

# City of Mission

2024 Drought Contingency & Water Conservation Plan

# Agenda

- What it means for Mission
- Background
- Intent of the Initiative & Current Situation
- Water Conservation Stages/Trigger Points
- Conservation Stage Rates
- Conservation Initiatives
- System Redundancy
- Questions

## What does this mean?

- Water Supply Shortages
- Health and Safety
- Agricultural Impact
- Economic Consequences
- Environmental Impact
- Infrastructure Strain
- Water Restrictions

**Water Supply Shortages:** Drought can lead to reduced water levels in rivers, reservoirs, and groundwater sources. This impacts both residential water supplies and agricultural irrigation, which is critical in this agriculturally rich region.

**Health and Safety:** Prolonged drought can increase the risk of wildfires, which can threaten homes and lives. Additionally, water shortages can affect the quality and availability of drinking water, posing health risks.

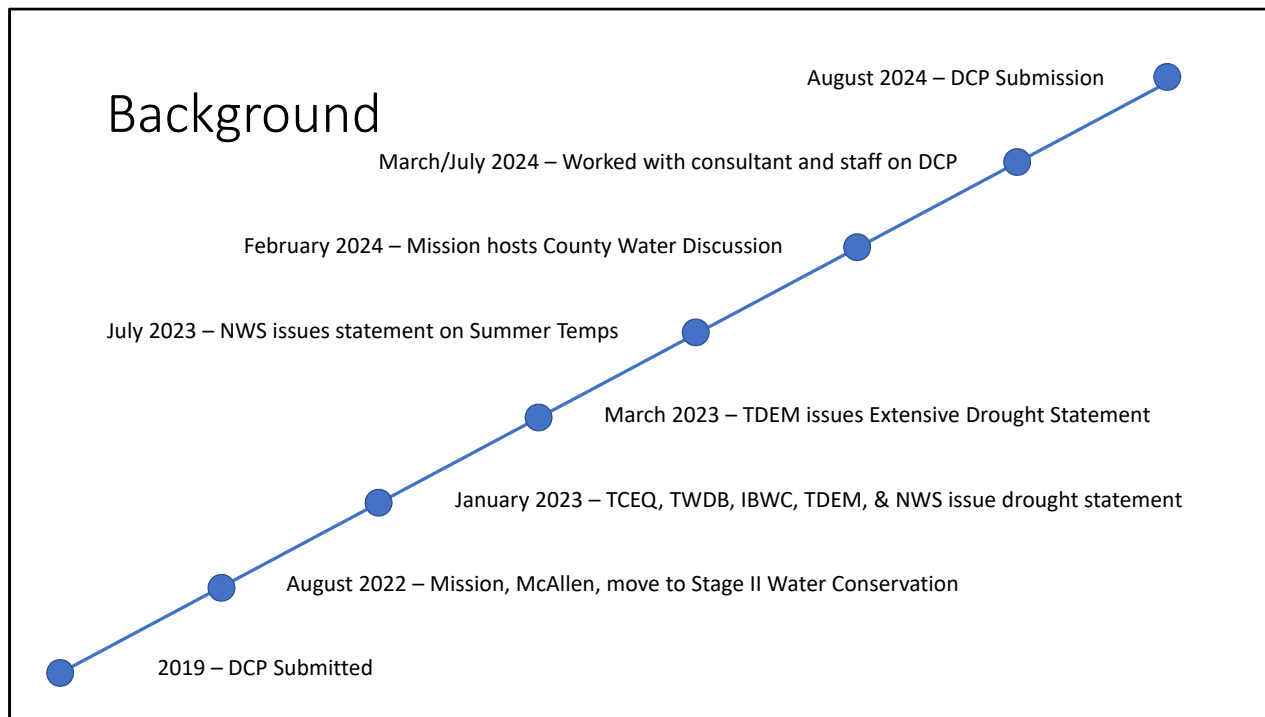
**Agricultural Impact:** The Lower Rio Grande Valley is a major agricultural area, producing crops like citrus fruits, vegetables, and cotton. Drought conditions can severely impact crop yields, leading to financial losses for farmers and higher prices for consumers.

