941 million budget
- \$2.6 billion 5-year capital program
- 1,686 employees



WMP Development

What is the Water Management Plan (WMP)?

- Guiding document to meet long-term water needs of SAWS' customers
 - Population projections
 - Water demands
 - Conservation programs and goals
 - Current and future supplies
 - Updated approximately every five years

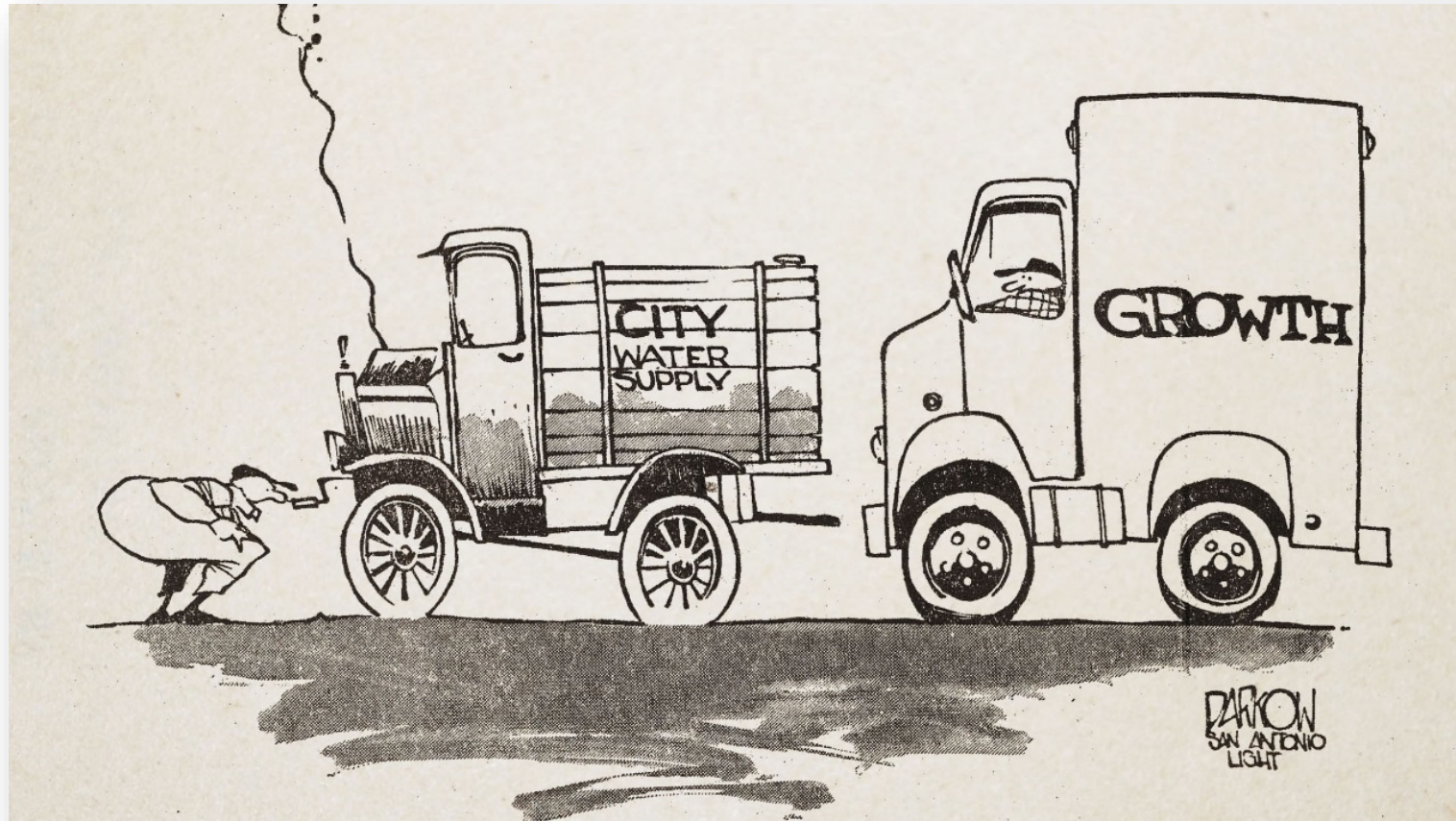


Terminology

- 1 acre-foot (AF) = 325,851 gallons, or approximately enough water to fill a **football field one foot deep**
- Firm Yield: The **volume of water** which can be produced from a defined source during a repeat of the **drought** of record under existing regulatory, legal, contractual, hydrological, or infrastructure constraints.
- Drought of Record: The drought of **1950-1958** in Texas is accepted as the Drought of Record for water resource planning purposes. SAWS utilizes the Drought of Record as the **basis of supply availability** and drought demand management measures.

Where We Were

Endless Editorial Jokes and Lack of Confidence in Water Future



Previously Planned Projects

City leaders agree it's time to lay Applewhite to rest

Mayor. water system to take action killing reservoir permits

By Rond...

One of their most white re... project s... finally r... Mayo... ask Cit... tion ab... with th... structi... "It's... ral R... Comm... of Ed... want... said.

Cliff Morton, an avid Applewhite proponent and chairman of the San Antonio Water System board, said... only of the water plan, not an indictment of San Antonio's elected officials and business community. ... politicians and civic leaders had...

SAWS chief wants to drop Guadalupe plan

CONTINUED FROM 1A

River Authority (GBRA) and the San Antonio River Authority. It proposes to bring 30.8 billion gallons of water to the city each year as soon as 2012 to address the city's growing needs and diversify its supply sources. "It's disappointing," said Bill West, general manager of the GBRA. "Water today has become so complicated that it has to be addressed in a regional, multi-party process. "We were disappointed that the attitude toward the project has changed from SAWS' perspective. The signs all point toward pure economics for SAWS without consideration to the rest of the region. I'm concerned about the implications there."

West said he's concerned that San Antonio is slipping back into overdependence on the Edwards Aquifer for its water supply, jeopardizing the supply for those on the Guadalupe who depend on springflows. "One of our major reasons for participating in that project was to protect the springflow (from the Edwards Aquifer) and that appears not to be an objective of SAWS," he said. The city and region have historically relied on the Edwards for all drinking water. A 1993 state law created the Edwards Aquifer Authority to regulate its use, guaranteeing historic users certain amounts and limiting overall pumping to 450,000 acre-feet a year. That authority is finishing up

its permitting of water rights and the amounts guaranteed to users totaled 570,000 acre-feet. Pending legislation -- Senate Bill 3 -- would raise the pumping cap to match those rights. The Lower Guadalupe Water Supply Project was designed to capture excess flows on the lower Guadalupe, supplement them in dry times with groundwater, and pump them back to San Antonio. The project, especially the groundwater component, has drawn heated opposition downstream. Some critics in San Antonio have said that the Edwards should be managed better rather than pumping springflows back uphill. SAWS has spent about \$5 million dollars on environmental studies related to the project.

which would affect freshwater flows into San Antonio Bay and the food supply for the wintering whooping cranes. "As stewards of the water supply for the residents of San Antonio, we have to balance the competing objectives of having a completely unlimited water supply and having affordability in rates," Chardavoyne said Tuesday, adding that he and the task force still are analyzing other projects. The utility is proceeding with a \$233 million project that would bring 18 billion gallons of water to the city each year from well fields sunk into the Carrizo Aquifer in western Gonzales County as soon as 2008.

jneedham@express-news.net

LCRA board act sours S.A. water supply deal

SAWS feels partner wrongly pulled plug on Colorado River project.

