



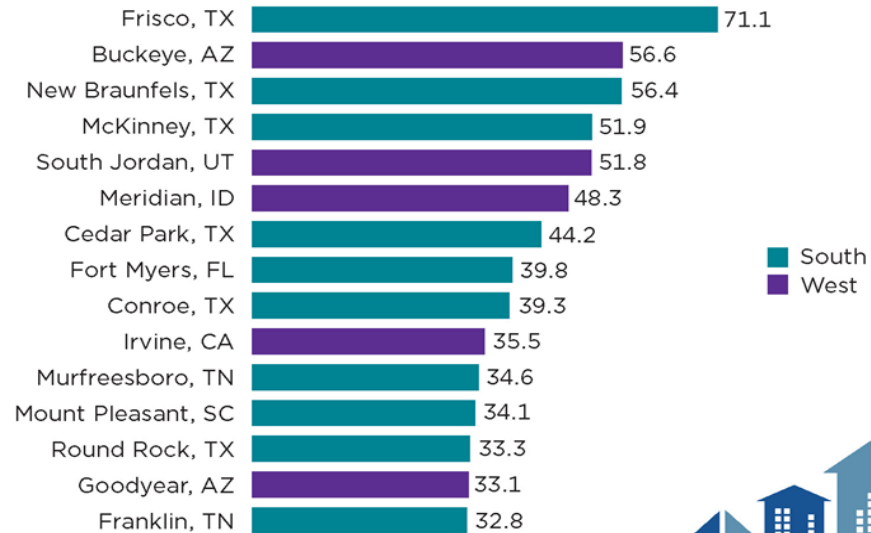
NBU® **NEW BRAUNFELS**
UTILITIES

Resilient Water Supply

Growth in the NBU Service Area

The 15 Fastest-Growing Large Cities

By Percent Change: April 1, 2010-July 1, 2019



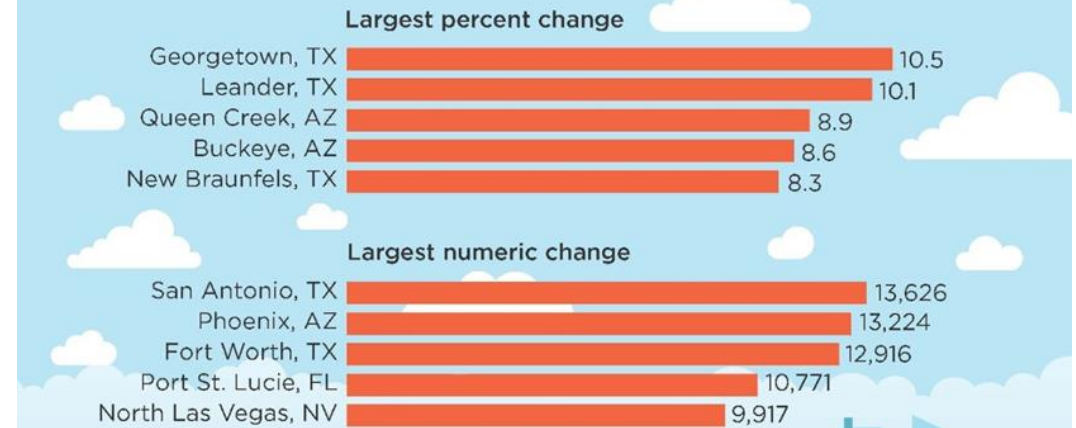
United States[®]
Census
Bureau

U.S. Department of Commerce
U.S. CENSUS BUREAU
[census.gov](https://www.census.gov)

Note: Percent change for fastest-growing large cities and towns with populations of 50,000 or more on April 1, 2010.
Source: Vintage 2019 Population Estimates

Fastest-Growing Cities From July 2020 to July 2021

Cities With Populations of 50,000 or More



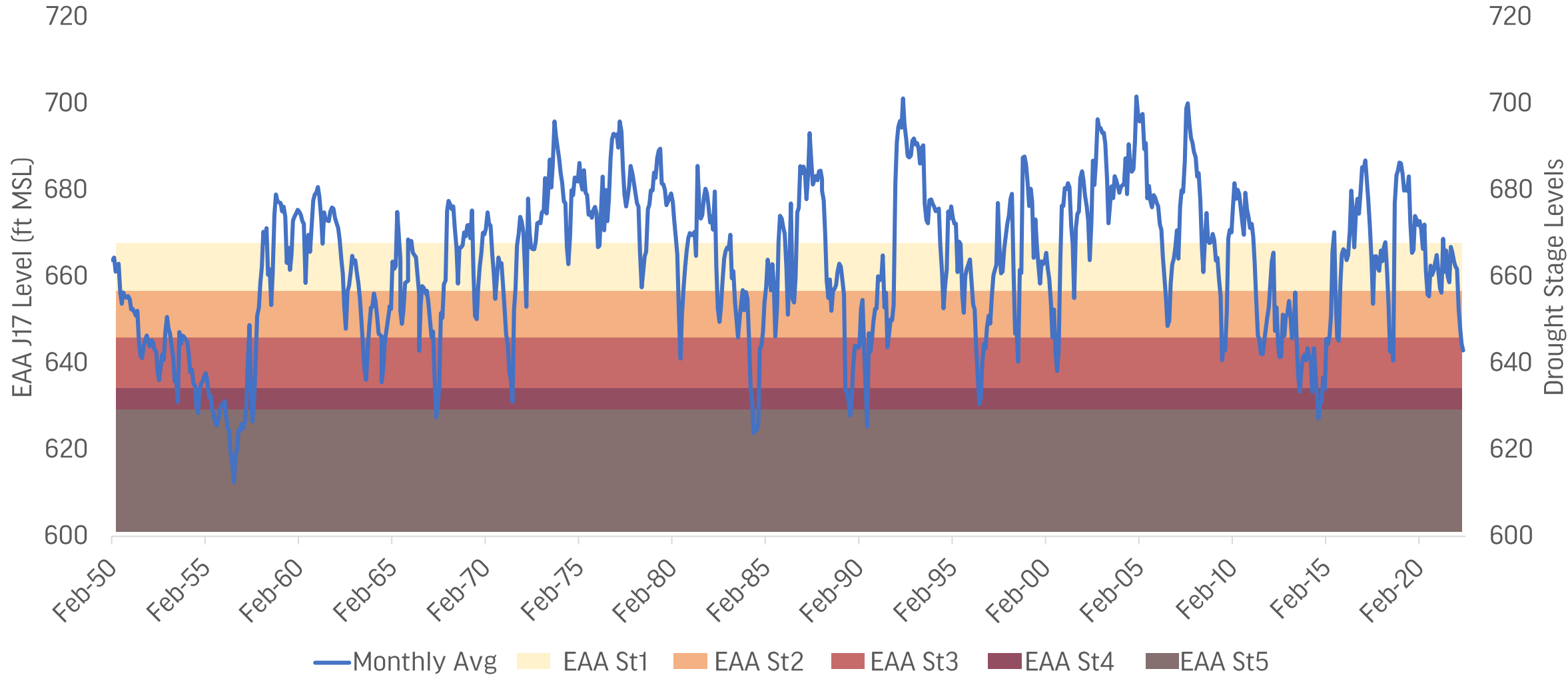
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[census.gov](https://www.census.gov)

