



**JORDAN VALLEY WATER**  
**CONSERVANCY DISTRICT**

**Annual Member Agency Meeting**  
**April 27, 2022**

# JVWCD Board of Trustees



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*JVWCD  
Mission  
and  
Strategy to  
Fulfill  
Mission*

*Our Mission:*  
**Delivering  
quality water  
and services  
every day**

*JVWCD's  
Strategy to  
Fulfill its  
Mission*

- ❖ **Protect what we have**
- ❖ **Use it wisely**
- ❖ **Provide for the future**



# ATTRIBUTES FOR AN EFFECTIVELY MANAGED DISTRICT

February 2022 Performance Indicators

Details for each indicator can be seen on the attached pages

## 1. Product Quality

- Drinking water compliance rate
- Perceived/aesthetic water quality

## 2. Water Resource Adequacy

- Source water quality management
- Short-term water supply adequacy (annual)
- Short-term water source capacity
- Long-term water supply adequacy (annual)
- Water demand management (annual)

## 3. Customer Satisfaction

- Customer Response System

## 4. Infrastructure Stability

- Pipeline breaks (12-month running total)
- On-time maintenance (% of time)

## 5. Long-term Financial Viability

- Repair & replacement funding from rate revenue (annual)
- Debt service coverage (annual)
- Long-term debt to equity (annual)

## 6. Employee & Leadership Development

- Employee Training Hours (12-month rolling average)

## 7. Operational Resiliency

- Workforce Resiliency (reportable injuries & illnesses)
- Employee safety & business risk management (vehicle & equipment incidents)
- Emergency Response Preparedness
- Power Resiliency

## 8. Operational Optimization

- Water quality improvements beyond regulatory standards (12-month rolling avg)
- Non-revenue water management
- Efficient use of electricity

## 9. Community Sustainability

- Centralized conjunctive management of groundwater and surface water

## 10. Stakeholder Understanding & Support

- Media/press coverage tone
- Member Agency survey
- Employee survey
- Retail customer survey

# Annual Member Agency Meeting Agenda

April 27, 2022

1. Welcome and introductions (Bart Forsyth)
2. JWCD Board of Trustees (Bart Forsyth)
3. JWCD mission and strategy to fulfill its mission (Bart Forsyth)
  - a. Protect what we have (Alan Packard/Shazelle Terry)
    - i. JWCD Drought Contingency Plan – Drought Monitoring Committee Recommendation for 2022 and Water Supply Outlook
    - ii. Maintaining high quality water
  - b. Use it wisely (Matt Olsen)
    - i. Report on 2021 water use results
    - ii. Grant opportunities and water conservation programs
  - c. Provide for the future (Alan Packard)
    - i. Long-term water supply planning and 10-year Capital Projects Plan
4. Financial plan, water rates and methodology (Dave Martin)
5. Legislative issues and Prep60 report (Bart Forsyth)
6. Member Agency survey results and follow up (Bart Forsyth)
7. Questions and discussions (Bart Forsyth)



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JORDAN VALLEY WATER  
CONSERVANCY DISTRICT

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JVWCD Annual  
Member Agency  
Meeting

April 27, 2022

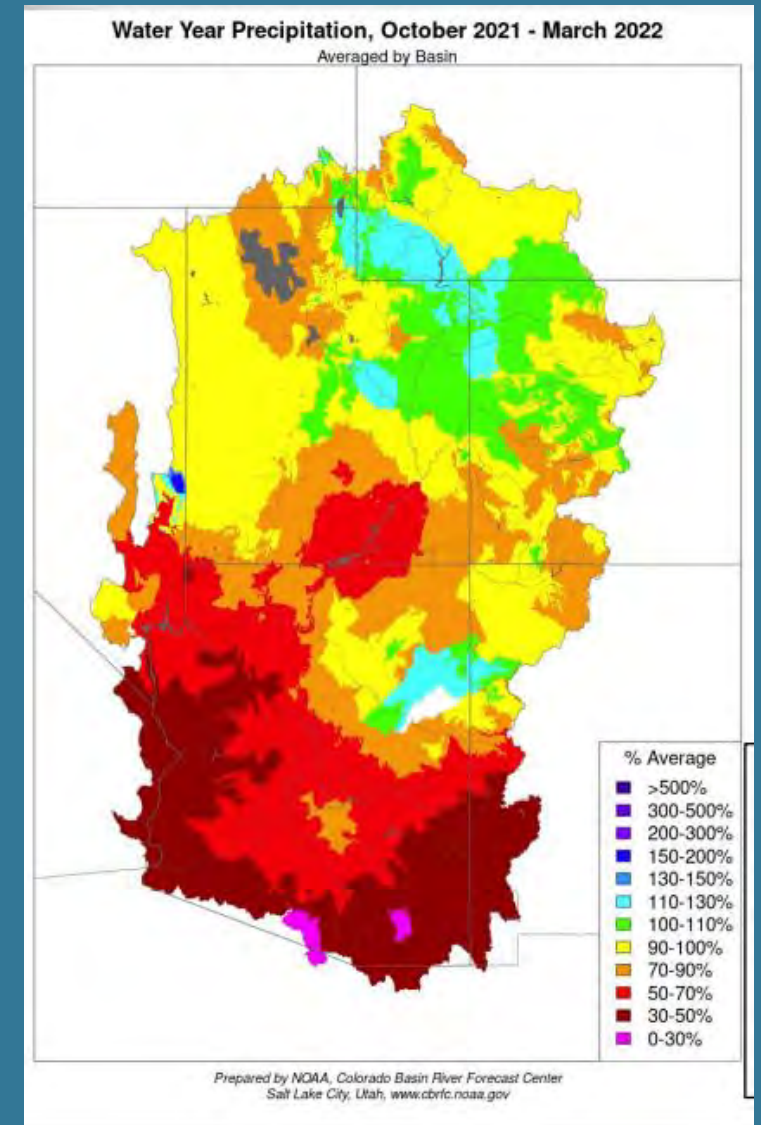
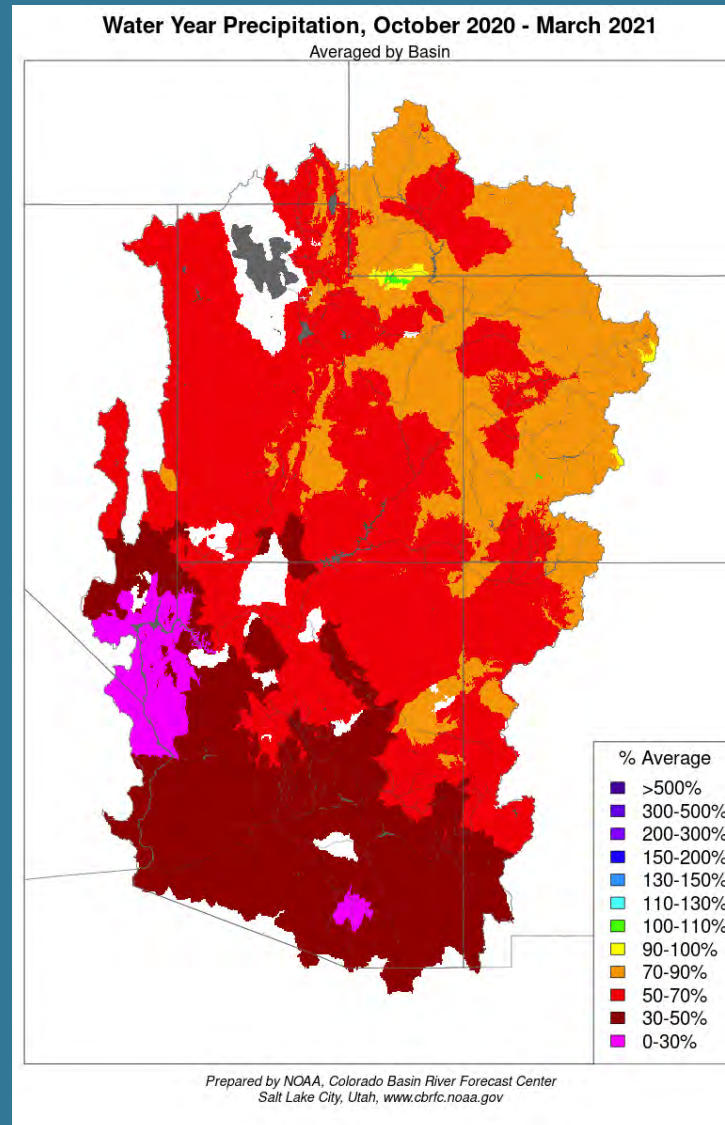
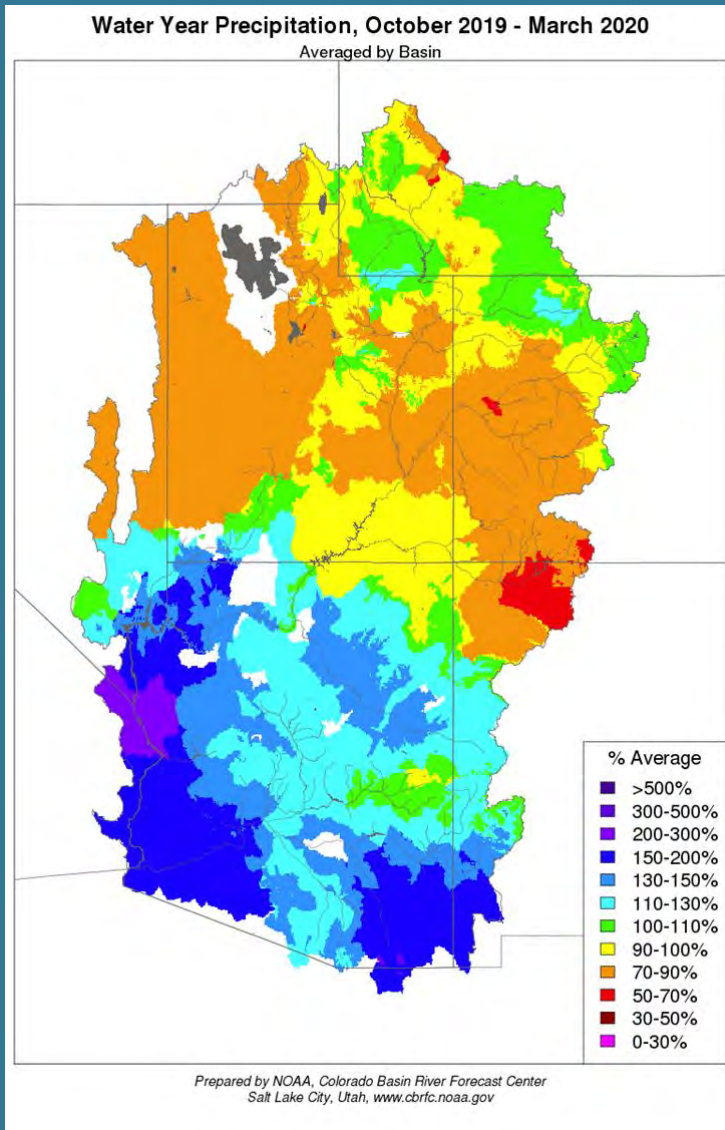
# Water Supply Outlook