Just when the atmosphere seems peaceful in the world of water supply projects, another conflict appears. Recently, the San Antonio Water System board of trustees voted to declare the Lower Colorado River Authority in breach of a contract for a project to bring Colorado

SAWS originally expected 150,000 acre-feet from the supply project with the LCRA, but that estimate was downsized to 90,000 acre-feet in 2006. LCRA's decision came after SAWS invested \$40 million in studies and environmental work. Under the contract, SAWS has the right to end the project and get half of the funds back. At this stage, the notion of the two agencies working together on a successful water project seems unlikely. Additionally, the estimated cost of water from the LCRA project was increasing as the yield dropped. Still, SAWS officials see value in owning a pipeline that runs almost to the coast because desalinated sea water is likely to be a key source in the future. SAWS officials say they have hope for reviving the LCRA deal, but the best move for SAWS is to get its half of the \$40 million back plus damages for LCRA's breach of contract. The most promising parts of SAWS' new 50-year water supply plan don't rely on the LCRA deal, and it is time to move forward with projects that have better prospects.

Another SAWS project facing ax

Utility's boss favors a desalination plant over a pumping proposal.

BY JERRY NEEDHAM
EXPRESS-NEWS STAFF WRITER

The new president of the San Antonio Water System wants to scrap a proposed \$404 million project to pump water from an aquifer east of Austin and instead build a desalination plant to treat brackish groundwater from another aquifer in Southern Bexar County. David Chardavoyne told the San Antonio Express-News Editorial Board on Wednesday that getting rid of the Simsboro Aquifer project, as well as a nearly \$1 billion project to bring water from the lower Guadalupe River, are among the recommendations he will make to the SAWS board next week.



CHARDAVOYNE

Previously Planned Projects

Project Name	Year Planned	Planned Yield (Ac-Ft)	Yield
Canyon Lake	1976	50,000	0
Applewhite Reservoir I	1980s	48,000	0
Applewhite Reservoir II	1990s	60,000	0
Simsboro Groundwater	1998	55,000	0
Lower Guadalupe Project	2001	94,500	0
LCRA – SAWS Water Project	2002	150,000	0

Where We Are





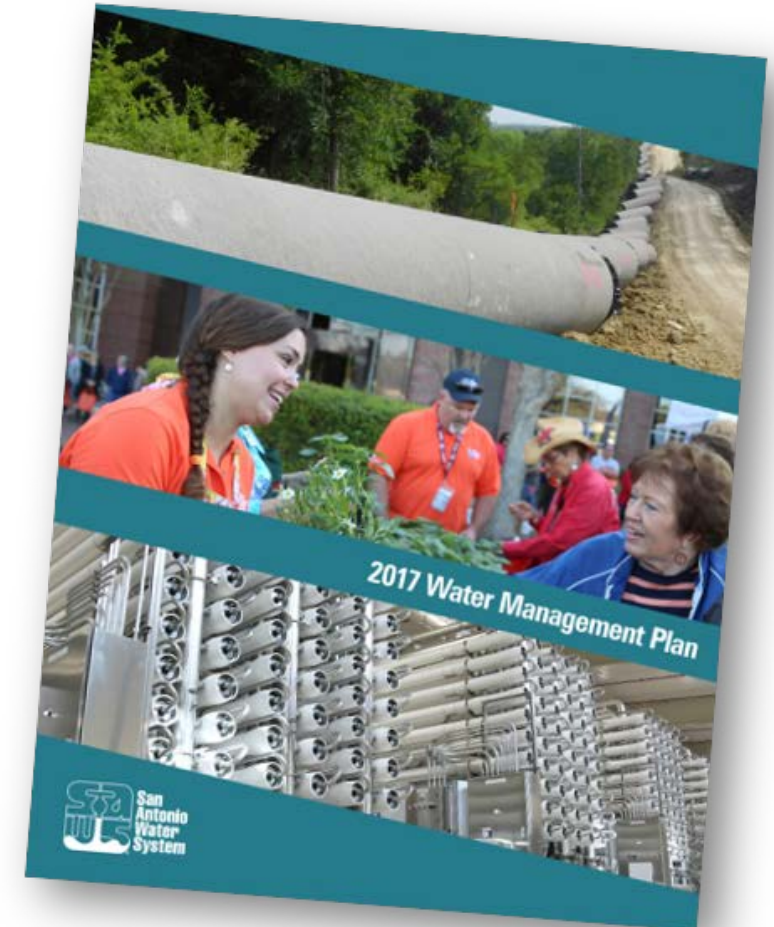
A B C D...E's of Water Management

- A Largest **A**quifer **S**torage & **R**ecovery
- B State of the art **B**rackish desal plant
- C Recognized **C**onservation programs
- D Largest **D**irect **R**ecycled water system
- E **E**mployees

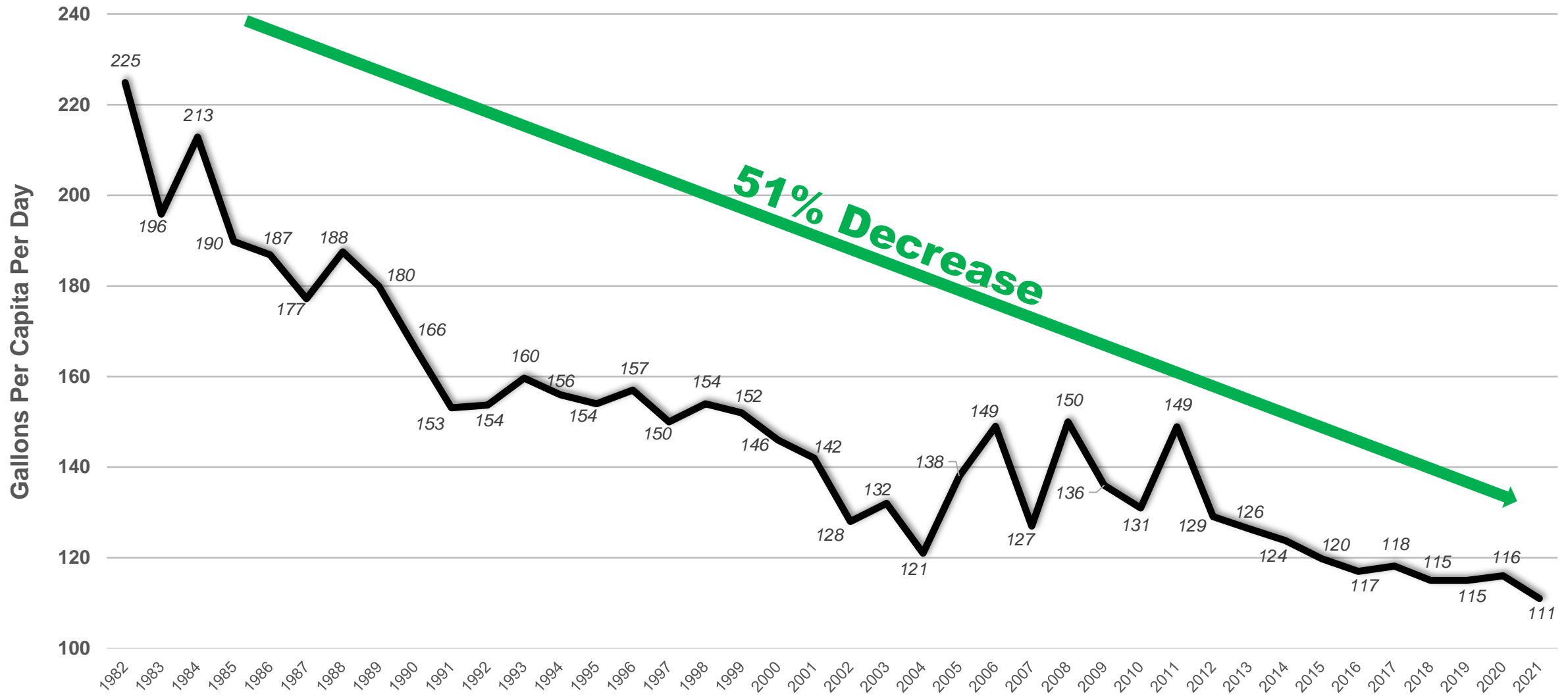
2017 Water Management Plan Results

Highlights

- Goal of 88 GPCD
- Planning population of 3.3 million
- Introduction of hybrid drought scenario
- New supplies
 - Vista Ridge
 - Expansion of Local Carrizo
 - Additional phases of Brackish Desal