**Economic Consequences:** Agriculture is a significant part of the local economy. Reduced crop yields can lead to job losses in farming and related industries, affecting the broader economy of the region.

**Environmental Impact:** Drought can harm local ecosystems, reducing water availability for wildlife and plants. It can also lead to soil degradation and increased erosion, further impacting agriculture and natural habitats.

**Infrastructure Strain:** Prolonged drought can put a strain on existing water infrastructure, requiring costly upgrades or repairs to ensure adequate water delivery.

**Water Restrictions:** To manage limited water supplies, local authorities may impose water restrictions, limiting residents' water usage for non-essential purposes like lawn watering and car washing.



2019: The City of Mission last submitted the DCP-WC, which is in effect today.

August 2022: The move to Conservation Stage II was initiated, “City of McAllen has implemented mandatory stage 2 water restrictions. The stage 2 restrictions were triggered when the water supply from the Amistad and Falcon Dam reached less than 25% capacity. To be responsible stewards of our water I recommend that we consider implementing similar restrictions.” JP Terrazas Implemented effective immediately.

January 2023: IBWC, TCEQ, TWDB, TDEM, NWS issued Extensive Drought Statement based on hydrologic weather outlook.

March 2023: TDEM issues another Extensive Drought Statement.

July 2023: NWS issues “From Early Storms to a Persistent, Record (June) Heat Wave; The record heat wave wiped out moisture gains from the aforementioned wettest spring period, then rapidly dried out most short-grasses and some brush. The dryness also began to impact crops and livestock by month's end. The situation met the criteria for a **flash drought**; Reservoir levels at Falcon fell steadily through June, from 24.4 to 20.4 percent; We've become more concerned about the potential of rapid wildfire growth; Local community water shortages are possible again this summer - so **conservation is strongly urged through water use and irrigation practices**.

February 2024: Hidalgo County Emergency Management and Mission host the first Hidalgo County Water Management Discussion. Coordinating efforts to address the pressing issue of water deficiency in Hidalgo County to bring awareness and share valuable insights, and

collaboratively devise effective strategies.

March/July 2024: Mission worked with County Consultants (H2O Partners & Seagull) who facilitated the discussions that has lead us to what is being presented today.

August 2024: DCP-WC Approval

## Intent of the County Drought Planning

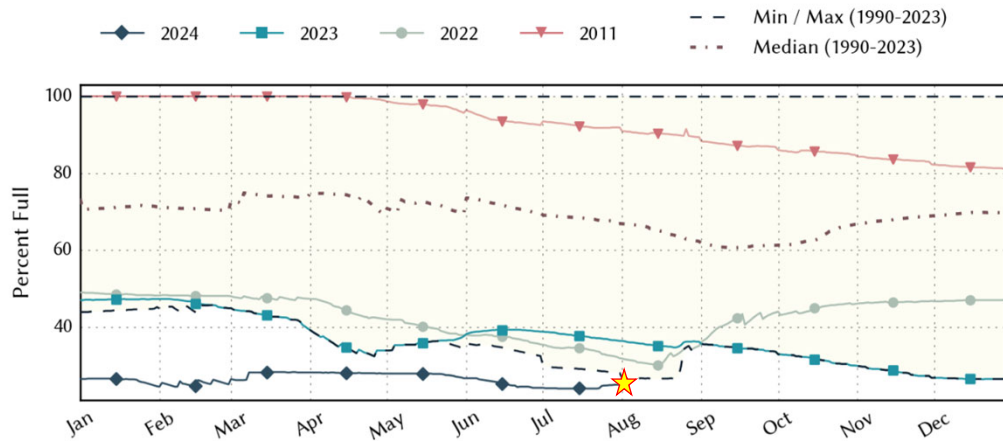
- Standardize Triggers (unified decision points)
  - Water Levels (Percent of Supply) of Amistad and Falcon Reservoirs
  - Conservation Measures (rates) based on stage
- Individual Utilities will manage internal triggers based on the DCP
  - Demand Triggers
  - Reduction Goals
  - Surcharges