Source: Vintage 2021 Population Estimates

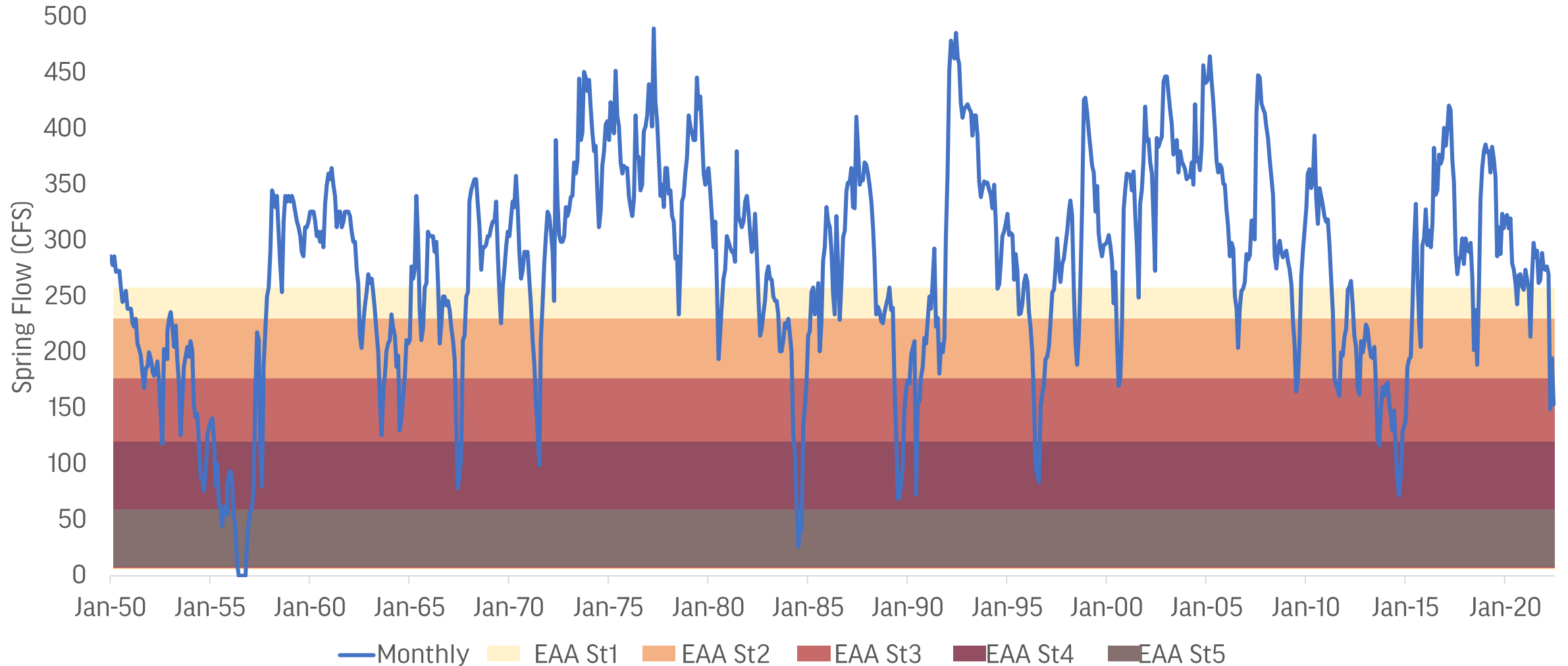
Edwards Aquifer Level

Monthly Average, 1950-Present

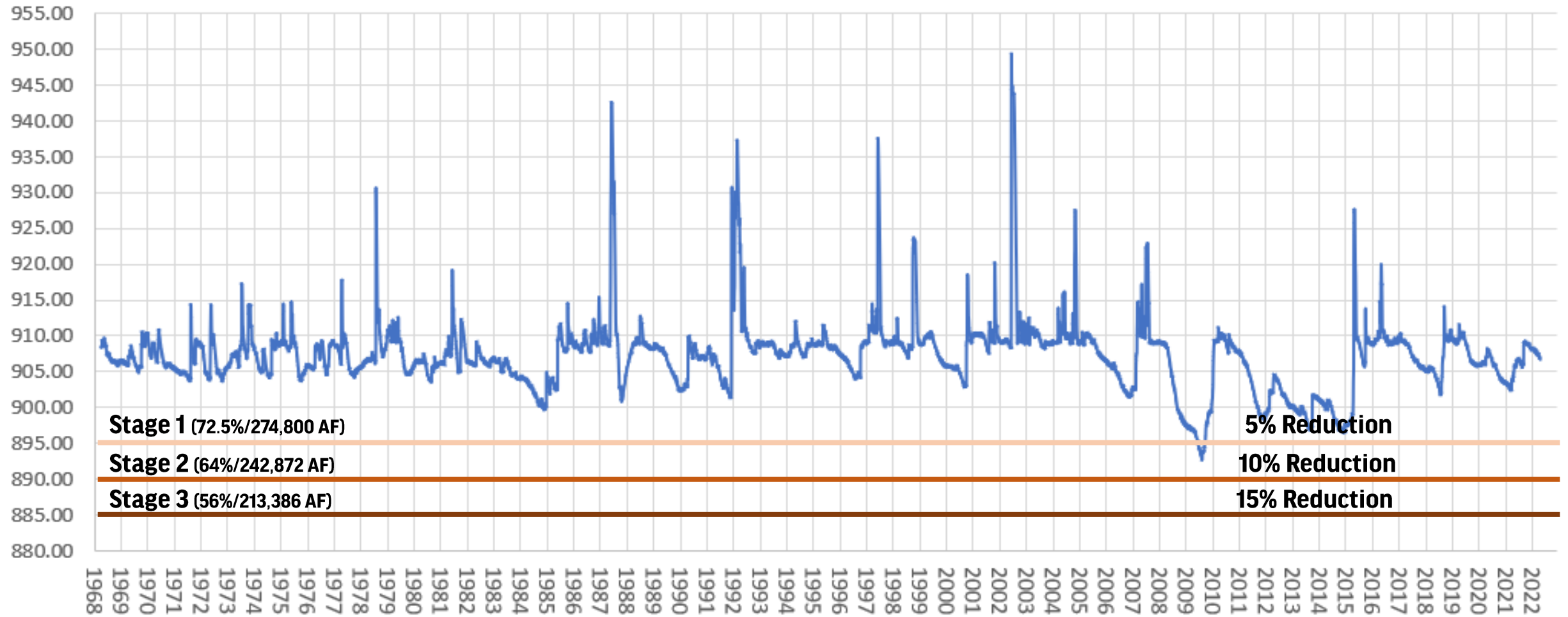


Comal Springs

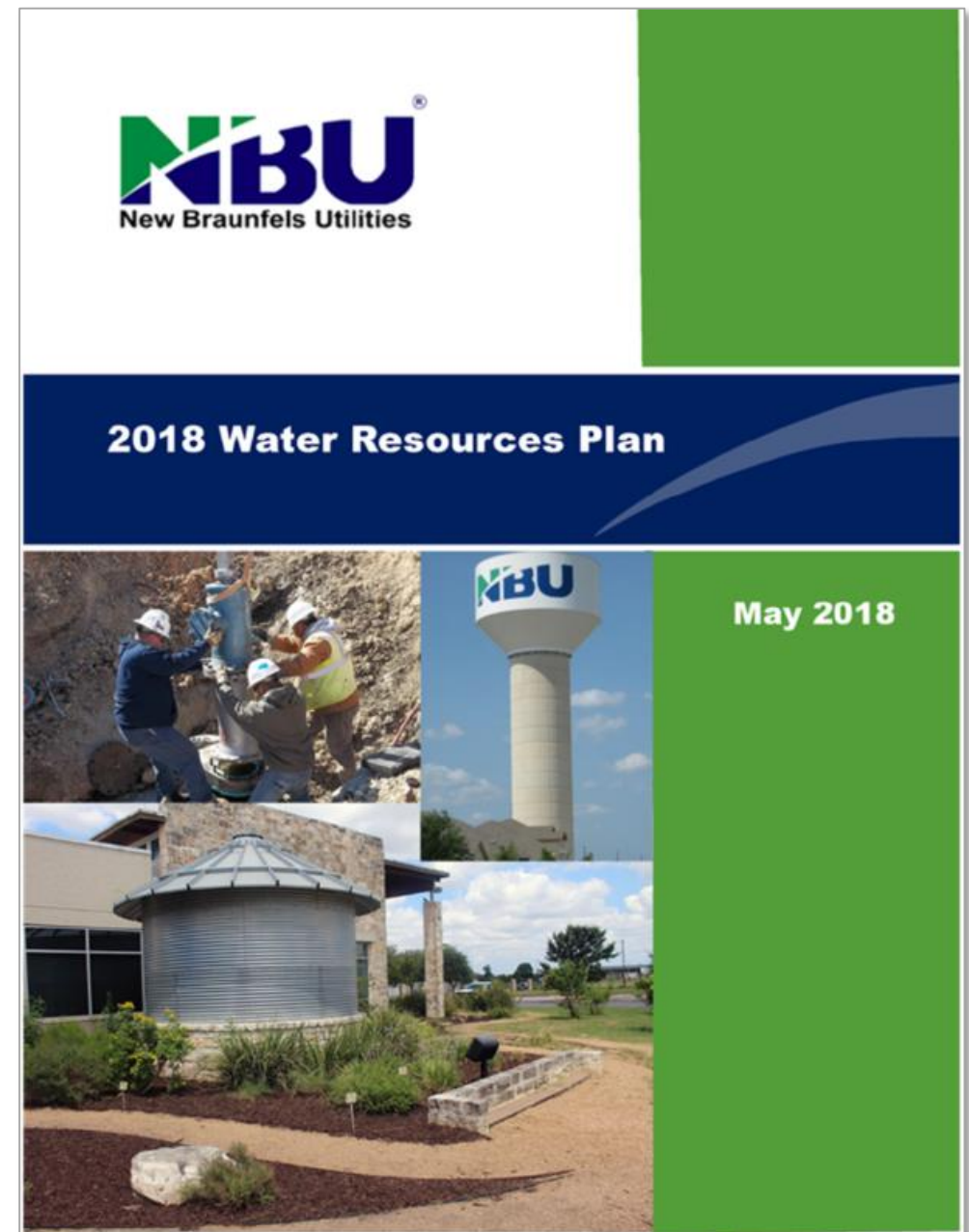
Monthly Average, 1950-Present



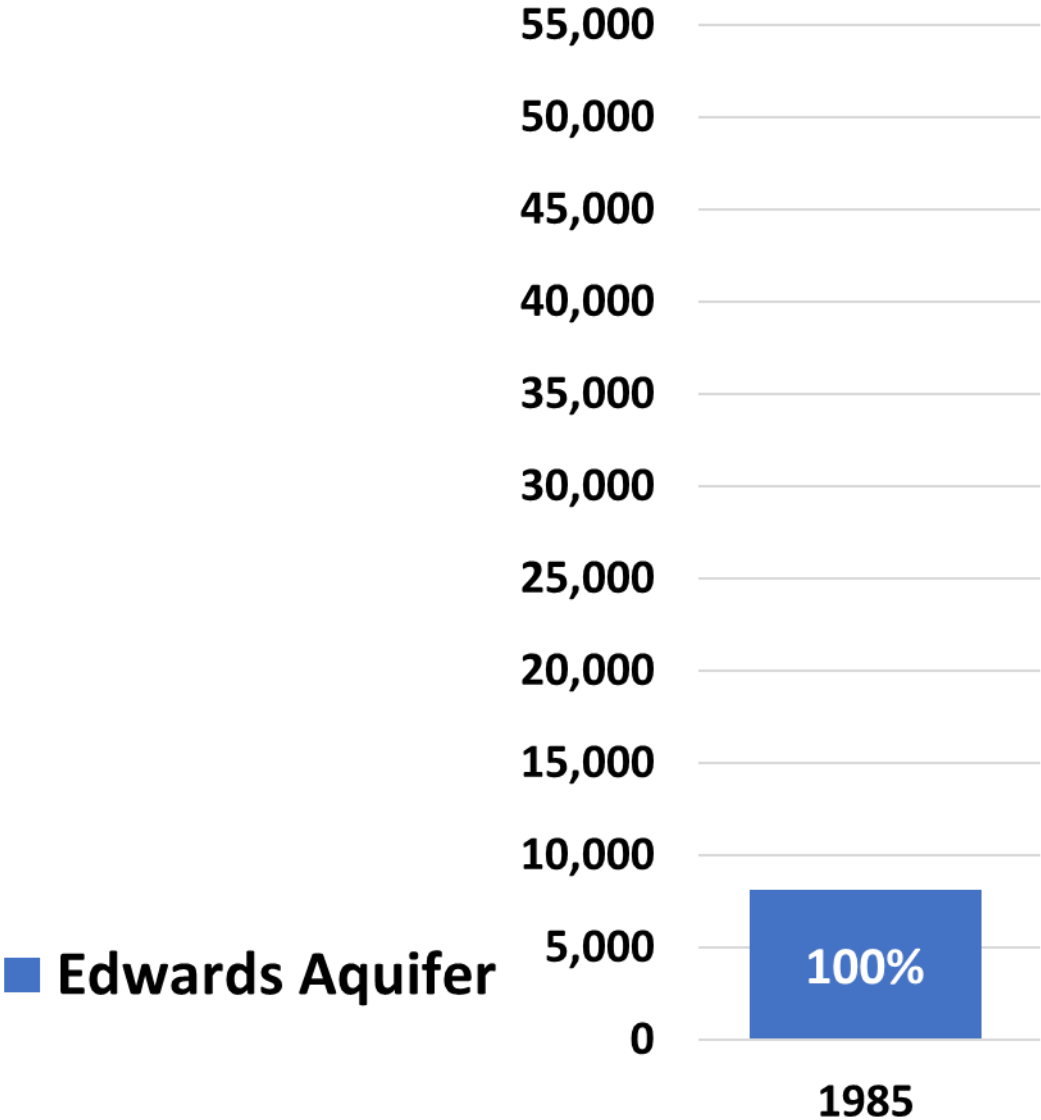
Canyon Lake – Water Surface Elevation



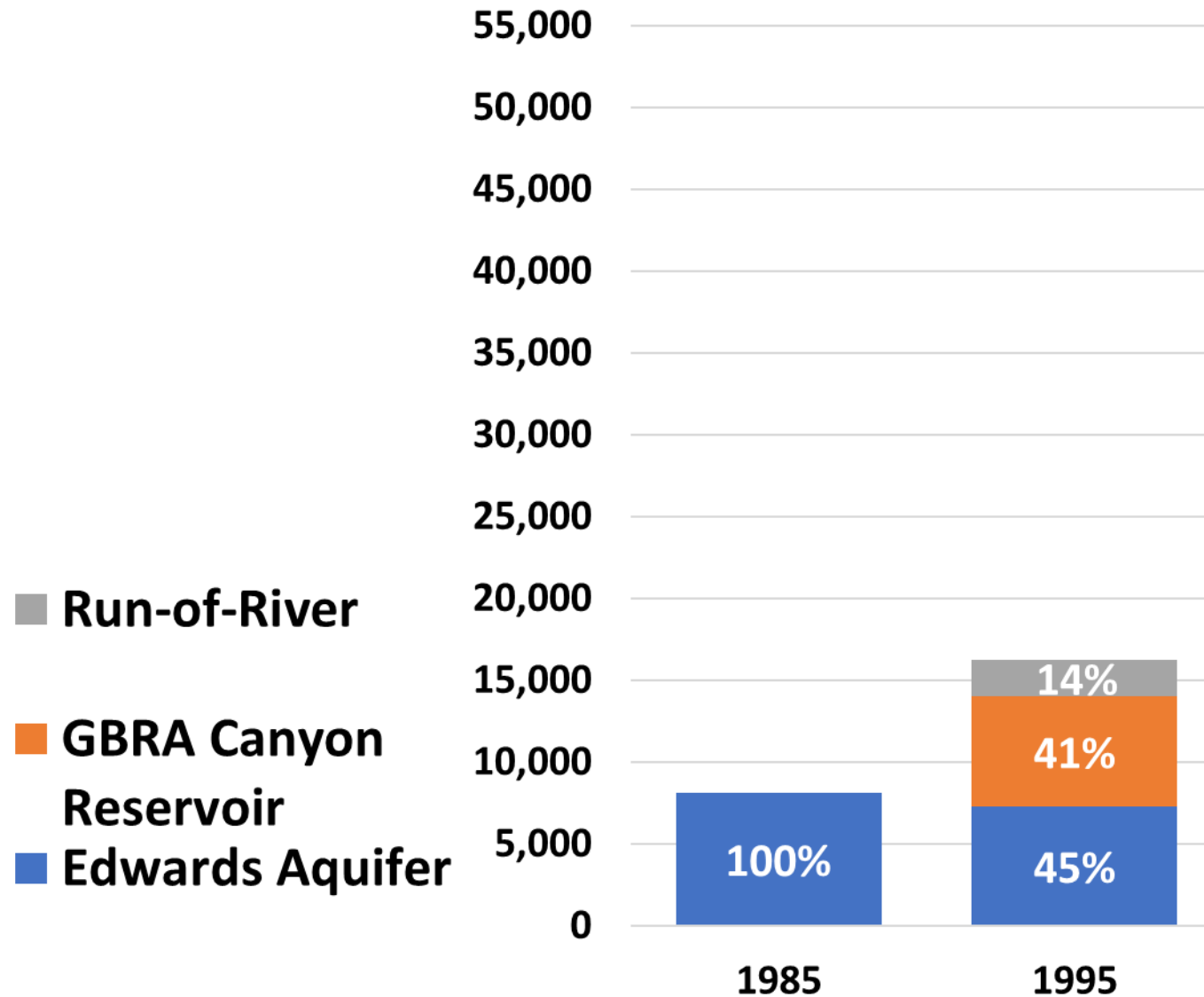
Water Resources Plan



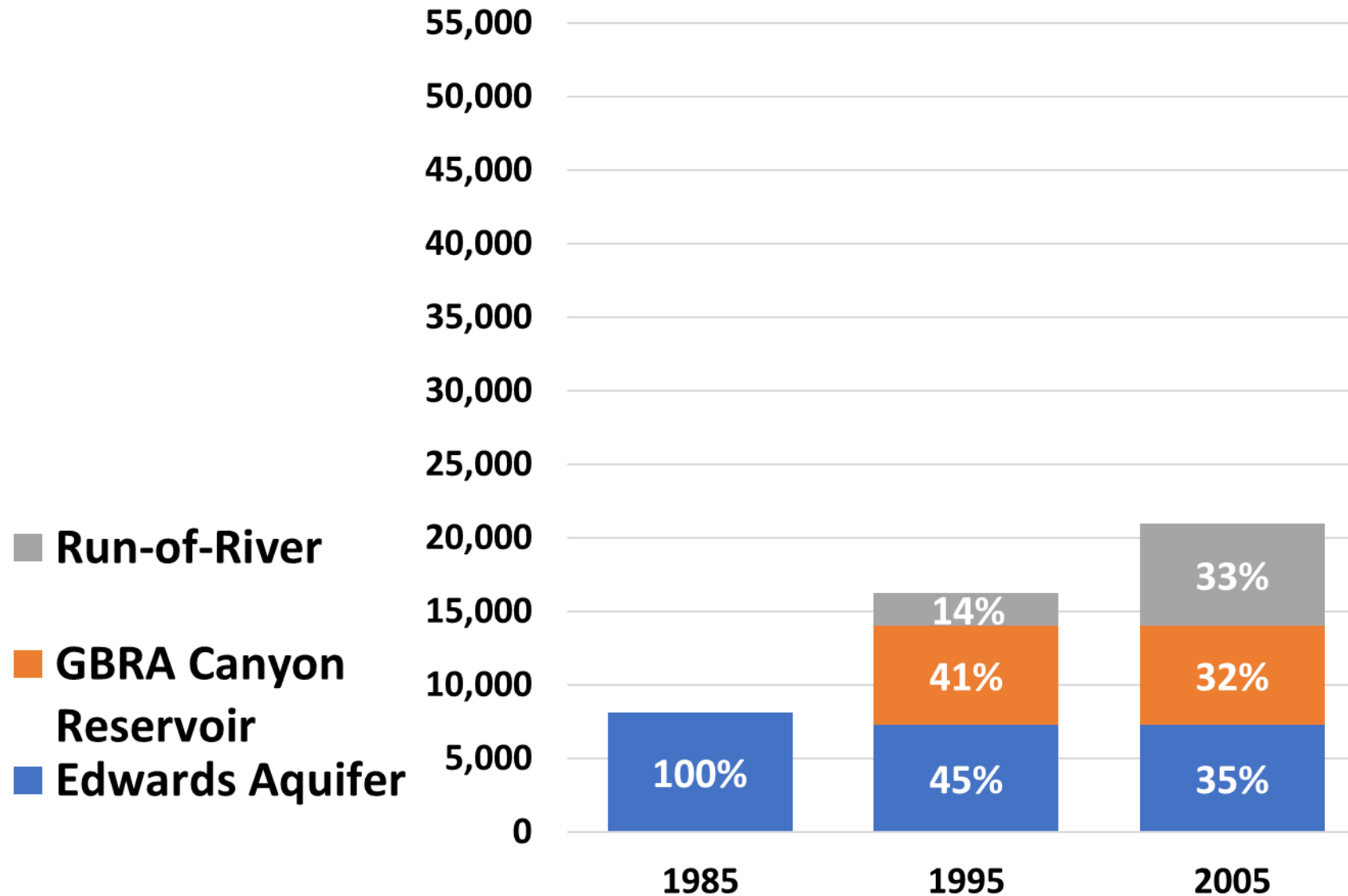
Water Supply Diversification (AFY)