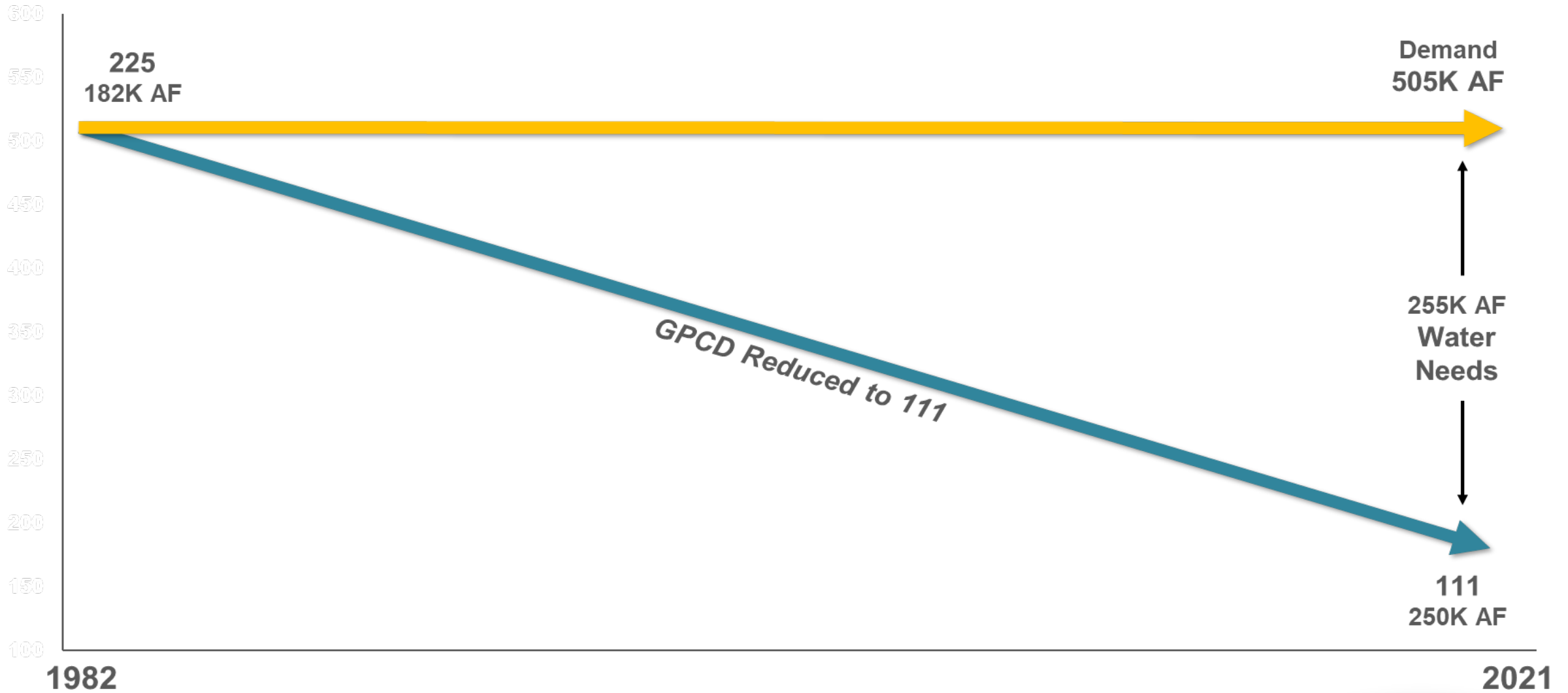
Conservation – First New Source



WMP Introduction



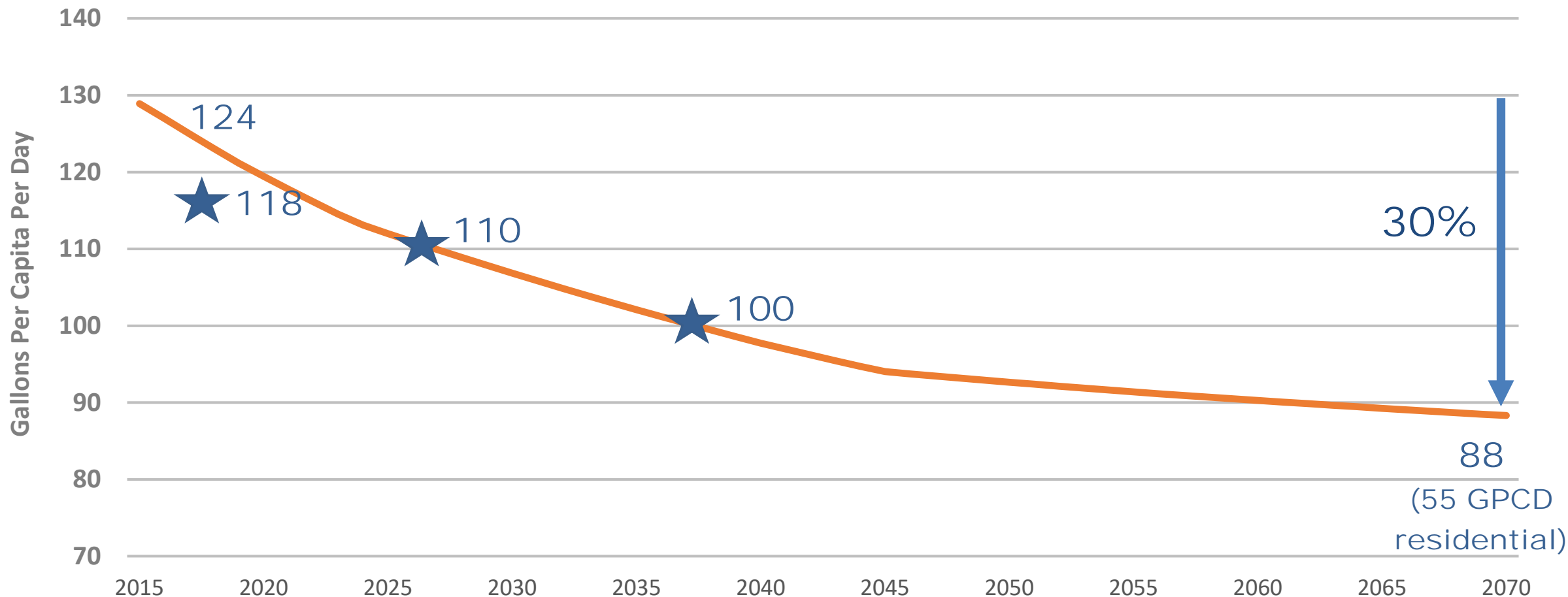
SAWS Demand Savings



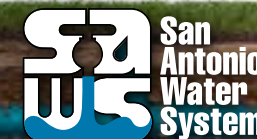
