

City Council Workshop

Level 1 Water Emergency Planning

Nicholas J. Winkelmann, P.E.
Chief Operating Officer – Corpus Christi Water

Michael Dice
Interim Assistant City Manager

Jeff Stovall, PhD, P.E. and Michael Pinckney, P.E., CFM
Carollo Engineering

April 21, 2026



WORKSHOP AGENDA

Topics for discussion include:

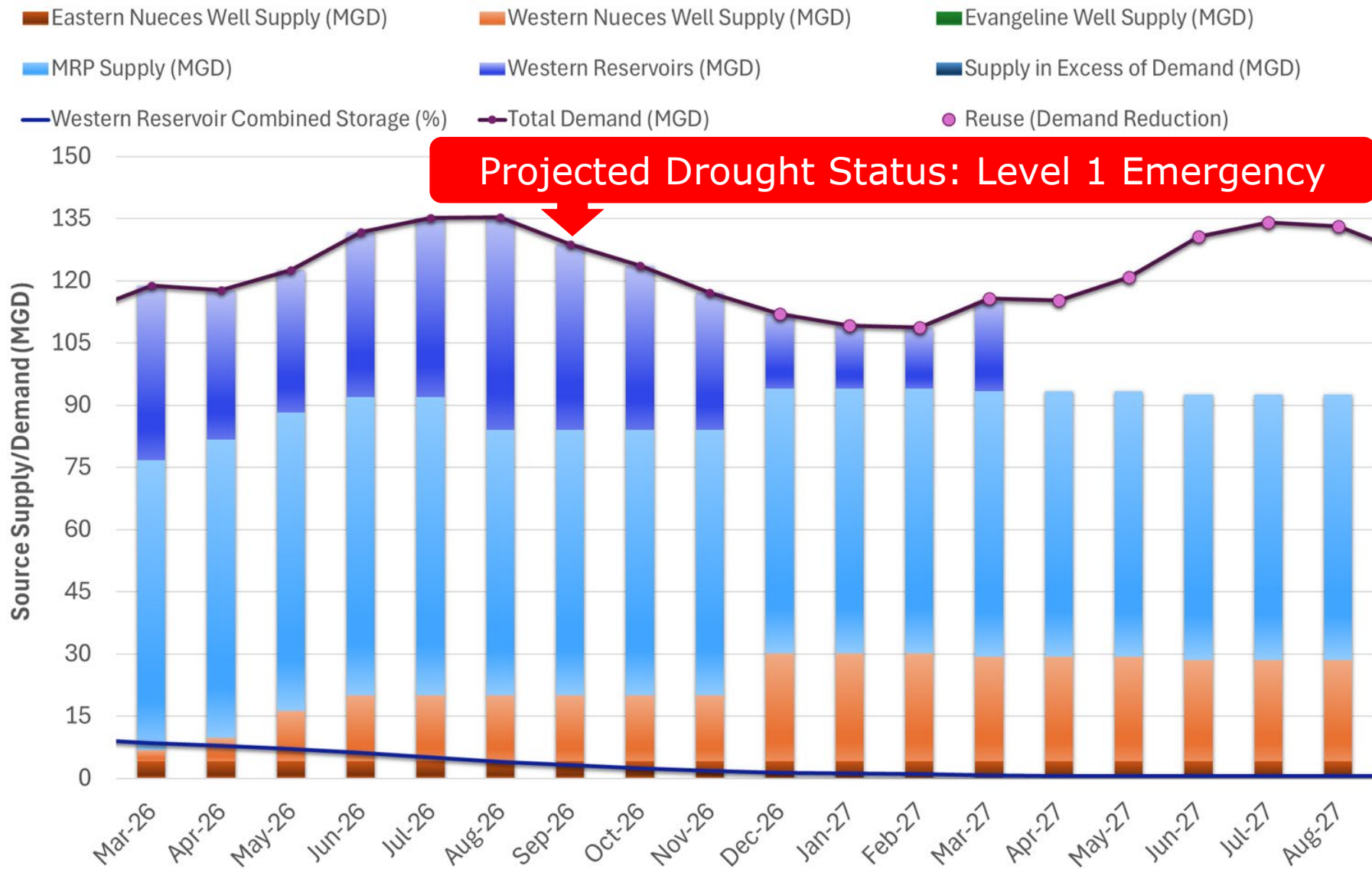
- Water Supply/Demand Scenarios
- Recommendation on Baseline, Curtailment, and Allocation
- Drought Surcharges
- Enforcement Provisions
- Community Engagement



DASHBOARD ASSUMPTIONS

- Assuming no inflows from rain events
- 20% curtailment from Lake Texana starting August 2026
- Nueces Groundwater Program production based on limitations of TCEQ Mandated Water Monitoring Plan (Bed and Banks operating protocols)
 - Increases to 24 Million Gallons per Day (MGD) in December 2026 with completion of pipeline to O.N. Stevens Water Treatment Plant
- Reuse of reclaimed/effluent water will reduce demand starting December 2026

WATER SUPPLY DASHBOARD MODEL



Projected Drought Status: Level 1 Emergency

BASELINE USAGE, CURTAILMENT, AND ALLOCATIONS

- **Baseline Usage:** The determined water usage of each customer class to establish its allocation
- **Curtailment:** Required water reduction of water supplies to all customers to meet water demand
- **Allocations:** The amount of water a customer may use per month during Level 1 Water Emergency

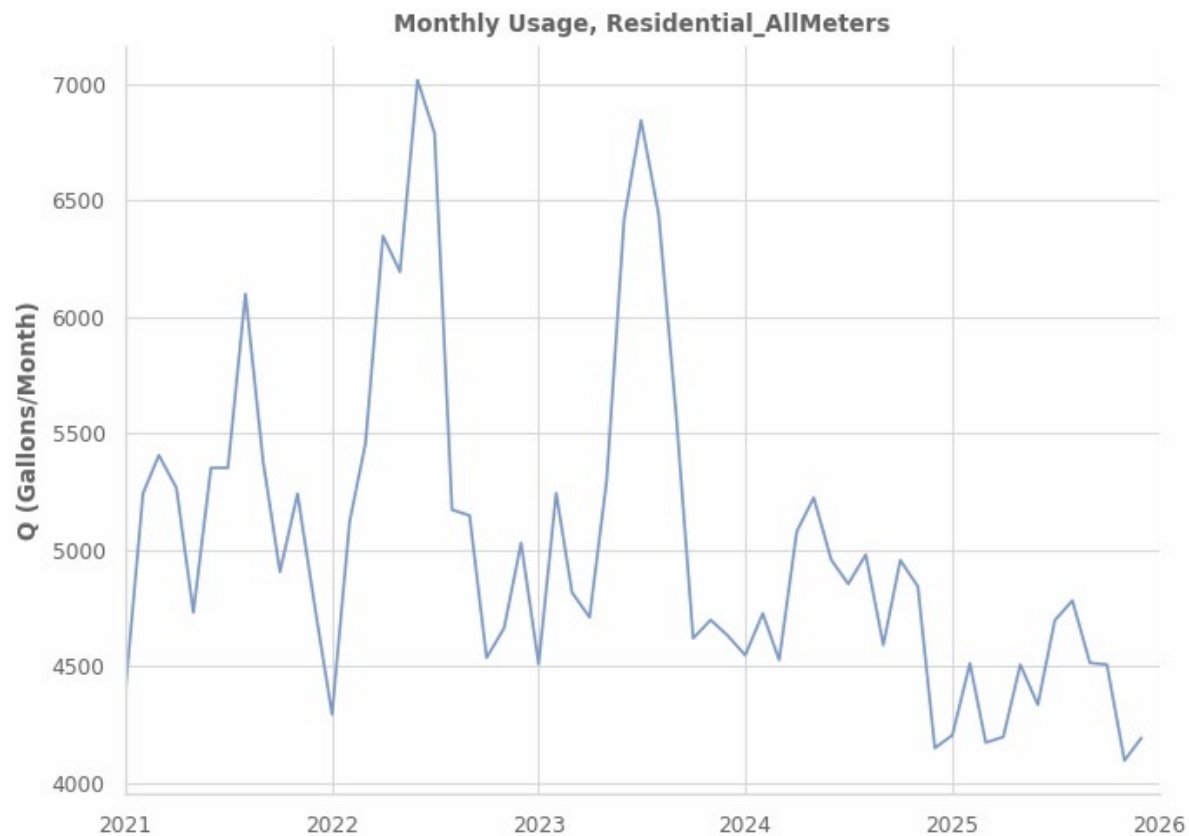
$$\text{Baseline} - \text{Curtailment \%} = \text{Allocation}$$

RECOMMENDATION ON BASELINE WATER USE FOR CCW RESIDENTIAL UNDER LEVEL 1 WATER EMERGENCY

- **Fixed baseline of 7,000 gallons per month for all CCW residential customers**
- This baseline will be applied when the City requires all customers to reduce water use
- Triggered at Level 1 Water Emergency



RECOMMENDATION ON BASELINE WATER USE FOR CCW RESIDENTIAL UNDER LEVEL 1 WATER EMERGENCY

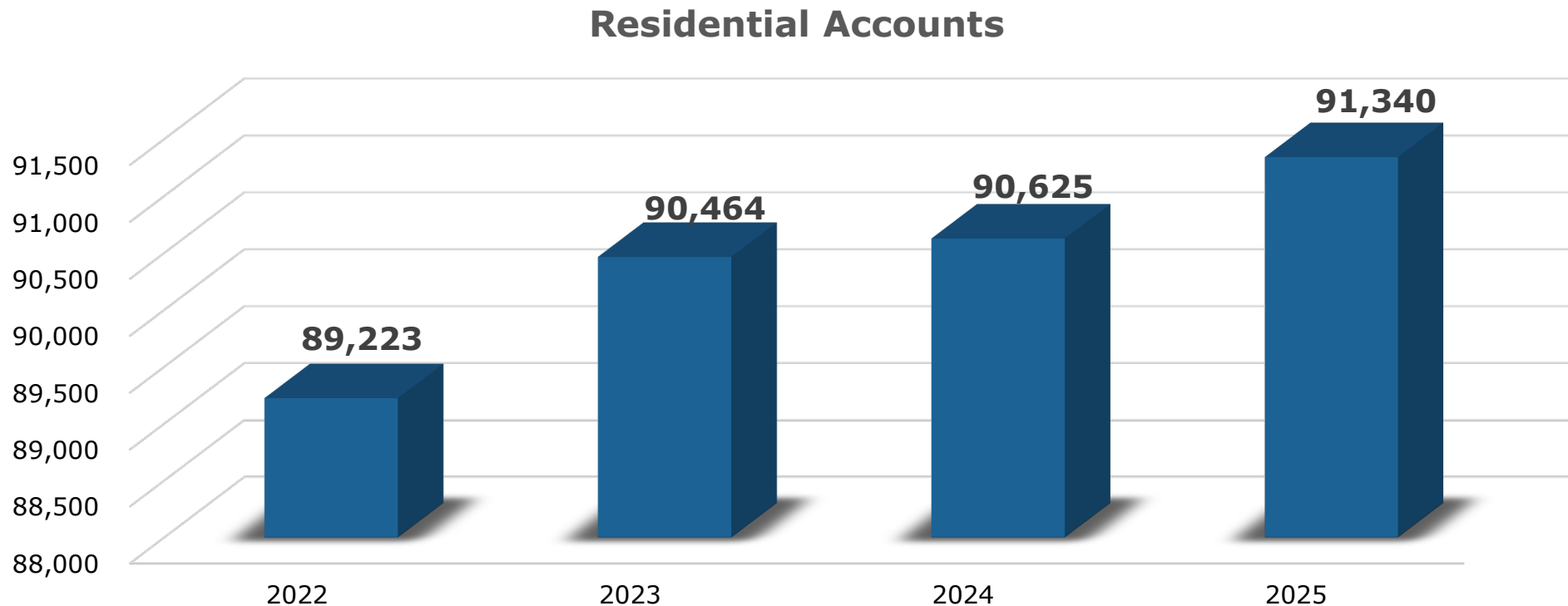


Baseline Usage

Season	Mean (Gal/Month)
Summer	--
Spring/Fall	--
Winter	--
Annual	7,000
Annual (Gal)	66,768

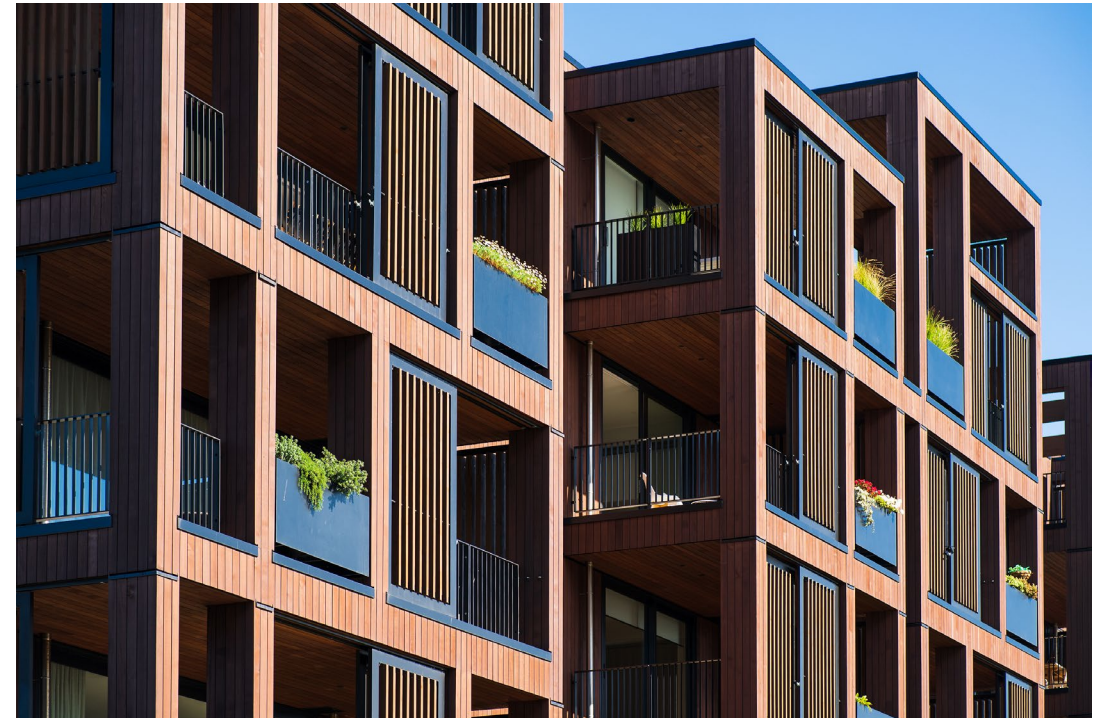
ANALYSIS OF RESIDENTIAL ACCOUNT GROWTH IN CITY OF CORPUS CHRISTI

- Between 2022 and 2025, residential accounts increased by 2,117 or 2.4%
- Average annual increase of 529 accounts



RECOMMENDATION ON BASELINE WATER USE FOR CCW MULTIFAMILY UNDER LEVEL 1 WATER EMERGENCY

- **Based on historical monthly total usage for each multifamily customer (landlord)**
- This baseline will be used when the City requires all customers to reduce water use
- Triggered at Level 1 Water Emergency
- Period of Record is 2021 to 2023, with the lowest value in each month excluded