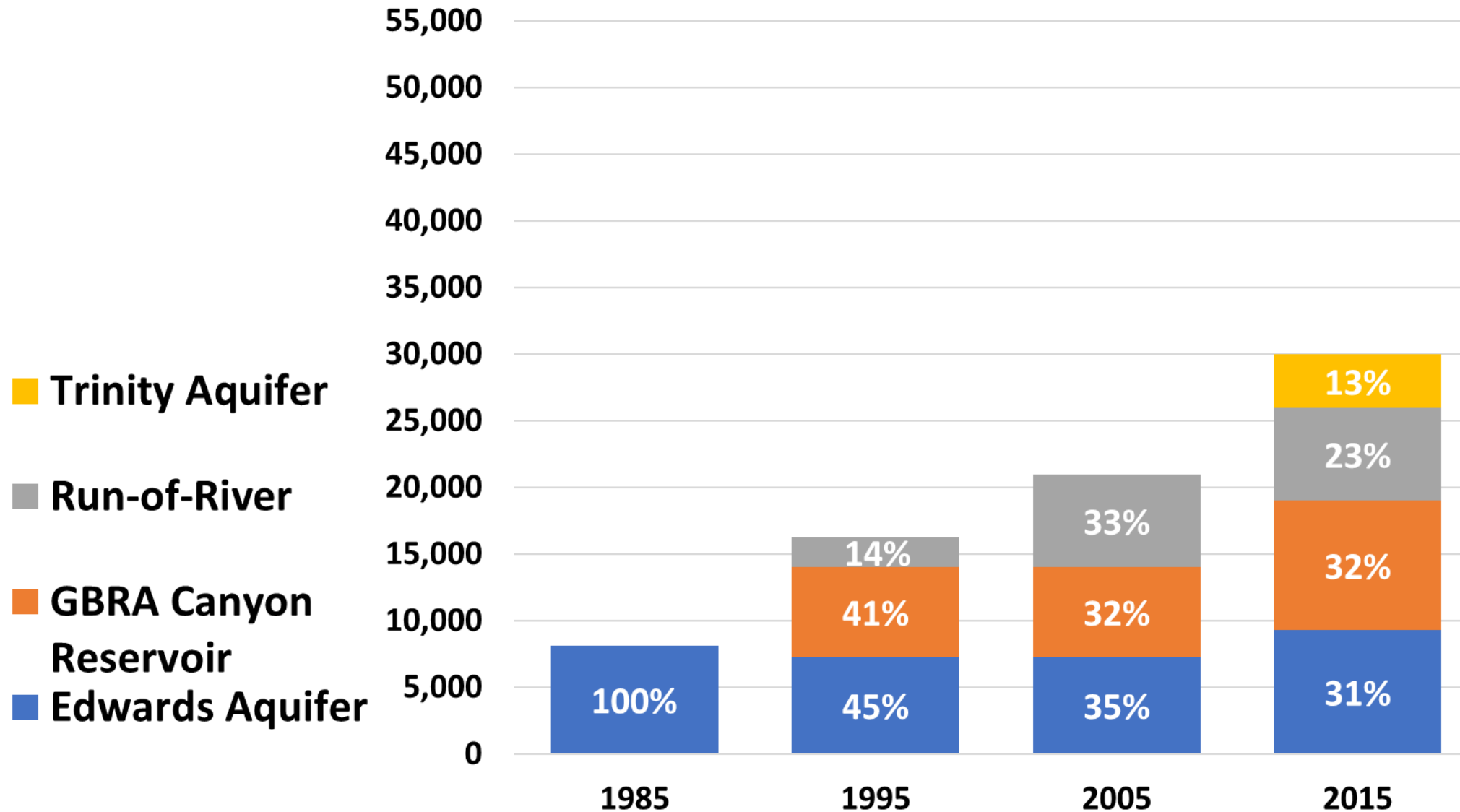
Water Supply Diversification (AFY)



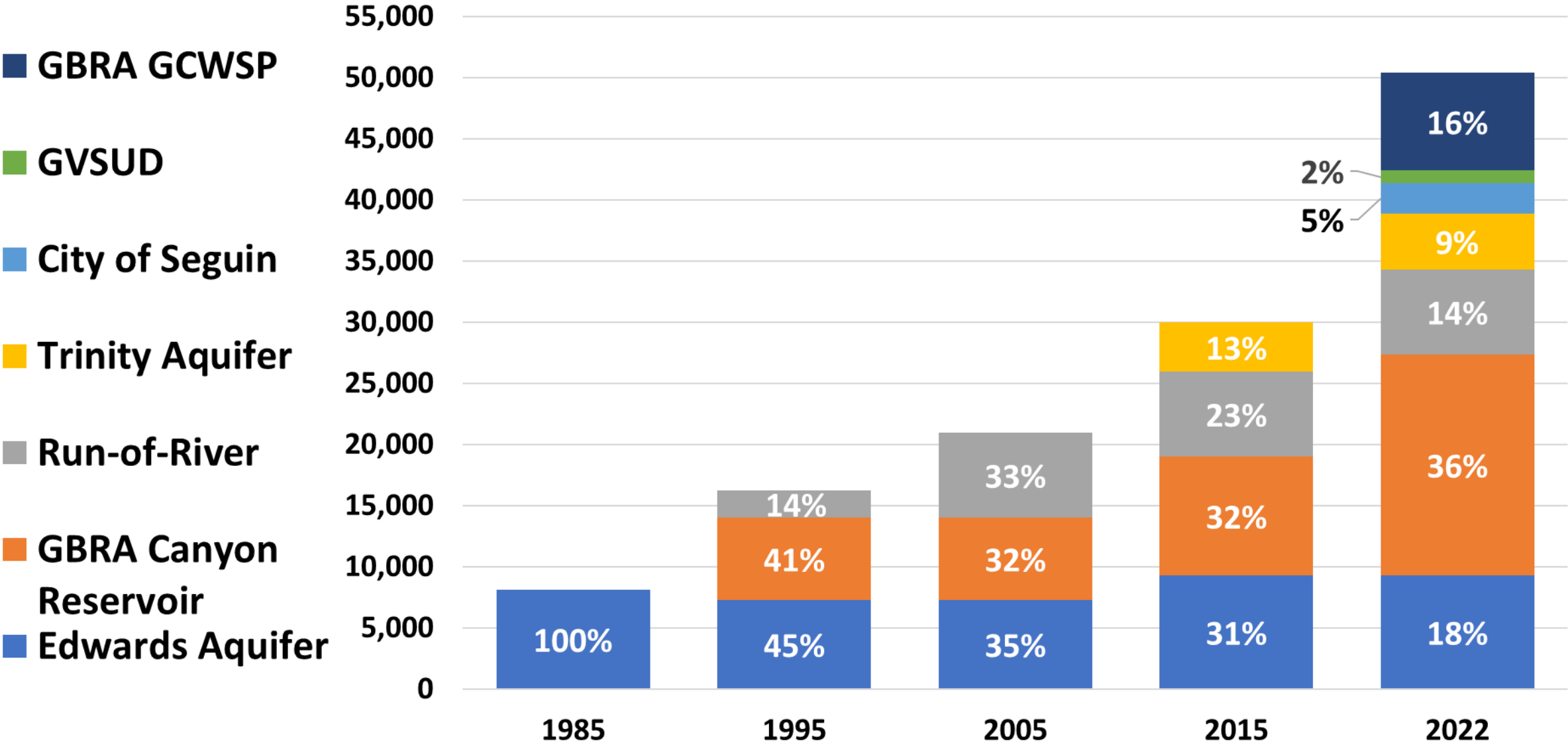
Water Supply Diversification (AFY)



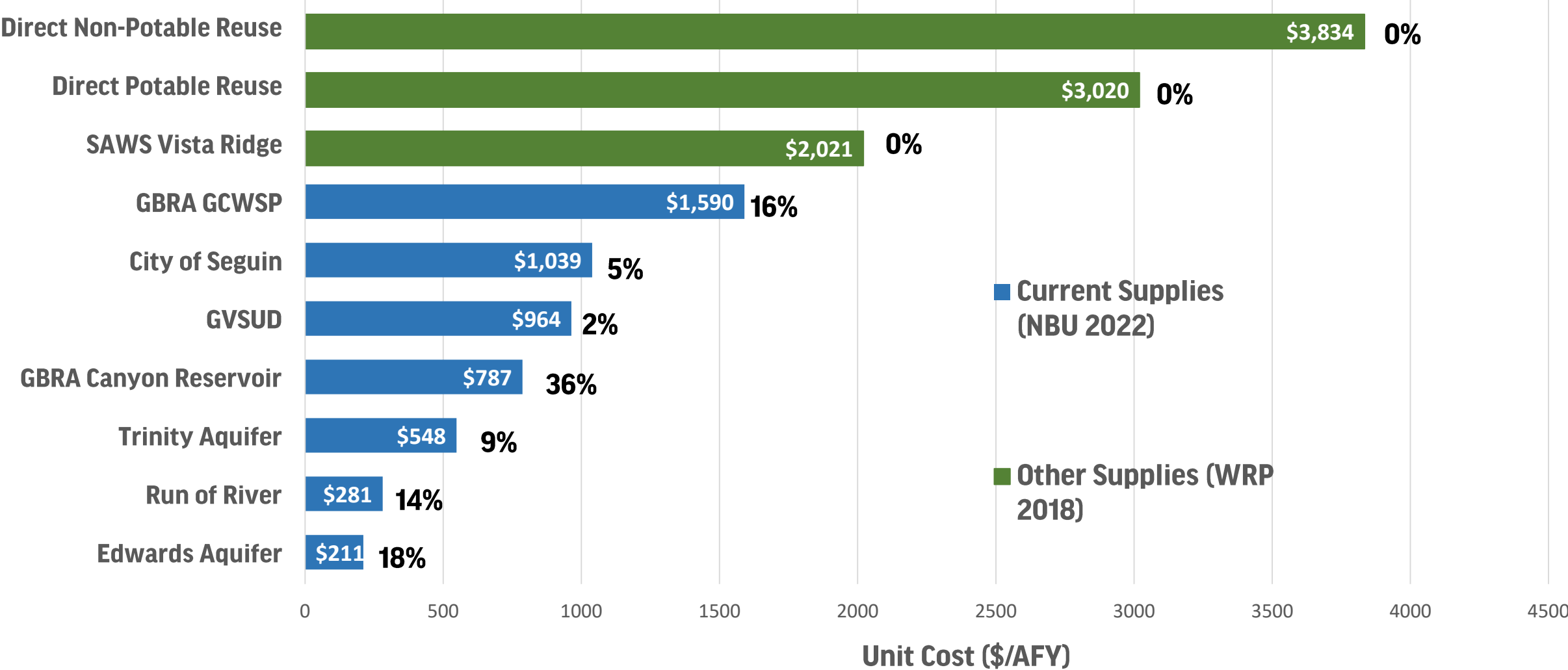
Water Supply Diversification (AFY)