### Goals

1. Provide water supply **status update** to Hidalgo County municipalities
2. **Present results** of executive committee meeting on DCP supply triggers and conservation measures
3. **Address questions and outstanding updates** to finalize the DCP template

# Current Situation – Amistad at 25%

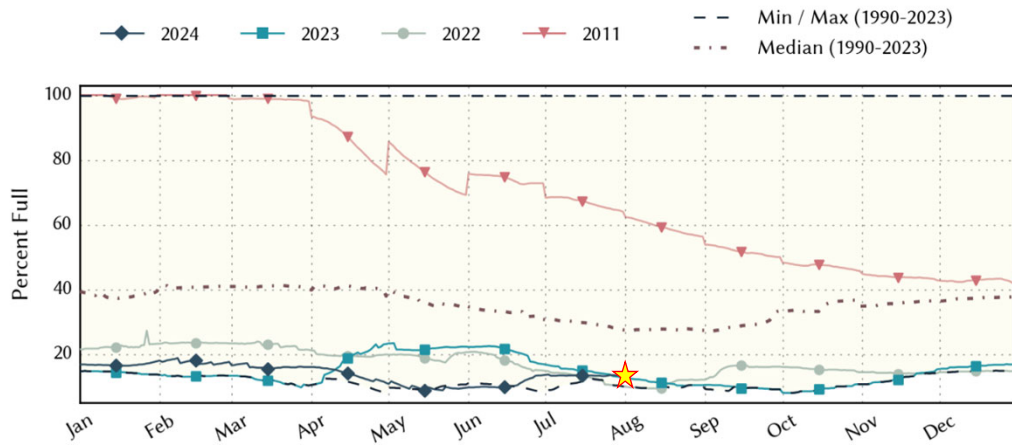
Amistad Reservoir: 25.0% full as of 2024-08-02



County Partners:

# Current Situation – Falcon at 13.5%

Falcon Reservoir: 13.5% full as of 2024-08-02



County Partners:



# Water Conservation Stages - Demand

\* Water Plant Capacity is 25.5 MGD

Trigger/Decision Point	Action
Water demand reaches or exceeds 70% of delivery capacity for 5 consecutive days or 21 MG on a single day	CITY OF MISSION may enact Stage Two Moderate water restrictions
Water demand reaches or exceeds 75% of delivery capacity for 5 consecutive days or 22 MG on a single day	CITY OF MISSION may enact Stage Three Severe water restrictions
Water demand reaches or exceeds 80% of delivery capacity for 5 consecutive days or 23 MG on a single day	CITY OF MISSION may enact Stage Four Critical water restrictions
Water demand reaches or exceeds 90% of delivery capacity for 5 consecutive days or 24 MG on a single day	CITY OF MISSION may enact Stage Five Emergency water restrictions
Water demand reaches or exceeds 95% of delivery capacity for 5 consecutive days or 24 MG on a single day or recorded water pressure drops below 30 psi for more than 12 hours throughout the system	CITY OF MISSION may enact Stage Six Water Allocation restrictions

## Water Conservation Stages – External Supply

Trigger/Decision Point	Action
Reservoir levels of Amistad/Falcon reach below forty percent (40%) of capacity for 30 consecutive days	CITY OF MISSION may enact Stage Two Moderate water restrictions
Reservoir levels of Amistad/Falcon reach below thirty percent (30%) of capacity for 30 consecutive days	CITY OF MISSION may enact Stage Three Severe water restrictions
Reservoir levels of Amistad/Falcon reach below twenty percent (20%) of capacity for 30 consecutive days	CITY OF MISSION may enact Stage Four Critical water restrictions
Reservoir levels of Amistad/Falcon reach below fifteen percent (15%) of capacity for 30 consecutive days	CITY OF MISSION may enact Stage Five Emergency water restrictions
As determined by City Manager, including but not limited to system outage, equipment failure, or supply source contamination	Reduce water use to levels deemed necessary – Stage Six Water Allocation restrictions