RECOMMENDATION ON BASELINE WATER USE FOR CCW MULTIFAMILY UNDER LEVEL 1 WATER EMERGENCY

Monthly Usage, MultiFamily Commercial with 1" Meter



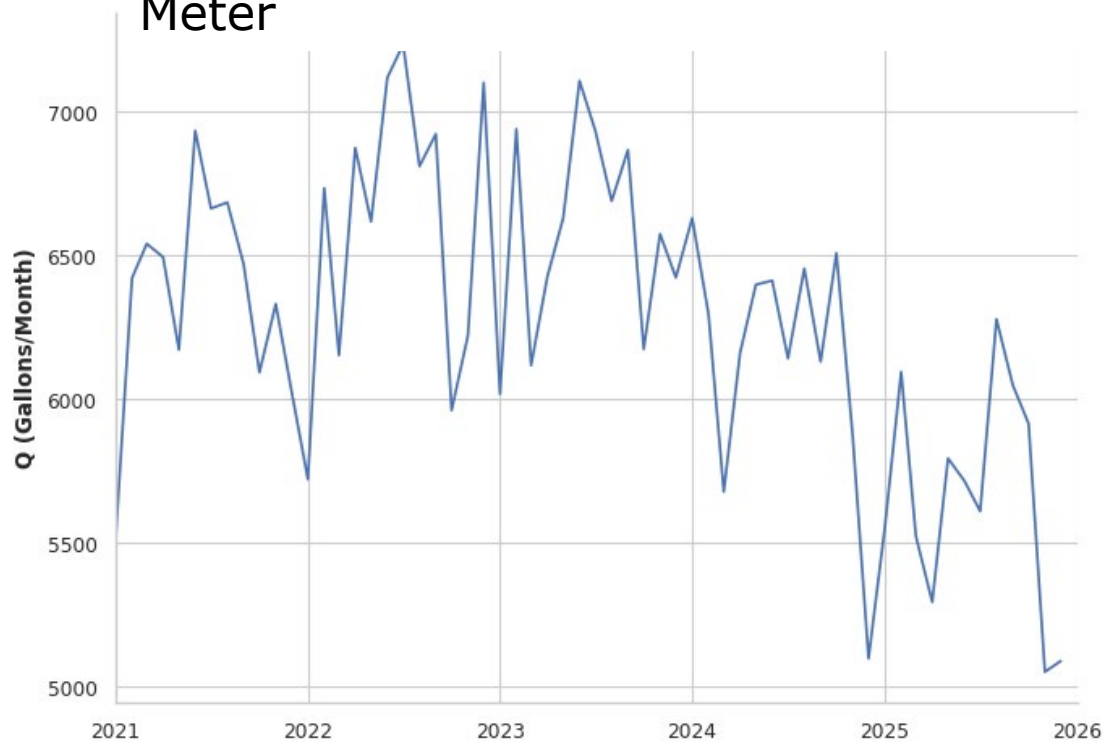
RECOMMENDATION ON BASELINE WATER USE FOR CCW COMMERCIAL UNDER LEVEL 1 WATER EMERGENCY

- **Based on monthly total usage for each commercial customer**
- This baseline will be used when the City requires all customers to reduce water use
- Triggered at Level 1 Water Emergency
- Period of Record is 2021 to 2023, with the lowest value in each month excluded

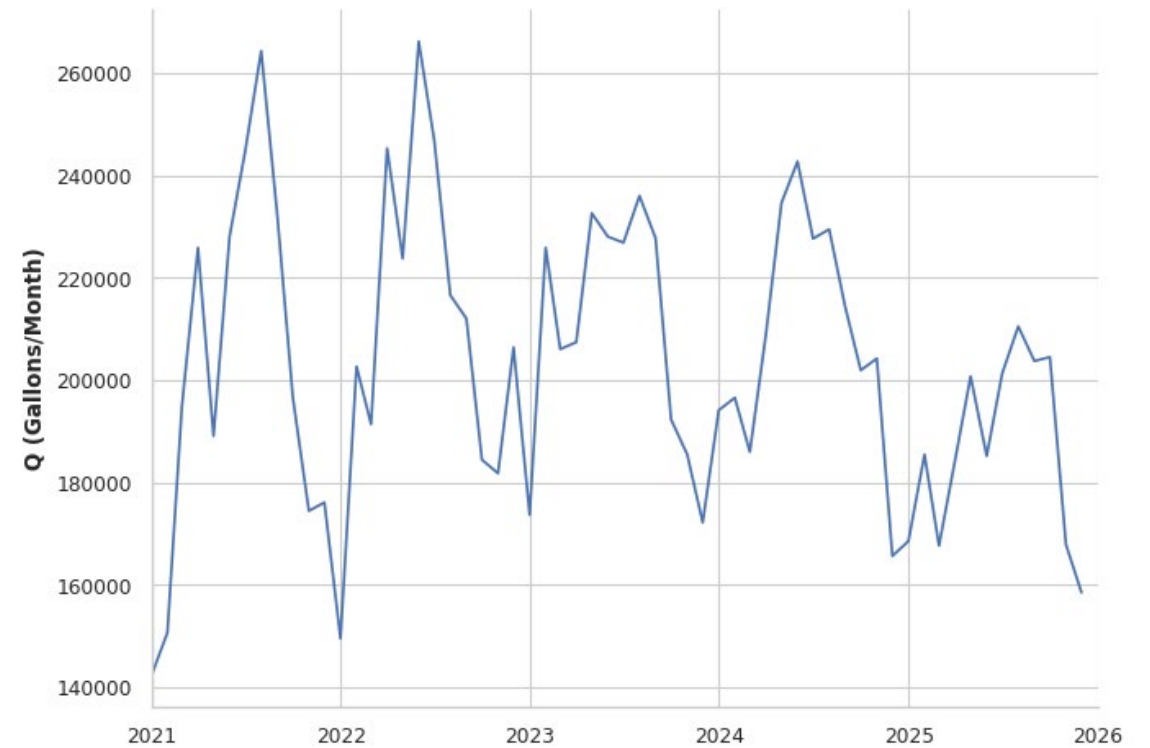


RECOMMENDATION ON BASELINE WATER USE FOR CCW COMMERCIAL UNDER LEVEL 1 WATER EMERGENCY

Monthly Usage, Commercial with 3/4" Meter



Monthly Usage, Commercial with 3" Meter



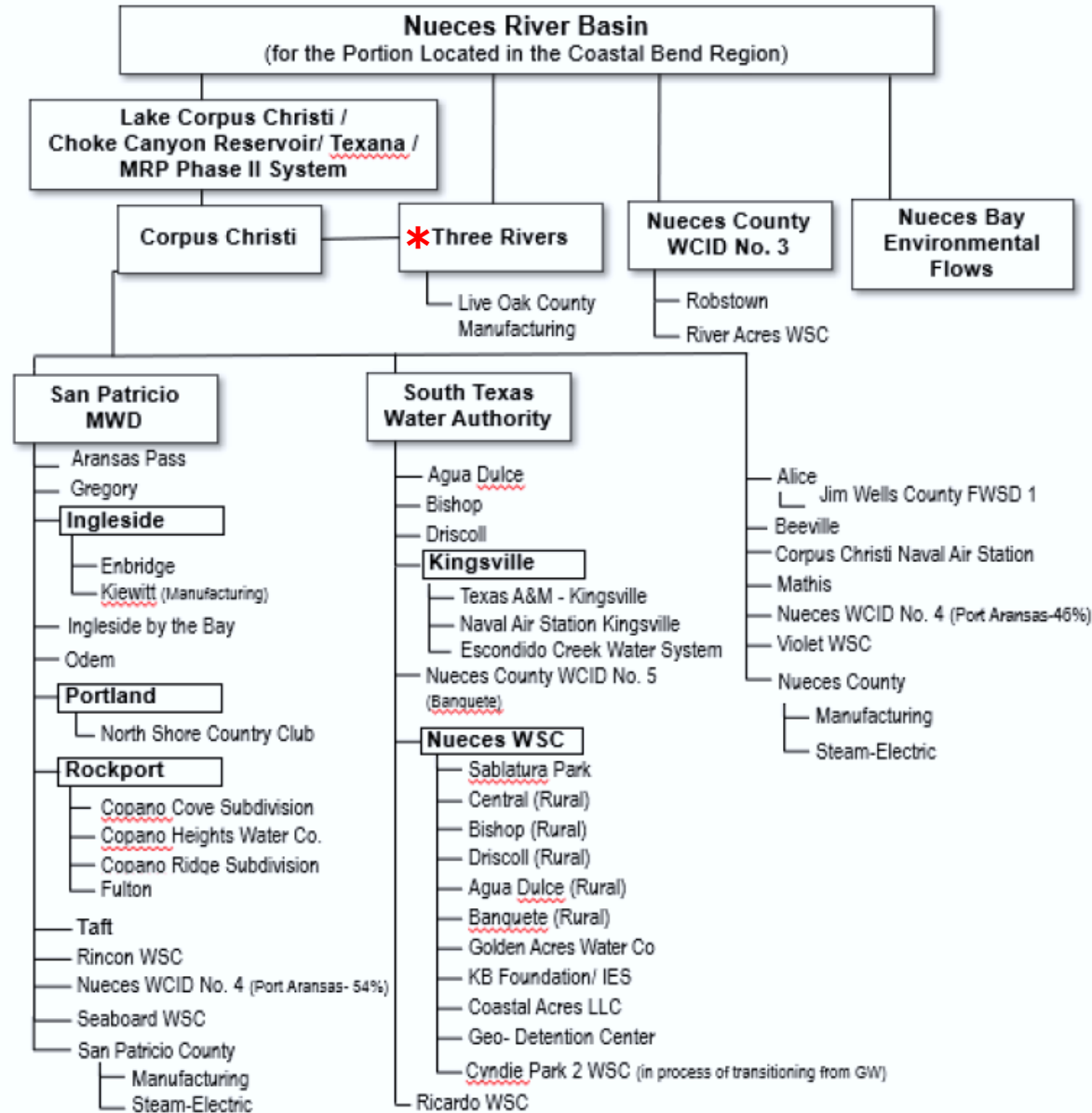
RECOMMENDATION ON BASELINE WATER USE FOR WHOLESALE UNDER LEVEL 1 WATER EMERGENCY

- **Corpus Christi Wholesale Customers:**

- San Patricio Municipal Water District
- South Texas Water Authority
- City of Mathis
- City of Alice
- City of Beeville
- Violet WSC
- Nueces County WCID No.3
- Nueces County WCID No.4



Figure 3.3 summarizes the major contract relationships in the Coastal Bend Region.



**The City of Three Rivers has an agreement with the City for the Choke Canyon Reservoir*

San Patricio Municipal Water District Large Volume Users

- Air Liquide
- Arcelor Mittal
- Chemours
- CC Liquefaction (Cheniere)
- Gulf Coast Growth Ventures
- GPP NRG
- Ingleside Ethylene
- Ingleside Cogen
- Nashtech
- Occidental Chem
- Steel Dynamics

RECOMMENDATION ON BASELINE WATER USE FOR WHOLESALE UNDER LEVEL 1 WATER EMERGENCY

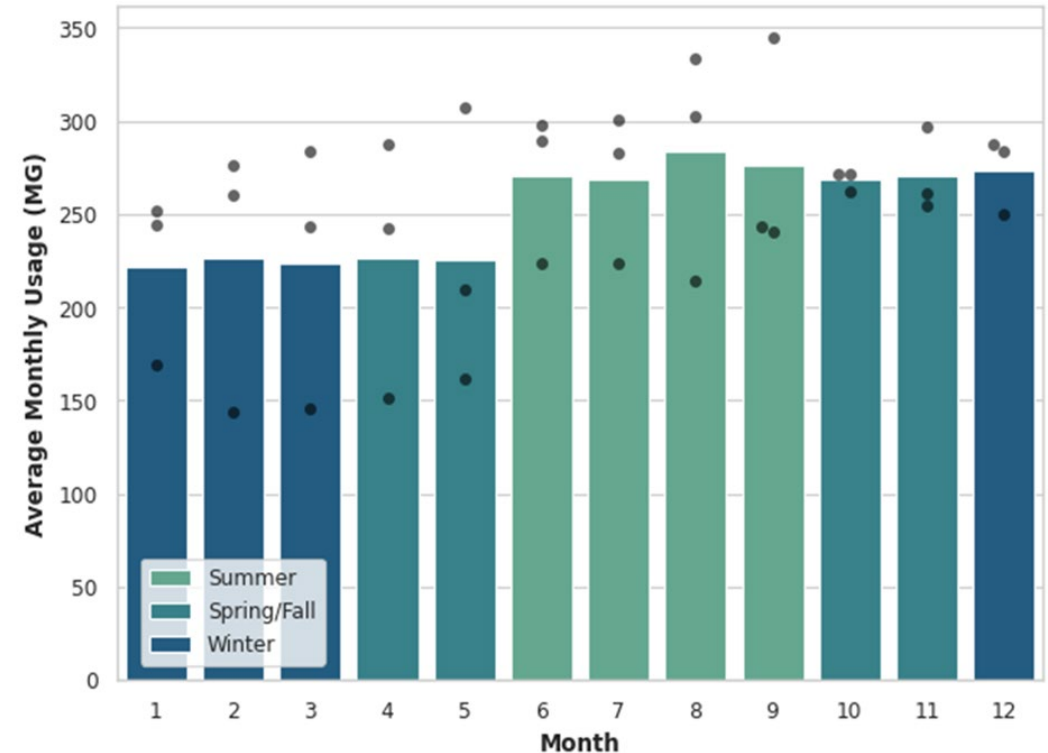
- This limit will be used when the City requires all customers to reduce water use
 - Triggered at Level 1 Water Emergency
 - **Based on the prescribed approach as detailed in the approved Drought Contingency Plan (Page 34.2)**
 - The raw water or wholesale treated water customer's water usage baseline will be computed on the average water usage by month for the previous five-year period

ALTERNATE OPTION FOR BASELINE WATER USE FOR WHOLESAL

UNDER LEVEL 1 WATER EMERGENCY

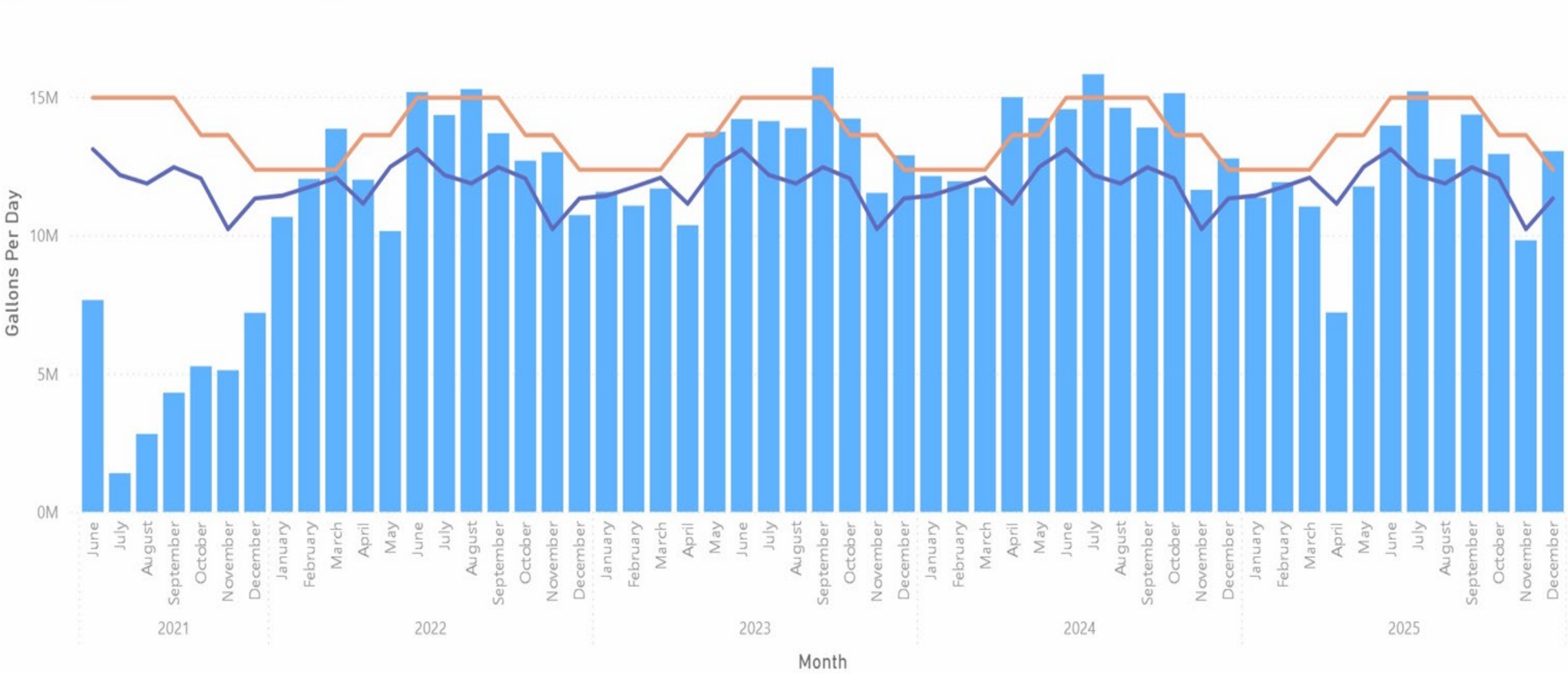
Basis and Assumptions:

- **Alternative monthly baseline usage determined seasonally for Wholesale customer class**
 - Summer: June-September
 - Spring/Fall: April-May, October-November
 - Winter: January-March, December
- Period of Record
 - Wholesale Users: 2022 to 2024
 - Lowest value in each month is excluded