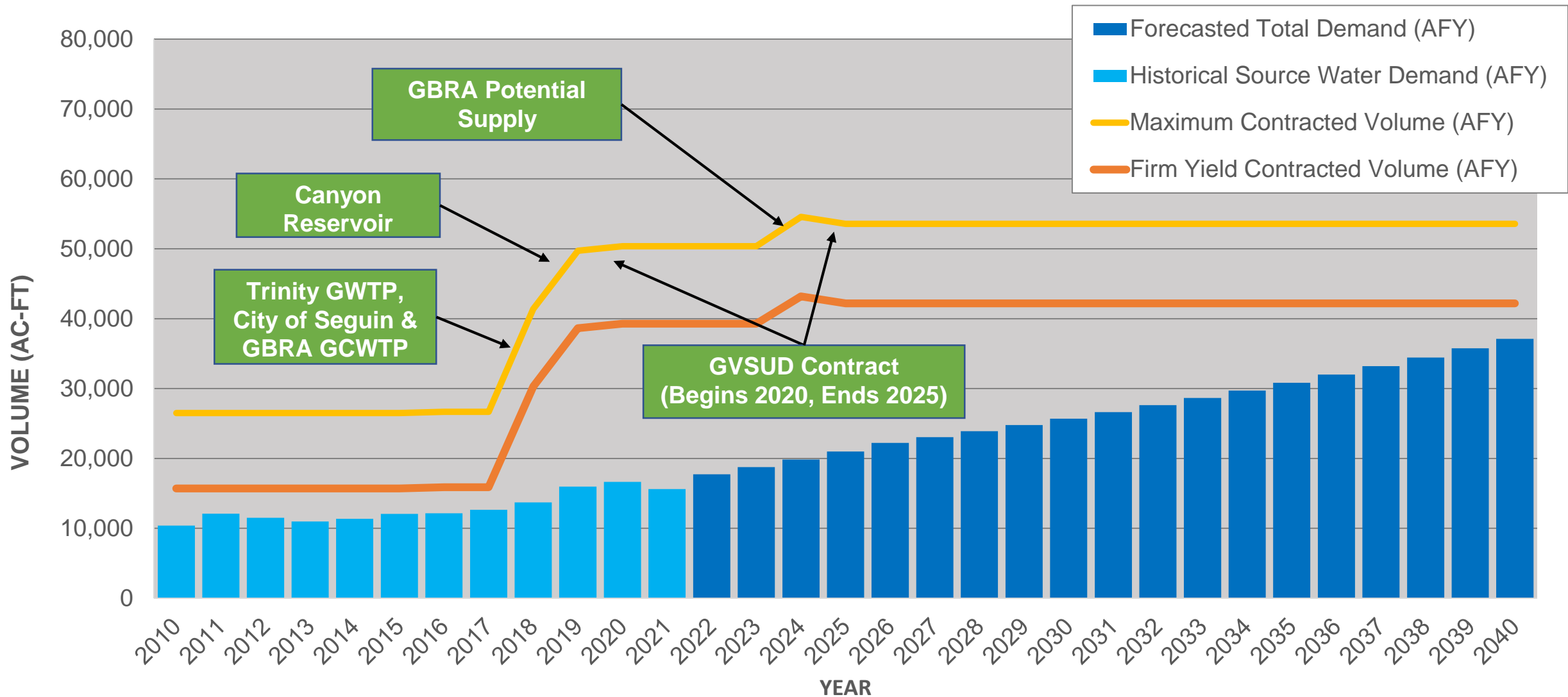
Water Supply Diversification (AFY)



Water Supply Cost Comparison



NBU Water Supply – 2010 through 2040



City of NB Code of Ordinances

Sec. 130-220 Drought Management Plan

- Sec. 130-220.1. - Landscape watering.
 - It is the policy of the city to promote the efficient use of water without waste at all times on a year round basis:
- Sec. 130-221. - Basis of water use reduction measures and aquifer stage conditions
 - The water use reduction measures may be based on
 - The Edwards Aquifer J-17 Water Well levels
 - The discharge level of the Comal Springs
 - Other contingency situations defined in ordinance
- Sec. 130-223. - Declaration of water use reduction stages in effect
 - The mayor of the city or his or her designee, in consultation with NBU, is hereby authorized to declare that water use reduction measures are in effect.

Watering Guidelines – Non-Drought

- ✓ Water with sprinkler or irrigation allowed **two days** per week based on last digit of the address
- ✓ Must occur before 10:00 a.m. and after 8:00 p.m.
- ✓ Watering with a hand-held hose, bucket, drip irrigation system, or a soaker hose that does not spray water in the air is allowed on **any time on any day**

NON-DROUGHT

Watering with a sprinkler or irrigation system is allowed **two days per week** based on the last digit of the address. Must occur BEFORE 10:00 a.m. and AFTER 8:00 p.m.

LAST DIGIT	WATERING DAYS
0, 2, 4, 6, or 8	Monday/Thursday
1, 3, 5, 7, or 9	Tuesday/Friday

Watering with a hand-held hose, bucket, drip irrigation system, or a soaker hose that does not spray water in the air is allowed any time on any day.

Watering Guidelines – Stage 1

- ✓ Water with sprinkler or irrigation allowed **one day** per week based on last digit of the address
- ✓ Must occur before 10:00 a.m. and after 8:00 p.m.
- ✓ Watering with a hand-held hose, bucket, drip irrigation system, or a soaker hose that does not spray water in the air is allowed on **any time on any day**

STAGE 1

Watering with a sprinkler or irrigation system is allowed **one day per week** based on the last digit of the address. Must occur BEFORE 10:00 a.m. and AFTER 8:00 p.m.

LAST DIGIT	WATERING DAY
0 or 1	Monday
2 or 3	Tuesday
4 or 5	Wednesday
6 or 7	Thursday
8 or 9	Friday

Watering with a hand-held hose, bucket, drip irrigation system, or a soaker hose that does not spray water in the air is allowed any time on any day.

Watering Guidelines – Stage 2

- ✓ Water with sprinkler or irrigation allowed **one day** per week based on last digit of the address
- ✓ Must occur before 10:00 a.m. and after 8:00 p.m.
- ✓ Watering with a hand-held hose, bucket, drip irrigation system, or a soaker hose that does not spray water in the air is allowed on **any day**
BEFORE 10:00 a.m. and AFTER 8:00 p.m.

STAGE 2

Watering with a sprinkler or irrigation system is allowed **one day per week** based on the last digit of the address. Must occur **BEFORE 10:00 a.m. and AFTER 8:00 p.m.**

LAST DIGIT	WATERING DAY
0 or 1	Monday
2 or 3	Tuesday
4 or 5	Wednesday
6 or 7	Thursday
8 or 9	Friday

Watering with a hand-held hose, bucket, drip irrigation system, or a soaker hose that does not spray water in the air is allowed on any day **BEFORE 10:00 a.m. and AFTER 8:00 p.m.**

Watering Guidelines – Stage 3

- ✓ Water with sprinkler or irrigation allowed **one day per week every other week** on assigned day
- ✓ Must occur before 10:00 a.m. and after 8:00 p.m.
- ✓ Watering with a hand-held hose, bucket, drip irrigation system, or a soaker hose that does not spray water in the air is allowed on **any day BEFORE 10:00 a.m. and AFTER 8:00 p.m.**

STAGE 3

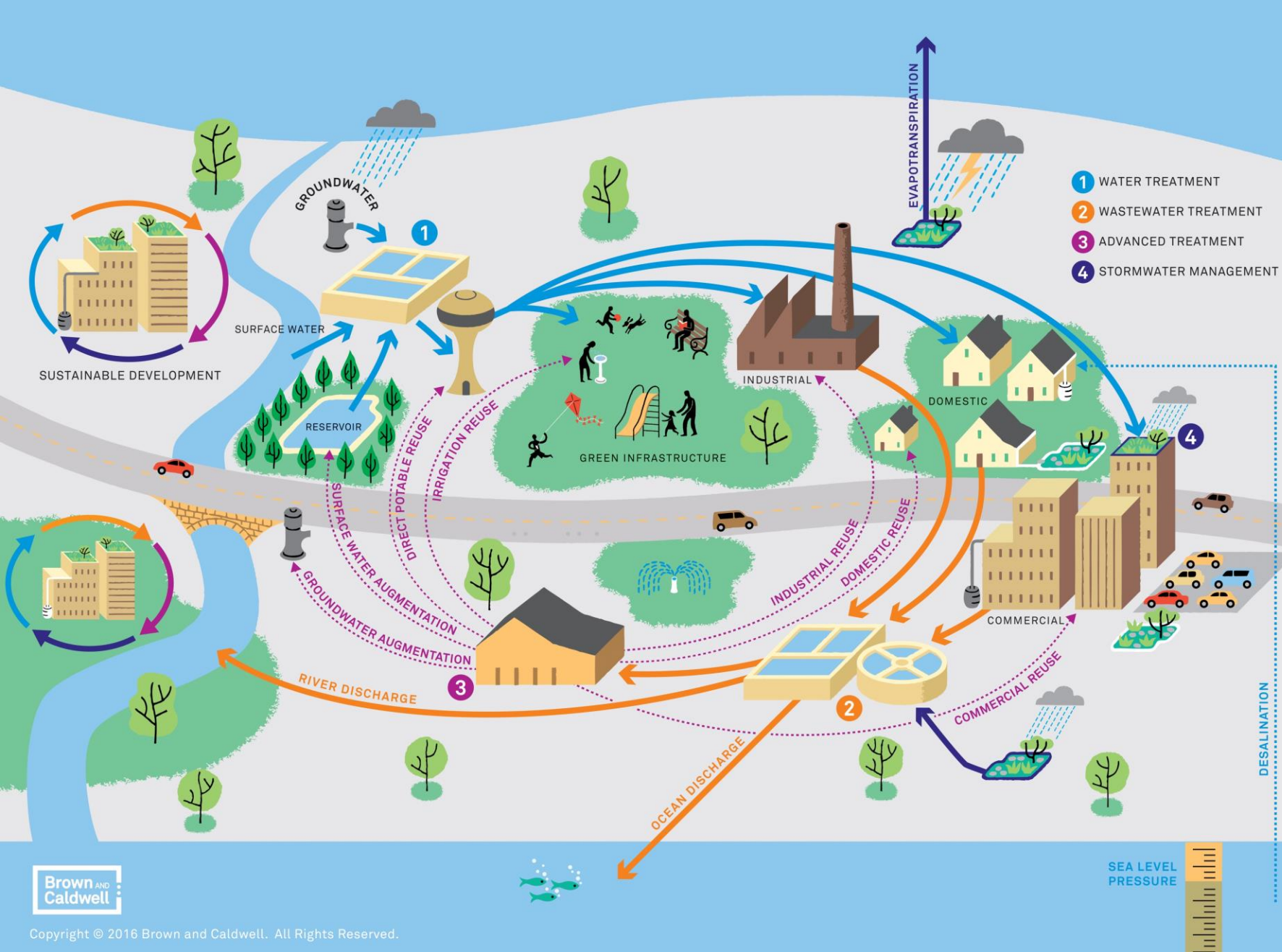
Watering with a sprinkler or irrigation system is allowed **one day per week every other week**, on assigned day, beginning on the second Monday after Stage 3 has been declared. Must occur **BEFORE 10:00 a.m. and AFTER 8:00 p.m.**

LAST DIGIT	WATERING DAY
0 or 1	Monday
2 or 3	Tuesday
4 or 5	Wednesday
6 or 7	Thursday
8 or 9	Friday

Watering with a hand-held hose, bucket, drip irrigation system, or a soaker hose that does not spray water in the air is allowed on any day **BEFORE 10:00 a.m. and AFTER 8:00 p.m.**

One Water

Thinking holistically about the waters in New Braunfels that could be available to address our biggest community challenges.



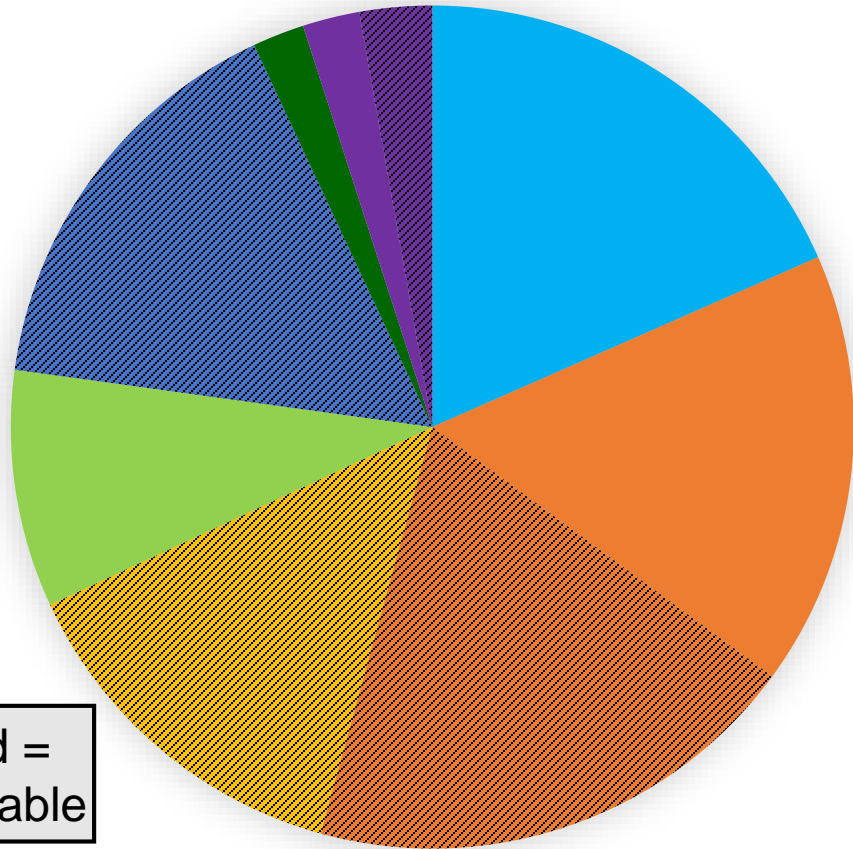
Water Supply



Water Infrastructure



Water Supply Portfolio



- Edwards Aquifer (\$211 per ac-ft) = 18%
- Canyon Reservoir (\$787 per ac-ft) = 36%
- Run of River (\$281 per ac-ft) = 14%
- Trinity Aquifer (\$548 per ac-ft) = 9%
- GBRA GCWSP (\$1590 per ac-ft) = 16%
- GVSUD (\$964 per ac-ft) = 2%
- City of Seguin (\$1039 per ac-ft) = 5%