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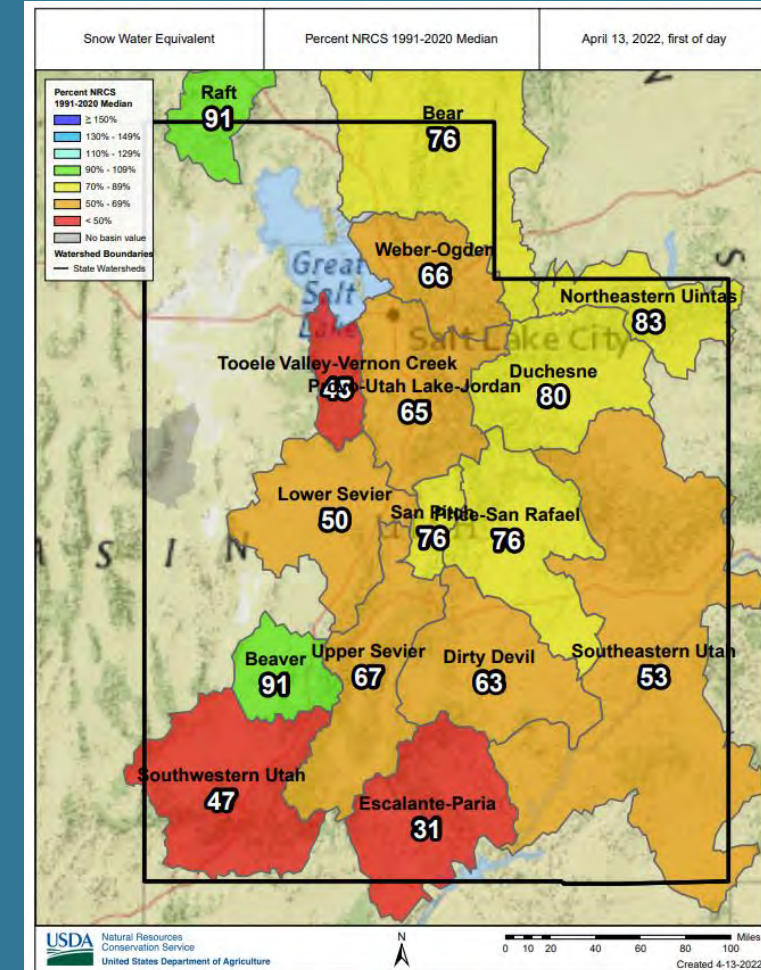
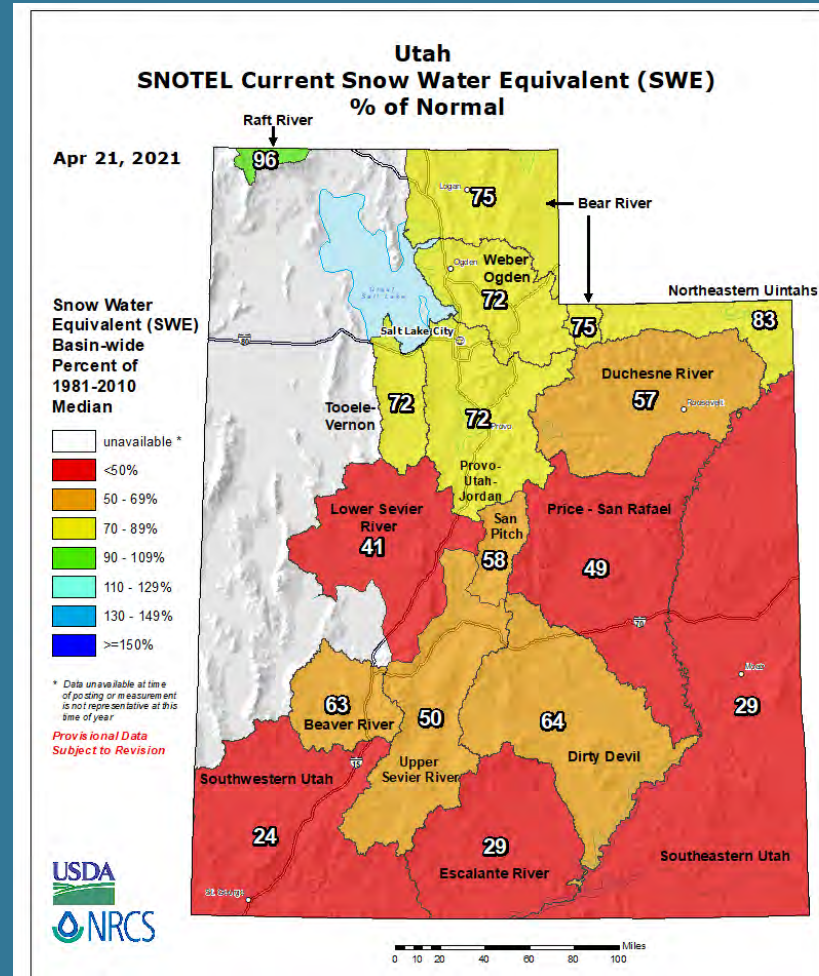
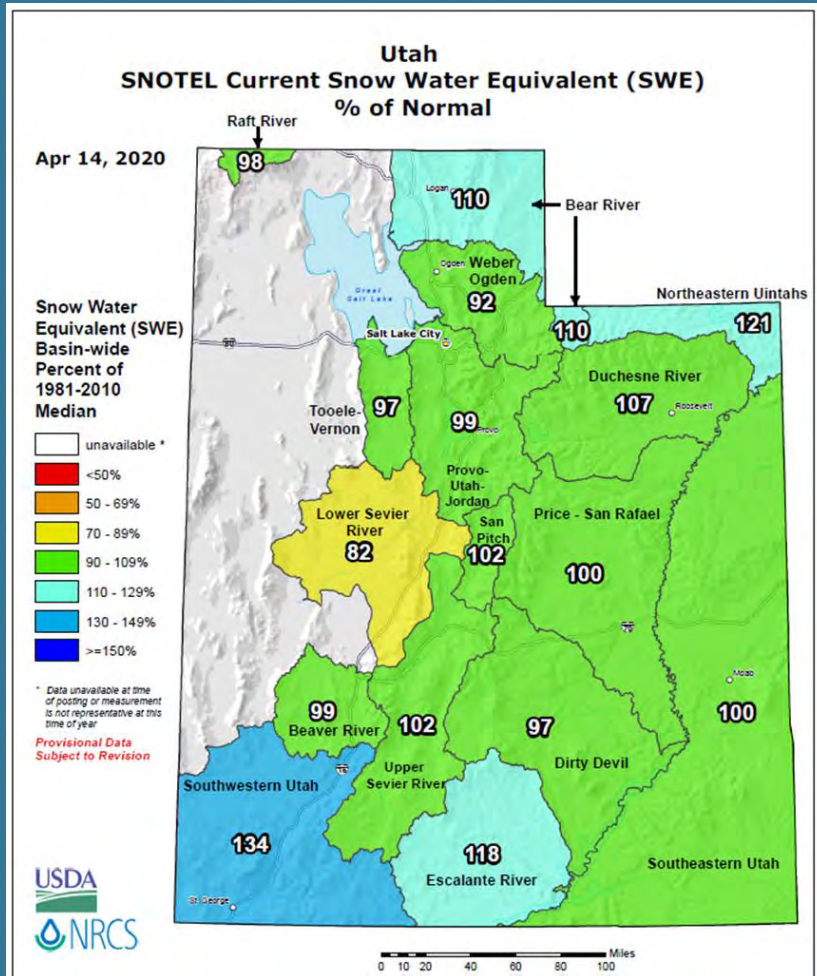