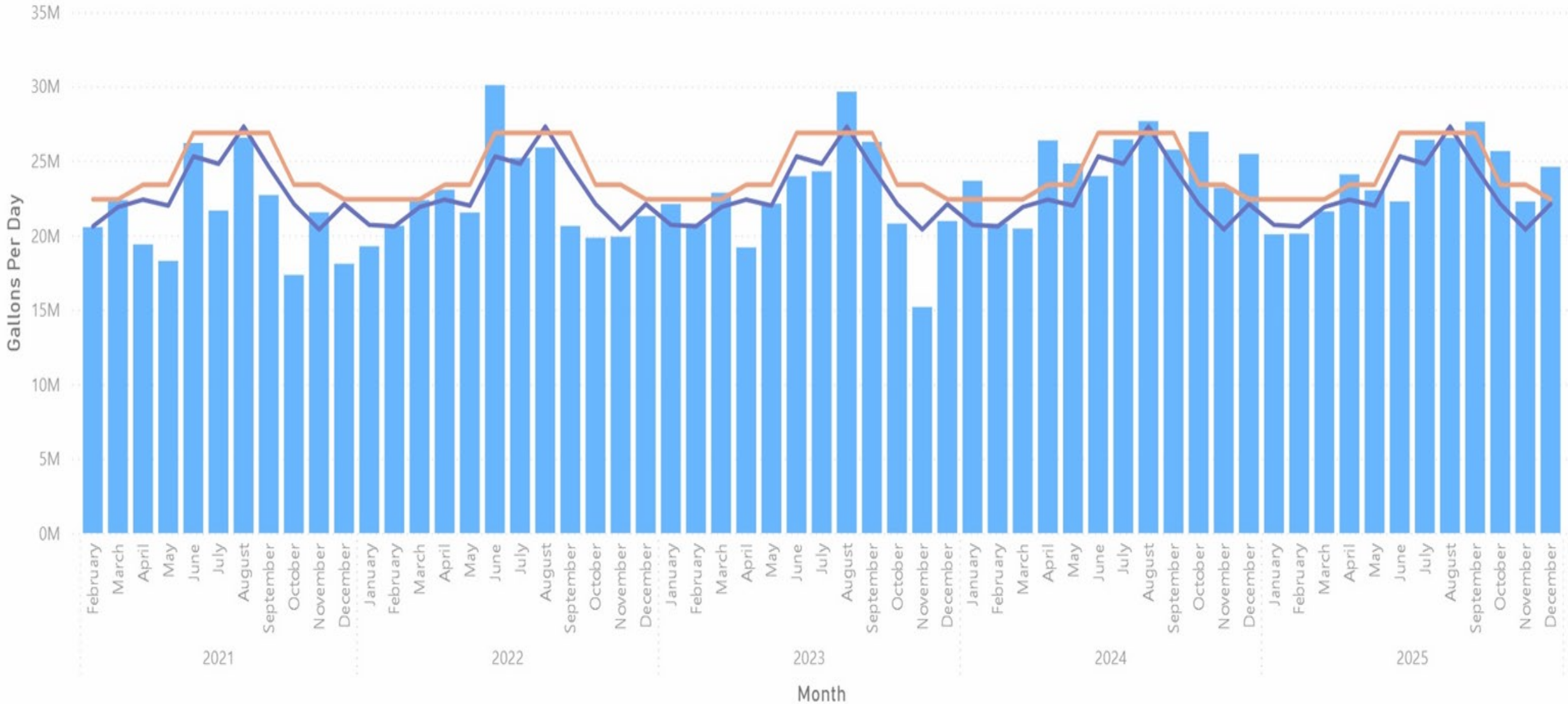
SAN PATRICIO MUNICIPAL WATER DISTRICT (TREATED WATER)

● Billed GPD
 ● Baseline GPD DCP Method
 ● Alternative Option



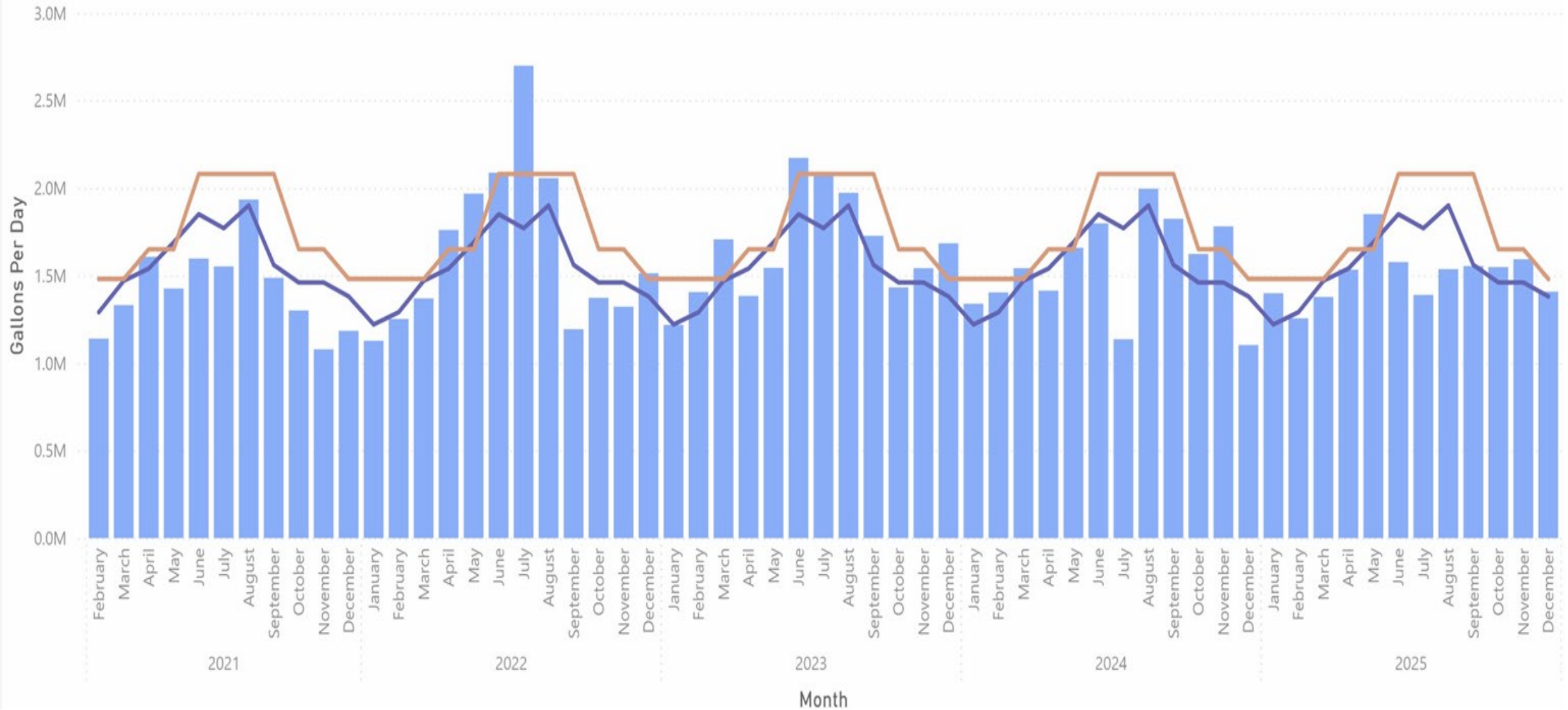
SAN PATRICIO MUNICIPAL WATER DISTRICT (RAW WATER)