WMP Introduction



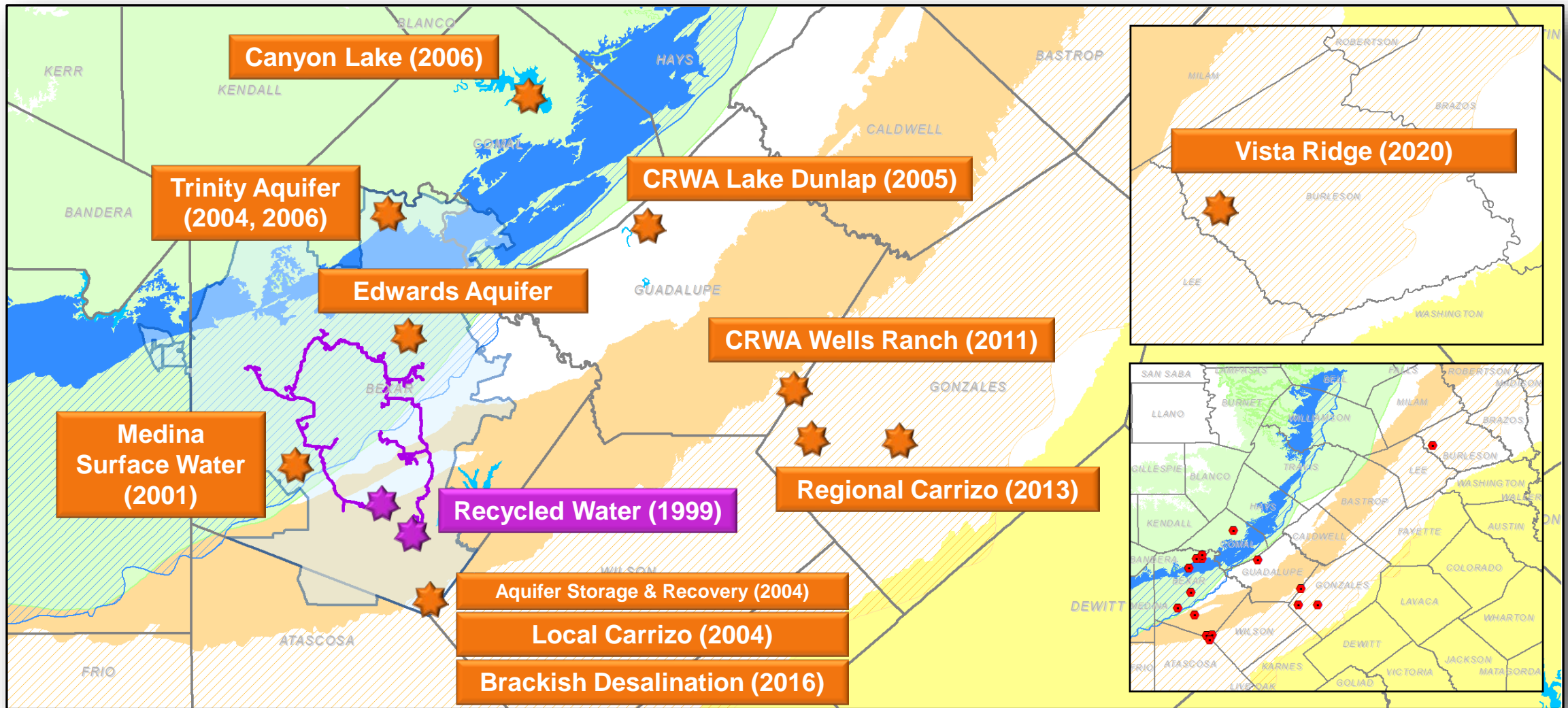
Progressive Conservation Goals to Continue



WMP Introduction

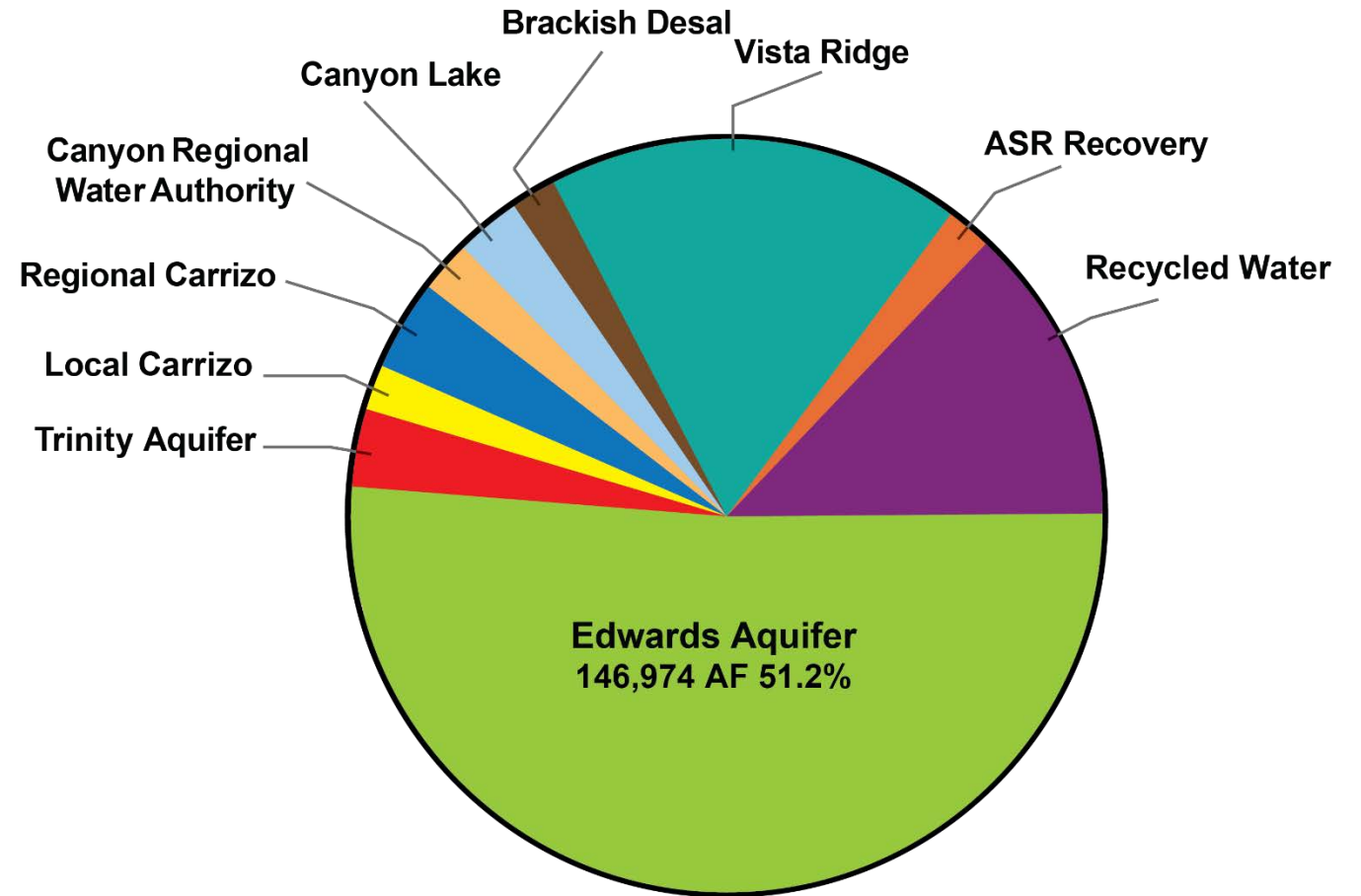
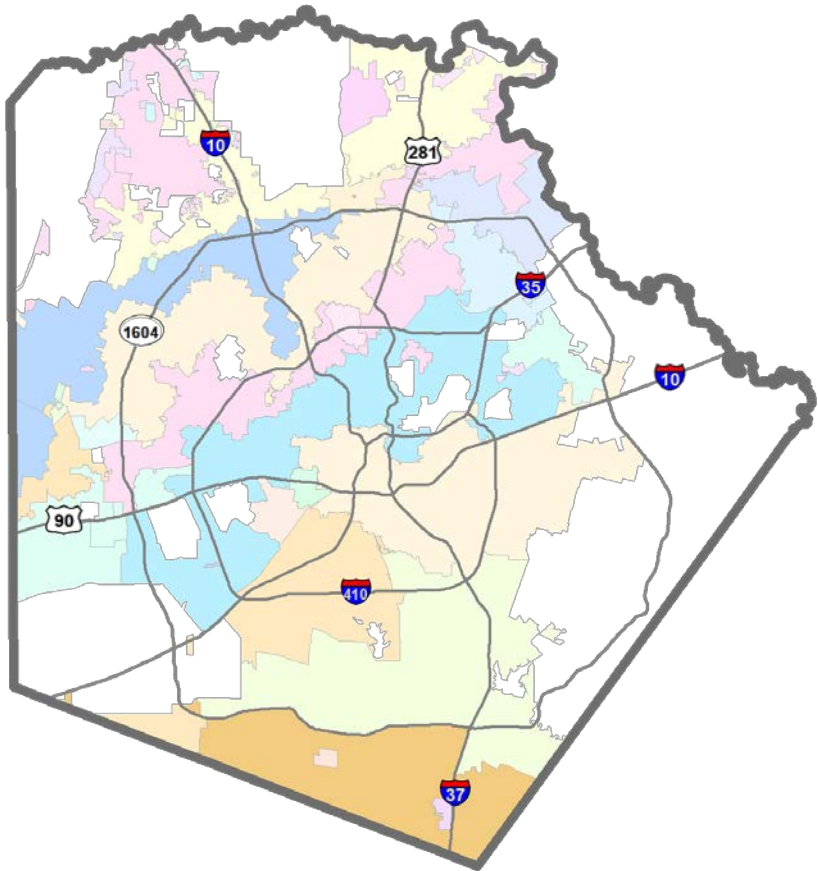