# Conservation Rates

C-Rate	Conservation Rate
N-Rate	Normal Rate

 Proposed for water conservation efforts  
 Based on Ordinance Number 5244 (non-conservation rates)

**RESIDENTIAL, INSTITUTION,  
GOVERNMENTAL, TRAILER PARK, INACTIVE  
ACCOUNTS**

Stage I - II	Consumption	N-Rate	
	0-19,999	\$ 2.25	
	20,000 - and up	\$ 2.50	

Stage III

Consumption	C-Rate	N-Rate
0-9,999	\$ 2.25	\$ 2.25
10,000 - 14,999	\$ 2.50	\$ 2.25
15,000 - 19,999	\$ 2.75	\$ 2.25
20,000 - 24,999	\$ 3.00	\$ 2.50
25,000 - and up	\$ 3.25	\$ 2.50

**COMMERCIAL, INDUSTRIAL ACCOUNTS**

Stage I - II	Consumption	N-Rate	
	0-19,999	\$ 2.50	
	20,000 - and up	\$ 2.75	

Stage III

Consumption	C-Rate	N-Rate
0-19,999	\$ 2.50	\$ 2.50
20,000 - 24,999	\$ 2.75	\$ 2.75
25,000 - 34,999	\$ 3.00	\$ 2.75
35,000 - 44,999	\$ 3.25	\$ 2.75
45,000 - and up	\$ 3.50	\$ 2.75

**OUTSIDE ACCOUNTS**

Stage I - II	Consumption	N-Rate	
	0-19,999	\$ 2.87	
	20,000 - and up	\$ 3.26	

Stage III

Consumption	C-Rate	N-Rate
0-9,999	\$ 2.87	\$ 2.87
10,000 - 14,999	\$ 3.30	\$ 2.87
15,000 - 19,999	\$ 3.55	\$ 2.87
20,000 - 24,999	\$ 3.80	\$ 3.26
25,000 - and up	\$ 4.00	\$ 3.26

# Conservation Rates Impact – Residential

Based on known consumptions, we are estimating the impact to residential customers at Stage III as follows:

**RESIDENTIAL, INSTITUTION,  
GOVERNMENTAL, TRAILER PARK, INACTIVE  
ACCOUNTS**

Stage III

Consumption	C-Rate	N-Rate
0-9,999	\$ 2.25	\$ 2.25
10,000 - 14,999	\$ 2.50	\$ 2.25
15,000 - 19,999	\$ 2.75	\$ 2.25
20,000 - 24,999	\$ 3.00	\$ 2.50
25,000 - and up	\$ 3.25	\$ 2.50

We included:

- Water
- Sewer
- Garbage
- Drainage
- Brush
- Sales Tax

Current	
Consumption	Gallons 5,000
Total Bill	\$ 65.15
Consumption	Gallons 10,000
Total Bill	\$ 83.65
Consumption	Gallons 15,000
Total Bill	\$ 102.15
Consumption	Gallons 20,000
Total Bill	\$ 120.90
Consumption	Gallons 25,000
Total Bill	\$ 140.65

Stage III	
Consumption	Gallons 5,000
Total Bill	\$ 65.15
Consumption	Gallons 10,000
Total Bill	\$ 83.65
Consumption	Gallons 15,000
Total Bill	\$ 103.40
Consumption	Gallons 20,000
Total Bill	\$ 124.40
Consumption	Gallons 25,000
Total Bill	\$ 146.65

Billed	
Increase	\$ -
Billed	
Increase	\$ -
Billed	
Increase	\$ 1.25
Billed	
Increase	\$ 3.50
Billed	
Increase	\$ 6.00