● Billed GPD
 ● Baseline GPD DCP Method
 ● Alternative Option



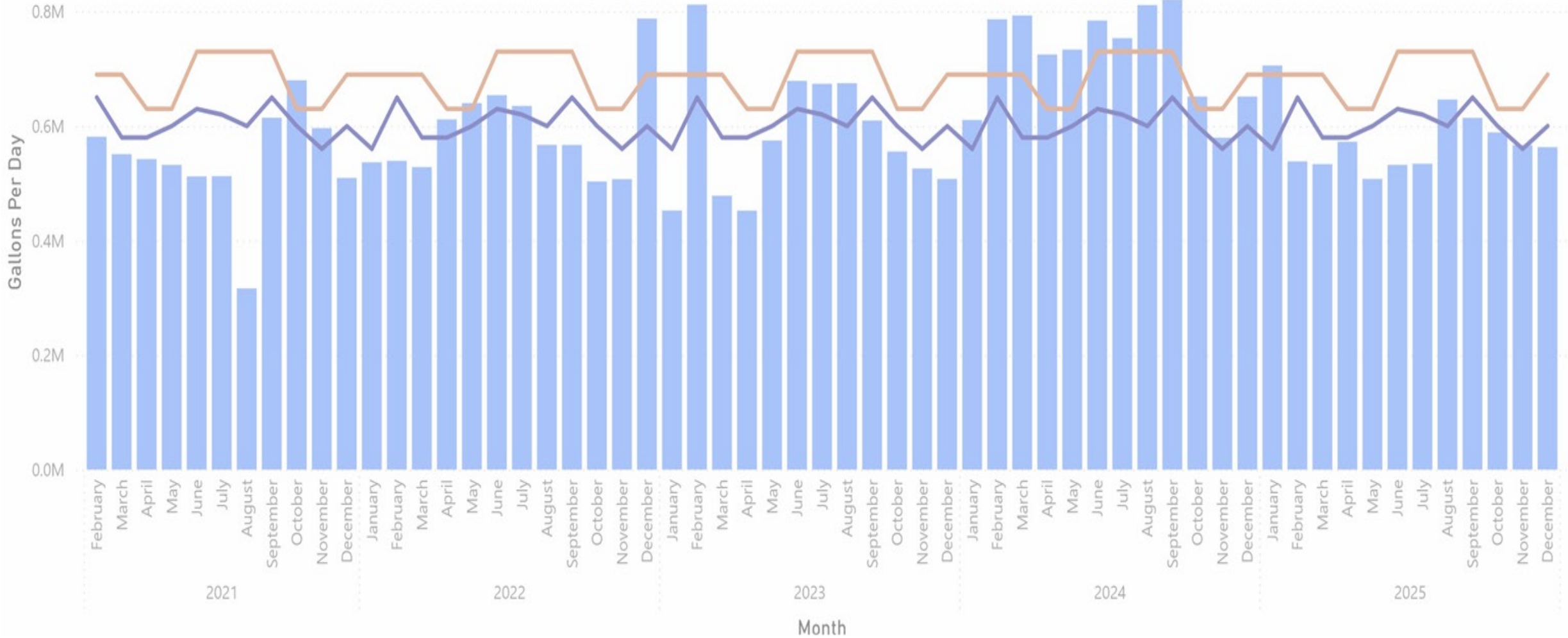
SOUTH TEXAS WATER AUTHORITY

● Billed GPD
 ● Baseline GPD DCP Method
 ● Alternative Option



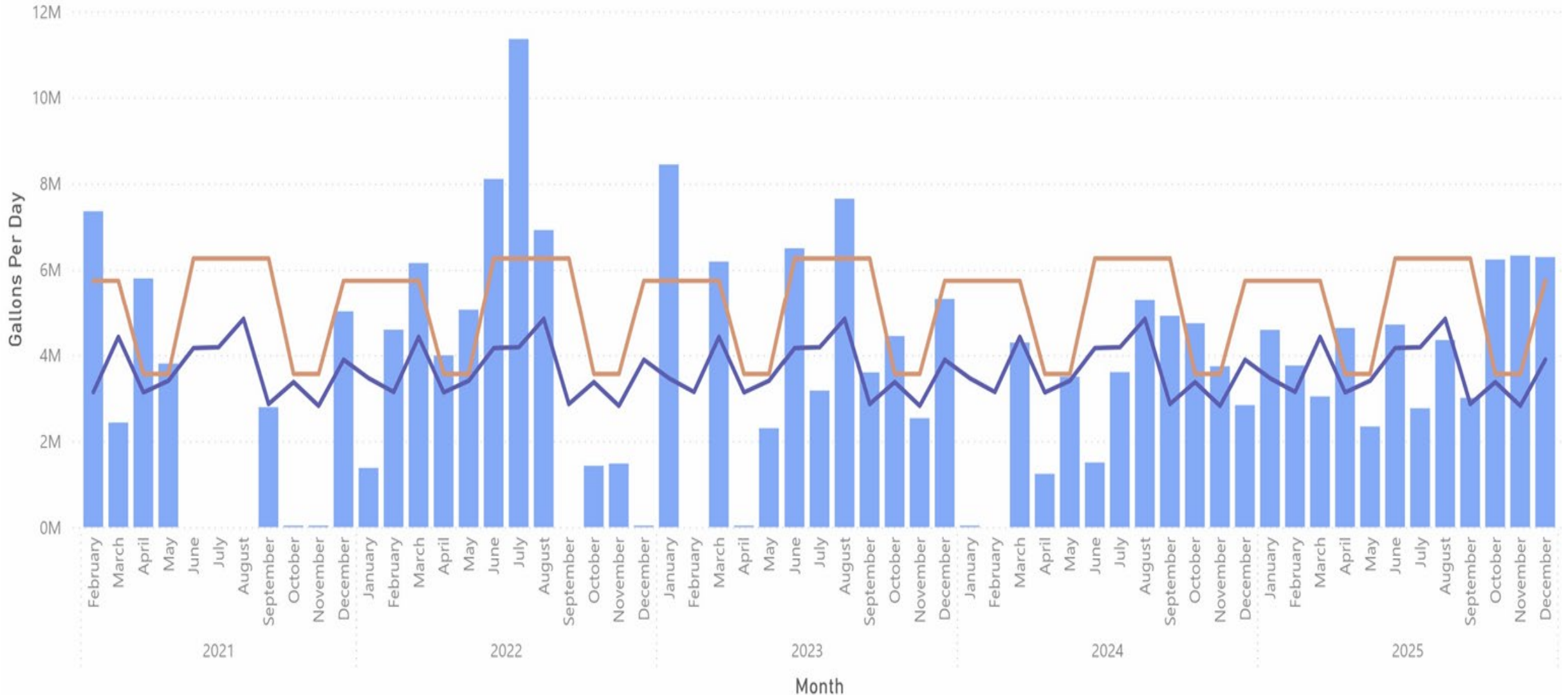
CITY OF MATHIS

● Billed GPD
 ● Baseline GPD DCP Method
 ● Alternative Option



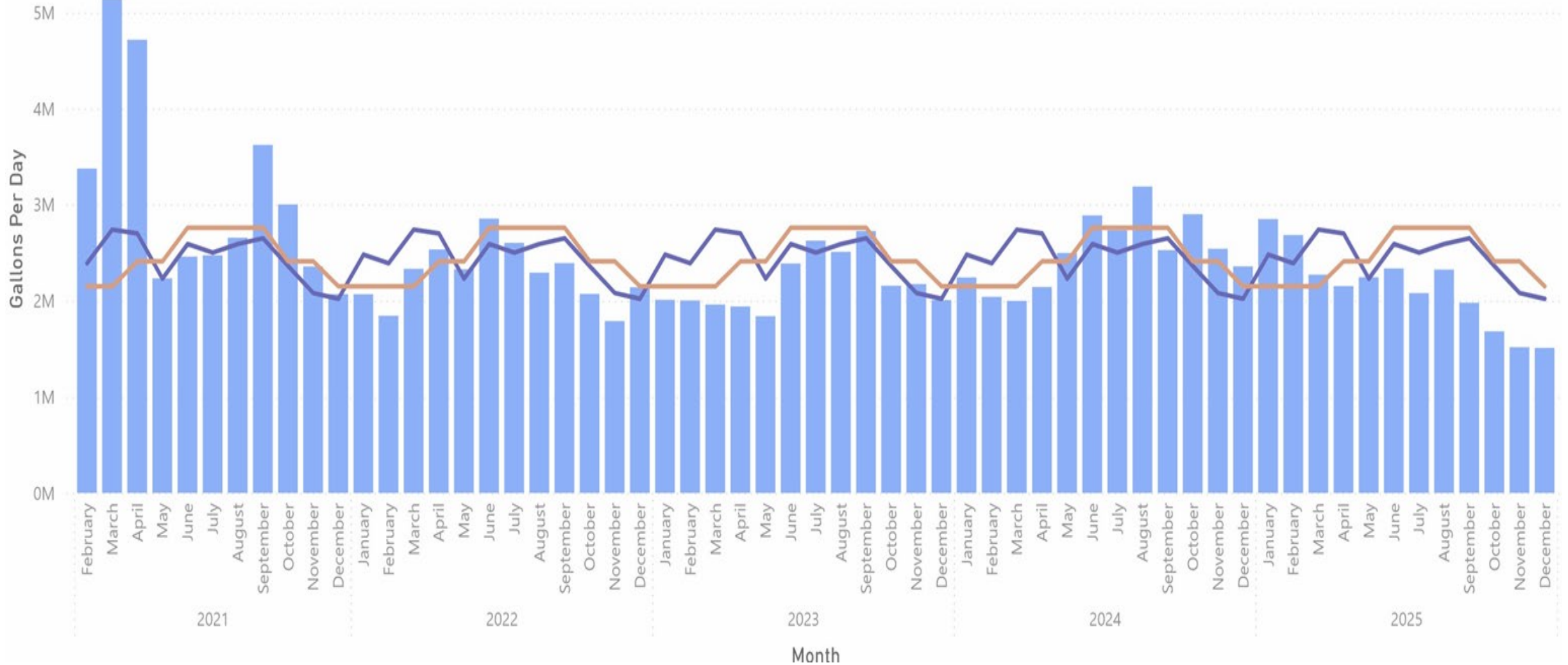
CITY OF ALICE

● Billed GPD
 ● Baseline GPD DCP Method
 ● Alternative Option



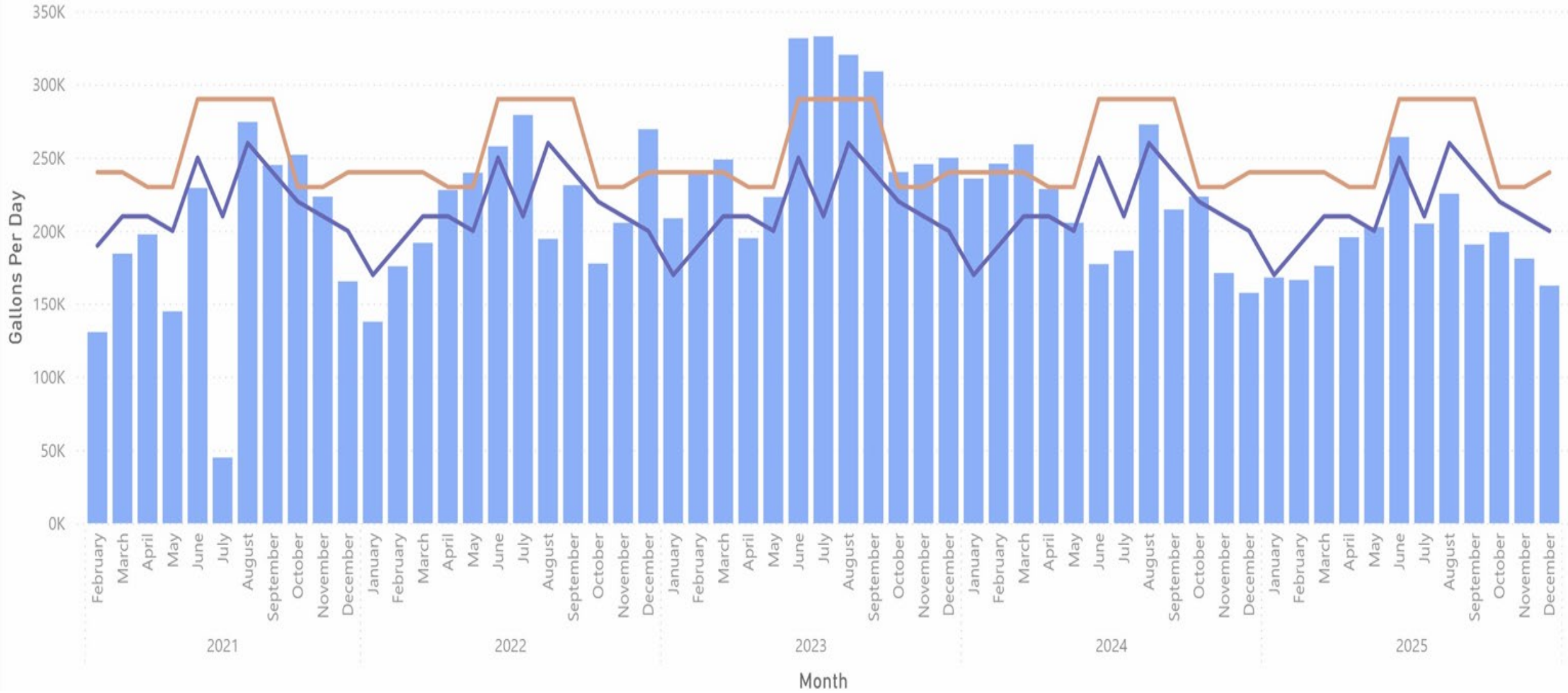
CITY OF BEEVILE

● Billed GPD
 ● Baseline GPD DCP Method
 ● Alternative Option



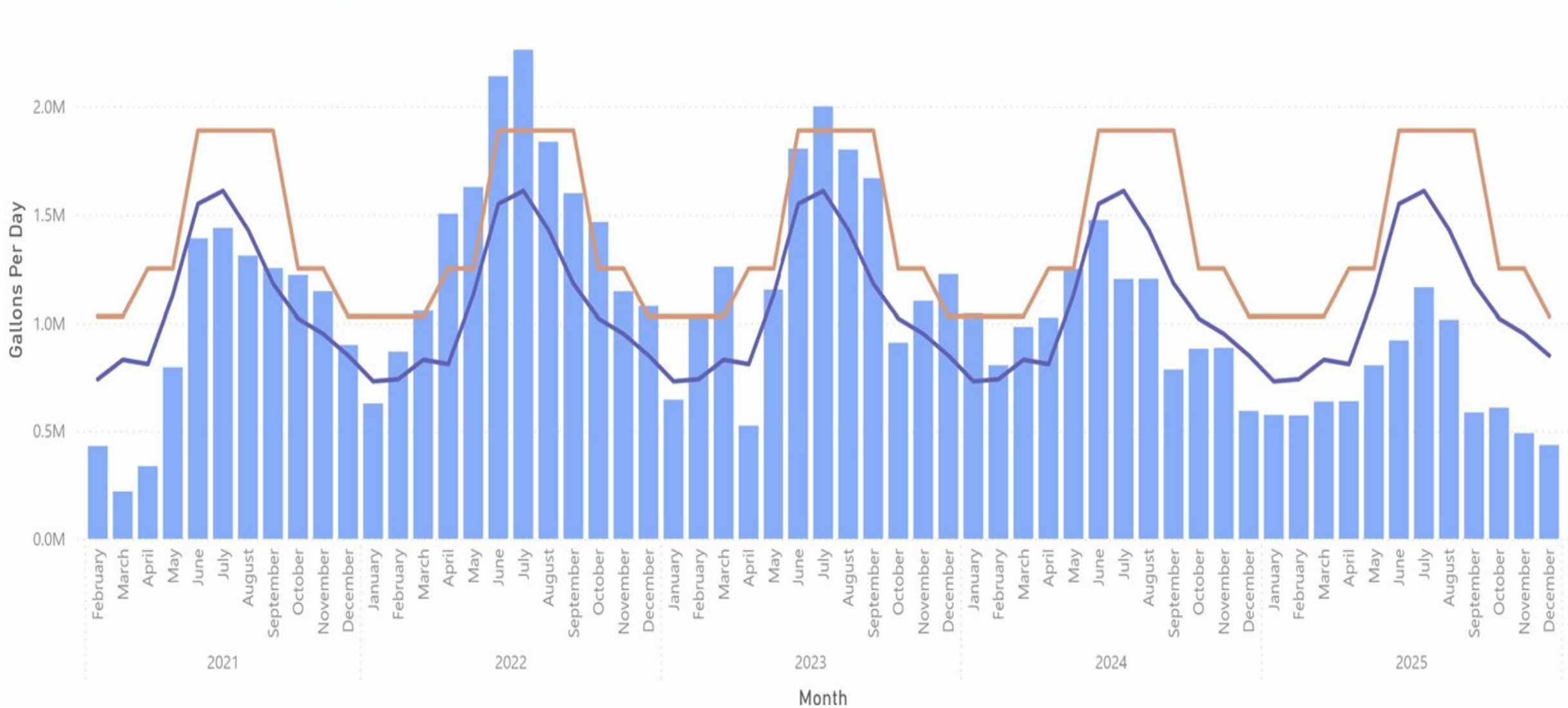
VIOLET WATER SUPPLY

● Billed GPD
 ● Baseline GPD DCP Method
 ● Alternative Option



NCWCID#4

● Billed GPD
 ● Baseline GPD DCP Method
 ● Alternative Option



RECOMMENDATION ON BASELINE WATER USE FOR LARGE VOLUME USERS UNDER LEVEL 1 WATER EMERGENCY

CCW Large Volume Users:

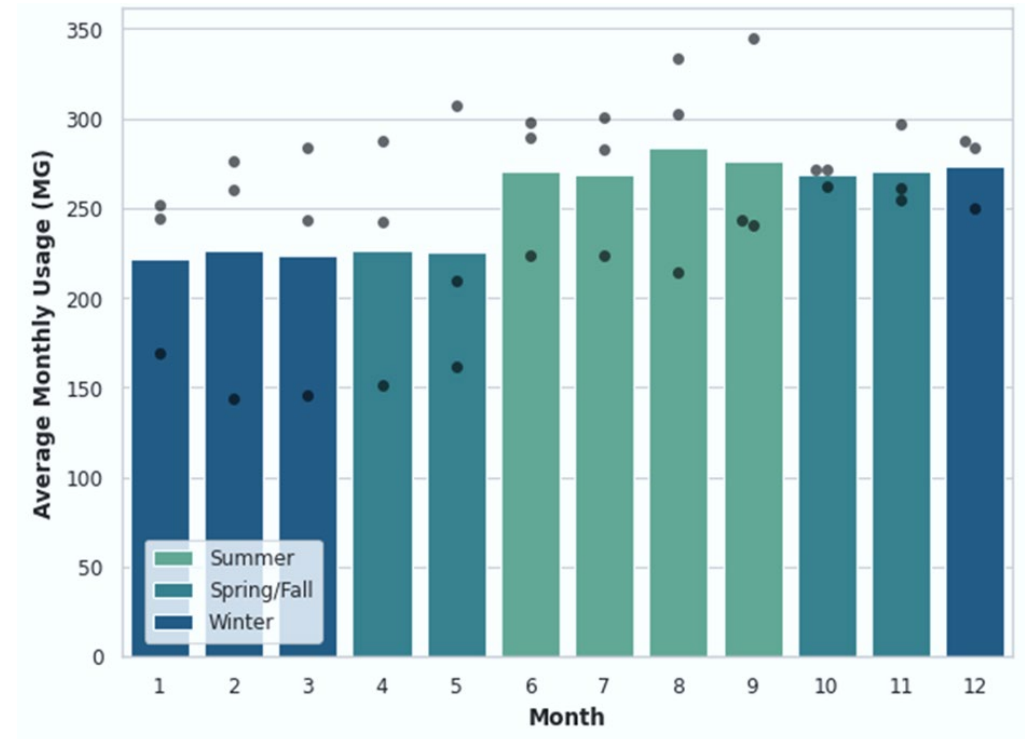
- Citgo
- Flint Hills
- Valero
- HEP Javelina
- Calpine
- LyondellBasell
- Celanese
- Coastal Bend Y-Grade Logistics
- STX Beef
- Utility Processing (Naval Air Station)



RECOMMENDATION ON BASELINE WATER USE FOR LARGE VOLUME USERS UNDER LEVEL 1 WATER EMERGENCY

Basis and Assumptions:

- **Monthly baseline usage determined seasonally for each Large Volume customer**
 - Summer: June-September
 - Spring/Fall: April-May, October-November
 - Winter: January-March, December
- Period of Record
 - Large Volume Users: 2022 to 2024
 - Lowest value in each month is excluded

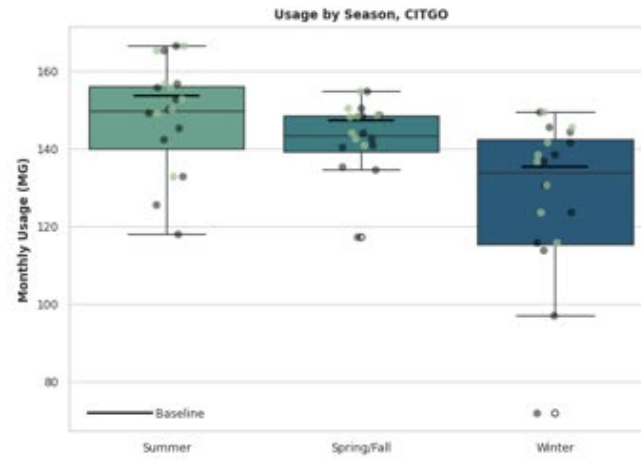


Citgo

Historical Data

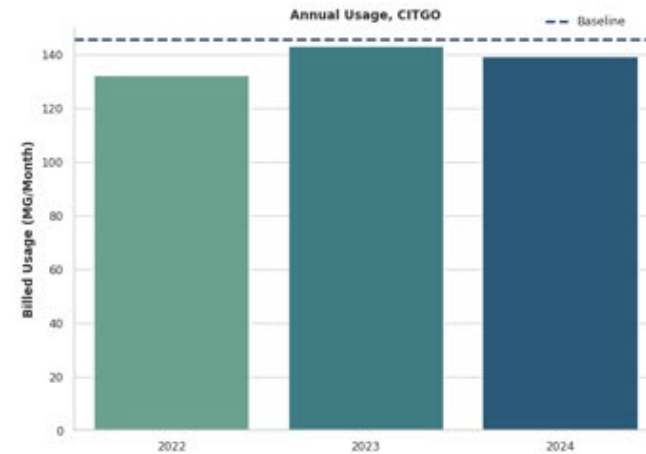
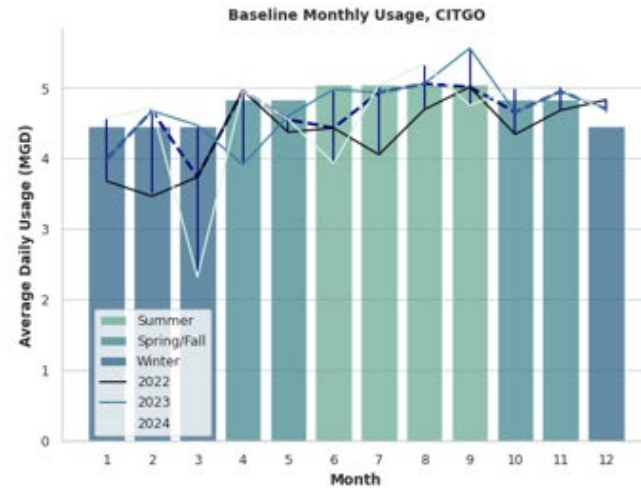
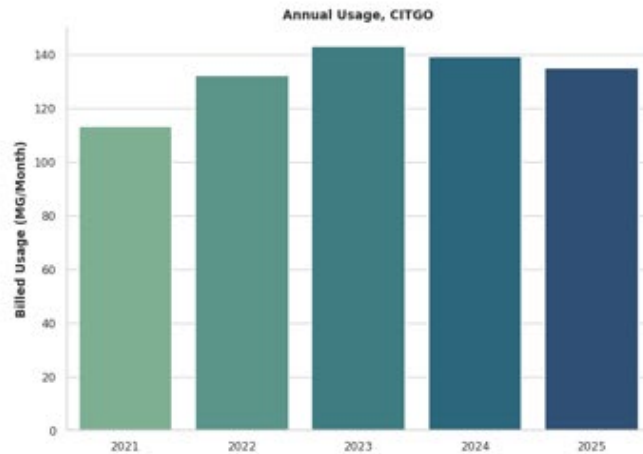


Seasonal Evaluation



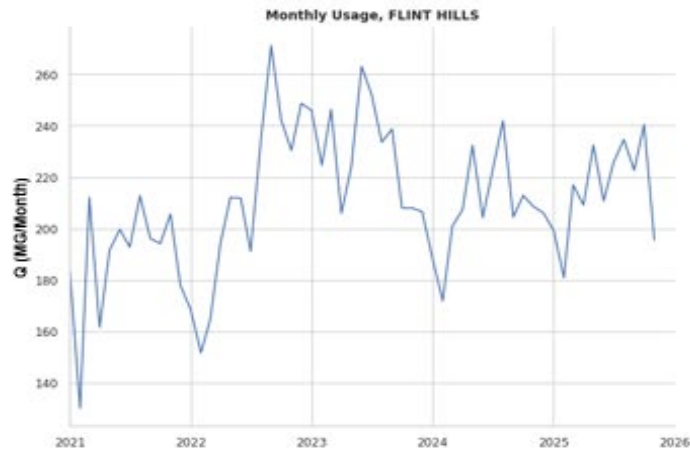
Baseline Usage

Season	Mean (MG/Month)
Summer	153.8
Spring/Fall	147.5
Winter	136.0
Annual	145.8
Annual (MG)	1749.1