# Water Year Precipitation October – March for 2020, 2021, 2022



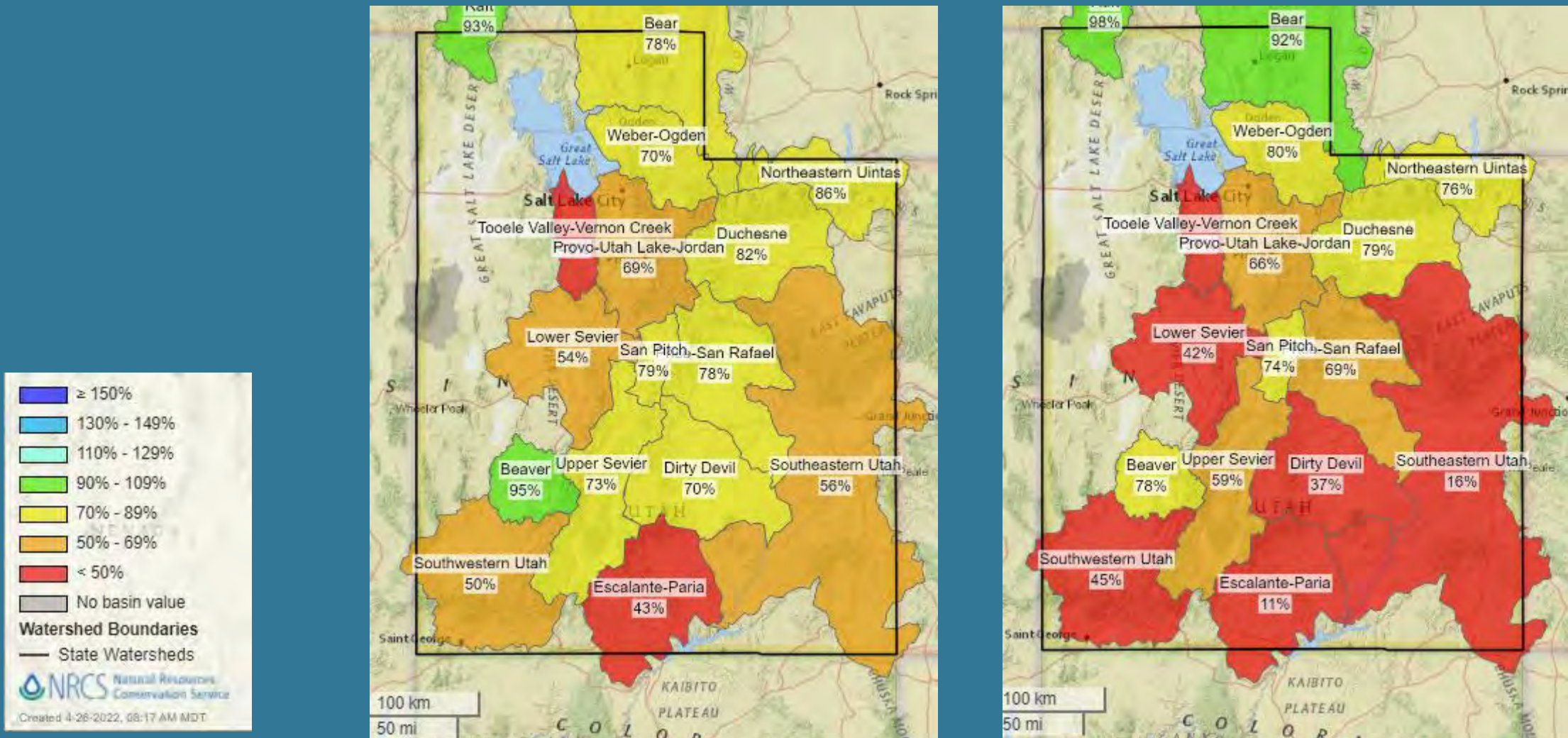


# Snow Water Equivalent % of Median -- Mid April 2020, 2021, 2022



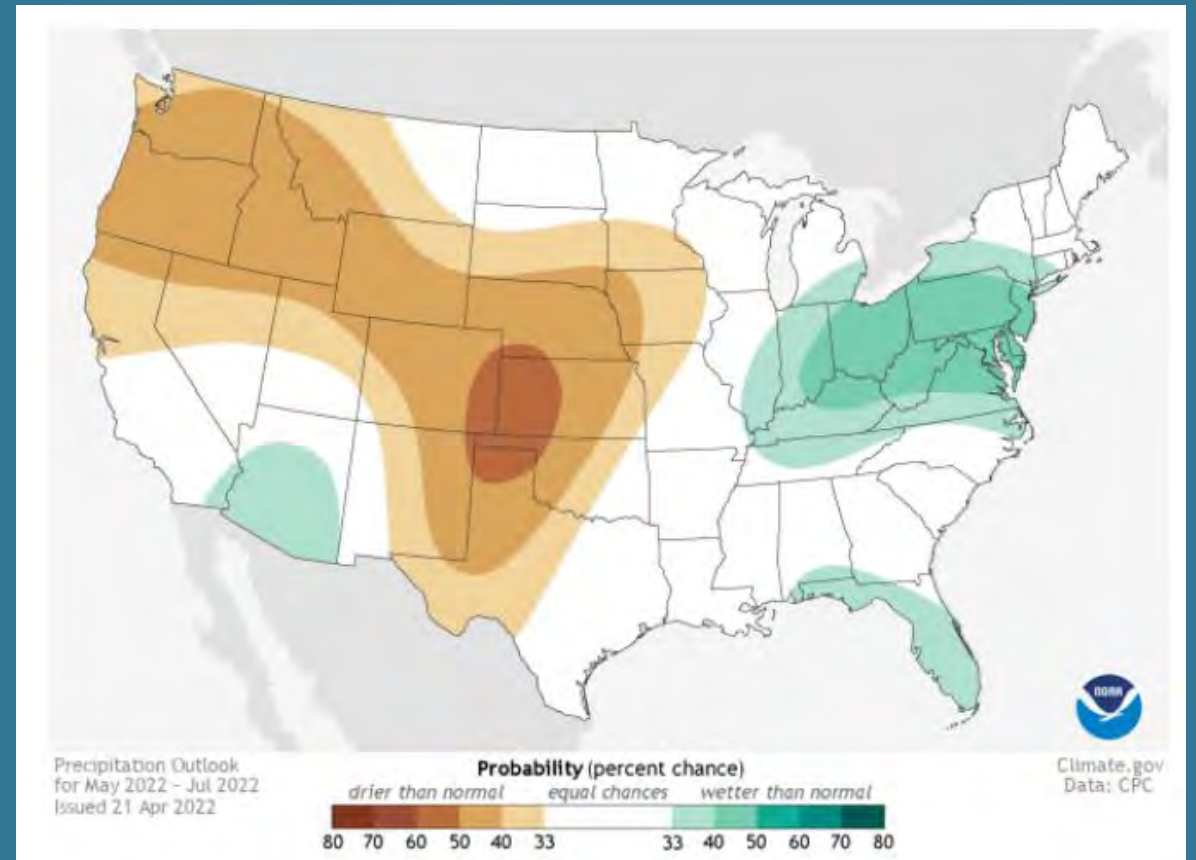
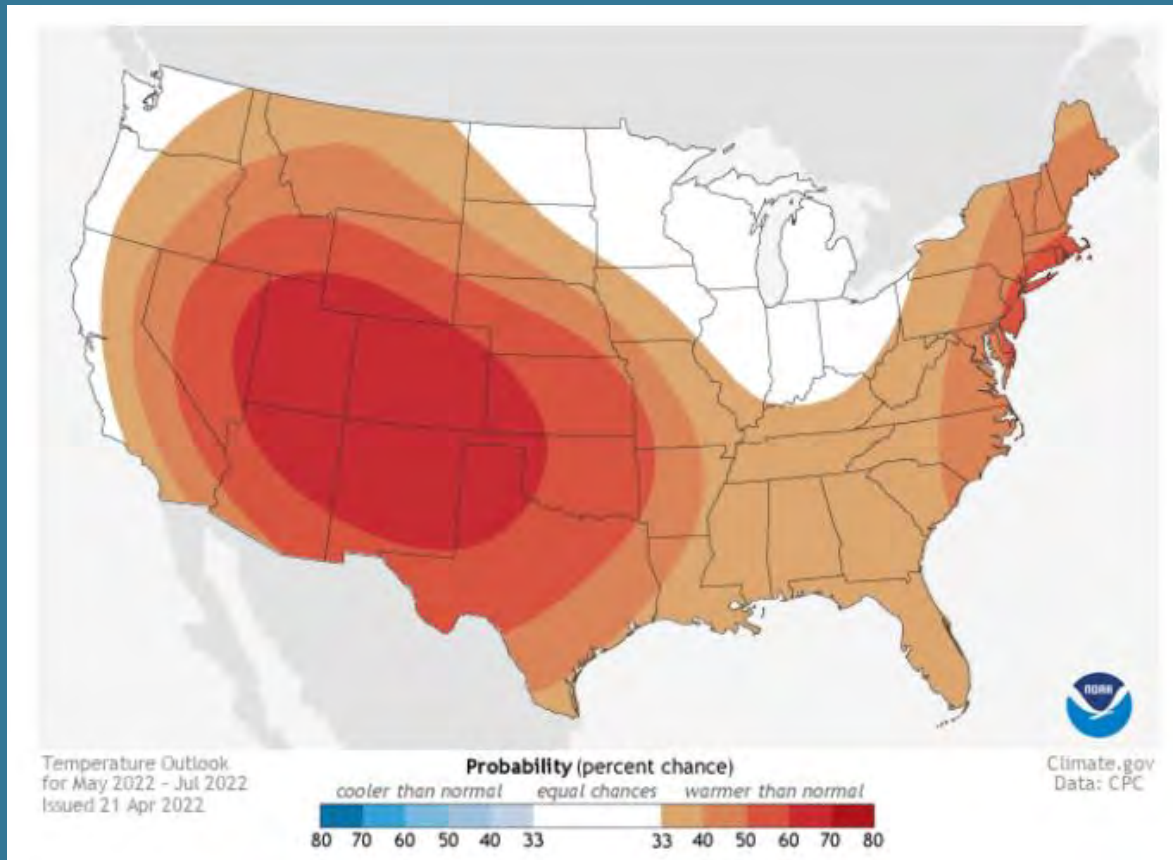


# Snow Water Equivalent % of Median April 13, vs. April 25, 2022





# Temperature and Precipitation Outlook May – July 2022



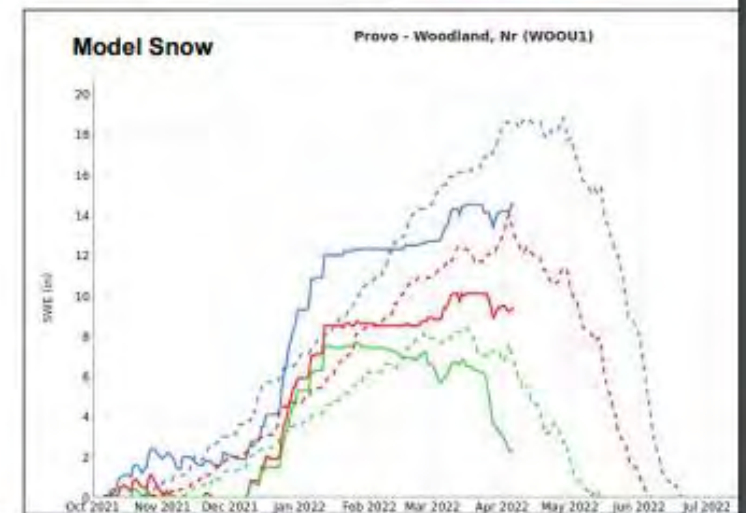


# Utah Water Supply Forecasts - Provo



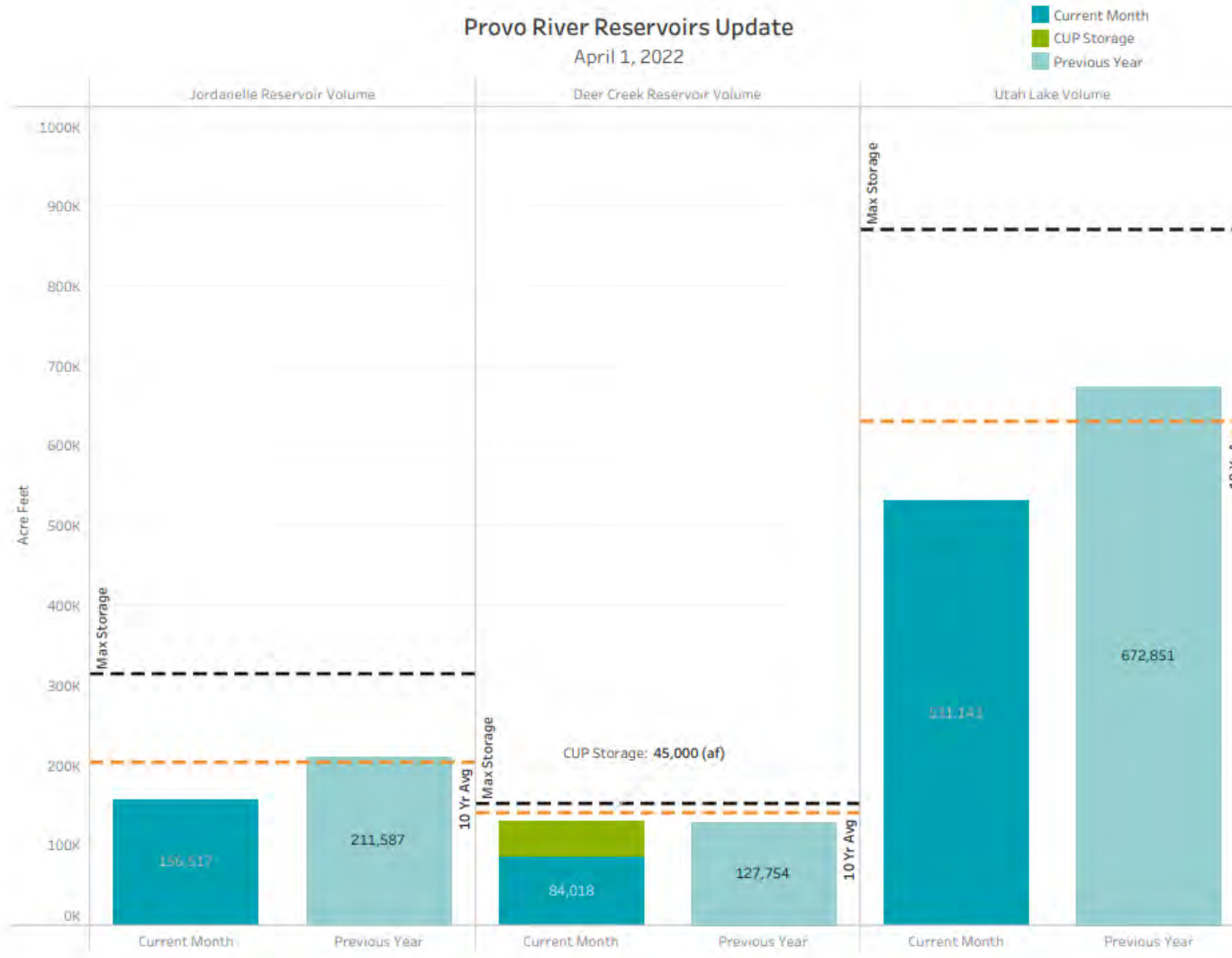
2022/04/01:  
Min 1977: 26.99  
Average: 96  
Median: 84  
Observed Total: 1.34  
Normal Accumulation: 0.36  
ESP: 73.6  
Official 10: 101  
Official 30: 81  
Official 50: 72  
Official 70: 66  
Official 90: 61

— WOUU1HUF 9,500'-11,000'  
— WOUU1HMF 8,500'-9,500'  
— WOUU1HLF 7,000'-8,500'  
-- WOUU1HUF Med  
-- WOUU1HMF Med  
-- WOUU1HLF Medi





## Provo River Reservoirs Update April 1, 2022





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# JVWCD Drought Contingency Plan

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Drought Monitoring Committee  
Recommendation for 2022  
and Water Supply Outlook





## Drought Monitoring:

# Criteria used to recommend Water Supply Availability Level

Water Supply Restriction Level	Water Restriction Description	Water Demand Reduction Target	Triggering Criteria Applied to Water Supply Restriction Levels		
			CUWCD Supply Availability (Jordanelle storage of CUP)	PRWUA Supply Allocation (in the Provo River Project)	Salt Lake Valley Groundwater Conditions
Level 0 	Normal	None	at least 95% supply availability	At least an 80% supply allocation	3 year average diversions less than safe yield
Level 1 	Moderate	5 – 10%	At least a 95% supply availability	75-80% supply allocation	JV gw diversions to compensate for shortage exceeds 12,000 AF, or 3 year average exceeds safe yield
Level 2 	Severe	10 – 20%	At least 90-95% supply availability	75-80% supply allocation	JV gw diversions to compensate for shortage exceeds 16,000 AF, or 3 year average exceeds safe yield
Level 3 	Extreme	20 – 30%	At least 90-95% supply availability	<75% supply allocation	JV gw diversions to compensate for shortage exceeds 20,000 AF, or 3 year average exceeds safe yield
Level 4 	Critical/Exceptional	30 – 50%	Less than 90% supply availability	Less than 45% supply allocation	JV gw diversions to compensate for shortage exceeds 20,000 AF, or 3 year average exceeds safe yield

## June - December

JVWCD completes a monthly re-assessment of water supply condition. The drought monitoring committee will be re-convened prior to any change in drought level status. The declared drought level condition will typically expire at the end of the calendar year.