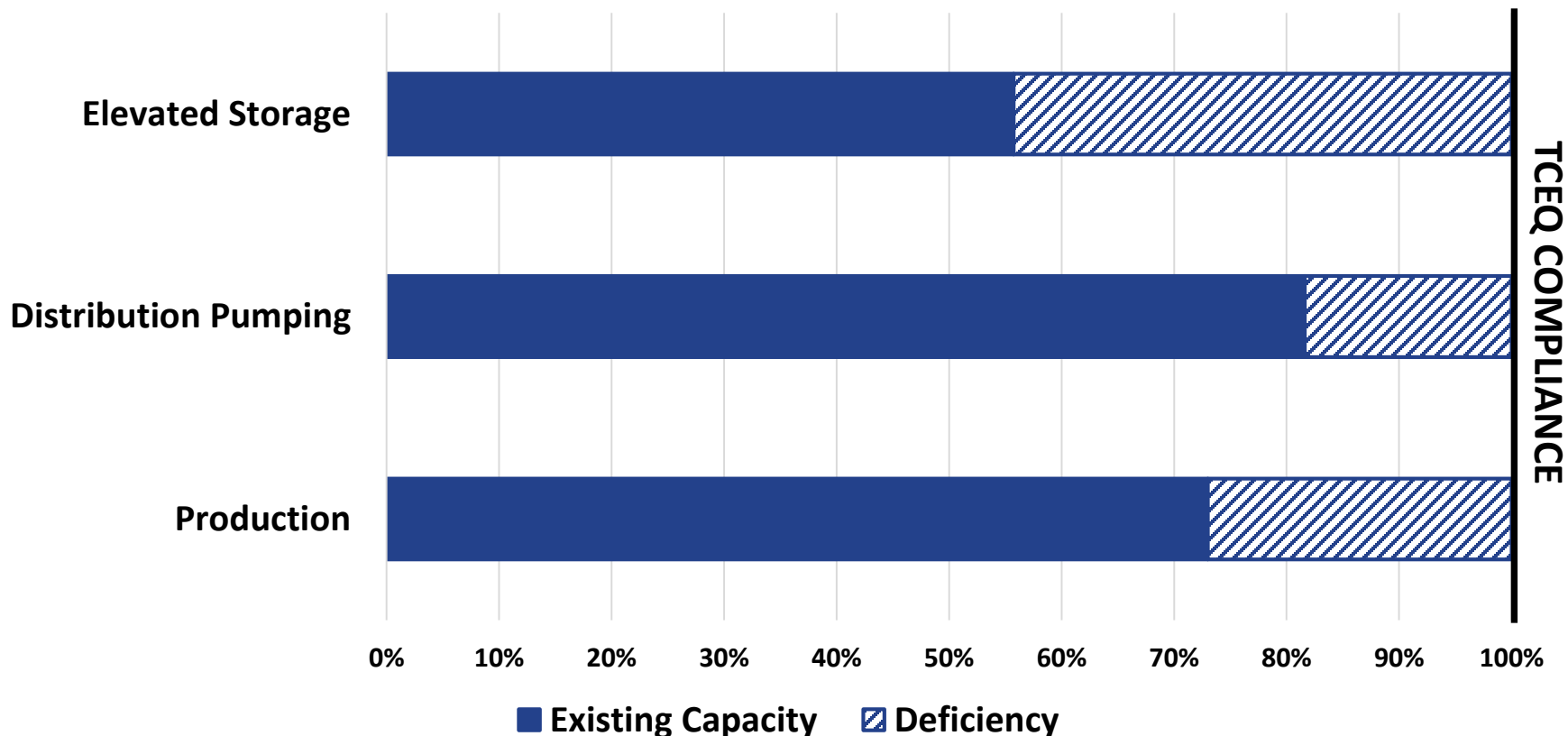
Hatched =
Undeliverable

TCEQ Compliance Journey

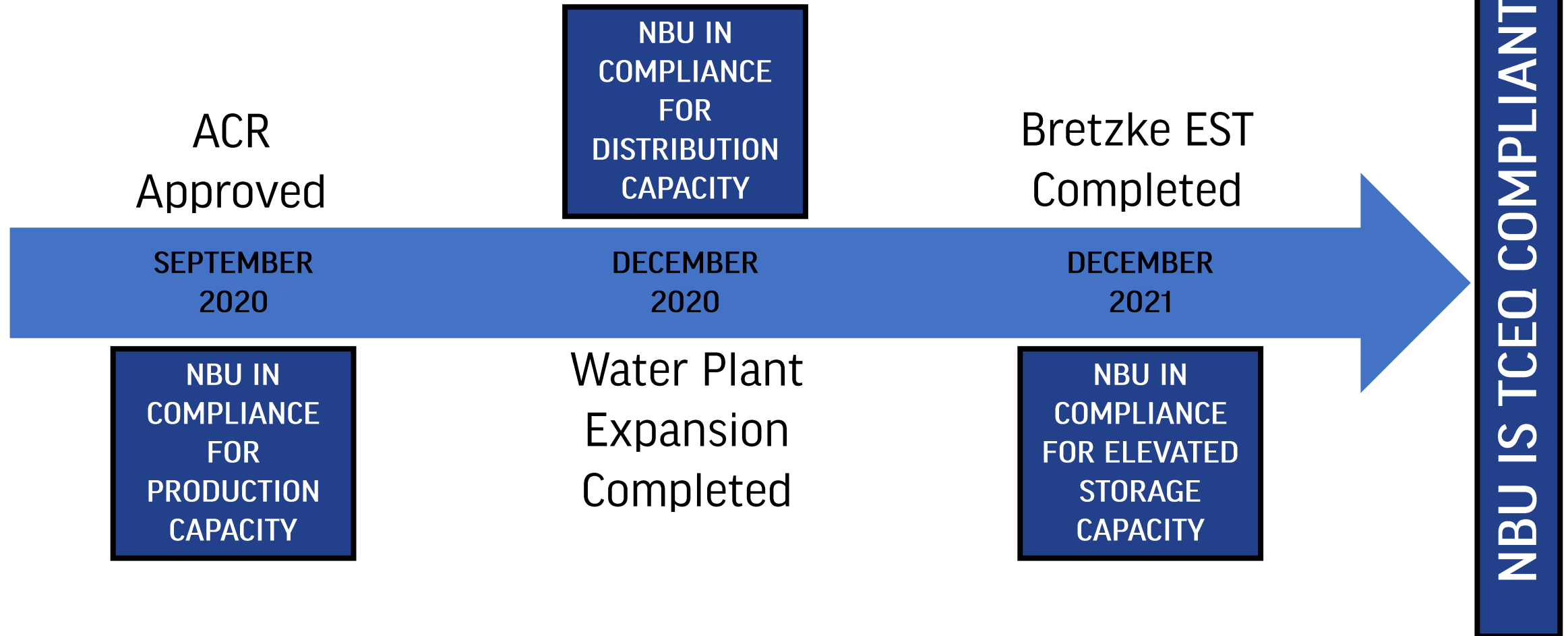
MAY 2020

NBU Non-Compliant:

- **Elevated Storage**
- **Distribution Pumping**
- **Production**



TCEQ Compliance Journey



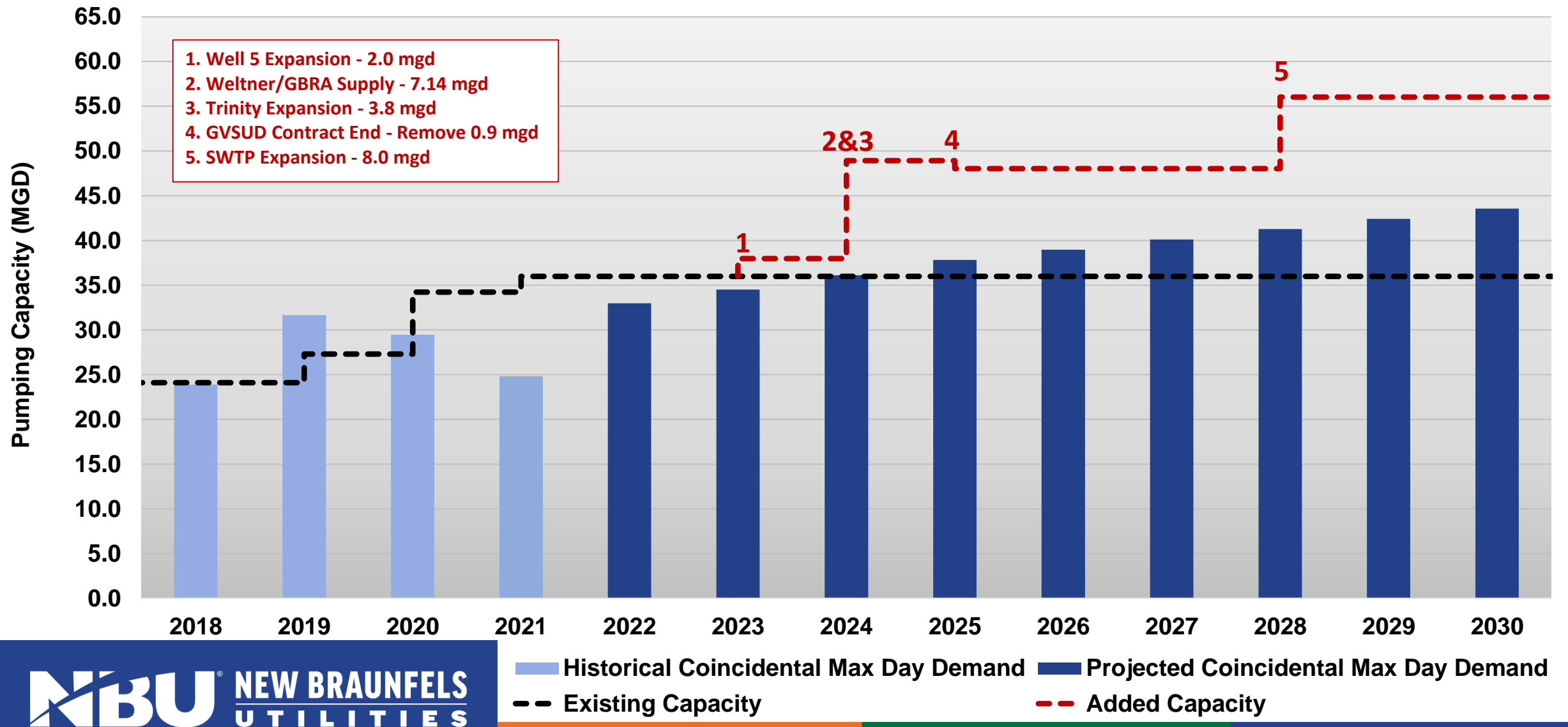
Water System Progress



Water System Progress





















Water Production Evaluation



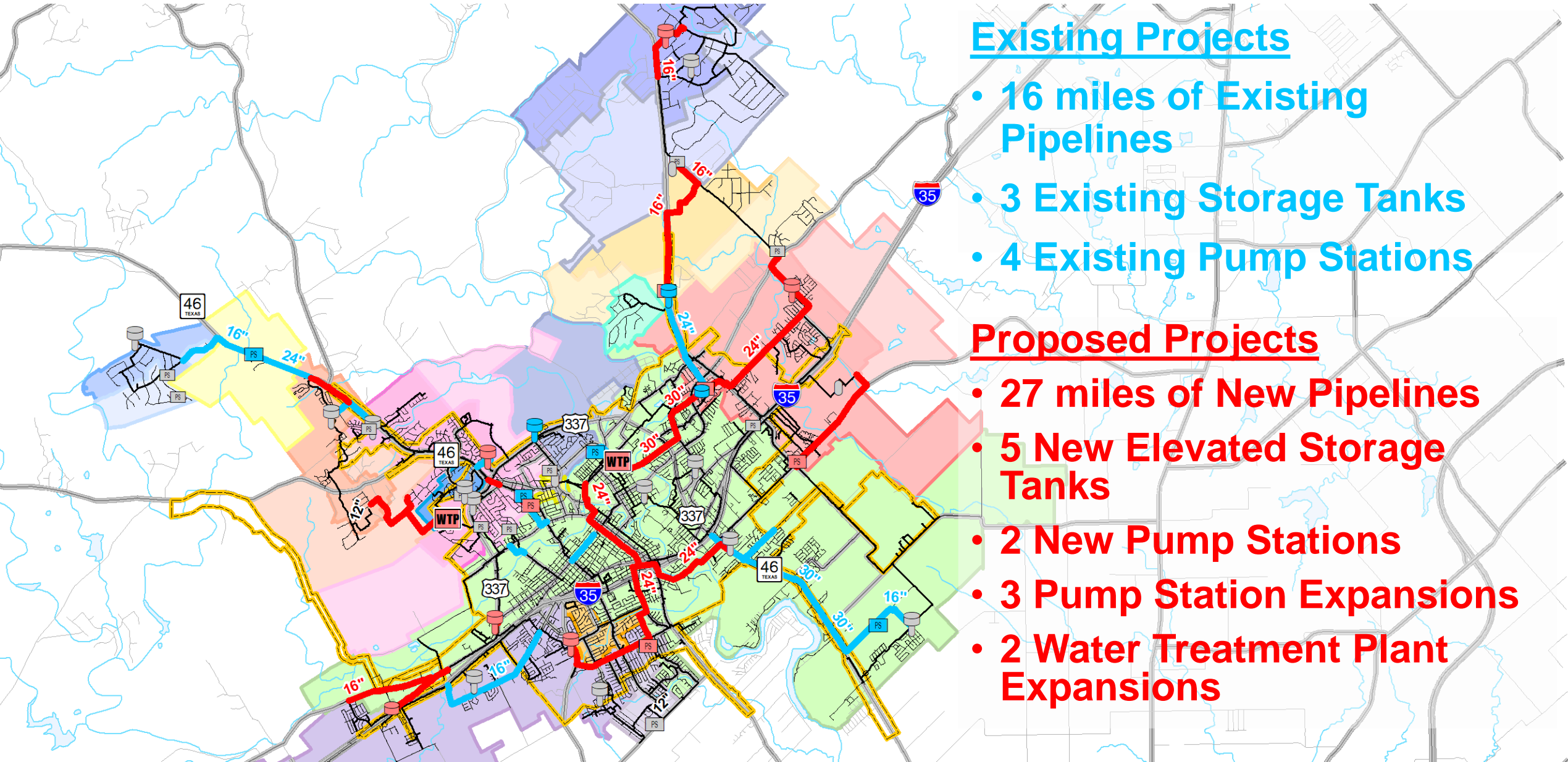
Water Elevated Storage Evaluation

Pressure Zone	Effective Elevated Storage Capacity (MG)	2022 Recommended Elevated Storage (MG)	2030 Recommended Elevated Storage (MG)	Additional Volume by 2030 (MG)	Planned Projects
River Chase	0.15	0.23 ❌	0.24 ❌	0.09	New River Chase EST – FY2029
Hoffmann	0.25	0.09 ✅	0.09 ✅	0.00	-
Kohlenberg	0.65	1.06 ❌	2.04 ❌	1.39	Conrads EST – FY2024
Downtown	4.14	4.57 ❌	5.31 ❌	1.17	PZ Conversions – FY2028
Morningside	1.00	1.82 ❌	2.21 ❌	1.21	FM 1044 EST – FY2025
Texas/Loop	1.50	0.22 ✅	0.92 ✅	0.00	-
Kerlick	0.85	0.79 ✅	1.07 ❌	0.22	Oak Brook EST – FY2022
Westpointe/Mission	1.22	0.31 ✅	0.39 ✅	0.00	-
Copper Ridge	0.50	0.10 ✅	0.18 ✅	0.00	-