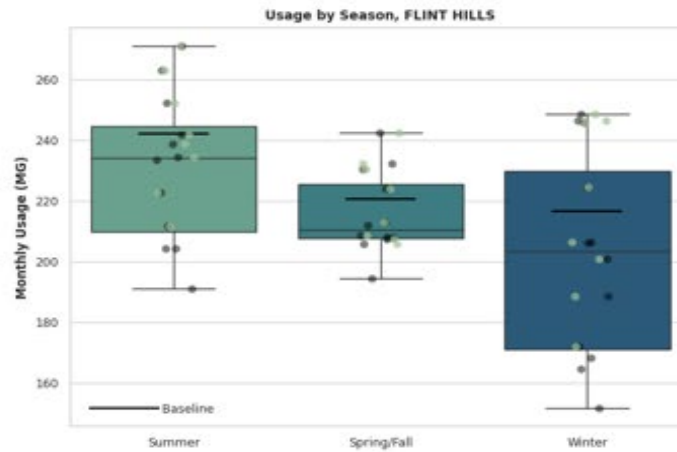


Flint Hills Resources

Historical Data

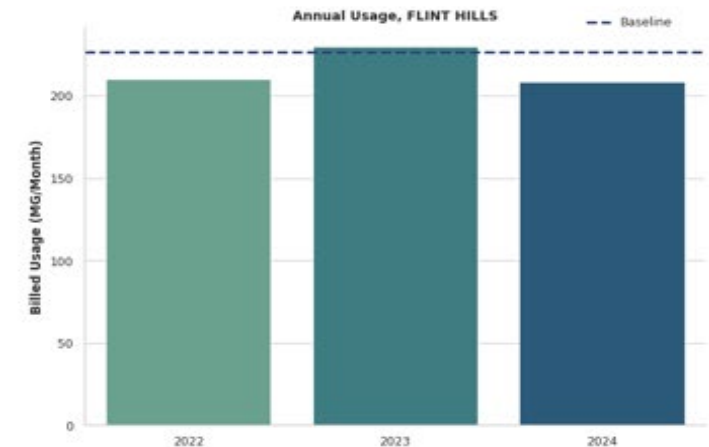
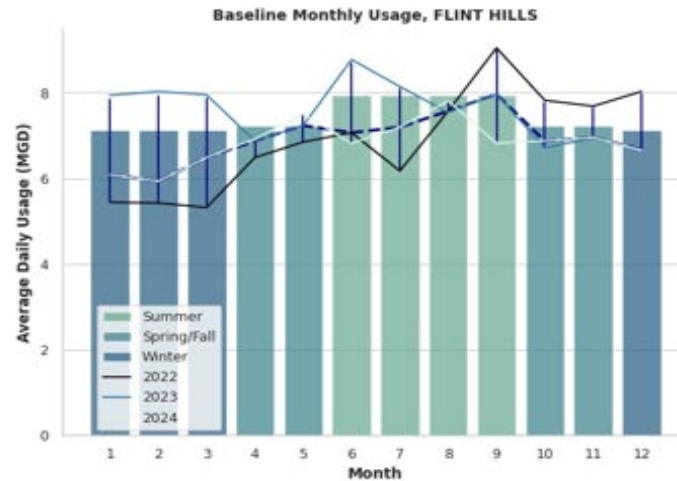
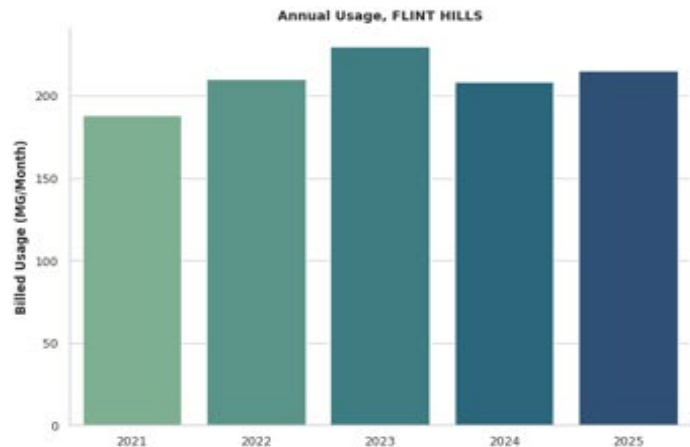


Seasonal Evaluation



Baseline Usage

Season	Mean (MG/Month)
Summer	242.1
Spring/Fall	220.4
Winter	217.6
Annual	226.7
Annual (MG)	2720.5

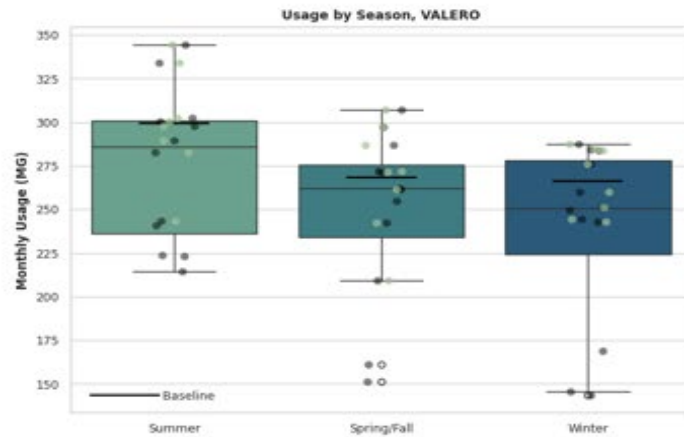


Valero

Historical Data

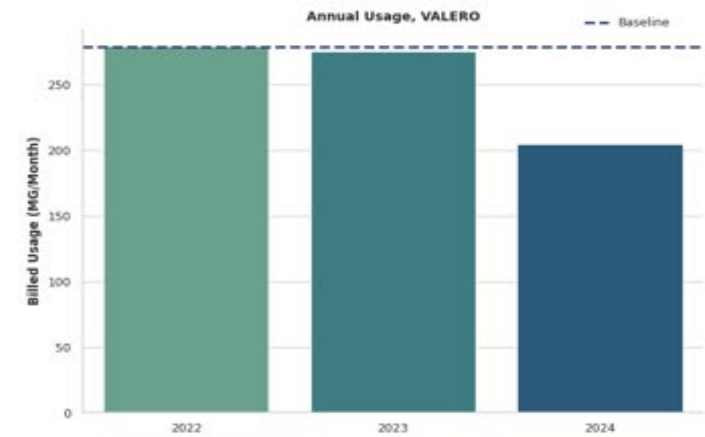
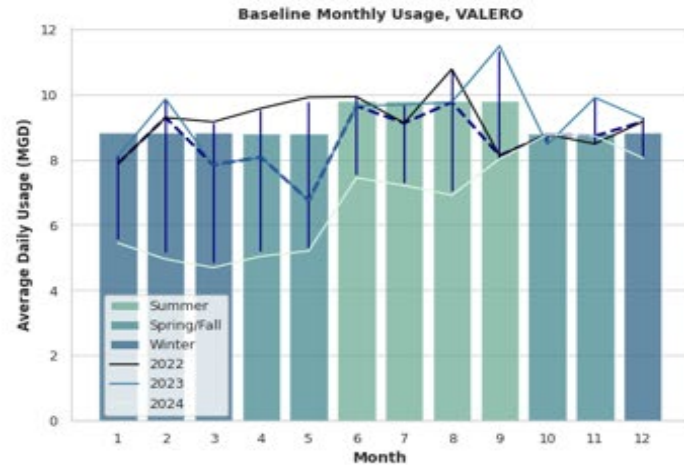
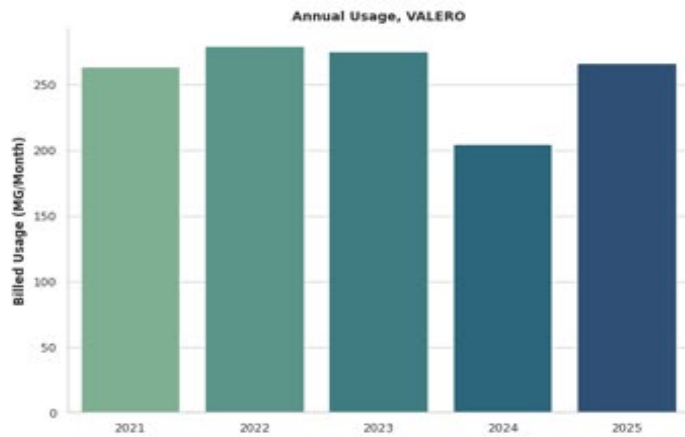


Seasonal Evaluation



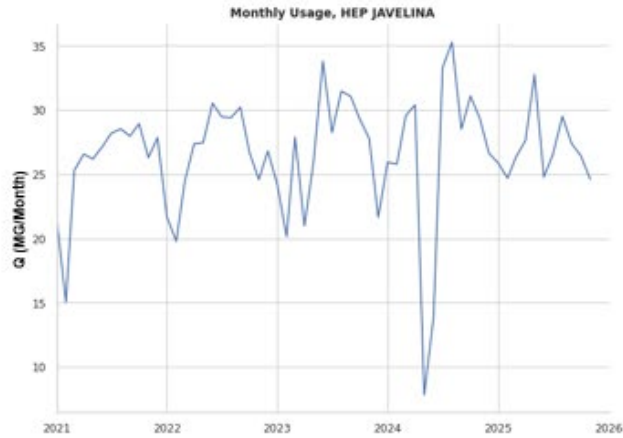
Baseline Usage

Season	Mean (MG/Month)
Summer	299.4
Spring/Fall	268.6
Winter	266.8
Annual	278.3
Annual (MG)	3339.0

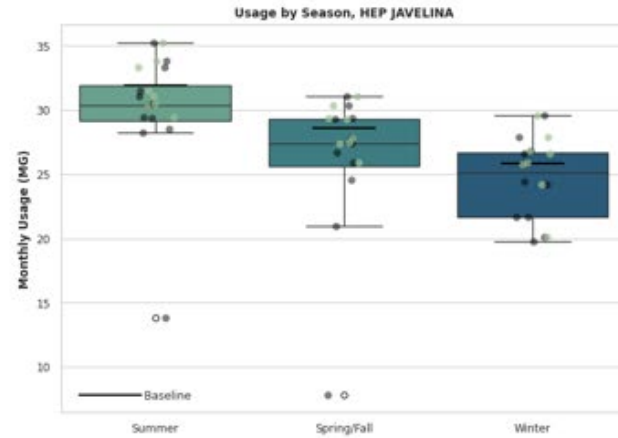


HEP/JAVELINA

Historical Data

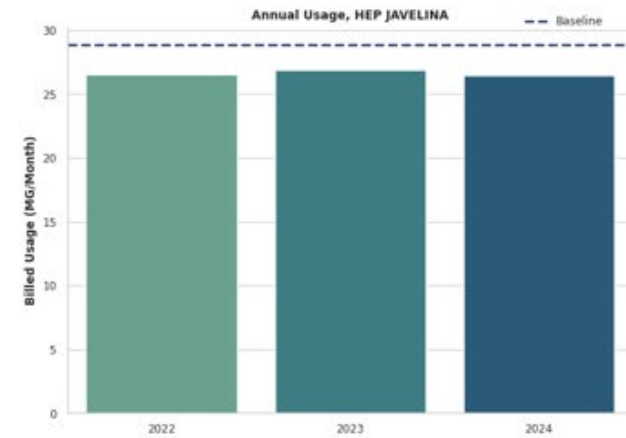
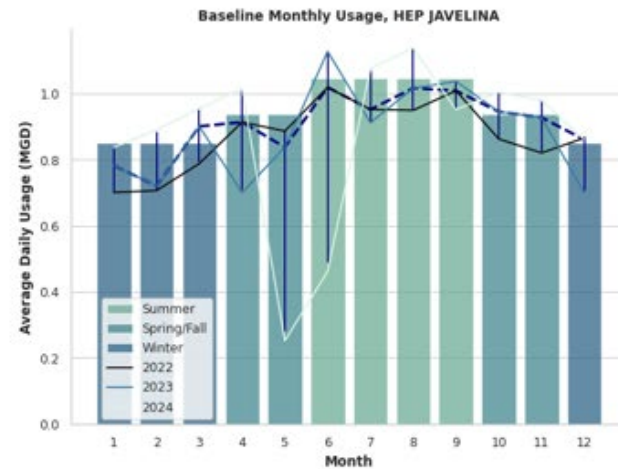
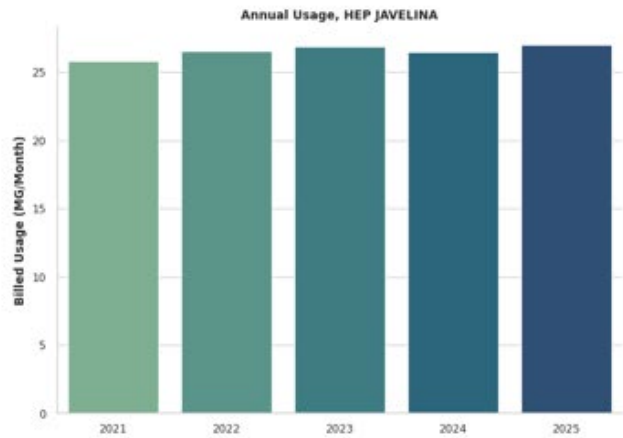


Seasonal Evaluation



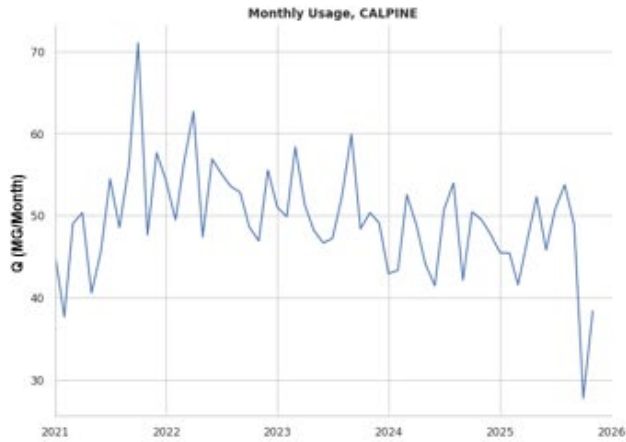
Baseline Usage

Season	Mean (MG/Month)
Summer	31.9
Spring/Fall	28.6
Winter	25.9
Annual	28.8
Annual (MG)	345.8

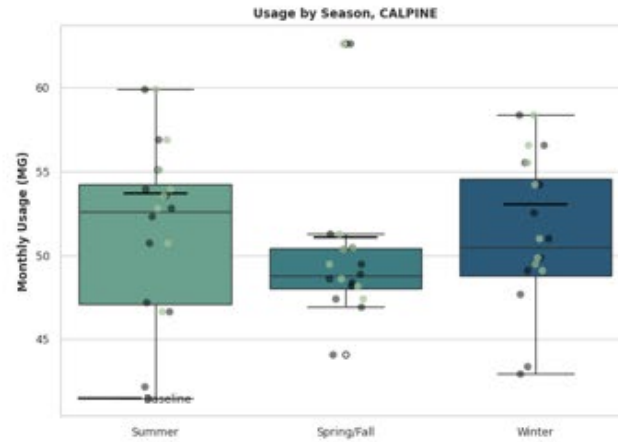


Calpine

Historical Data

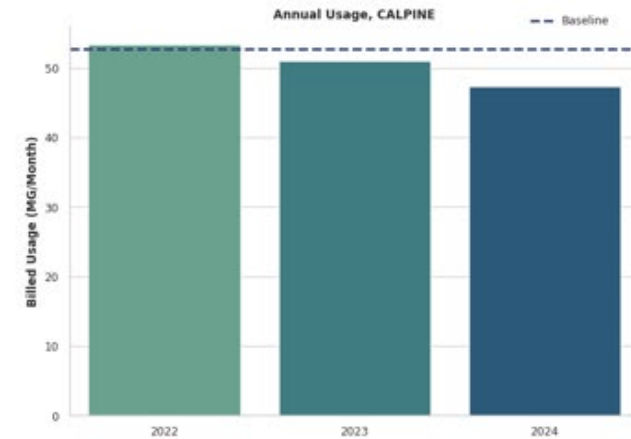
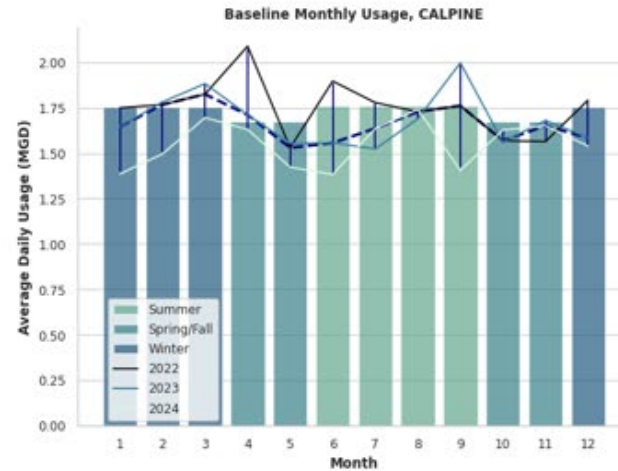
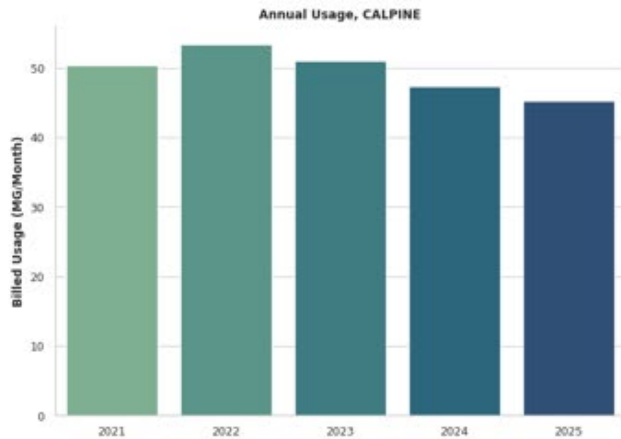