Supply Diversification



Management and Maximizing Supplies

Water Supply Distribution



WMP Development

Task Force Meetings – To Date

- Task Force Meeting Topics to Date
 - Schedule
 - Climate change
 - Population projections
 - CCN and growth
 - Efficient energy management
 - Nonrevenue water
 - Demand & Conservation



2022 WMP Development

Task Force Meetings – To Date

- Task Force Meeting Topics to Date
 - Current Supplies & Risk
 - Planned Projects, Integration, Financial Analysis
- Planned Task Force Meetings
 - Wholesale and Supply & Demand Model
 - Review Public Comments on Draft Plan



50-Year Water Management Plan



Population Demands

Supply Management

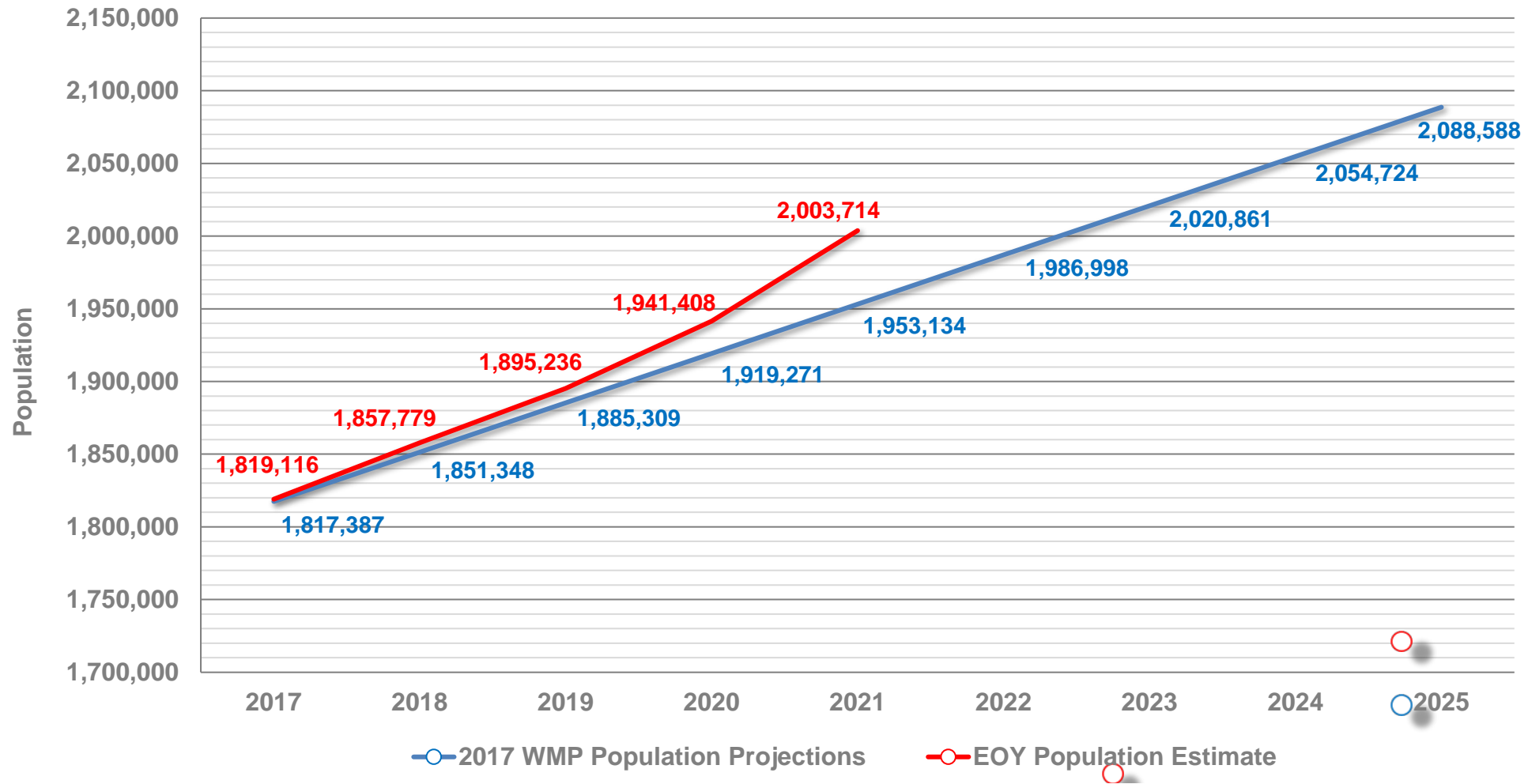
Diversified Water Sources

Climate Change

Conservation

Regional Partnerships

Population Comparison – 2017 WMP vs Actual



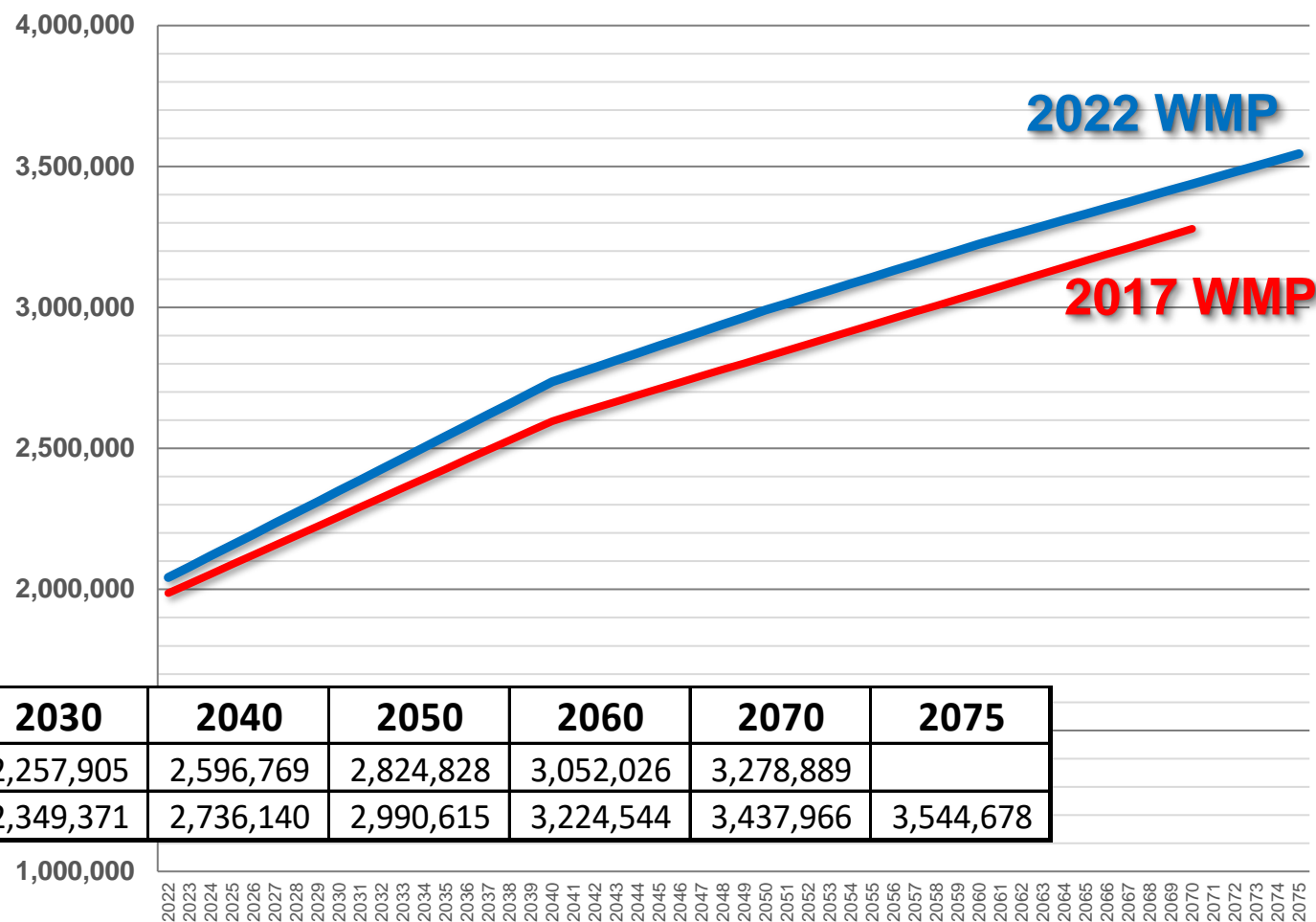
Population Projections

SAWS Revised Growth

- SA Fastest growing city in the nation 2020-2021



- 694,000 more by 2040
- 1.5 million more by 2075 (74% increase)

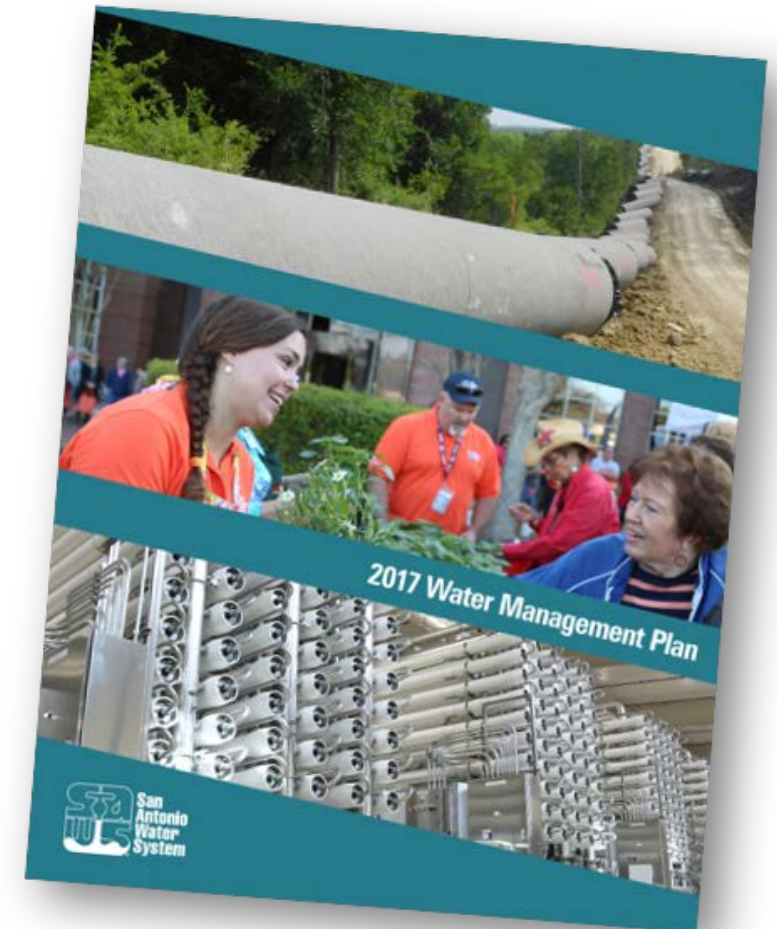


Plan Population Projections	2022	2030	2040	2050	2060	2070	2075
2017 WMP Population Projections	1,986,998	2,257,905	2,596,769	2,824,828	3,052,026	3,278,889	
2022 WMP Population Projections	2,042,120	2,349,371	2,736,140	2,990,615	3,224,544	3,437,966	3,544,678

Climate Change in Water Management Plans

Highlights

- First time addressed 2009 WMP
- Introduction of hybrid drought scenario
 - Intensity of 2011-2014 + duration 1950s
 - 108-month drought (9 years)