Water Distribution Pumping Evaluation

Pressure Zone	Firm Distribution Pumping Capacity (MGD)	2022 Recommended Firm Capacity (MGD)	2030 Recommended Firm Capacity (MGD)	Additional Capacity by 2030 (MG)	Planned Projects
River Chase	1.50	1.24 	1.31 	0.00	-
Hoffmann	1.60	1.71 	1.78 	0.18	Bretzke HM PS – FY2029
Kohlenberg	4.50	5.92 	9.94 	5.44	FM 306 PS Exp – FY2023 FM 1101 PS – FY2028
Bretzke	1.40	0.43 	0.43 	0.00	-
Downtown	24.40	29.87 	38.53 	14.13	SWTP Exp – FY2028 Weltner Rd PS – FY2022 Landa Park PS Exp – FY2023
Morningside	8.40	6.92 	8.56 	0.16	County Line PS Exp – FY2029
Texas/Loop	0.54	1.91 	4.77 	4.23	Decommission Texas PS – FY2023
Kerlick/Westpointe /Mission	6.59	9.43 	11.16 	4.57	Grandview PS Exp – FY2022 Well 4 Exp – FY2022 Trinity Exp – FY2024 Mission/Westpointe PZ Connection – FY2024
Copper Ridge	2.22	1.12 	1.44 	0.00	Hwy 46 Phase 2 Expansion – FY2027

Water System Improvements



Existing Projects

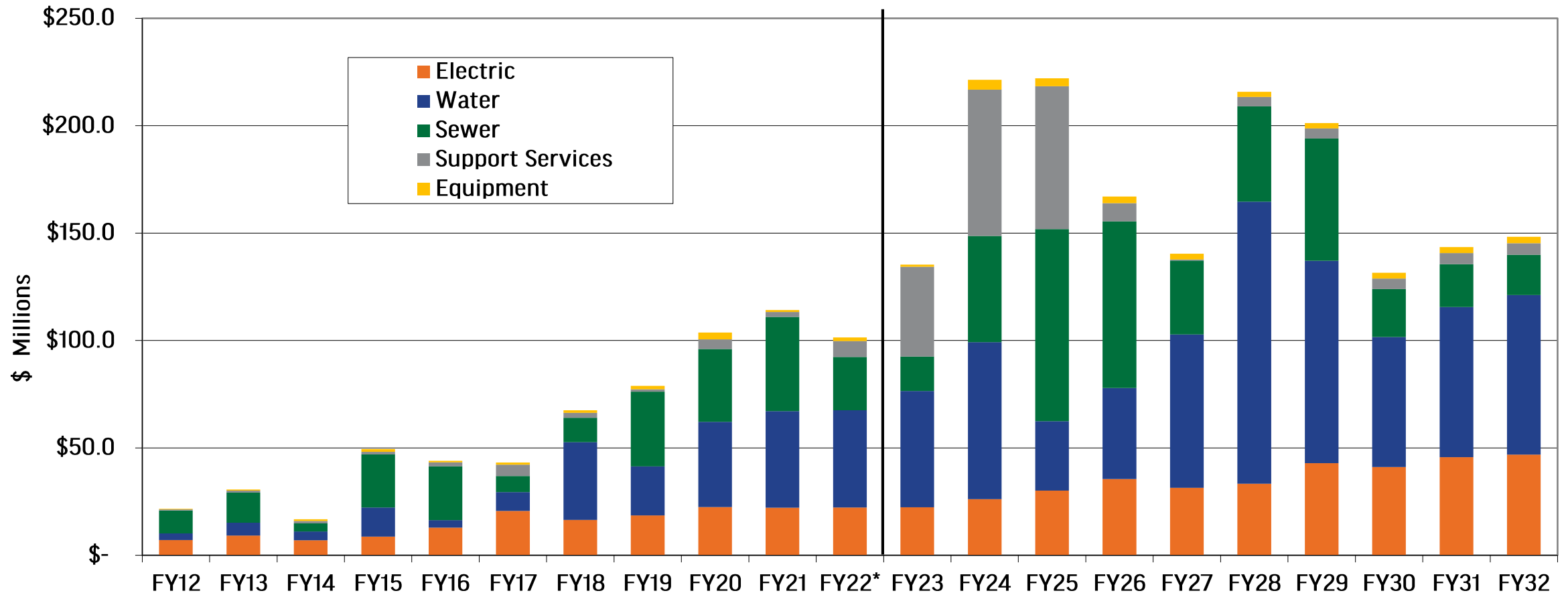
- 16 miles of Existing Pipelines
- 3 Existing Storage Tanks
- 4 Existing Pump Stations

Proposed Projects

- 27 miles of New Pipelines
- 5 New Elevated Storage Tanks
- 2 New Pump Stations
- 3 Pump Station Expansions
- 2 Water Treatment Plant Expansions

Capital Expenditures – Historical and Projected

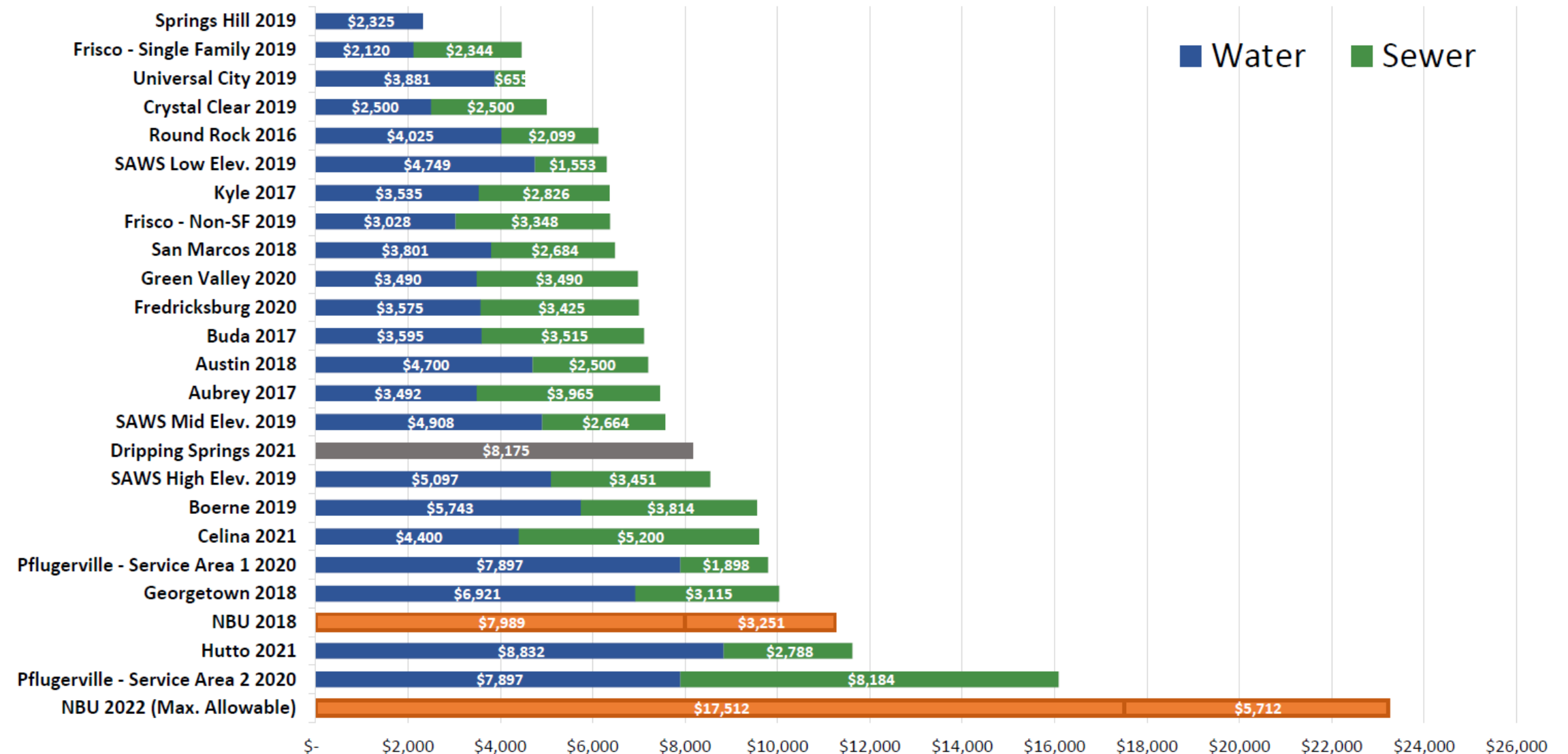
(FY 2012 - 2032)



*Forecast (actual amounts through April)