Seasonal Evaluation



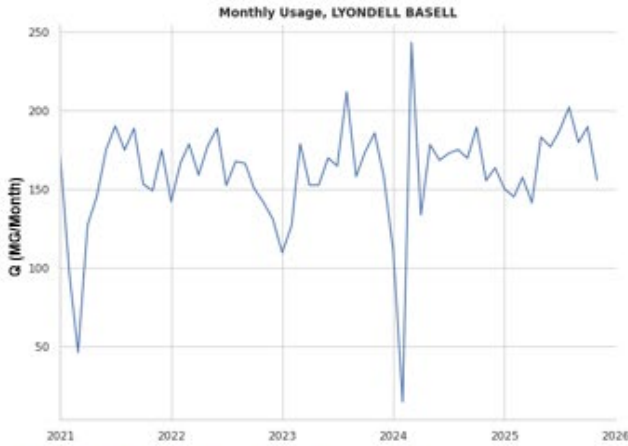
Baseline Usage

Season	Mean (MG/Month)
Summer	53.7
Spring/Fall	51.1
Winter	53.5
Annual	52.8
Annual (MG)	633.2



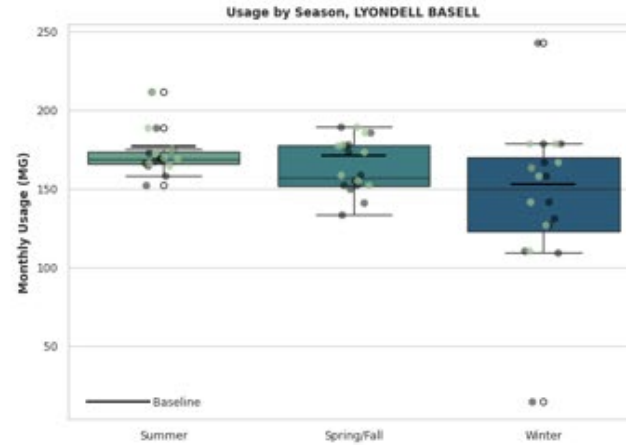
Lyondell Bassell

Historical Data



Feb/Mar 2024: replaced with 2-month average

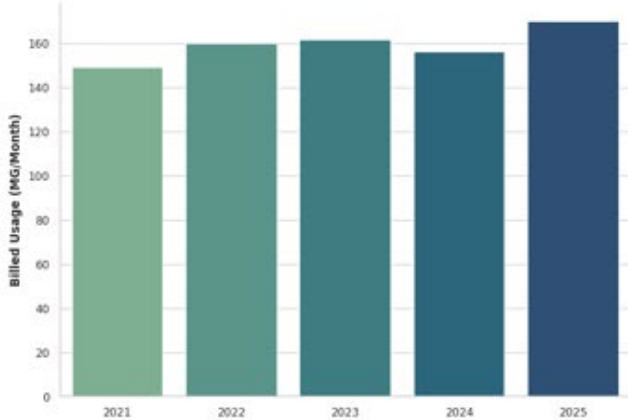
Seasonal Evaluation



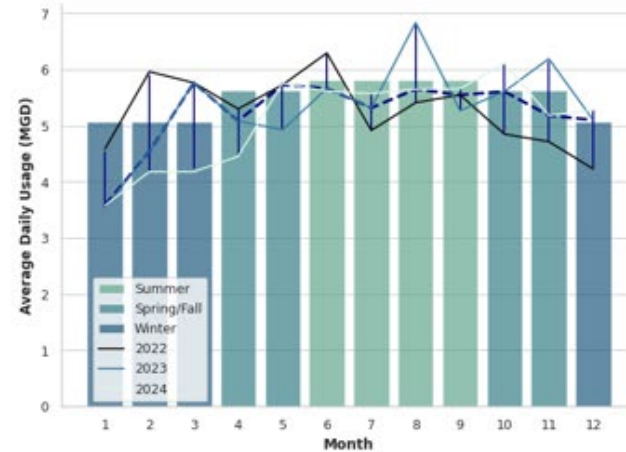
Baseline Usage

Season	Mean (MG/Month)
Summer	177.4
Spring/Fall	171.4
Winter	154.6
Annual	167.8
Annual (MG)	2013.5

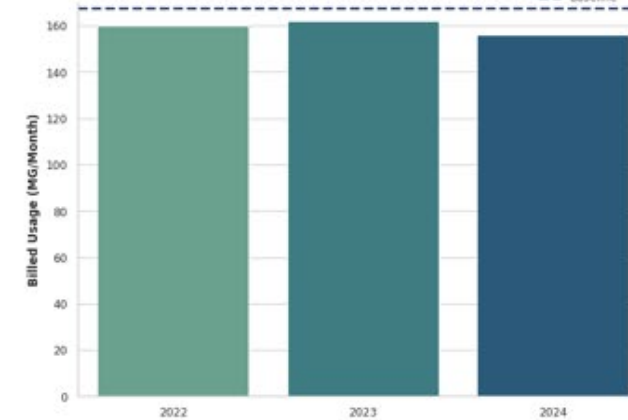
Annual Usage, LYONDELL BASELL



Baseline Monthly Usage, LYONDELL BASELL

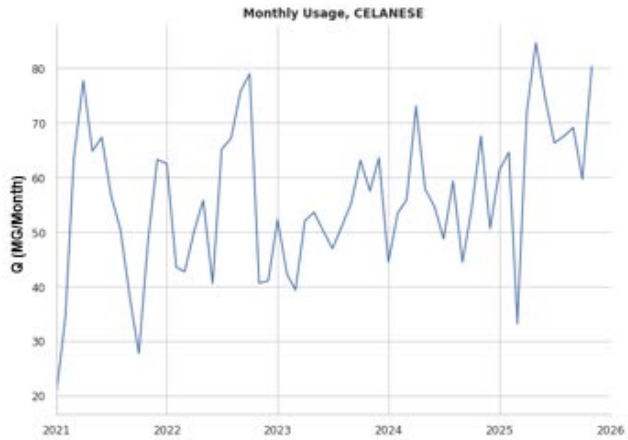


Annual Usage, LYONDELL BASELL

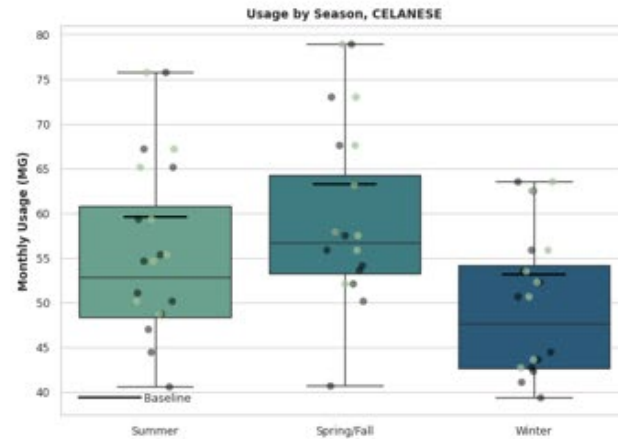


Celanese

Historical Data

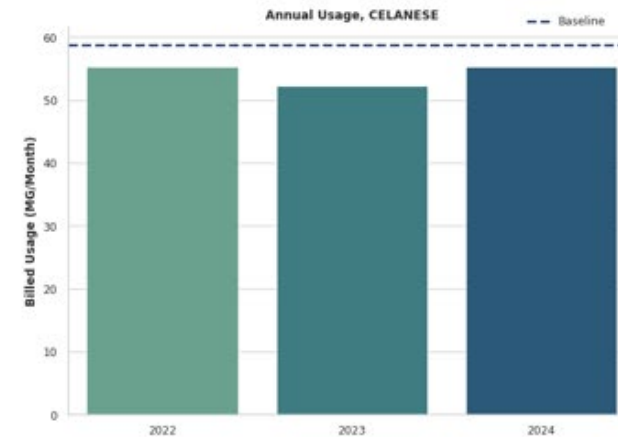
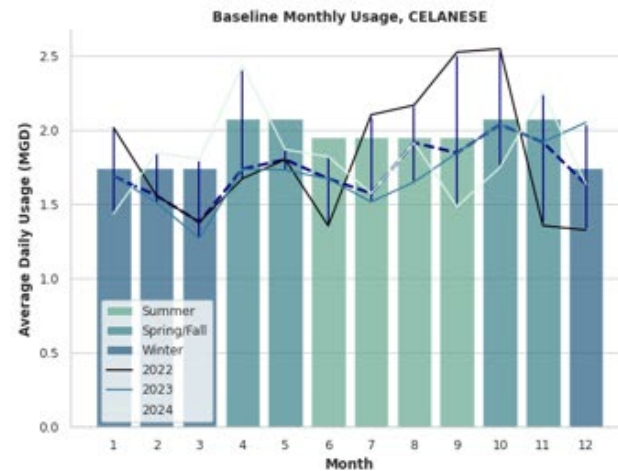
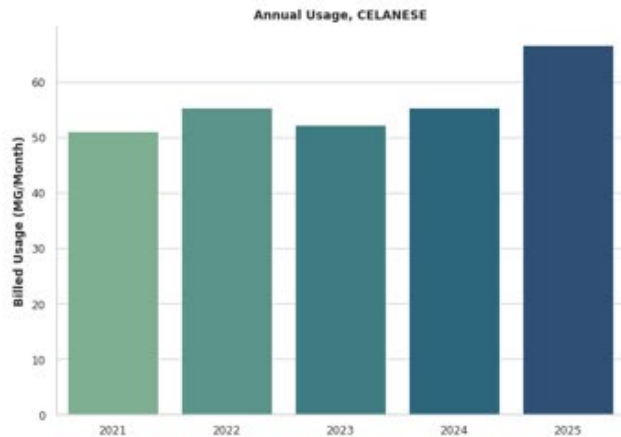


Seasonal Evaluation



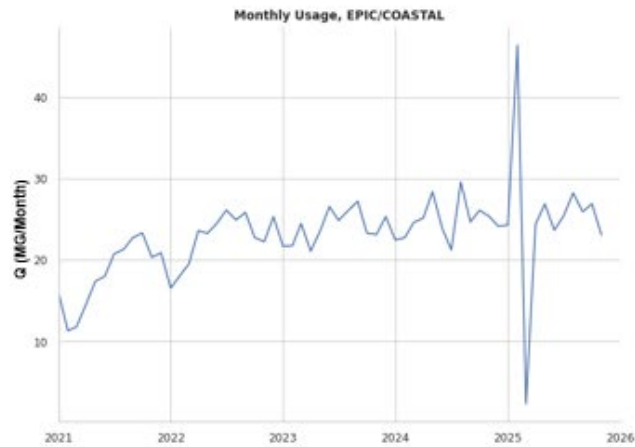
Baseline Usage

Season	Mean (MG/Month)
Summer	59.5
Spring/Fall	63.3
Winter	53.3
Annual	58.7
Annual (MG)	704.3



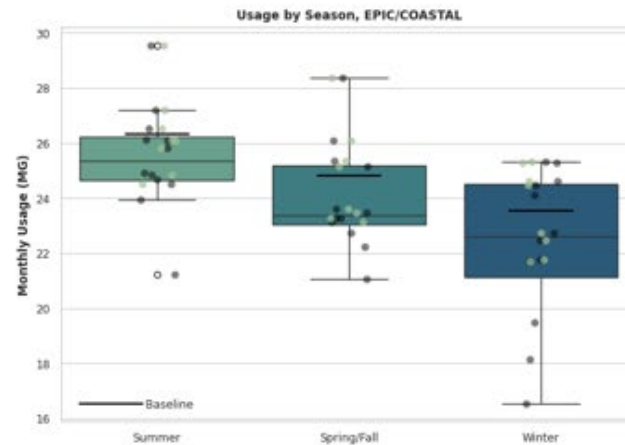
Coastal Bend Y-Grade Logistics

Historical Data



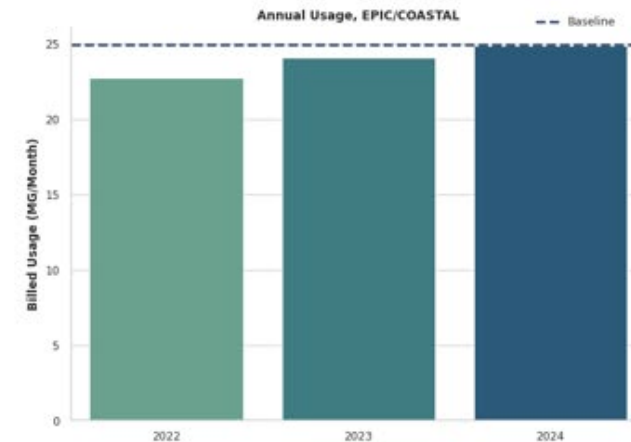
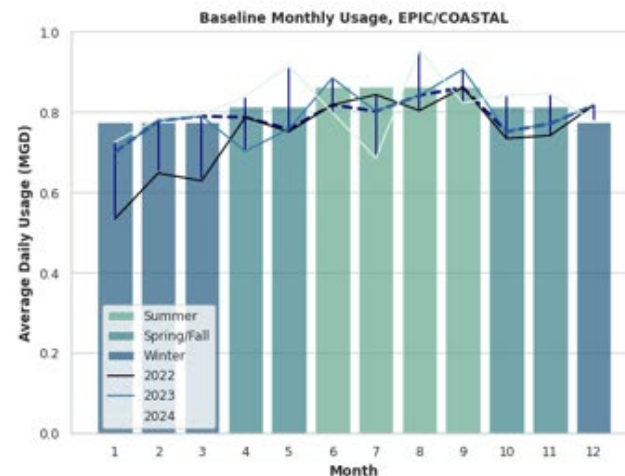
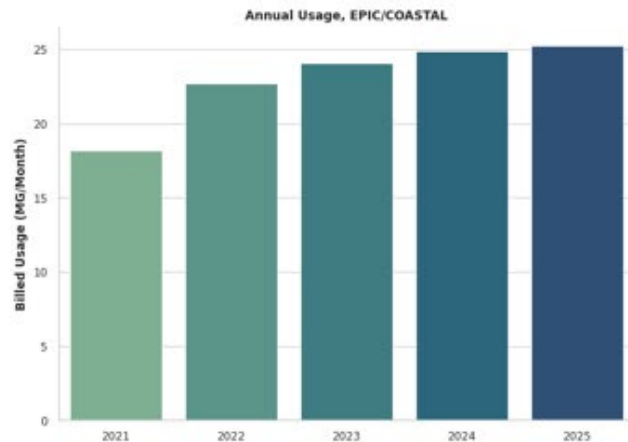
Feb/Mar 2025: replaced with 2-month average

Seasonal Evaluation



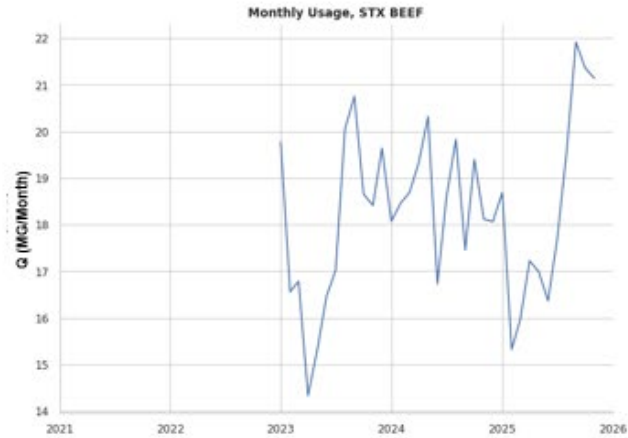
Baseline Usage

Season	Mean (MG/Month)
Summer	26.3
Spring/Fall	24.8
Winter	23.6
Annual	24.9
Annual (MG)	299.2