## May

JVWCD board considers formal declaration of drought level.



## April

Committee's preliminary recommendation is presented at JVWCD annual Member Agency meeting. Committee considers updated information and makes final drought level recommendation by April 30<sup>th</sup>.



## March

Convene drought monitoring committee. Review water supply forecast information and develop a preliminary recommended drought level.



January - March

1<sup>st</sup> Quarter

April-June

2<sup>nd</sup> Quarter

July - September

3<sup>rd</sup> Quarter

October - November

4<sup>th</sup> Quarter

## 2021 Water Supply

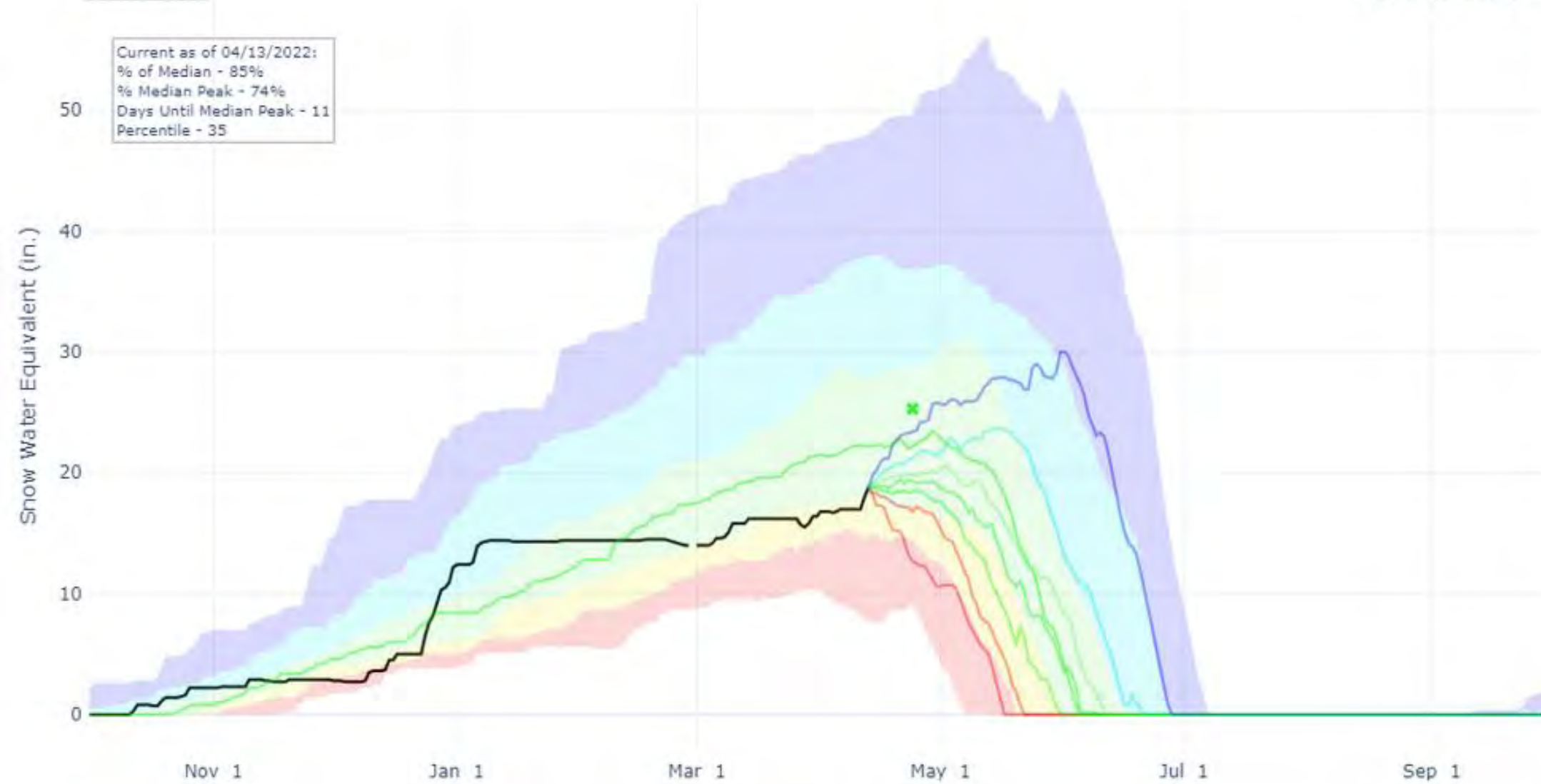
Water Supply	Planned Utilization (AF)	Actual Utilization (AF)	Comments
Central Utah Project (Jordanelle Storage)	47,400	42,625	Preserved ~6,000 AF as a hedge for 2022 and/or 2023.
PRWUA (Deer Creek Storage) + PRWUC & other un-stored rights + local streams	29,000	27,980	~1,000 AF “held over” for use in 2022 and/or 2023.
Salt Lake County high quality groundwater	12,000	16,748	Aquifer conditions should accommodate short-term heavier utilization.
CWP, SWJVGW	19,000	19,287	Utilization per contracts (relatively unaffected by drought).
Total 2021 Water Supply:	107,700	106,640	

# SNOW WATER EQUIVALENT PROJECTIONS AT TRIAL LAKE

Reset Range

[Link to data: CSV / JSON](#)

Current as of 04/13/2022:  
% of Median - 85%  
% Median Peak - 74%  
Days Until Median Peak - 11  
Percentile - 35



- Median Peak SWE
- Median (POR)
- Median ('91-'20)
- Stats. Shading
- Max Proj
- 90% Proj
- 70% Proj
- 50% Proj
- 30% Proj
- 10% Proj
- Min Proj
- 2022
- 2021
- 2020
- 2019
- 2018
- 2017
- 2016
- 2015
- 2014
- 2013
- 2012
- 2011
- 2010
- 2009
- 2008





# Drought Monitoring Committee Vote

Water Supply Restriction Level	Water Restriction Description	Water Demand Reduction Target	Triggering Criteria Applied to Water Supply Restriction Levels			Vote of Committee Members
			CUWCD Supply Availability (Jordanelle storage of CUP)	PRWUA Supply Allocation (in the Provo River Project)	Salt Lake Valley Groundwater Conditions	
Level 0 	Normal	None	at least 95% supply availability	At least an 80% supply allocation	3 year average diversions less than safe yield	—
Level 1 	Moderate	5 – 10%	At least a 95% supply availability	75-80% supply allocation	JV gw diversions to compensate for shortage exceeds 12,000 AF, or 3 year average exceeds safe yield	<b>10</b>
Level 2 	Severe	10 – 20%	At least 90-95% supply availability	75-80% supply allocation	JV gw diversions to compensate for shortage exceeds 16,000 AF, or 3 year average exceeds safe yield	<b>4</b>
Level 3 	Extreme	20 – 30%	At least 90-95% supply availability	<75% supply allocation	JV gw diversions to compensate for shortage exceeds 20,000 AF, or 3 year average exceeds safe yield	—
Level 4 	Critical/Exceptional	30 – 50%	Less than 90% supply availability	Less than 45% supply allocation	JV gw diversions to compensate for shortage exceeds 20,000 AF, or 3 year average exceeds safe yield	—

## 2022 Water Supply Plan (Level 1 Restriction Conditions)

Water Supply	Estimated Drought Year Yield (AF)	Comments
Central Utah Project (Jordanelle Storage)	46,700	Plan to “carry over” ~3,900 AF for 2023.
PRWUA (Deer Creek Storage) + PRWUC & other un-stored rights + local streams + MWD purchase	27,100	
Salt Lake County high quality groundwater	15,000	Medium utilization to preserve option of heavier use in future.
CWP, SWJVGW	18,680	Utilization per contracts (relatively unaffected by drought).
Total 2022 Water Supply Plan:	107,480	



Drought  
Monitoring:

## Rules and Regulations for Wholesale Water Services

### WHOLESALE RATE SURCHARGES APPLICABLE DURING ESTABLISHED WATER SUPPLY RESTRICTIONS

Drought Contingency Plan (DCP) Water Supply Restriction Level	Water Restriction based on contract volume	Rate surcharge for water deliveries exceeding restriction level
0 – Normal	n/a	n/a (a)
1 – Moderate	Maximum Contract Volume (b)	Block 2 Rate x 1.10
2 – Severe	Intermediate Contract Volume (c)	Block 1 Rate x 1.25 (d)
3 – Extreme	Minimum Contract Volume	Block 1 Rate x 1.50 (d)
4 – Exceptional/Critical	Less than Minimum Contract Volume < 100% (e)	Block 1 Rate x 2.00 (d)

Notes: a) Block 2 rates are charged for all water delivered which exceeds 120% Minimum Contract Volume regardless of DCP Water Supply Restriction Level.

b) Maximum Contract Volume is 20% more than the Minimum Contract Volume defined in the Wholesale Water Purchase Agreement.

c) Intermediate Contract Volume is 10% more than the Minimum Contract Volume defined in the Wholesale Water Purchase Agreement.

d) Water deliveries in excess of Maximum Contract Volume will also be charged at Block 2 Rate x 1.10.

e) During Level 4 – Exceptional/Critical conditions, the District will establish a water restriction level based upon the then current conditions.



## Drought Monitoring:

# Rules and Regulations for Wholesale Water Services

Drought Contingency Plan Water Supply Restriction Level	% Contract available for deferred delivery (a)	Number of subsequent years deferred water will be available (b)
0 – Normal	5%	1
1 – Moderate	7.5%	2
2 – Severe	10.0%	2
3 – Extreme	12.5%	3
4 – Exceptional/Critical	(c)	(c)

Notes: a) Subject to supply and system capacity availability.

b) Delivery of deferred water is subject to the conditions in Section 1.8.1. A calendar year during which JWWCD establishes a Water Supply Restriction Level 1,2,3, or 4 will not count against the year limit that deferred water will be available.

c) To be determined by Board.





## Next Steps

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Unless conditions change significantly, Drought Monitoring Committee recommendation will be presented to JWCD Board on May 11<sup>th</sup>. JWCD will consider the recommendation and establish a water restriction level on May 11<sup>th</sup>.



# Questions/Comments



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# Maintaining High Quality Water

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Source Water Protection

Water Treatment  
Optimization

High Quality Deliveries





# Attributes for an Effectively Managed District

February 2022  
Performance Indicators

## 1. Product Quality

- Drinking water compliance rate
- Perceived/aesthetic water quality

## 2. Water Resource Adequacy

- Source water quality management
- Short-term water supply adequacy (annual)
- Short-term water source capacity
- Long-term water supply adequacy (annual)
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## 3. Customer Satisfaction

- Customer Response System

## 4. Infrastructure Stability

- Pipeline breaks (12-month running total)
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- Repair & replacement funding from rate revenue (annual)
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## 6. Employee & Leadership Development

- Employee Training Hours (12-month rolling average)

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- Water quality improvements beyond regulatory standards (12-month rolling avg)
- Non-revenue water management
- Efficient use of electricity

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- Centralized conjunctive management of groundwater and surface water

## 10. Stakeholder Understanding & Support

- Media/press coverage tone
- Member Agency survey
- Employee survey
- Retail customer survey



# Source Water Protection



## Challenges:

- Multiple Uses and Stakeholder Demands
- No Land Jurisdiction
- Population Growth Pressures
- Climate Change

## Current Efforts:

- Drinking Water Source Protection Plans
- Provo River Watershed Council Funding and Participation

## Future Priorities:

- Continue work with Stakeholders
- Work with Counties and Developers to implement source water protection practices





# Provo River Watershed Council

## Governing Board Members

CUWCD

JVWCD

MWD Orem

MWD Provo

MWD Salt Lake & Sandy

Utah Division of Water Quality

Wasatch County

## Annual Workplan Highlights [www.provoriverwatershed.org](http://www.provoriverwatershed.org)



Watershed Monitoring & Annual Report



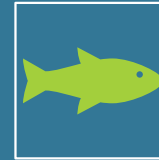
Outreach & Education



Development Reviews



Support of Watershed Enhancement Projects



Support of State Aquatic Invasive Species Program



Support of Shared Stewardship with USFS

## Water Quality Management Framework

This section describes the water quality management framework (including the regulatory framework) that assists with the management of surface water resources in the study area. The primary federal regulations that govern surface water quality are the Clean Water Act and Safe Drinking Water Act, which are both discussed in this section of the story map.