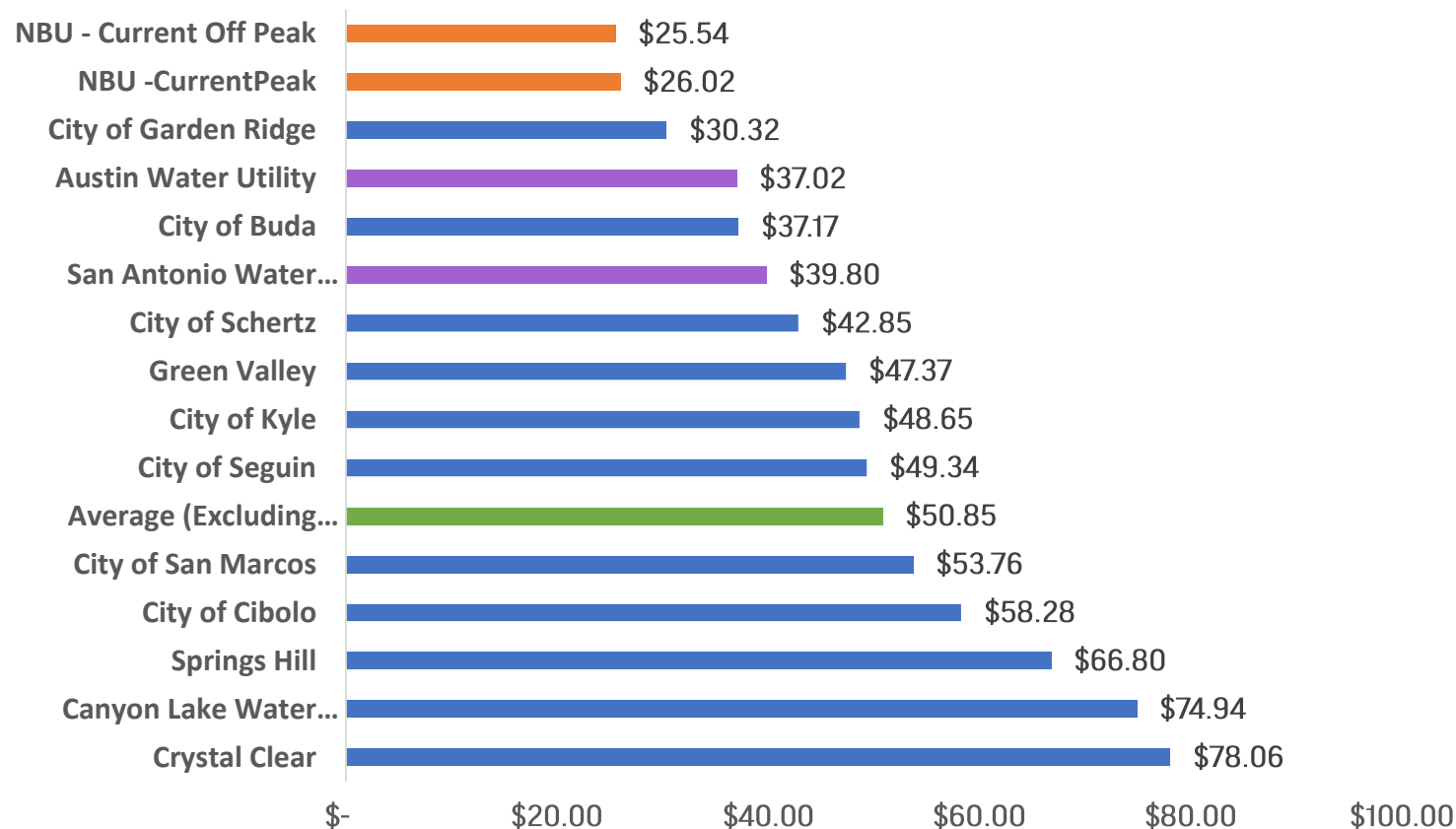
Impact Fee Comparison

Combined cost for water & wastewater based on a 5/8" meter size*



Residential Water Bill Comparison

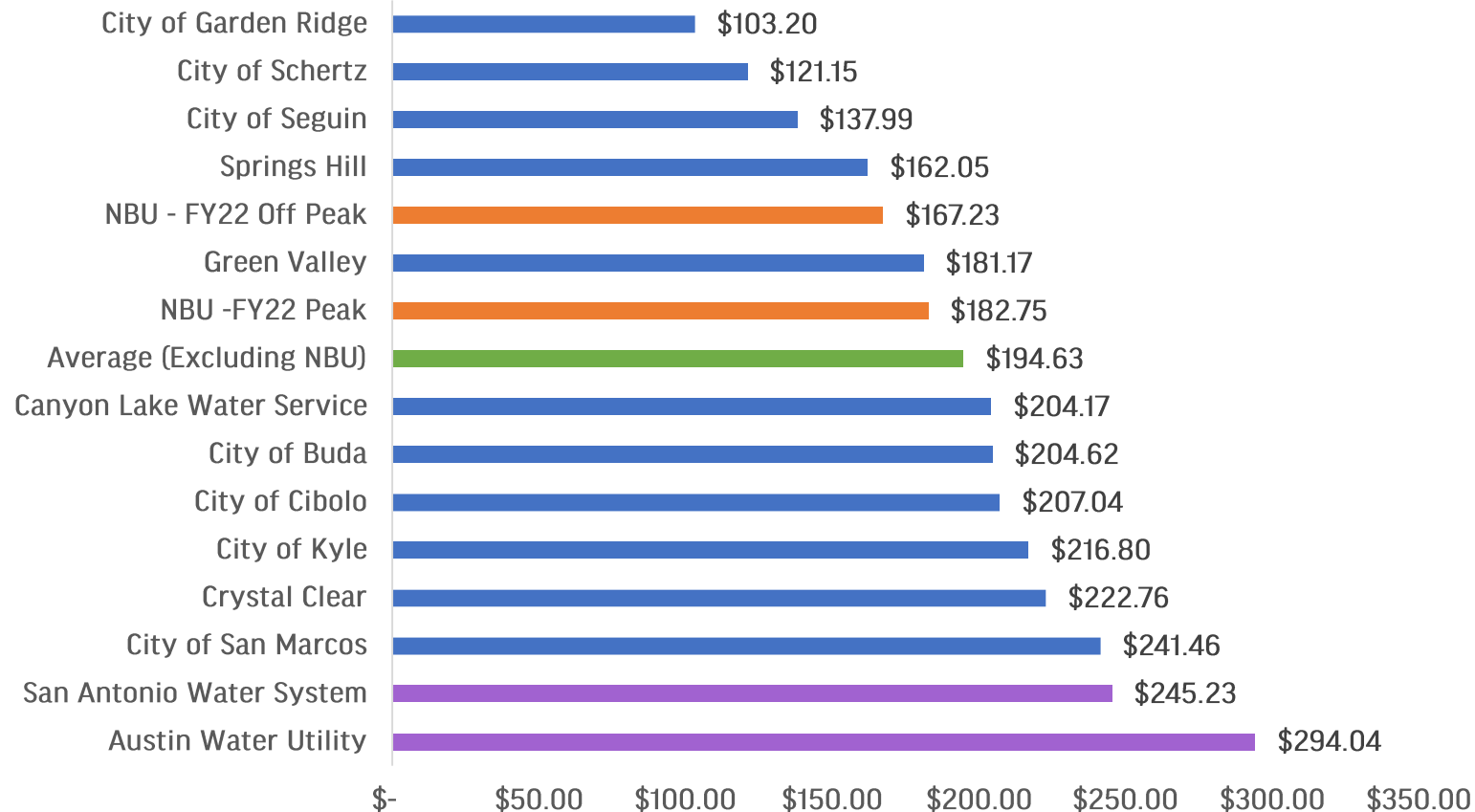
Essential Use – 6,000 Gallons



Residential Water Bill Comparison

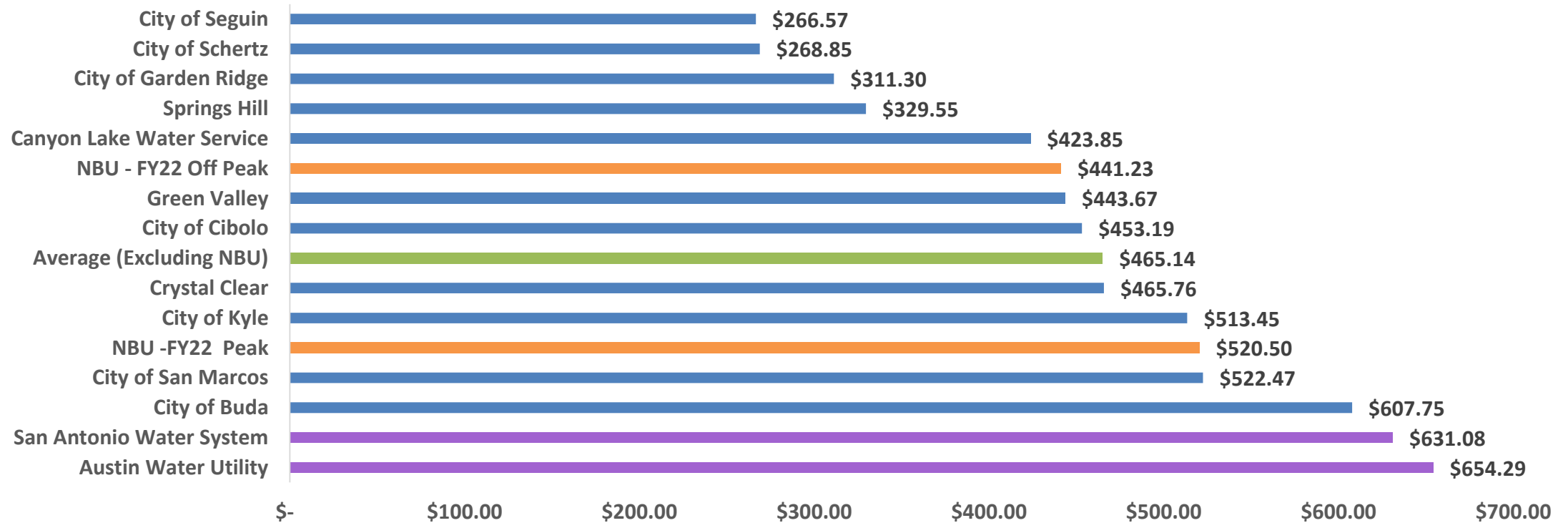
Moderate Use – 25,000 Gallons

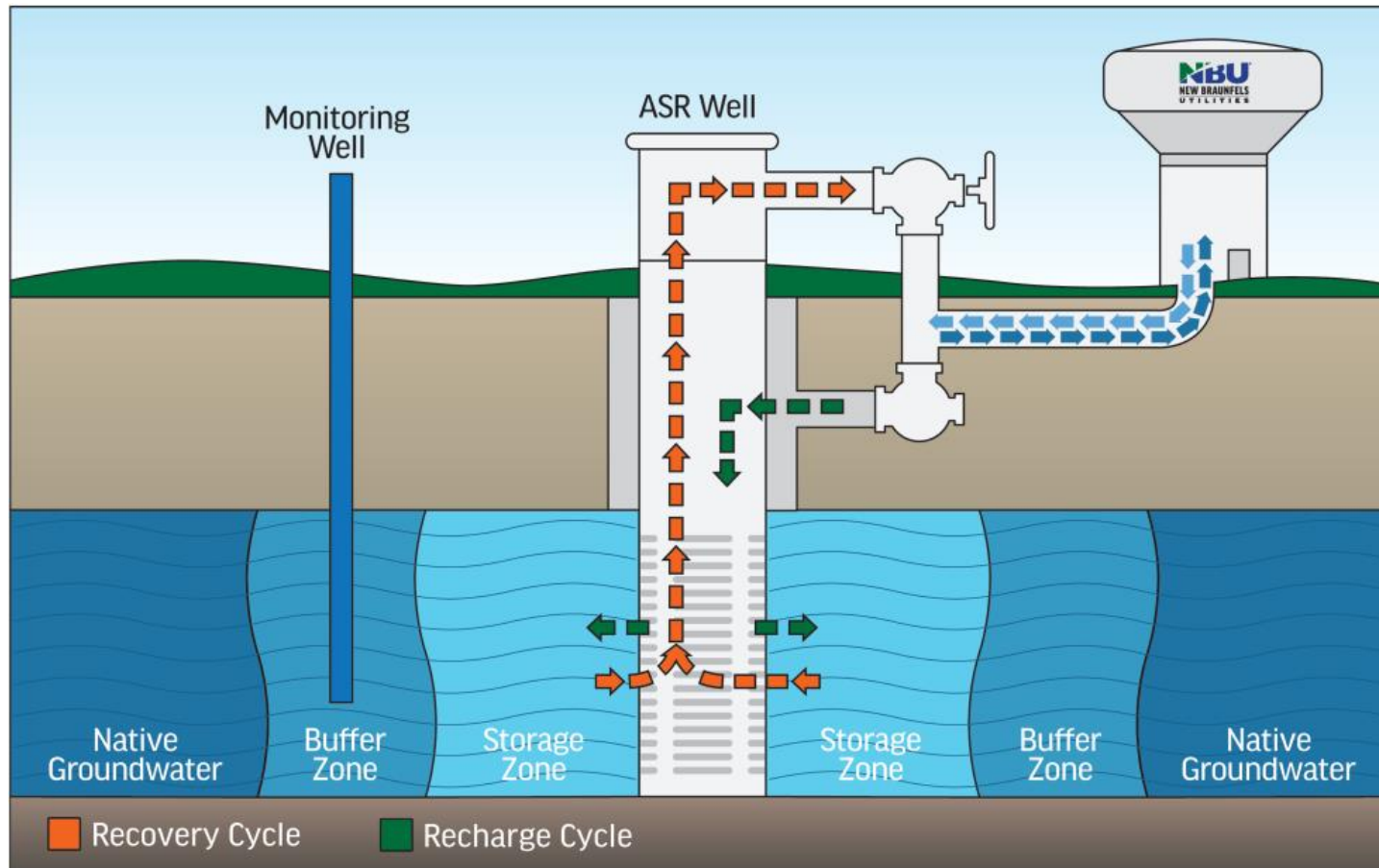
(95% of Customers use 25,000 Gal. or Less On Peak)



Residential Water Bill Comparison

High Use – 50,000 Gallons





Aquifer Storage and Recovery (ASR)

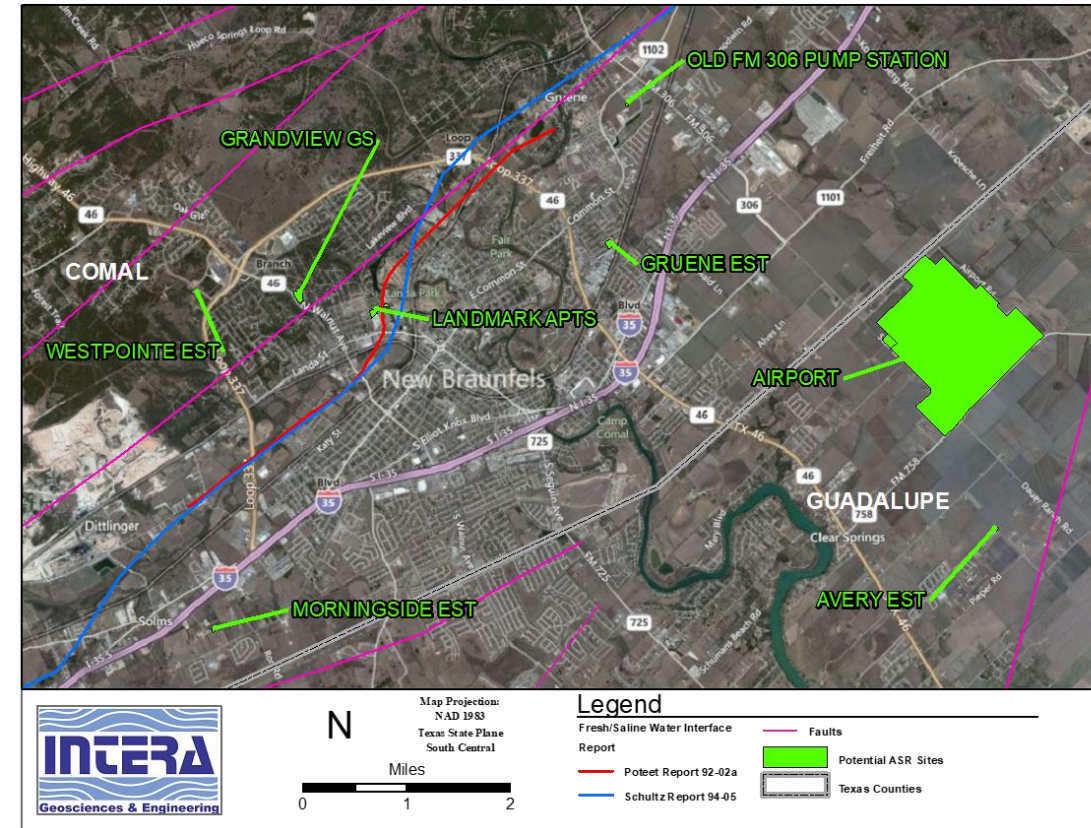
- ✓ Short-term emergency supply (e.g., due to equipment failure)
- ✓ Long-term emergency supply (e.g., greater than the drought-of-record)
- ✓ Deferral of construction of additional water treatment facilities
- ✓ Improvement to power efficiency pumping by pumping at off-peak periods

*Aquifer storage and recovery is the **storage of water in a suitable aquifer through a well during times when water is available, and the recovery of water from the same aquifer during times when it is needed.***