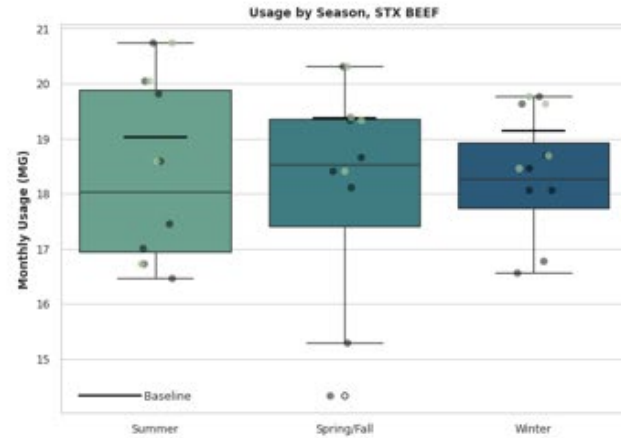


STX Beef

Historical Data



Seasonal Evaluation

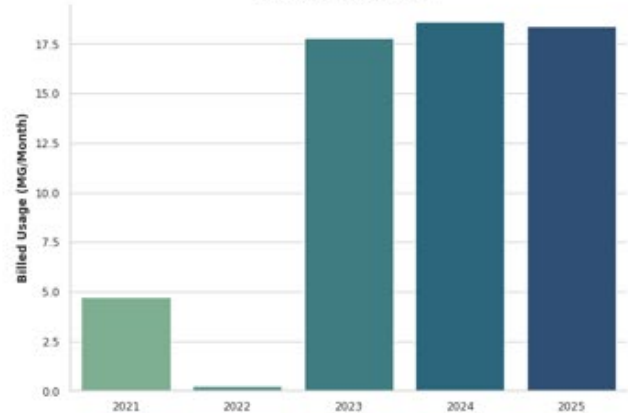


Averages based on one year of data only

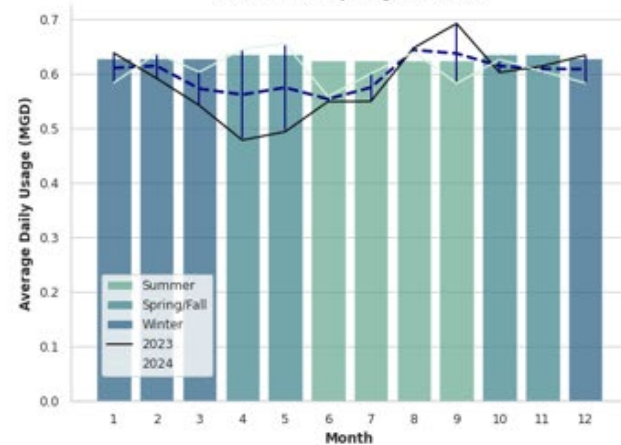
Baseline Usage

Season	Mean (MG/Month)
Summer	19.0
Spring/Fall	19.4
Winter	19.1
Annual	19.2
Annual (MG)	230.2

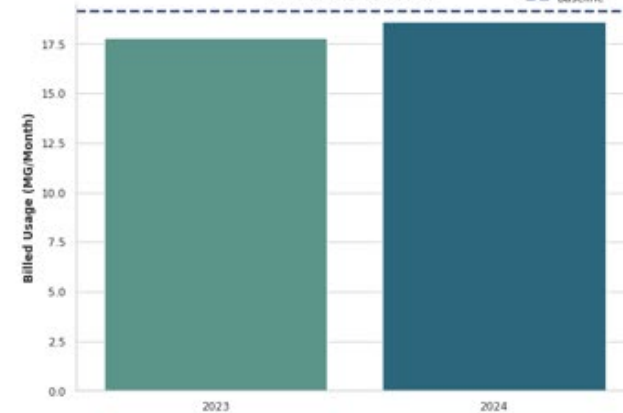
Annual Usage, STX BEEF



Baseline Monthly Usage, STX BEEF

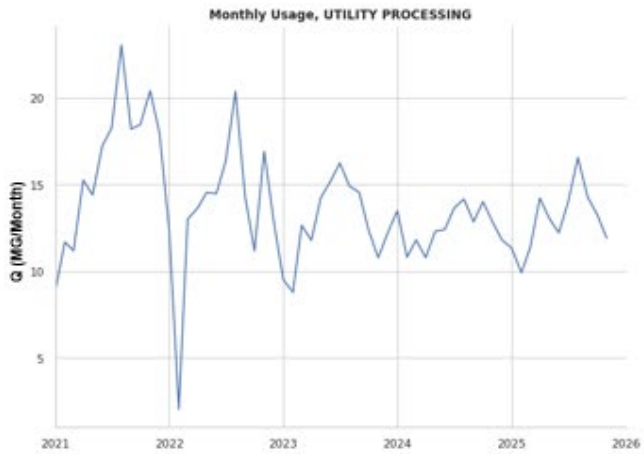


Annual Usage, STX BEEF

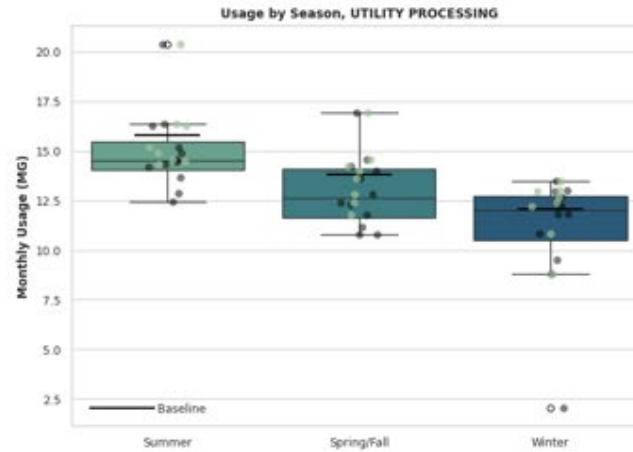


Utility Processing (Naval Air Station)

Historical Data



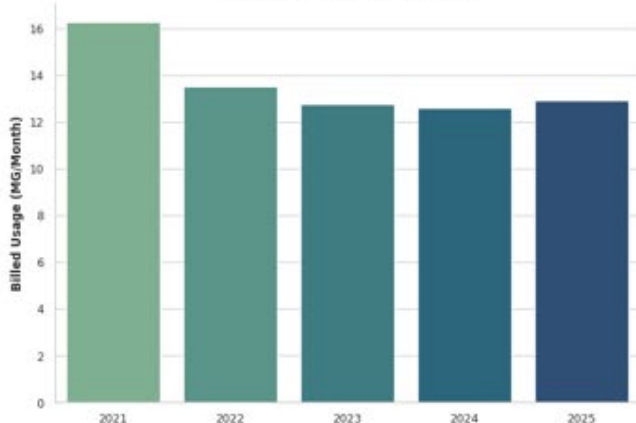
Seasonal Evaluation



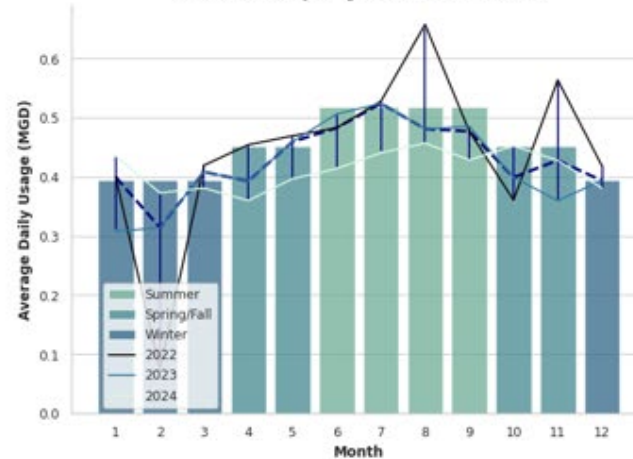
Baseline Usage

Season	Mean (MG/Month)
Summer	15.8
Spring/Fall	13.8
Winter	12.0
Annual	13.9
Annual (MG)	166.5