 - 77-month drought State Water Plan (~6.5 years)
- Ensured resiliency



Climate Change

Highlights

- We think of this...



Climate Change

Highlights

- But it is also this...



SW Climate Enhanced Drought

Southwest Megadrought



Southern Californians told to reduce outdoor watering in 'unprecedented' order amid historic drought
By Stephanie Egan and Aya Elamrouss, CNN
Updated 02:25 GMT (02:25 HKT) April 29, 2022

Lake Powell officials face an impossible choice in the West's megadrought: Water or electricity
By David March, CNN
Updated 1:03 PM EDT, Sat April 30, 2022

Lake Mead water levels plummet
Sun, May 1, 2022, 10:23 AM
A massive drought-starved reservoir on the Colorado River has become that low.

SoCal water shortage emergency declared, outdoor watering restricted
CALIFORNIA
Snow levels in California have experts worried about water supply.

Climate change is drying up the Colorado River, putting millions at risk of 'severe water shortages'
By the Associated Press, Sareen Habeshian
Updated 07:34 AM PDT 2022 / 07:34 AM EDT

Bone dry New Mexico needs your help during 'Mega-drought'

Megadrought in Southwest Is Now the Worst in at Least 1,200 Years, Study Confirms
BY COLUMBIA CLIMATE SCHOOL | FEBRUARY 14, 2022

U.S. drought conditions
Abnormally dry
Moderate drought
Severe drought

MEGADROUGHT

Los Angeles Times
TUESDAY, FEBRUARY 15, 2022

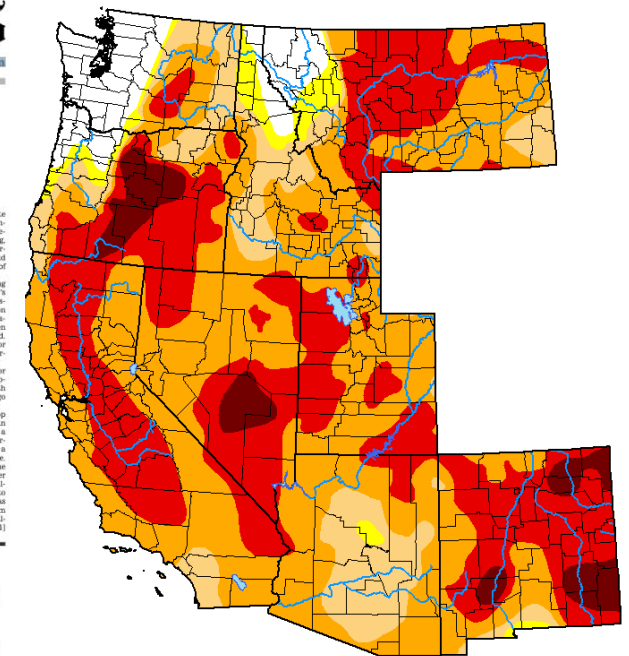
Homelessness, crime damage Newsom in poll
The governor's approval rating falls as a majority of voters say state is heading in the wrong direction.