NBU ASR Implementation

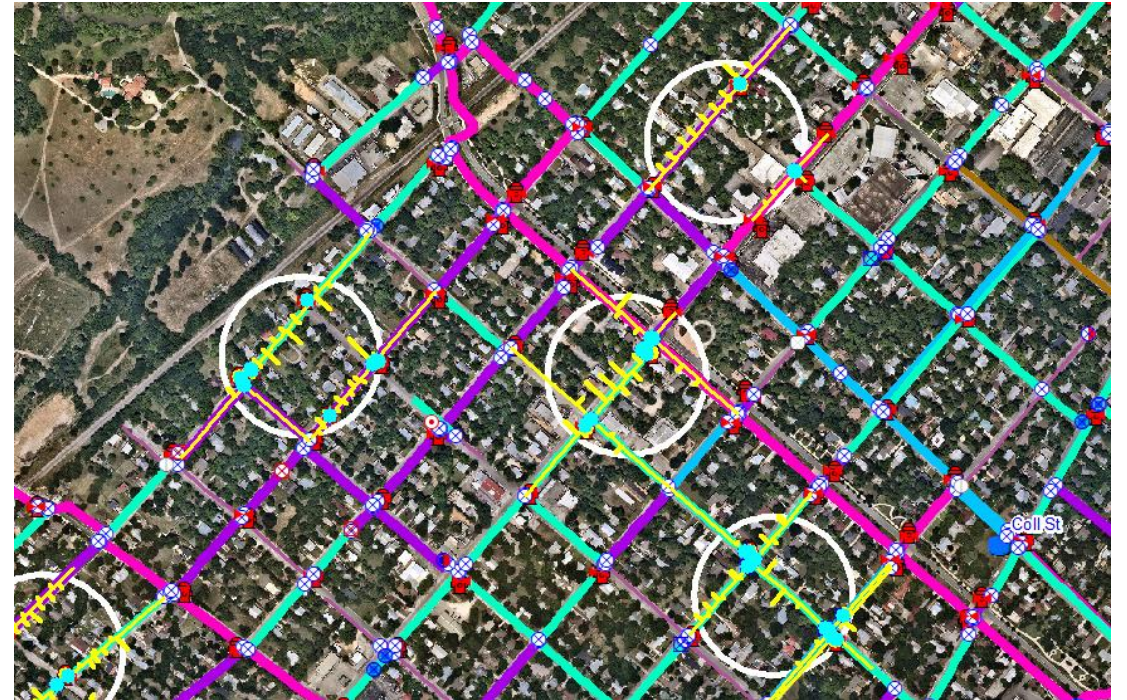
ASR Program Phases

- Phase 1 – Feasibility Study
- Phase 2 – Core Hole and Monitoring Well
- Phase 3 – ASR Demonstration Well and Three Monitoring Wells
- Phase 4 – Cycle Testing
- Phase 5 – Wellfield Expansion, Up to 9 MGD



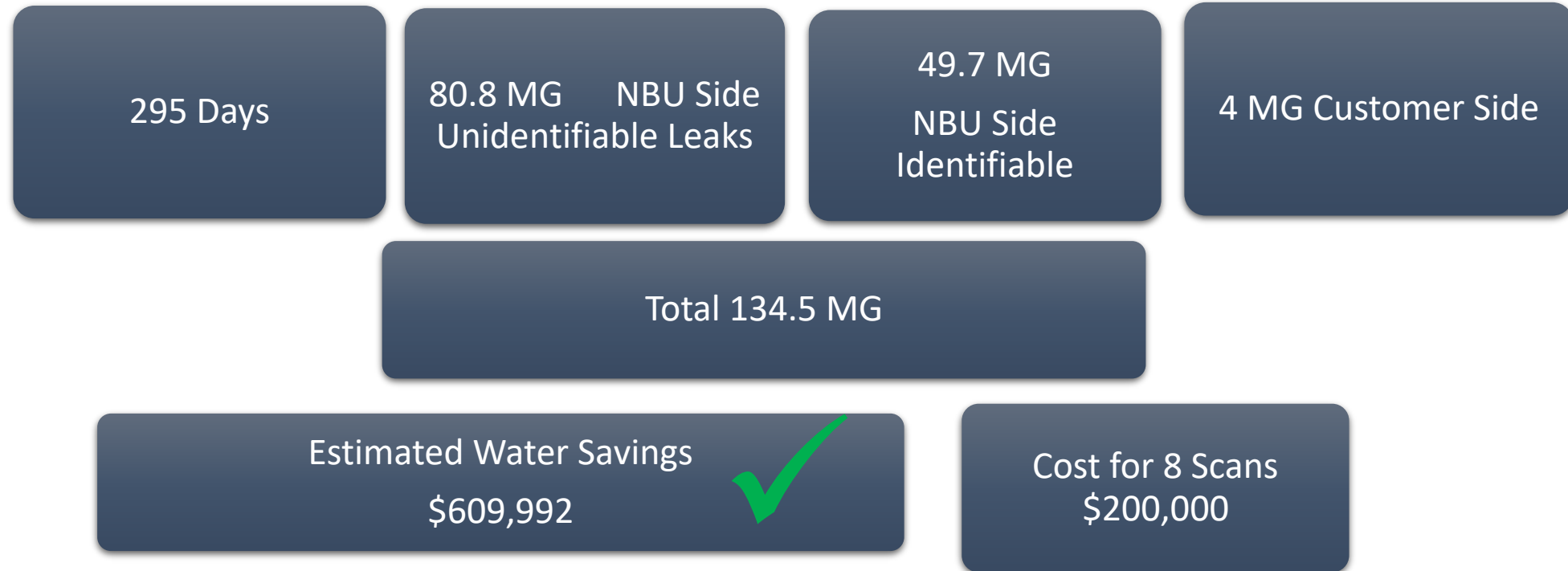
Utilis Satellite Leak Detection Program

- 100% System Coverage
- Strategic Maintenance Approach
- New Technology



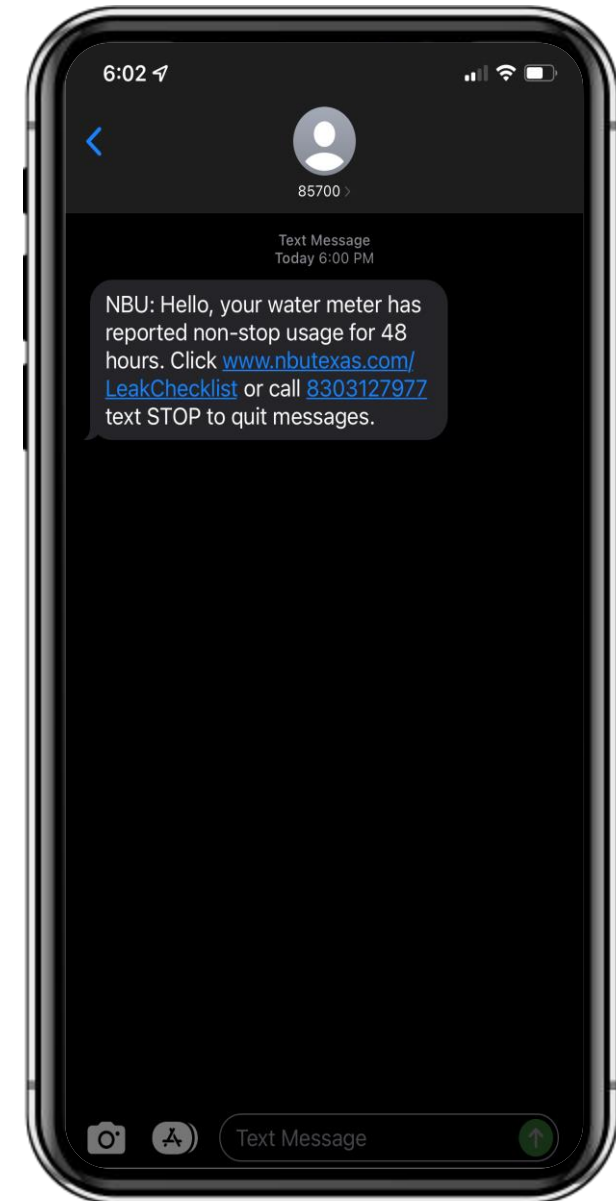
Utilis Satellite Leak Detection Program

ROI FY19 – FY21



Automated Leak Alerts

- 48 hours of continuous usage
- Phone call and text
- Average leak is
 - ~2-4 gallons per hour
 - ~96 gallons per day
 - ~2,918 gallons per month
 - ~\$10 extra per month
 - 2-3k alerts per month = \$20-30k saved
- Links to Leak Detection Checklist



Home Performance Assessments

- Energy, Water, Irrigation
 - High Bills Concerns
 - High Usage Concerns
 - Conservation BMPs
 - New Technologies
 - Corrective Action



Water Rebate Programs

- Artificial Turf
- Grass Removal
- Healthy Soil
- Drought Tolerant Tree
- Irrigation Zone Removal
- Ultra High Efficiency Toilets
- Rain Barrel
- CEE Rated Washing Machine
- Comal County Gardening Guide
- Open-ended Commercial Program



Smart Water Meter Capabilities

- Automated Continuous Consumption (Leak) Alerts
- Automated Usage Threshold Alerts
- Utility Consumption Reports
- Subdivision Comparison Blanket Mailers
- Deep-dive Analytical Analysis



Online Bill Calculator

RESIDENTIAL RATE CALCULATOR

Season: Peak

Water, Wastewater & Electric



Electricity

Monthly Power Usage

Estimated Monthly Use (kWh)

Average use 1,200 kWh



Wastewater

Wastewater Usage

Estimated Monthly Use (Gallons)

Wastewater rates are calculated using a customer's three lowest months of water usage in rolling 12-month period. The average for NBU customers is 4,600 gallons.



Water - Home Use

Residential Water Meter Size

RESIDENTIAL RATE CALCULATOR

Season: Peak

Water, Wastewater & Electric



Electricity

Power Supply

Purchased Power 1,200 kWh ————— \$66.24

Power Cost Recovery Adjustment ————— \$9.60

Delivery

Delivered Power 1,200 kWh ————— \$15.48

Electric Availability ————— \$14.77

Taxes

Taxes are listed on your bill —————

Total Electricity Charges ————— **\$106.09**

Proactive Customer Outreach Letters

- Personalized informational letter to educate customers on rate increase impacts to their bill.
- Letter to be sent to all water customers

Table A: Forecasted Customer Water Cost Ranges 2020-2023 Based Off Usage

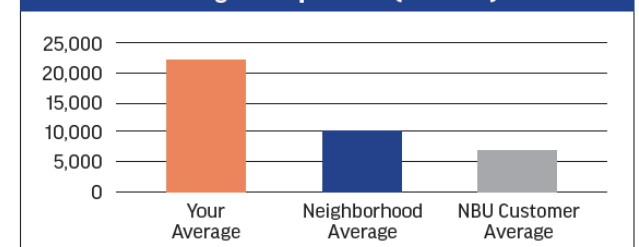
Name		Usage (Gallons)	2020 Min-Max	2021 Min-Max	2022 Min-Max	2023 Min-Max
Essential Use	TIER 1	0 - 7,500	\$0 - \$27	\$0 - \$26	\$0 - \$28	\$0 - \$31
Moderate Use	TIER 2	7,501 - 15,000	\$27 - \$61	\$26 - \$67	\$28 - \$83	\$31 - \$91
High Use	TIER 3	15,001 - 25,000	\$61 - \$128	\$67 - \$146	\$83 - \$182	\$91 - \$199
Extreme Use	TIER 4	25,001 - 50,000	\$128 - \$375	\$146 - \$427	\$182 - \$520	\$199 - \$566
		50,000 - 75,000	\$375 - \$621	\$427 - \$709	\$520 - \$858	\$566 - \$933
		75,001 - 100,000	\$621 - \$868	\$709 - \$990	\$858 - \$1,196	\$993 - \$1,300

Table B outlines how New Braunfels Utilities' (NBU) customers used water during the on-peak (June through September) months of 2020. This data details how 5.45 percent of NBU customers use more than 25,000 gallons of water on a monthly interval, which is classified as extreme use. An average NBU residential customer's monthly water use is 6,000 gallons.

Table B: NBU Residential Customers by Water Usage Level

Water Usage Tiers (Gallons)			# of Customers	% NBU Customers
Essential Use	TIER 1	0 - 7,500	27,038	65.01%
Moderate Use	TIER 2	7,501 - 15,000	8,732	20.99%
High Use	TIER 3	15,001 - 25,000	3,556	8.55%
Extreme Use	TIER 4	25,001 - 50,000	1,880	4.52%
		50,001 - 100,000	346	0.83%
		100,001 and greater	40	0.10%

Your Water Usage Comparison (Gallons)



We're here to help

Customers can help offset water rate increases, approved in 2020, by adjusting utility use and practicing conservation techniques. New Braunfels Utilities offers comprehensive tools, tips, and resources to help customers understand and manage utility expenses.



Bill Management Tools:

- Home Assessments
- After-Hours One-On-One Consultations
- Automated Threshold Alerts
- Bill Assistance Program
- Bill Calculator
- Budget Billing
- Conservation Tips
- Conservation Videos
- Utility Consumption Reports
- Leak Detection Checklist
- Rebates
- Track and View Interval Usage
- Understanding Your Bill

Learn more at nbutexas.com/conservation, or call 830.629.8400.

NBU **NEW BRAUNFELS**
UTILITIES

Summer Water Conservation Tips - Landscape

- Reduce sprinkler runtimes
- Allow grass to go dormant
- Add mulch and compost to retain moisture
- Convert sprinkler heads to water saving versions
- Fix broken sprinkler heads
- Ensure the rain sensor is active
- Replace lesser used irrigated landscape with non-irrigated native landscapes



Summer Water Conservation Tips - General

- Take shorter showers
- Ensure toilets are not leaking
- Fill clothes and dishwashers completely before running
- Use commercial carwashes instead of washing at home
- Wrap pipes to avoid water temperature cooling lag time



Questions?



**Email Your Questions to:
communications@nbutexas.com**