**Total accounts by average consumption**

Residential Average Consumption	
0-9,999	16,908
10,000 - 14,999	3,913
15,000 - 19,999	2,392
20,000 - 24,999	1,543
25,000 - and up	3,002

Commercial Average Consumption	
0 - 15,000	1,437
15,001 - 25,000	141
25,001 - 35,000	406
35,001 - 45,000	"
45,001 - and up	"

Residential Consumption of 30,000 GAL would have an estimated increase of \$9.75  
 Residential Consumption of 50,000 GAL would have an estimated increase of \$24.75

Residential Consumption of 30,000 GAL would have an estimated increase of \$9.75  
 Residential Consumption of 50,000 GAL would have an estimated increase of \$24.75

## Conservation Rates Impact – Top 10

\* Excluding Base Rates

FY 22-23	Type of	Annual Usage	Monthly Avg.	Average	*Stage II Monthly		
Customer	Account	(000's)	Usage (000's)	Monthly Bill	Bill (proposed)	Difference	% Difference
Rio Grande Juice Company	Industrial	26,305	2,192	\$ 5,557.67	\$ 8,220.31	\$ 2,662.65	48%
Pueblo De Paz Apartments	Apartments	19,469	1,622	\$ 3,939.08	\$ 5,678.46	\$ 1,739.38	44%
W & I Resort	Mobile Home	18,536	1,545	\$ 3,795.08	\$ 5,406.33	\$ 1,611.25	42%
Mission Garden Management	Mobile Home	17,263	1,439	\$ 3,517.75	\$ 5,035.04	\$ 1,517.29	43%
Granite El Valle del Sol	Mobile Home	13,292	1,108	\$ 2,697.33	\$ 3,876.83	\$ 1,179.50	44%
Valley Memorial Gardens	Commercial	11,950	996	\$ 2,641.50	\$ 3,734.38	\$ 1,092.88	41%
Vida Que Canta Apartments	Apartments	11,253	938	\$ 2,322.33	\$ 3,282.13	\$ 959.79	41%
BWE II LLC	Commercial	9,691	808	\$ 2,100.92	\$ 3,028.44	\$ 927.52	44%
Circle T Partners LLC	Mobile Home	10,127	844	\$ 2,083.25	\$ 2,953.71	\$ 870.46	42%
St. Lucia at Bentsen Lakes	Apartments	8,772	731	\$ 1,876.00	\$ 2,558.50	\$ 682.50	36%

# At-a-Glance

Three Times a Week - Best Practices	
Three Times a Week - Limited Days & Times	
Twice a Week - Limited Days & Times	
Once a Week - Limited Days & Times	
Prohibited	
Emergency Only	

	Stage I	Stage II	Stage III	Stage IV	Stage V	Stage VI	Comment
Irrigation of landscaped areas							
Filling or refilling of water to residential swimming							
Operation of any ornamental fountain or pond							Aquatic Life
Parks Ballfields & City "High End" Facilities							
Parks and other facilities							
Washing of sidewalks or Driveways, etc.							
Golf Course Fairways							Effluent or Raw Water
Golf Course T-boxes							Effluent or Raw Water
Golf Course Greens							Effluent or Raw Water
Washing of any motor vehicle or equipment							Public Health & Safety
Water from fire hydrants (testing)							
Municipal Street Sweepers							
No applications for new expansion of water infrastructure							
Washing or sprinkling of foundations							
Existing car washes							Operate at 50%
Commercial nurseries, commercial turfgrass farming							
Medical Facilities							Public Health & Safety
Flushing is prohibited except for dead end mains							Public Health & Safety

## Conservation Initiatives

- Require efficiency programs and systems
  - Commercial Irrigation, Cooling Towers
  - Car washes
  - Hours of watering
  - AMI
- Public Outreach and Education efforts
  - Schools
  - How to conserve water

Letters to developers from Planning

## System Redundancy

- Effluent
  - Schools
  - How to save water out-reach
- Ground Water
  - RO is the common method for desalination
- Emergency Interconnections
  - Review Contracts



Questions