## Surface Water Classification and Water Quality Standards

The Clean Water Act of 1972 is the primary federal regulation that governs surface water quality in the United States. Rules and regulations of the Clean Water Act require states to assess the condition of surface waters, establish designated beneficial uses, and develop and adopt water quality numeric criteria to protect human and environmental health. The Utah Division of Water Quality (DWQ) is mandated to enforce the Clean Water Act in Utah and reports on the condition of surface waters every 2 years in a published document known as the Integrated Report. Surface waters are assessed by comparing chemical concentrations in the water to state numeric and narrative criteria for each designated beneficial use, as written in [Utah Administrative Code \(UAC\) R317-2](#). DWQ assigns beneficial uses for each assessment unit in Utah. Assessment units are discrete subwatershed units delineated by DWQ using the U.S. Geological Survey's 5th-level and 6th-level hydrologic unit codes (DWQ 2021a). In each Integrated Report, assessment units are assigned a category from 1 to 5 to describe beneficial use attainment. Spatial results of the most recent Integrated Report are summarized in this story map and can also be found on [DWQ's website](#).

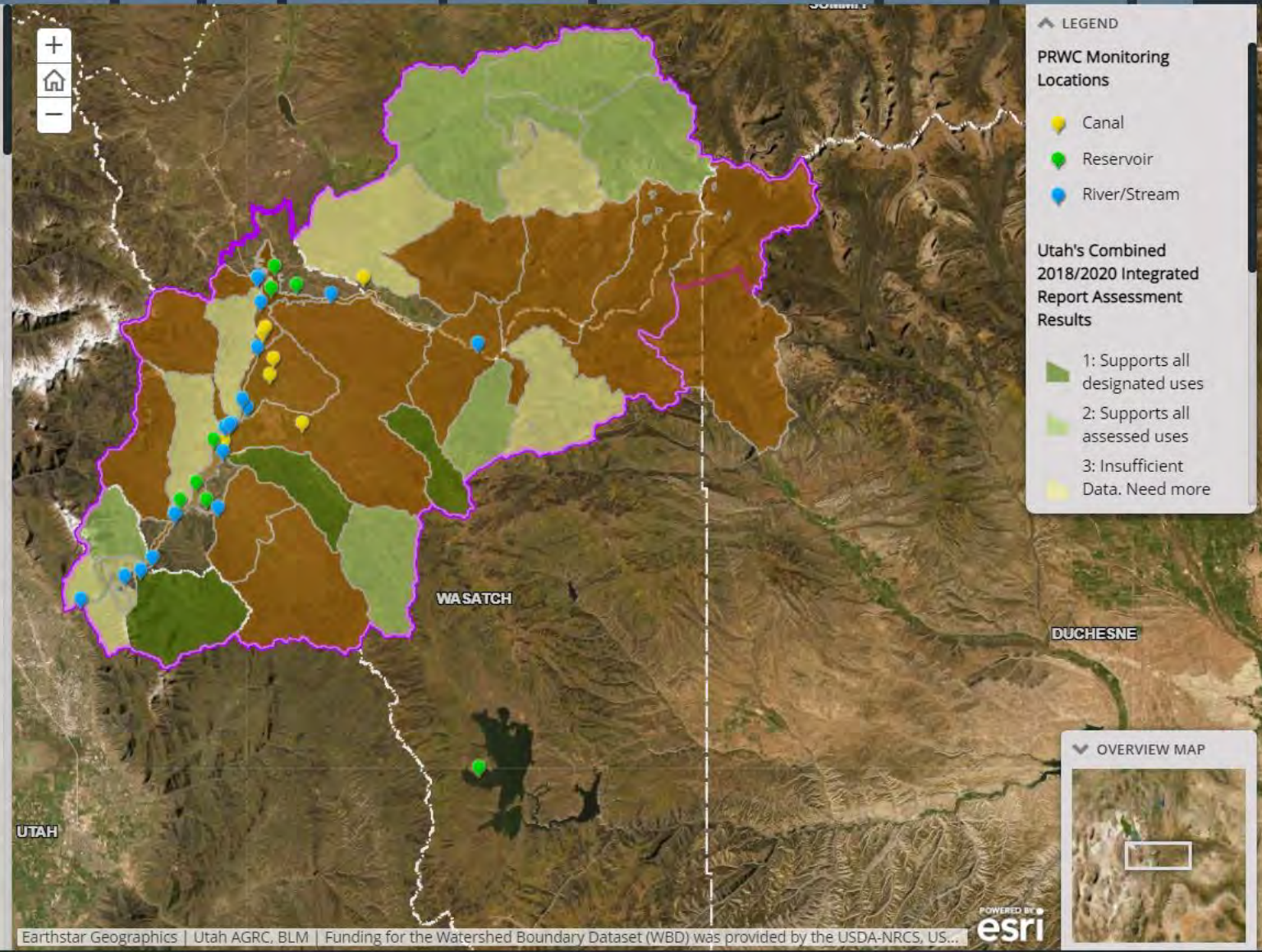
Water quality criteria can consist of either numeric thresholds for individual pollutants or narrative descriptions of desired conditions. Numeric and narrative criteria for individual pollutants are found in UAC R317-2. Surface waters failing to meet water quality standards for any designated beneficial use considered are Category 5 waters and are listed on Utah's 303(d) List of Impaired Waterbodies. DWQ prioritizes Category 5 waters for further in-depth analysis (including a pollutant source assessment and a remediation action plan to restore water quality) based on the threat of the impairment to human and environmental health.

Surface waters in the study area have the following designated beneficial uses (Utah Department of Environmental Quality [DEQ] 2022):

- 1C: Domestic purposes (drinking water)
- 2A: Frequent primary contact recreation
- 2B: Infrequent primary contact recreation
- 3A: Cold-water fish and their associated food chain
- 4: Agricultural uses

## Utah Division of Water Quality Water Quality Assessment

DWQ uses U.S. Environmental Protection Agency (EPA)-recommended reporting categories to report on beneficial use attainment based on assessment of water quality data and relevant narrative and numeric criteria.



year.

### Personal Care Products and Pharmaceutical Analytes Detected Throughout the Study Area Between 2011 and 2021

Analyte	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
4-methylphenol		2	3	1	8	4	1	1	1	1	1	22
Triphenyl phosphate					4	1	5	4				14
Caffeine			2	1	1		3	1	2	4		13
N,N-diethyl-meta-toluamide (DEET)	4		1		1					1	3	10
Bisphenol A					4							4
Sulfamethoxazole		1	2									3
Tris (1,3-dichloro-2-propyl) phosphate (TDCPP)							1			1		2
Acetaminophen							1					1
Erythromycin							1					1
Fluoxetine				1								1
Phenol				1								1

Source: PRWC (2022)

### Caffeine

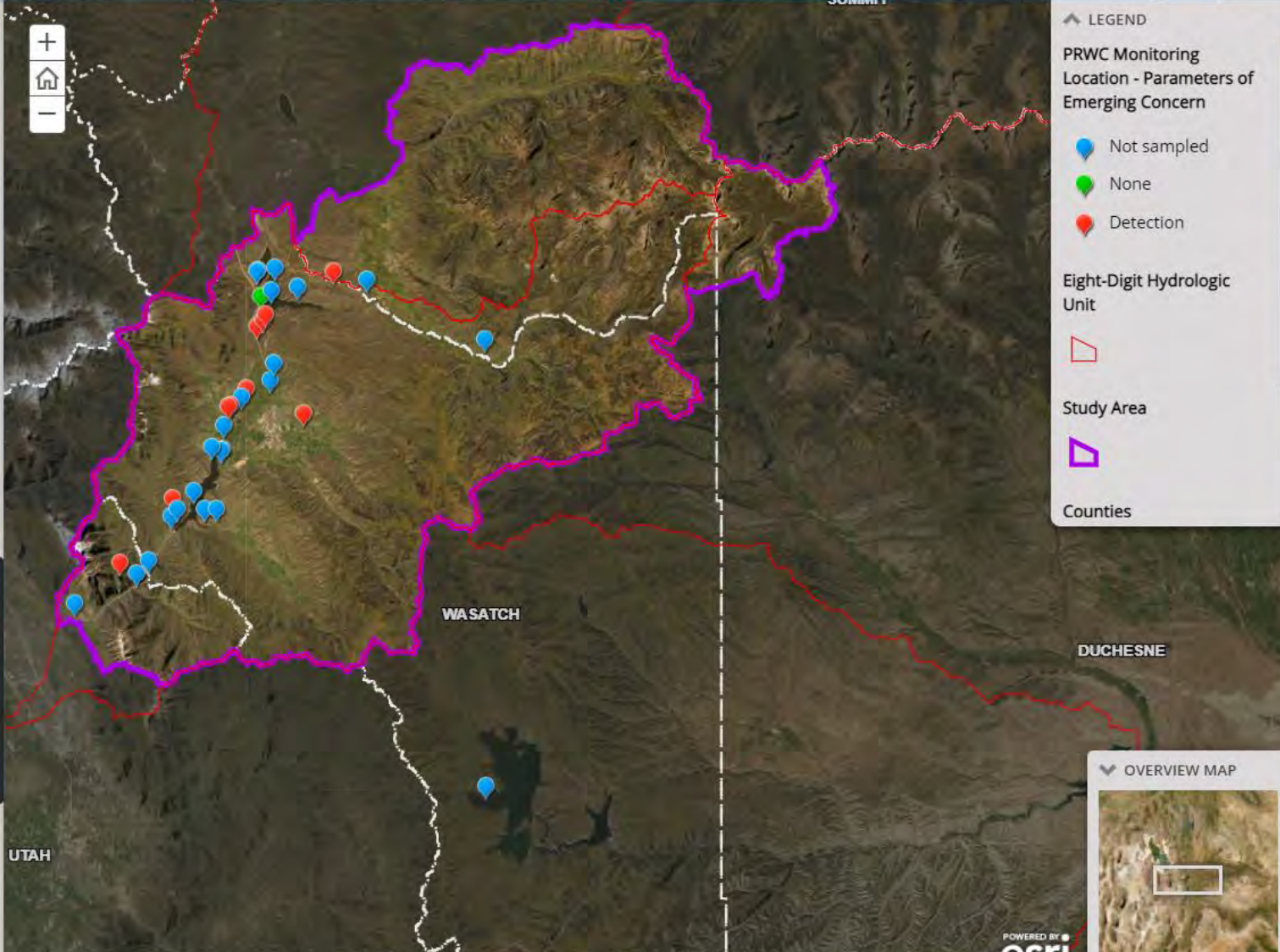
Caffeine has been widely studied and used throughout the country as a reliable tracer of sewage effluent (Cantwell et al. 2016; Fenech et al. 2012; Glassmeyer et al. 2005). Within the study area, caffeine is assumed to come from septic systems because there are no wastewater discharges to the Provo River or its tributaries. Septic systems remove significantly less caffeine (about half) than centralized municipal treatment operations (California Regional Water Quality Control Board 2015).

There are two domestic wastewater treatment facilities in the study area: the Jordanelle Special Services District Water Reclamation Facility and the Heber Valley Special Services District Wastewater Treatment and Disposal Facility. The Jordanelle facility began operating in 2020 and discharges treated wastewater to a canal system that does not have a connection with surface waterbodies in the study area except in emergency (overflow) scenarios. Wastewater effluent from the Heber facility may not be discharged to the Provo River due to total maximum daily load (TMDL) phosphorus limitations, and therefore treated water from the Heber facility's lagoons is applied over the land and/or discharged into the ground via the rapid infiltration basin.