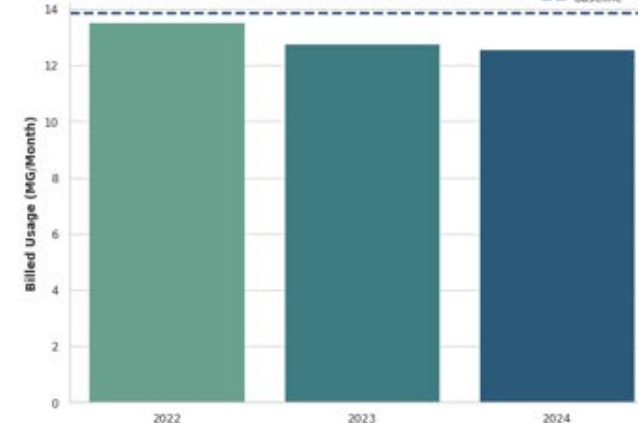
Annual Usage, UTILITY PROCESSING



Baseline Monthly Usage, UTILITY PROCESSING

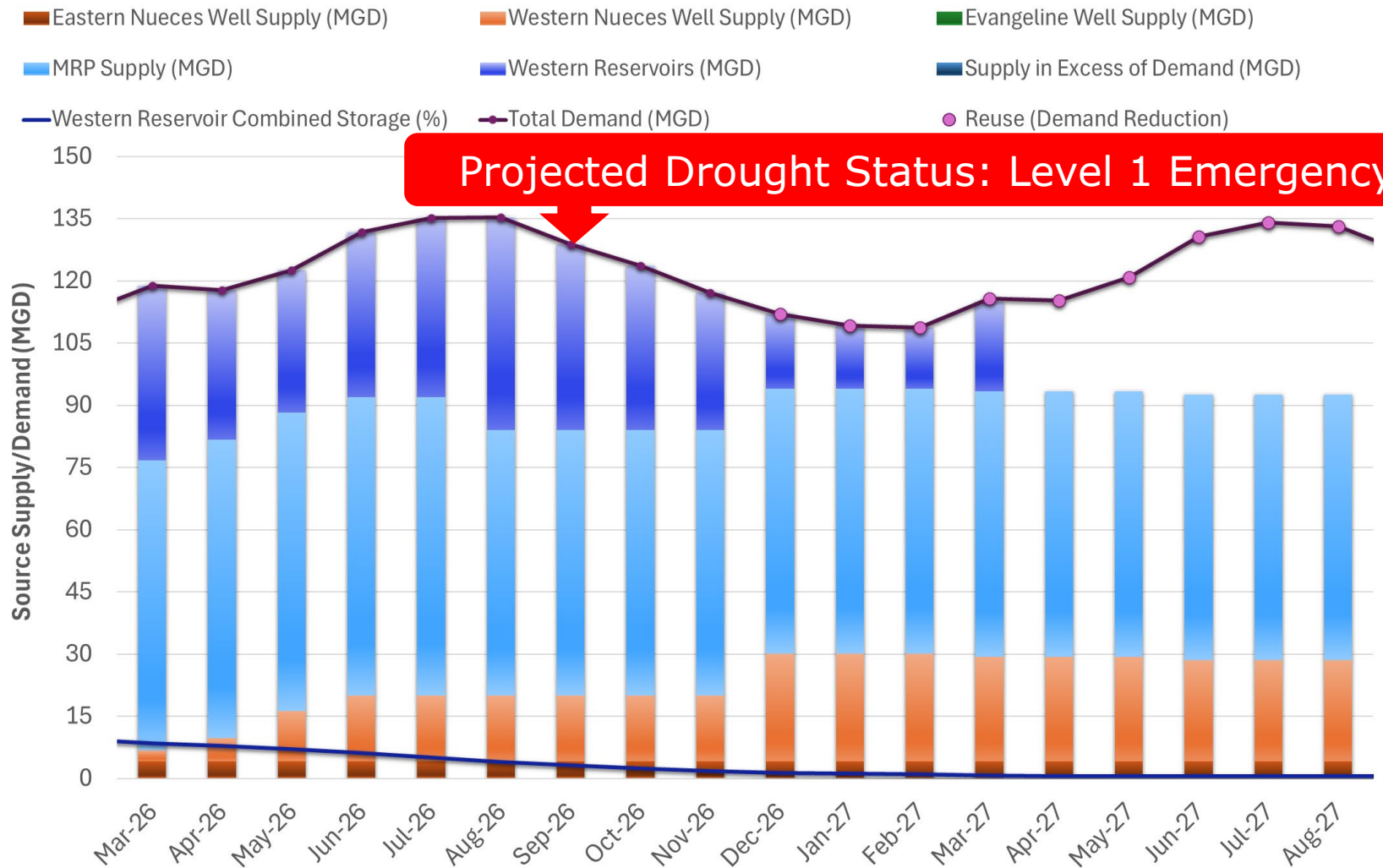


Annual Usage, UTILITY PROCESSING

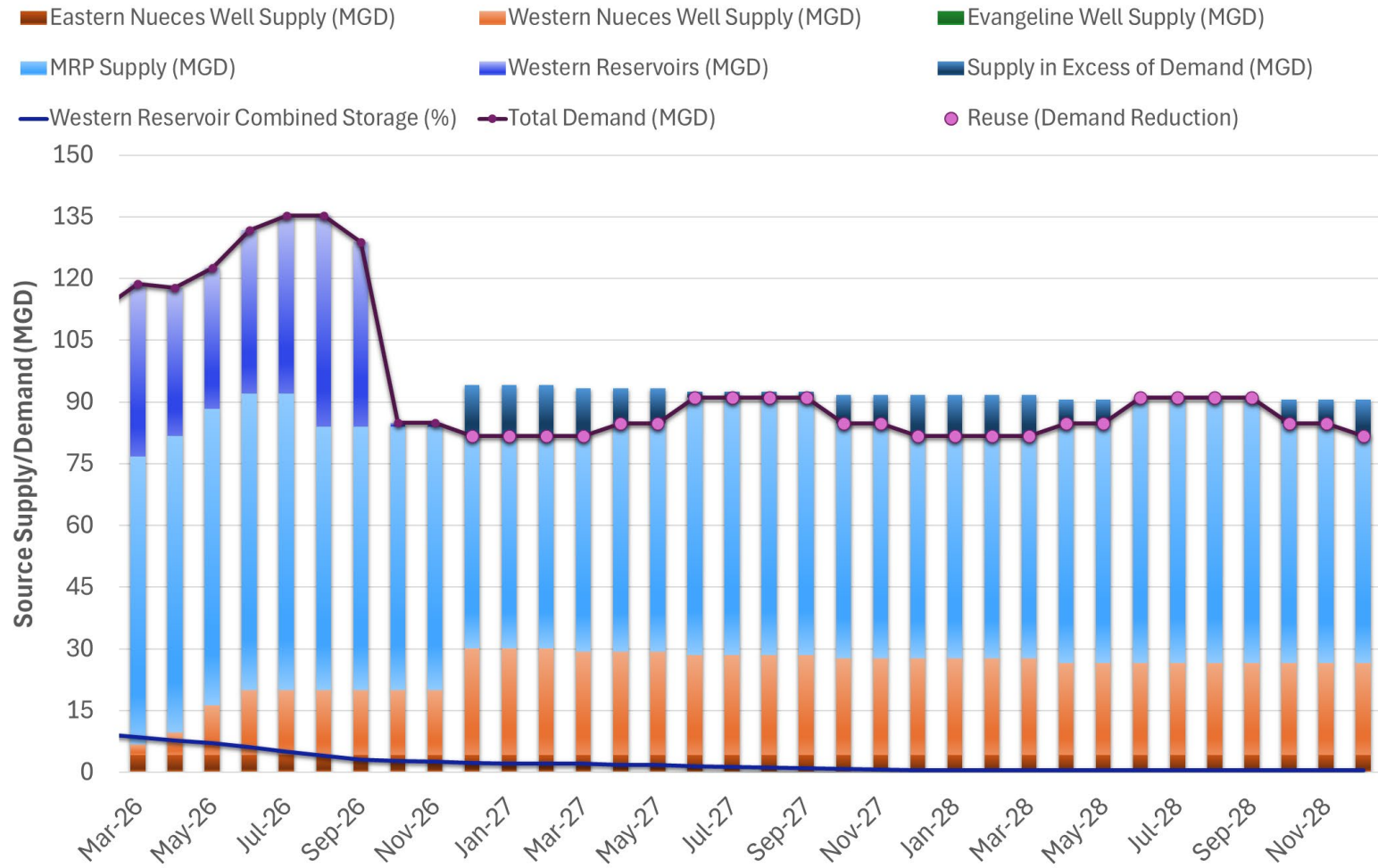


SCENARIO MODEL

LEVEL 1 WATER EMERGENCY, SEPTEMBER 2026



DEMAND REDUCTION DUE TO 25% CURTAILMENT UNDER LEVEL 1 WATER EMERGENCY

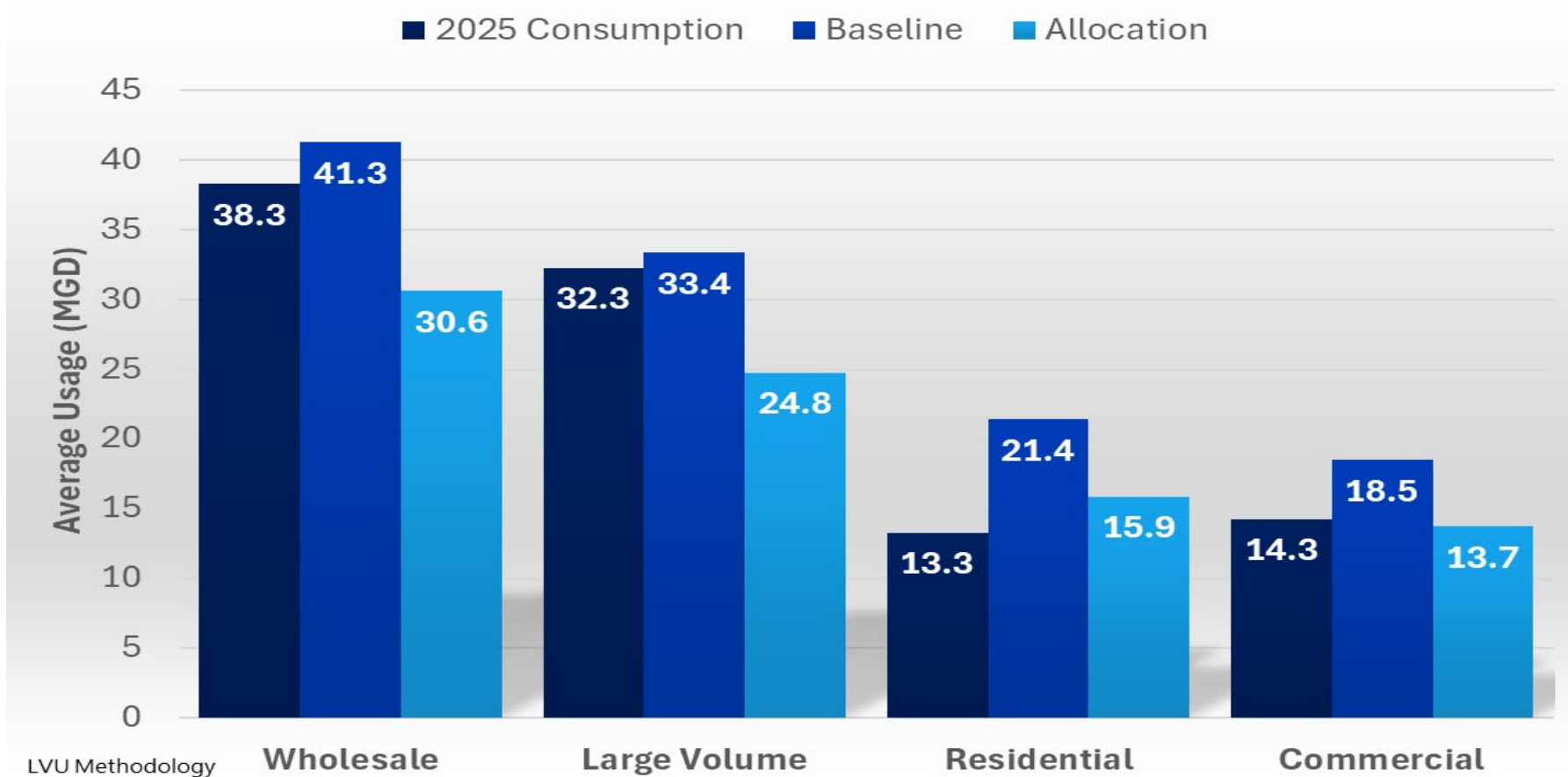


ALLOCATION

UNDER LEVEL 1 WATER EMERGENCY

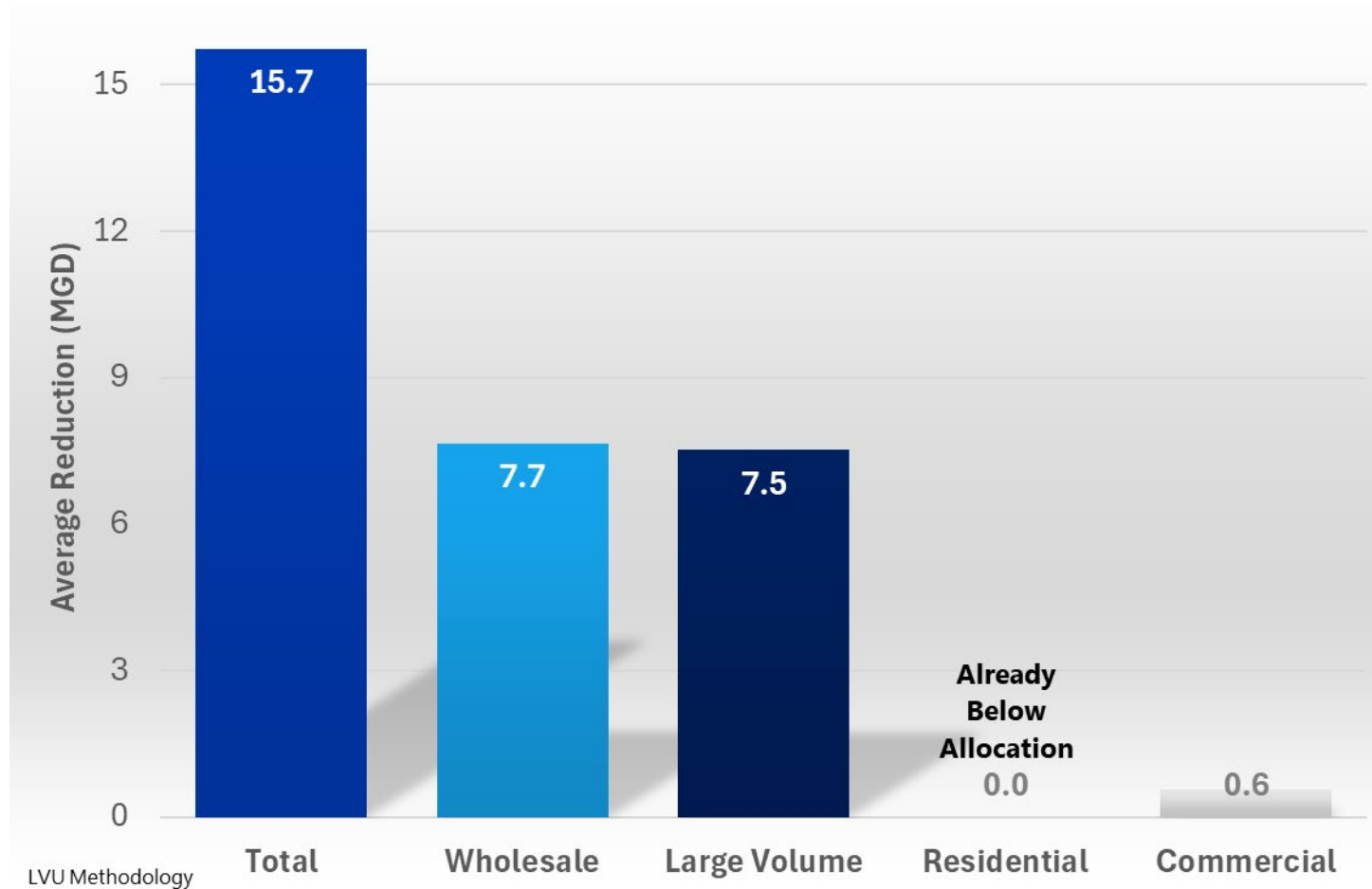
Customer Type	Baseline (Gal/Month)	Curtailment
Residential	7,000 /Month	25%
Commercial	Individual Baseline	25%
Wholesale	Individual Baseline	25%
LVU	Individual Baseline	25%
City of Corpus Christi Municipal Accounts	Individual Baseline	25%

PROJECTED CUSTOMER CLASS 25% CURTAILMENT UNDER LEVEL 1 WATER EMERGENCY



*Wholesale curtailment does not include Alice, Mathis, and Beeville

PROJECTED CUSTOMER CLASS CURTAILMENT UNDER LEVEL 1 WATER EMERGENCY



**Residential & Commercial curtailment based on the average monthly usage*

OBJECTIVES OF SURCHARGES

OPTIONAL UNDER LEVEL 1 WATER EMERGENCY

Surcharge: A temporary rate to manage demand in times of drought

- Used to reduce water demand
- Encourage conservation behavior
- Offset revenue loss from reduced usage applied toward existing debt service payment, and operations and maintenance expenses of the water department



SURCHARGE STRUCTURE (MONTHLY)

OPTIONAL UNDER LEVEL 1 WATER EMERGENCY

Residential	\$4.00 per 1,000 gallons over 7,000 gallons
Commercial	\$4.00 per 1,000 gallons over 55,000 gallons
Large-Volume Users (non-exempt)	\$12.00 per 1,000 gallons over 12,842,000 gallons
Wholesale Customers	\$4.00 per 1,000 gallons over 25% of the 12-month average prior to March 2024

ENFORCEMENT PROVISIONS

UNDER LEVEL 1 WATER EMERGENCY

Drought Contingency Plan (Page 25):

- A violation under this article is a Class C misdemeanor
- Any person who violates any provision of this article shall be subject to a fine of not more than \$500 per violation per day
- A second conviction results in the authorization to discontinue service for at least one billing cycle



ENFORCEMENT PROVISIONS UNDER LEVEL 1 WATER EMERGENCY

Ways in which infractions will be identified:

- Through community notifications, primarily 3-1-1
 - Forwarded or routed to CCW Code Enforcement
 - CCW has 3 water code enforcement personnel
 - DSD has 27-28 code enforcement personnel
- Code Enforcement or CCW Code Enforcement visually identifying infractions of prohibited uses
- Utility Billing Office and water meter use.
 - Identifies uses over the allocated amount
 - Identifies irrigation meters that are being used




REQUESTS FOR EXEMPTIONS & VARIANCES UNDER LEVEL 1 WATER EMERGENCY

Drought Contingency Plan (Page 21):

- Grant a temporary variance to any of the provisions for water users found in this DCP upon a determination that failure to grant such variance would cause an emergency condition adversely affecting the public health, sanitation, or fire protection for the public or person requesting such a variance
- CCW shall review and make a determination

Complete the following information:



REQUESTS FOR EXEMPTIONS AND VARIANCES DURING DROUGHT RESTRICTION

Instructions: Please complete the following application and submit via email, mail, or fax (contact information to the right). All applications will be considered based on particular circumstances and whether enforcing City drought restrictions will cause you unnecessary hardship. Should you be granted a variance or exemption, your permit will be mailed to you with instructions regarding posting in public view.

Water Utilities Department
2728 Holly Rd
Corpus Christi, TX 78415
361-826-1600
E-mail: drought@ccctexas.com

- Name of Organization/Business: _____
- Contact Person: _____ Title/Position: _____
- Mailing Address w/ Zip: _____
- Phone # _____ Cell Phone # _____ E-Mail _____
- Site Address of Requested Exemption/Variance: _____
- Purpose of water use related to requested exemption/variance (check all that apply):
 NEW PLANTING/SOD VEGETABLE GARDEN ATHLETIC FIELD
 BOTANICAL GARDEN FIRE HYDRANT USE VEHICLE WASH
 POND REFILL BUILDING POWER WASH DUST CONTROL
 WATER WELL AEROBIC SEPTIC SYSTEM Other _____
- Specific restriction affecting water use: _____
- Reason requesting exemption/variance (Please explain in detail how the specific provision of the drought restrictions will cause unnecessary hardship, damage, or harm, or be a threat to health and safety. Attach additional sheets if necessary): _____

- Detailed Exemption/Variance Request (Please explain what you are requesting, including completing the table on the next page): _____

CAR WASHING

UNDER LEVEL 1 WATER EMERGENCY

Drought Contingency Plan (Page 16):
Use of water to wash any motor vehicle, motorbike, boat, trailer, or other vehicle is absolutely prohibited

- Restriction applies to the CCW potable water system
- Alternate water sources (e.g. captured water or well water) may be used



FLUSHING MOTORBOAT ENGINES UNDER LEVEL 1 WATER EMERGENCY

Drought Contingency Plan (Page 16):
Use of water to wash any motor vehicle, motorbike, boat, trailer, or other vehicle is absolutely prohibited

- Allows for maintenance flushing of motorboat engines
- Restriction applies to the CCW potable water system
- Alternate water sources (e.g. captured water or well water) may be used



WATERING VEGETABLE GARDENS, POTTED PLANTS, AND OTHER LANDSCAPE UNDER LEVEL 1 WATER EMERGENCY

Drought Contingency Plan (Page 16):
When a Level 1 Water Emergency is declared, water use restrictions for these items take effect immediately:

- Irrigation of all landscaped areas is absolutely prohibited
- Potted plants can be watered
- Alternate water sources (e.g. captured water or well water) may be used



CITY SWIMMING POOLS AND SPLASH PADS FOR SUMMER OPERATIONS UNDER LEVEL 1 WATER EMERGENCY

Drought Contingency Plan (Pages 8 & 9):

The filling, refilling, or adding of water to swimming pools, wading pools, jacuzzi-type pools, and hot tubs is prohibited except to maintain structural integrity.

The person or entity who owns, leases, or manages an outdoor swimming pool (including City-owned pools) shall have approximately 100% of the pool surface area covered when not in use. A request for an exemption or variance from this provision for pools that have a water-saving feature may be submitted by applying for exemption/variance.



CITY SWIMMING POOLS AND SPLASH PADS FOR SUMMER OPERATIONS UNDER LEVEL 1 WATER EMERGENCY

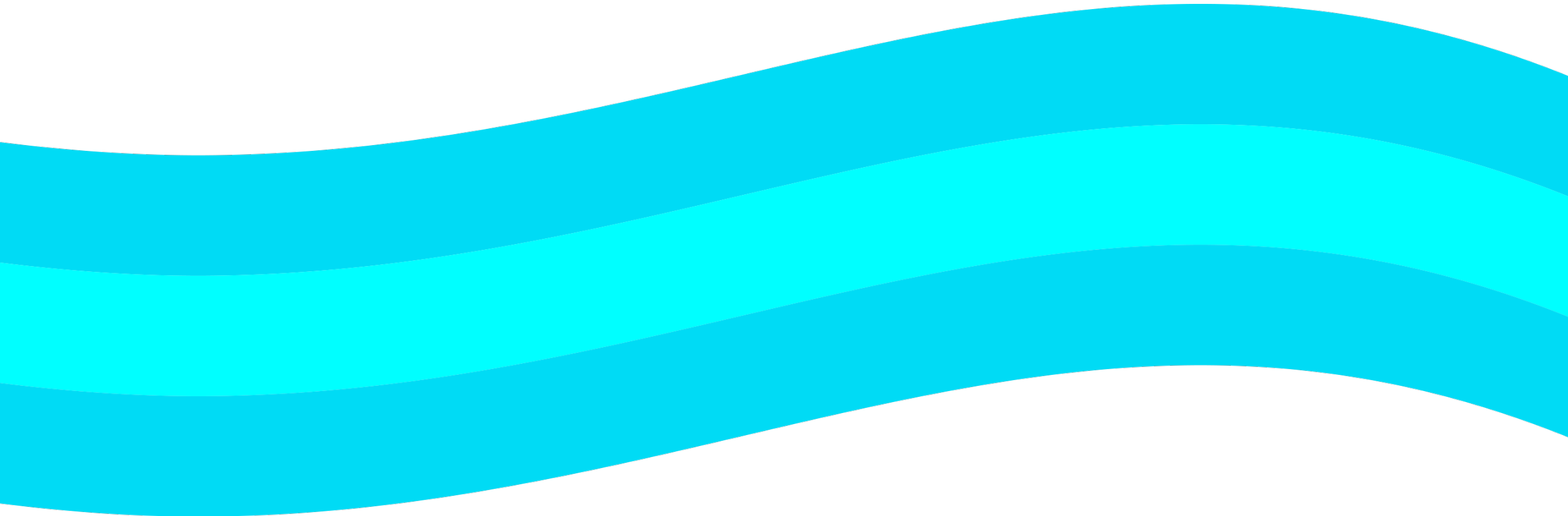
- Reducing operation hours of all City pools
- City splash pads will be open from Friday to Sunday
- All City pools will have covers and evaporative prevention



COMMUNITY WATER INFORMATION SESSIONS

Event	Date
District 4 (The Island)	May 11
District 5	June 3
District 3	June 24
District 4	July 15
District 1 (Calallen)	August 6
District 1	August 26
District 2	September 16





CITY OF CORPUS CHRISTI
**CORPUS CHRISTI
WATER**