Tree stumps in the ghost town of St. Thomas, Nev., which resurfaced as Lake Mead's water receded.

This Western megadrought is the worst in a millennium
Study says it's being driven by climate change

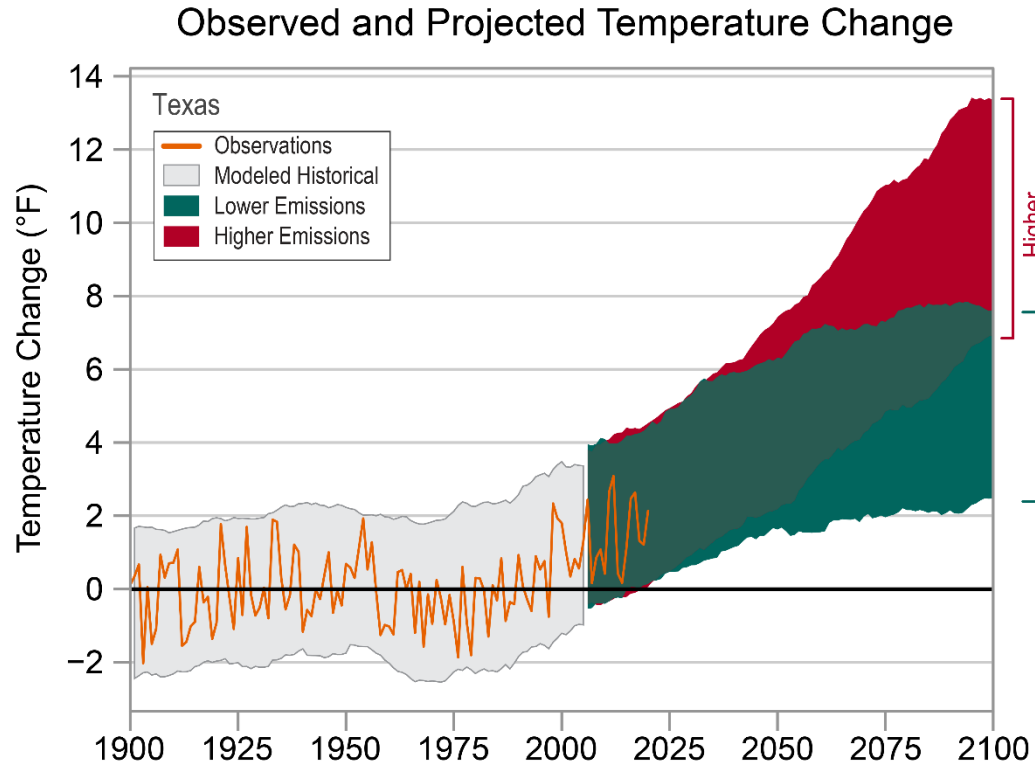
Public support for tougher sentences
A poll finds bipartisan backing for changes to Prop. 67.

Pair got 12 years for watch robbery
They are sentenced for a \$250,000 heist in Beverly Hills.



Climate Change

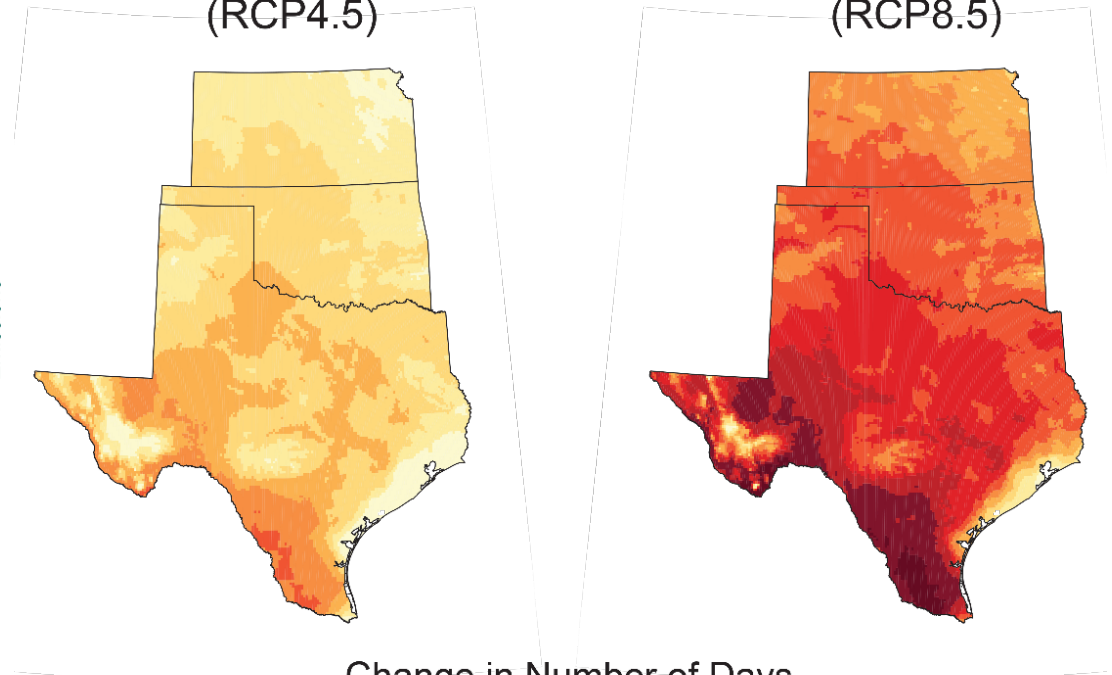
Projected Future Climate Conditions in Texas



Late 21st Century

Lower Scenario (RCP4.5)

Higher Scenario (RCP8.5)



Current Water Supply Portfolio

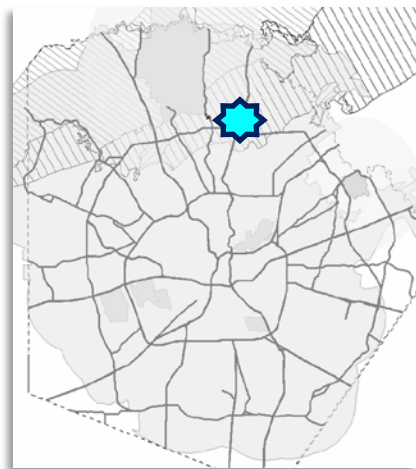
- Edwards Aquifer
- Vista Ridge
- Regional Carrizo
- Brackish Groundwater
- Local Carrizo
- Aquifer Storage & Recovery
- Trinity Aquifer
- Canyon Regional
- Western Canyon
- Medina System
- Recycled System

Water Supply Contract Terms

Source	Project Planned Term	Reason
Lake Dunlap	Assume termination in 2023	Volume transfers to Wells Ranch
Texas Water Supply	Assume termination in 2027	Project yield not firm
Oliver Ranch	Assume extension to 2035	Contract extension term ends
Western Canyon	Assume termination in 2037	Water returns to GBRA basin
Wells Ranch	Assume termination in 2047	Contract term ends
Medina System	Assume termination in 2049	Project yield not firm
SSLGC	Assume extension to 2075	Project yield firm – 2080
Vista Ridge	Assume extension to 2075	Contract term through 2080