Caffeine has consistently been detected throughout the study area in 2014 and 2015 and from 2018 through 2021 at the following locations:

- 4998130 (Provo River above Jordanelle Reservoir at Rock Cliff Trail Bridge)
- 4997250 (Spring Creek above Confluence with Provo River)
- 5911120 (Northwestward Flow to Provo River from Marsh)
- 5913630 (Provo River above Confluence with Snake Creek at McKeller Bridge)

The location with the highest concentrations of caffeine (and most detections) is 4997250 (Spring Creek above



- Welcome!
- Introduction
- WQ Management Framework
- Watershed Activities**
- Hydrology
- Phosphorus
- Metals
- E. coli
- Land Uses BMPs
- Drinking Water
- Parameters of Emerging Concern
- Reservoirs
- Groundwater

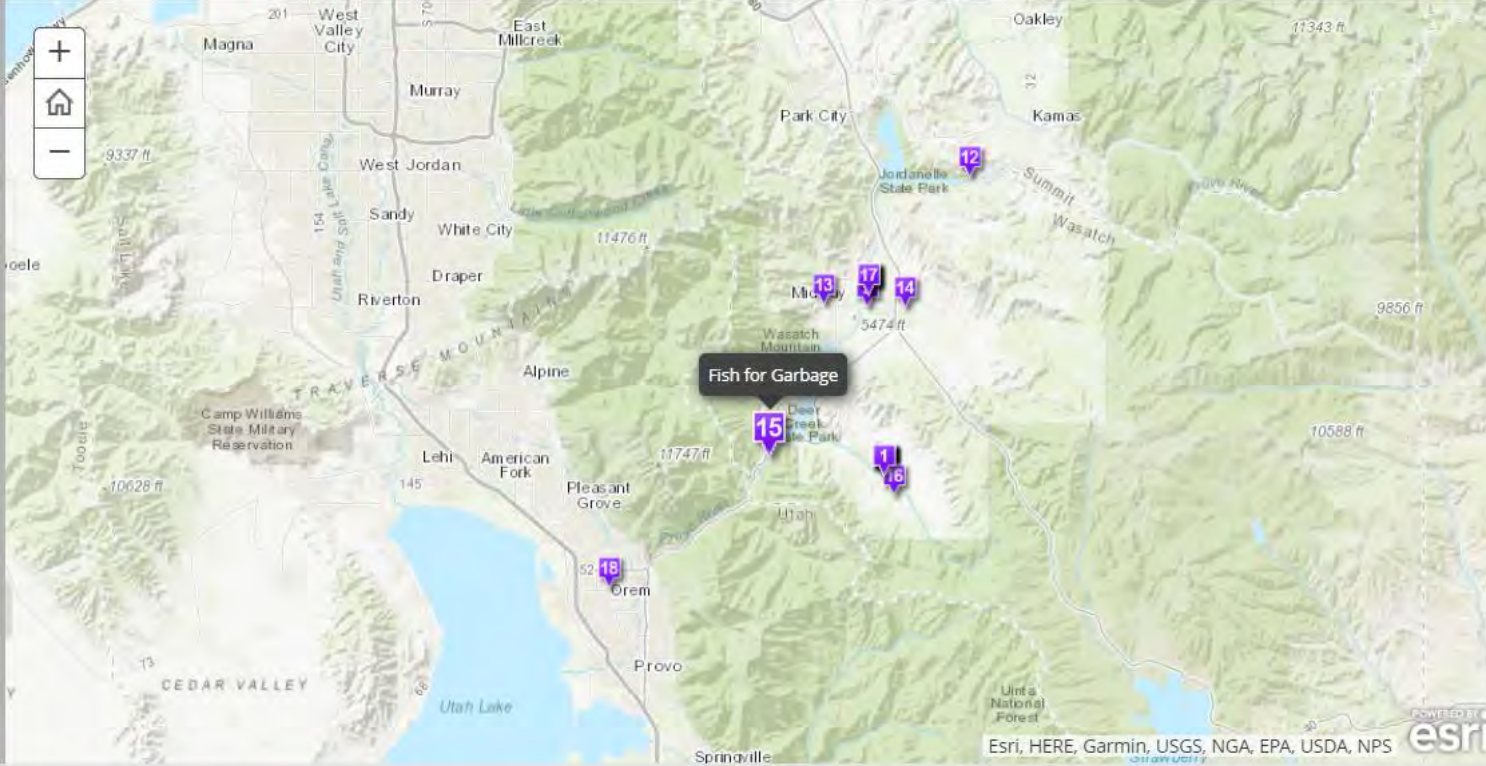
## Watershed Activities

The Provo River Watershed Council (PRWC) oversees, advises, and supports many activities in the study area aimed at protecting and restoring water quality in the Provo River Watershed (PRWC 2022a). The PRWC also collaborates with various state, local, and federal stakeholders in the study area to execute projects aimed at improving water quality and watershed health. Historic activities in the study area include the **Provo River Restoration Project** (completed in 2008), the 1996 Tri-Valley Watershed Project, and the expansion of the Heber Valley Special Service District for the treatment of wastewater. Current and ongoing watershed activities supported by the PRWC are described in the following sections.



### Fish for Garbage

In 2021, the PRWC sponsored an event put on by the organization Fish for Garbage to clean up the lower section of the Provo River (below Deer Creek Reservoir dam). More than 400 individuals participated in the cleanup, and more than 1,200 pounds of trash were removed from the lower Provo River.



- 8 Heber Valley Watershed Plan
- 9 Spring Creek Total Maximum Daily Load
- 10 Incidents and Spills
- 11 Utah Division of Wildlife Resources Aquatic Invasive
- 12 Lakes Appreciation Event
- 13 Snake Creek Restoration Project
- 14 Construction Stormwater Management Workshop
- 15 Fish for Garbage
- 16 Little Hobble Creek Restoration Project
- 17 Utah Division of Water Quality Nonpoint Source
- 18 PLACEHOLDER



# Optimized Water Treatment



## Challenges:

- Aging Facilities
- Tighter Regulations
- Supply Chain Issues & Rising Cost of Chemicals

## Current Efforts:

- Pilot Plant Studies – Prep for Expansion
- Improved Solids Handling at JWWTTP

## Future Priorities:

- Plant expansion and Major Capital Improvements at the JWWTTP
- Chemical/Filter Optimization



WATER QUALITY TRACKING												
	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
<b>Overall Met Goal %</b>	89.36%	89.36%	88.76%	89.55%	89.89%	89.95%	90.72%	91.42%	92.88%	91.97%	91.91%	90.97%
<b>JVWTP</b>												
Turbidity less than 0.08 NTU (hourly max)	96.79%	97.03%	97.02%	97.11%	99.04%	99.61%	99.66%	99.68%	99.76%	99.17%	99.12%	98.68%
Turbidity less than 0.08 NTU (hourly max)	89.61%	90.01%	90.17%	90.79%	95.56%	97.17%	97.89%	98.29%	99.80%	99.87%	99.86%	99.63%
Maximum total particle counts < 50/mL (hourly max)	83.94%	83.81%	82.86%	83.28%	86.46%	87.84%	88.96%	89.31%	91.45%	91.62%	92.31%	92.93%
Chlorine effluent residual between 0.50 and 1.00 mg/L (hourly max/min)	84.01%	77.78%	77.31%	77.34%	74.77%	74.85%	75.35%	78.29%	78.95%	79.22%	78.85%	81.66%
Fluoride effluent concentration between 0.65 and 0.80 mg/L (hourly min/max)	83.89%	83.56%	87.73%	87.68%	87.87%	88.02%	88.17%	88.58%	88.81%	84.04%	81.57%	76.76%
Effluent TOC < 2.0 mg/L (weekly) use data from LIMS	50.00%	53.85%	54.72%	57.69%	65.38%	73.08%	78.85%	86.54%	92.31%	96.00%	95.65%	95.92%
Langlier greater than -0.10 and less than 0.50	58.63%	61.83%	64.72%	67.23%	71.24%	71.56%	78.66%	86.71%	90.36%	92.37%	91.97%	91.98%
Geosmin concentration < 5 ng/L or >70% removal	91.67%	92.00%	92.31%	92.31%	96.15%	96.15%	96.00%	96.00%	96.15%	96.00%	96.00%	96.00%
<b>SERWTP</b>												
Turbidity less than 0.08 NTU (hourly max)	99.45%	99.46%	99.40%	99.33%	98.27%	97.13%	96.77%	96.77%	96.90%	96.90%	96.09%	96.59%
Total particle count < 20/mL (hourly max)	43.48%	43.92%	47.78%	56.15%	57.46%	57.11%	57.11%	57.11%	84.66%	84.66%	92.60%	91.48%
Turbidity less than 0.08 NTU (hourly max)	92.39%	92.04%	91.77%	91.18%	91.97%	89.84%	90.28%	90.28%	90.74%	90.74%	90.28%	90.67%
Maximum total particle counts < 30/mL (hourly max)	87.40%	87.46%	86.83%	86.31%	85.66%	85.10%	85.52%	85.52%	90.40%	90.40%	93.98%	93.59%
Chlorine effluent residual less than .90 mg/L (hourly max)	98.41%	98.41%	98.30%	98.22%	99.77%	99.85%	99.84%	99.84%	99.75%	99.75%	99.19%	98.56%
Chlorine CT ratio greater than 1.25 but less 5.0 (hourly AVG)	99.49%	99.49%	99.46%	99.42%	99.50%	99.46%	99.46%	99.46%	99.27%	99.27%	99.64%	99.71%
Fluoride effluent concentration between 0.65 and 0.85 mg/L (hourly min/max)	74.00%	72.00%	66.90%	68.50%	70.04%	63.80%	68.00%	68.00%	60.00%	60.00%	60.10%	65.50%
Effluent TOC < 2.0 mg/L (weekly) use lab data from LIMS	41.46%	46.34%	51.28%	51.28%	52.78%	52.78%	52.78%	52.78%	52.78%	52.78%	52.78%	52.78%
Langlier greater than -1.5 and less than 0.40 (Daily Average)	89.55%	87.06%	87.06%	84.88%	87.40%	81.25%	80.39%	80.39%	80.00%	80.00%	73.28%	66.21%
Geosmin concentration < 5 ng/L or >70% removal	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
<b>SWGTP</b>												
Turbidity less than or equal to 0.035 NTU (hourly max)	99.67%	99.64%	99.69%	99.67%	98.06%	99.94%	99.71%	99.77%	99.86%	99.86%	99.83%	99.85%
TDS > 205 ppm and < 262 ppm (Daily Minimum / Maximum)	96.49%	96.83%	96.83%	96.84%	86.36%	96.58%	96.69%	99.64%	99.64%	99.64%	100.00%	100.00%
By-Pass Turbidity < 0.065 NTU (hourly max)	99.41%	99.42%	99.71%	99.77%	98.62%	99.78%	99.84%	99.86%	99.89%	99.89%	99.89%	99.93%
Chlorine effluent residual between 0.65 and 0.85 mg/L (hourly min/max)	85.53%	85.39%	86.87%	88.30%	97.12%	88.87%	92.62%	92.62%	95.29%	95.29%	95.20%	94.59%
Fluoride effluent concentration between 0.65 and 0.80 mg/L (hourly min/max)	95.47%	95.47%	95.48%	93.90%	95.64%	92.97%	92.97%	92.97%	92.97%	92.97%	92.97%	92.97%
Langlier greater than .05 and less than 0.25 (Daily Average)	93.33%	95.07%	97.89%	98.60%	92.86%	99.24%	99.26%	98.91%	98.91%	98.91%	96.61%	96.61%
<b>DISTRIBUTION SYSTEM</b>												
All chlorine residual grab samples > 0.05 mg/L (grab samples only)	99.74%	99.75%	99.81%	99.81%	99.74%	99.74%	99.81%	99.61%	99.61%	99.61%	99.61%	99.62%
All HPC samples with a count < 150 mpn/100ml (confirmed samples)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Chlorine residual at 2100 S between 0.3 and 0.7 mg/L (min/max hourly)	93.16%	85.68%	84.77%	84.62%	84.45%	84.41%	84.41%	84.35%	85.47%	85.72%	84.94%	86.65%
70% Feed location fluoride concentration 0.60 and 1.0 mg/L	84.11%	84.66%	85.48%	87.95%	87.67%	87.95%	87.95%	90.68%	93.42%	92.60%	92.05%	90.96%
Non-feed fluoride concentration monitoring sites between 0.60 and 0.90 mg/L	70.41%	70.41%	70.41%	70.41%	70.41%	70.41%	70.41%	71.51%	71.51%	71.51%	71.51%	71.51%
Geosmin concentration < 5 ng/L or >70% removal	100.00%	95.83%	96.00%	96.00%	96.00%	96.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
<b>PERCEIVED WATER QUALITY</b>												
Number of water quality related calls total	9	10		16	13		14	11	13	14	13	12
Number of water quality related calls (Retail)	8	9	3	1	0	1	1	8	10	11	11	0
Number of water quality related calls (Wholesale)	1	1	0	0	0	0	0	3	3	3	2	0



# High Quality Water Deliveries



## Challenges:

- Increasing Demands
- Blending Various Sources
- Increasing Regulations
- Increasing Customer Expectations

## Current Efforts:

- System-Wide Water Quality Study Recommendations
- Preparing for the LCRR

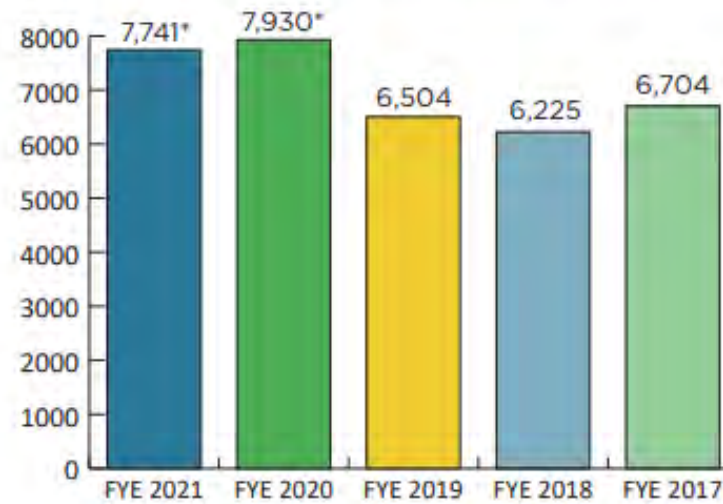
## Future Priorities:

- Better Long-Term Data Analysis
- Metals Precipitation
- Consistent Aesthetics

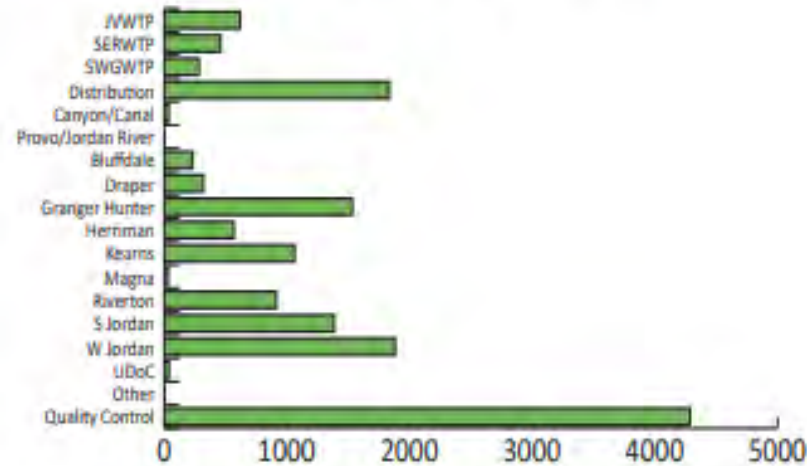


# Water Quality Sampling & Analysis

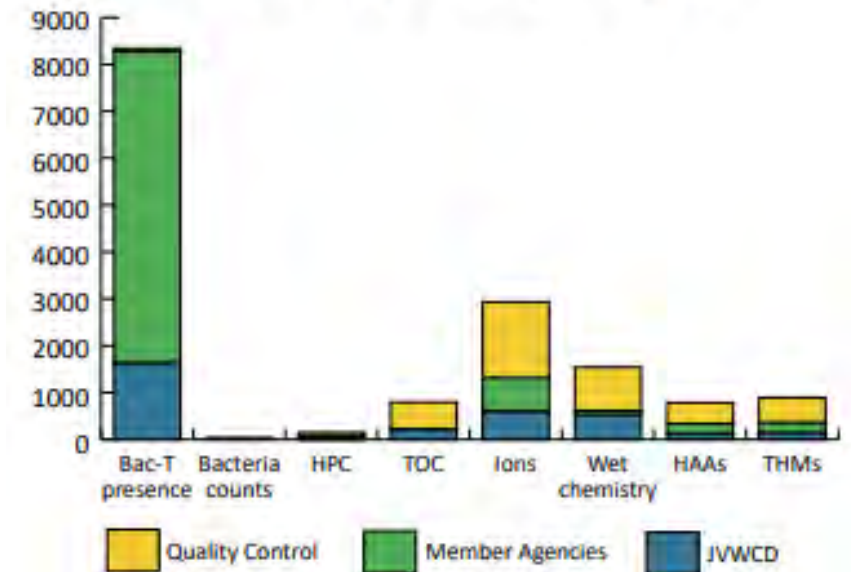
### Total Samples Collected



### Total Analyses by Location



### Samples by Analysis Type



Total Samples Analyzed 2020/2021 = 15,475  
 Total Samples Analyzed 2019/2020 = 17,100





# System Stabilization Study

## Study Objectives



Develop a detailed understanding of physical, chemical, and microbial processes capable of impacting water quality, legacy deposit stability, corrosivity toward metals, and aggressiveness towards cement.



Establish an operating framework of recommended finished water quality conditions to improve chemical stability; improve compatibility between different supplies; and mitigate water quality and corrosion risks identified.



Provide guidance on monitoring that can be used to detect system upsets.



Provide an Action Plan roadmap to help JVVCD move forward with system improvements to address water quality risks.

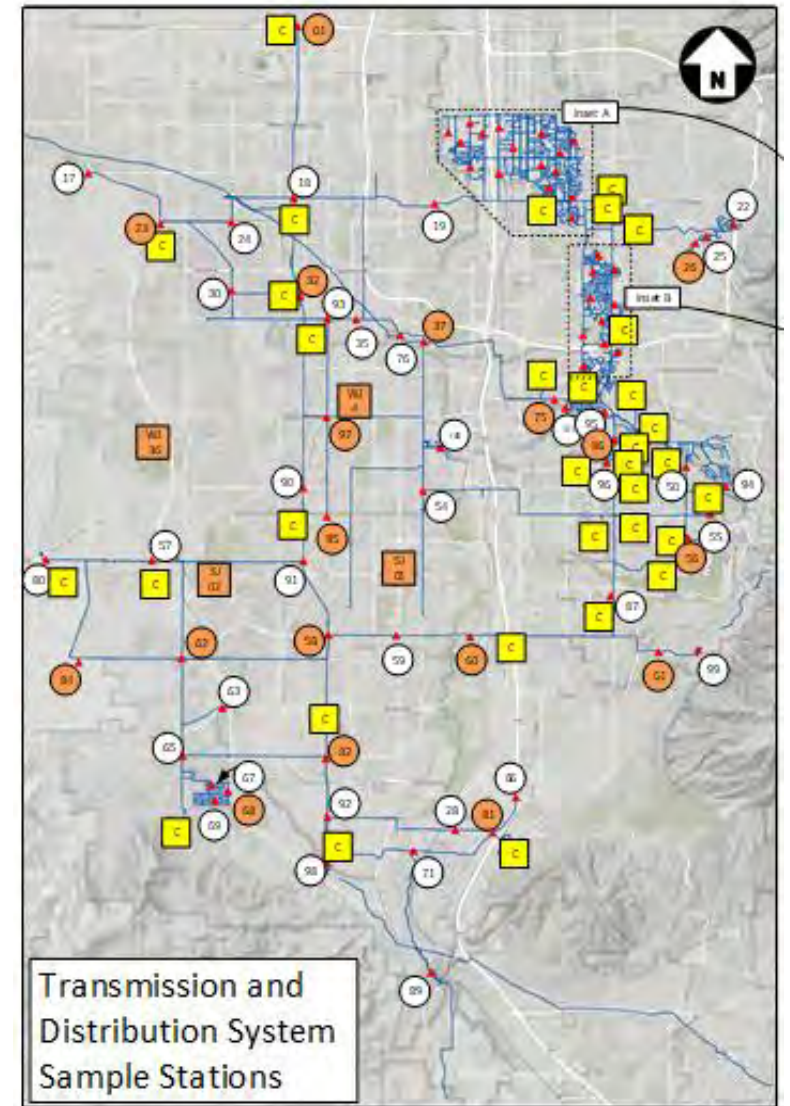


# System Stabilization Study

## Monitoring Plan

Sampling Locations were selected based on the following criteria:

- Broad spatial coverage of the transmission and distribution system
- Representation of the contribution from all major sources
- Different pipe types
- Areas of large fluctuations in blend ratios of dissimilar sources
- Areas of chronically low chlorine residual
- Know problem areas (customer complaints, discolored water, etc.)