Texas Water Supply Corp. (WECCO)

- Contract will terminate in 2027
- Source: Trinity Aquifer
- Master Planned improvements will be in place



Oliver Ranch

- Contract extended to 2035
- Source: Trinity Aquifer
- Master Planned improvements will be in place



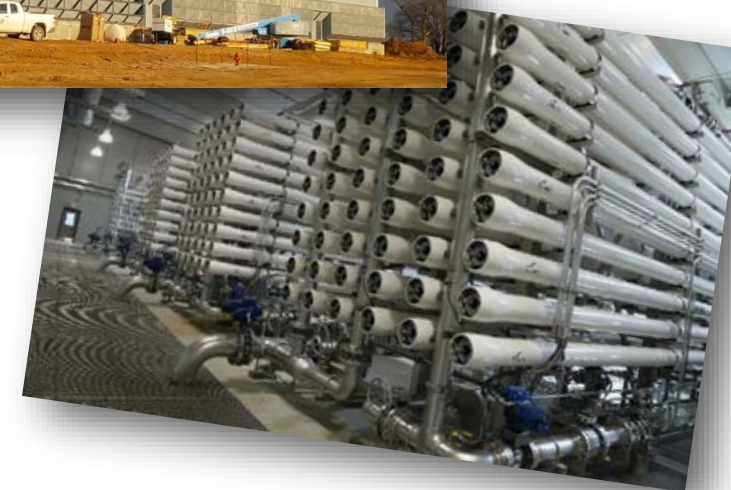
GBRA

- Contract terminates in 2037
- Source: Canyon Lake
- Master Planned improvements will be in place

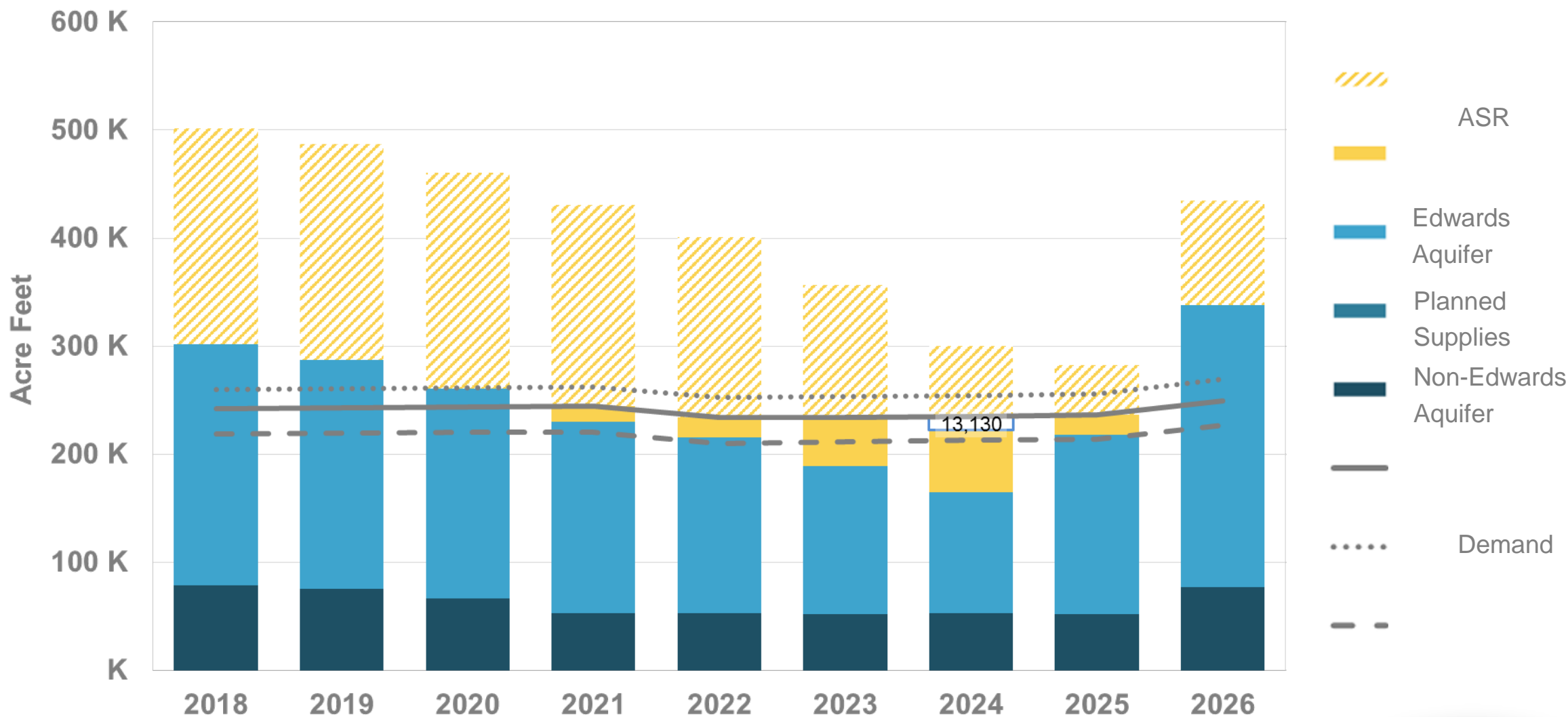


Increasing Supply Diversification

- Newest Supply
 - Vista Ridge early 2020
- Long Term
 - Expansion of Local Carrizo
 - Additional phases of brackish groundwater desalination



Securing San Antonio's Water Future



Planned Projects

Expanded Local Carrizo

- Expanded Local Carrizo 21,000 AFY and ASR Treatment Plant Expansion
- 2022 WMP Timing: TBD

	Volume	Year
Phase 1	7,000 AFY	TBD
Phase 2	7,000 AFY	TBD
Phase 3	7,000 AFY	TBD
Total	21,000 AFY	TBD



Planned Projects

Expanded Brackish Groundwater Desalination

- Brackish Groundwater Desalination Phases 2 & 3
- Timing 2022 WMP: TBD

Phase	Volume	Year
Phase 2	13,440 AFY	TBD
Phase 3	8,960 AFY	TBD
Total	22,400 AFY	TBD



Planned Projects

Regional Wilcox Project

- Regional Wilcox Project 1 & 2
 - 2017 WMP: Project that merits further consideration
- Timing 2022 WMP: TBD

Phase	Volume	Year
Phase 1	32,000 AFY	TBD
Phase 2	18,000 AFY	TBD
Total	50,000 AFY	TBD



Wholesale

Entity

City of Elmendorf

East Central Special Utility District

Kendall County WCID #3

The Oaks Water Supply Corporation



Next Steps

- Continuous Community Engagement and Feedback
- SAWS Board & City Council Briefings
- Draft Plan
- SAWS Board Approval

Contacts

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Questions?



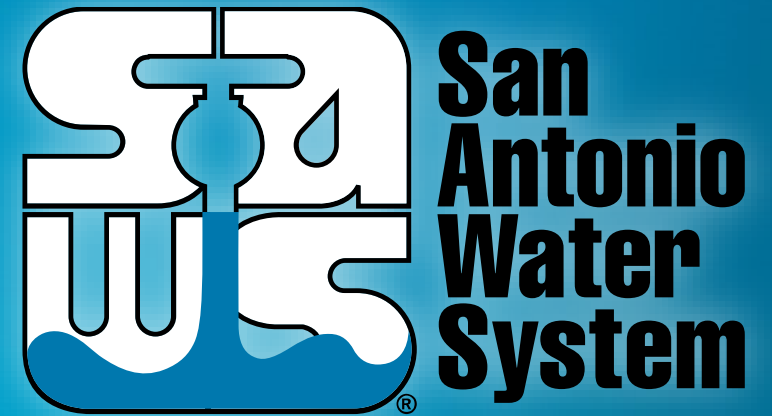
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