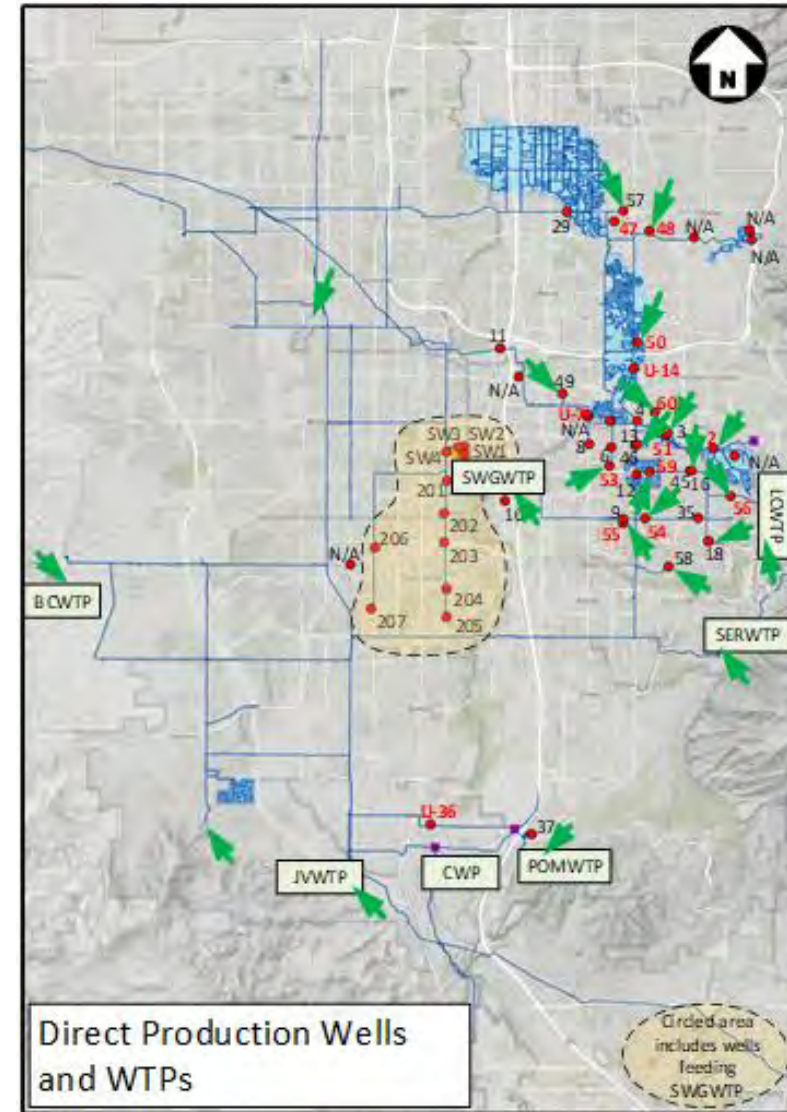


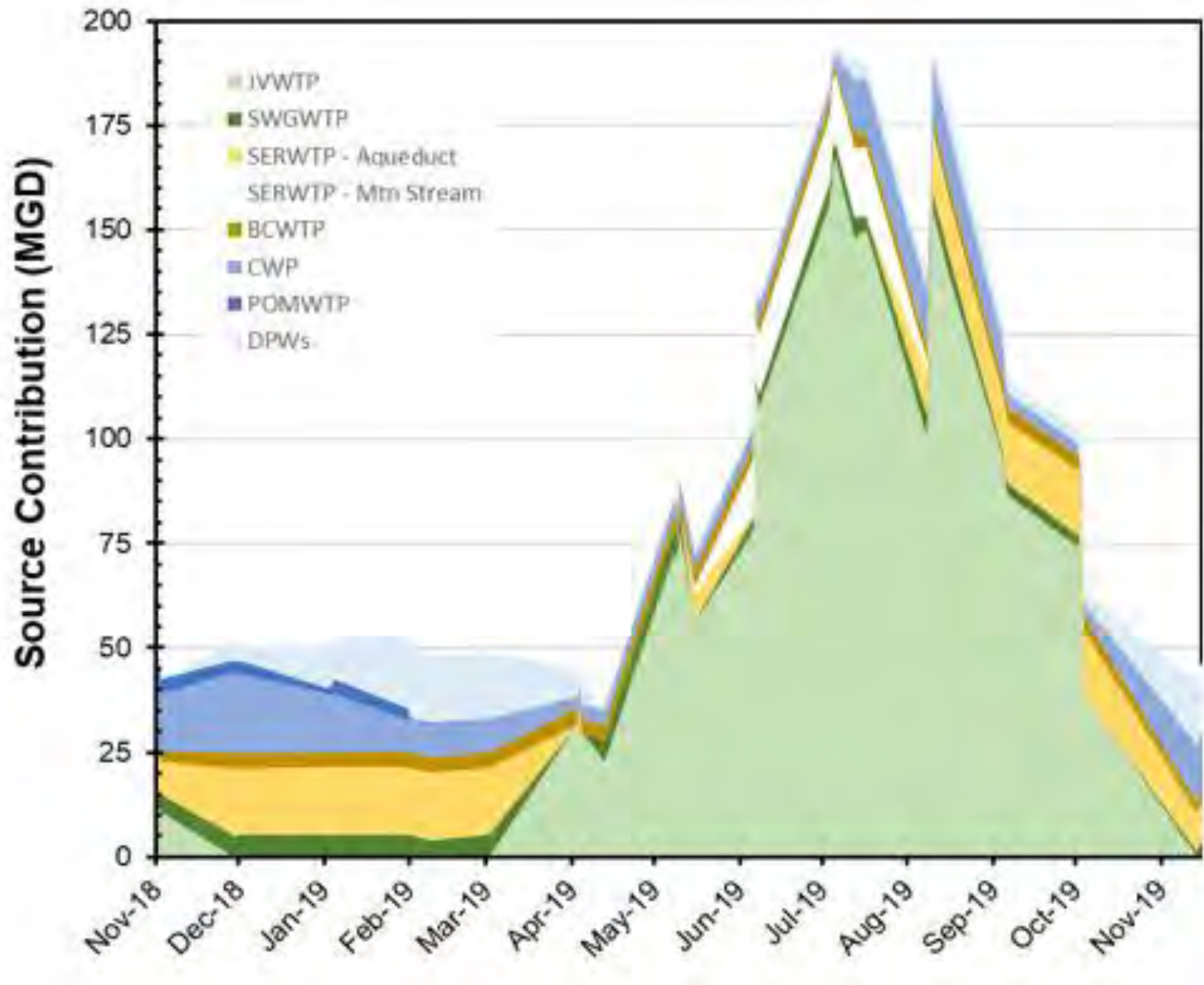


# System Stabilization Study

## Monitoring Plan

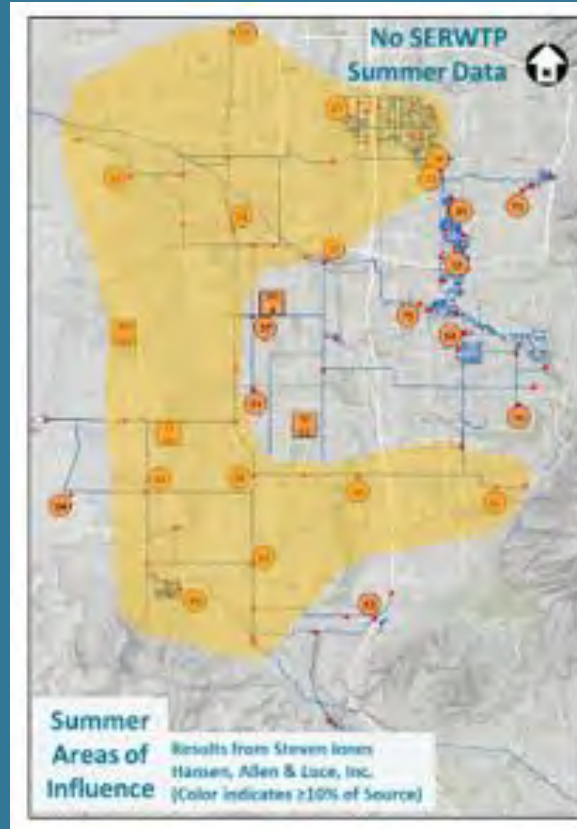
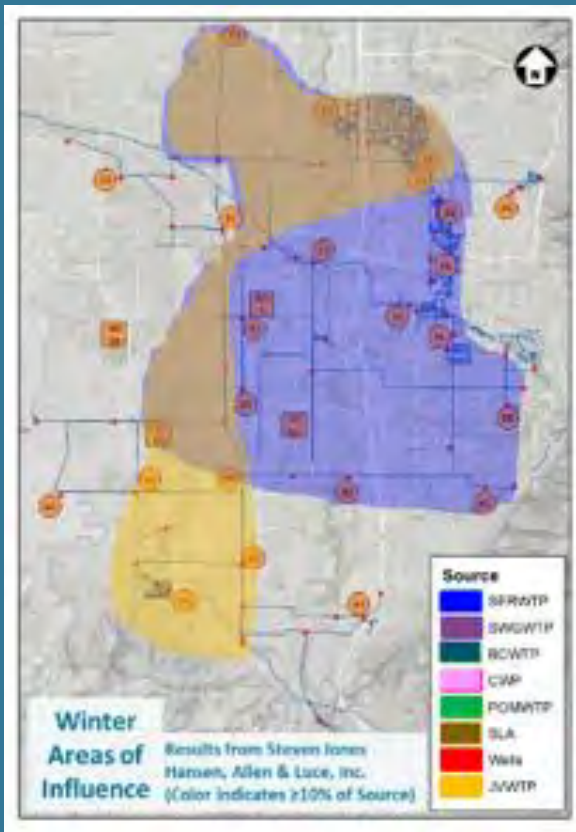
- 5 surface water treatment plants and point-of-entry locations
  - JWWTTP
  - SERWTTP
  - SWGWTP
  - BCWTTP
  - CWP
- 14 groundwater wells
  - 11 unchlorinated
  - 3 chlorinated
- 23 sample stations throughout the transmission and distribution system
- 4 retail system sample sites
  - 2 in West Jordan
  - 2 in South Jordan







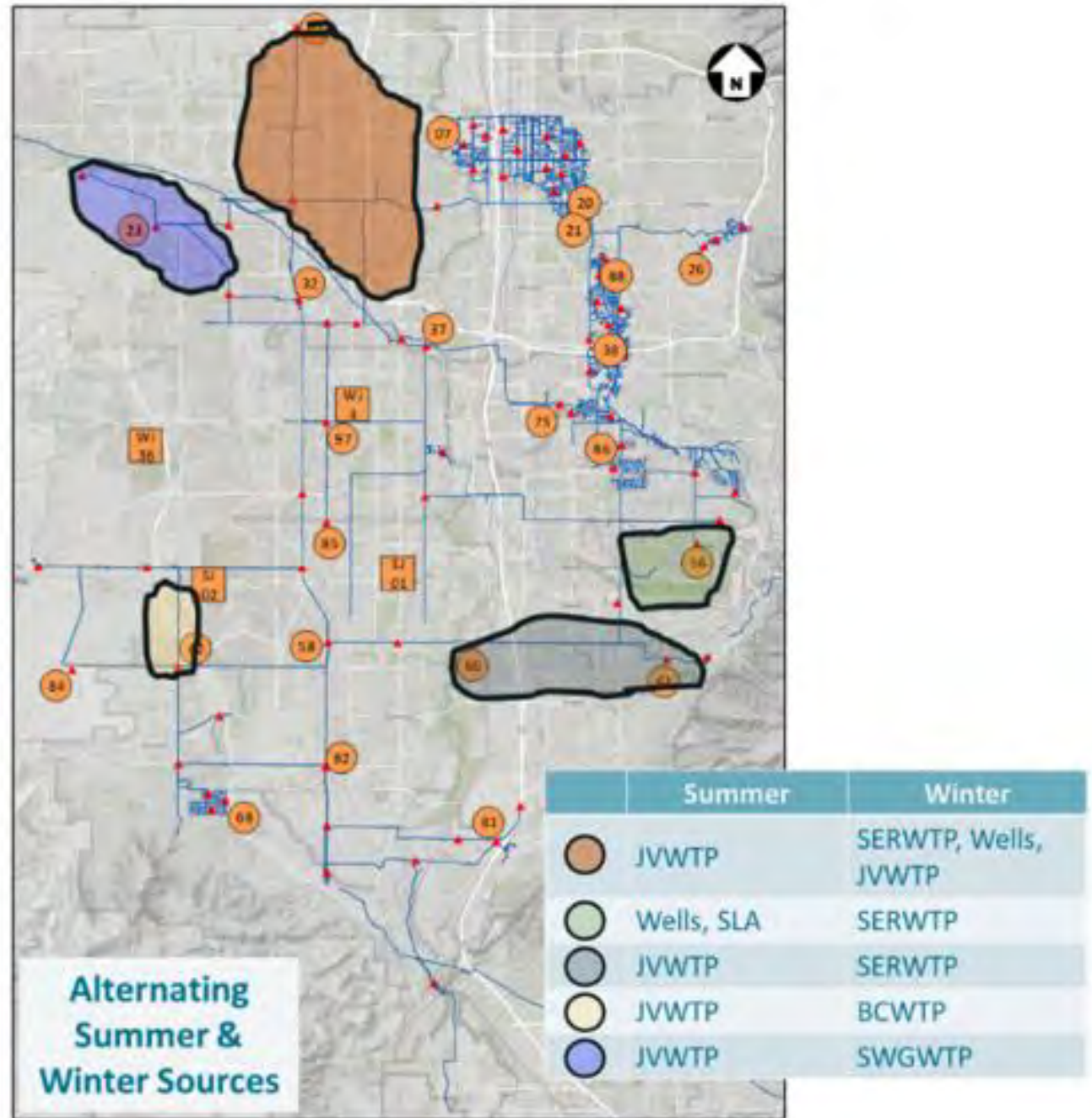
# Modeling





# System Stabilization Study

## Modeling





Treatment Process / Chemical	Facility / Source									
	JV WTP	SER WTP	SW GWTP	BC WTP	POM WTP	LC WTP	CWP Wells	DACR WTP	DPWs w/ Cl <sub>2</sub>	DPWs No Cl <sub>2</sub>
pH Increase/Control	ADD	ADD	✓★	ADD	✓★	✓★	ADD ?	✓★	-	-
DIC and Ca Increase	-	ADD	-	-	-	✓†	-	-	-	-
Chlorination	✓★	✓★	✓	✓★	✓★	✓★	✓★	✓★	✓★	ADD

Notes:

- Add** Expected need to add a new treatment process or chemical to meet framework recommendations
- ★ May only require process control optimization of existing treatment to meet framework recommendations
- ✓ Treatment capability is currently included at the facility/source indicated
- Treatment change is not anticipated
- † The ability to add carbon dioxide and lime is currently available



# Laboratory Services



## Available Analyses

- Total Coliform and E.coli (Presence/Absence and Quantitative)
- Heterotrophic Plate Count
- Water Quality Parameters (Chlorine Residual, pH, Turbidity, and Conductivity)
- Alkalinity
- Hardness (Total and Calcium)
- Disinfection By-Products (Trihalomethanes & Haloacetic Acids)
- Anions (Fluoride, Nitrate, Nitrite, Chloride, Bromide, Phosphate, and Sulphate)
- Organic Carbon (Total and Dissolved)
- Common Metals (Arsenic, Barium, Cadmium, Copper, Iron, Lead, Manganese, Mercury, Selenium, Silica, Uranium, Zinc, etc.)





# Laboratory Services

## Calculating Pricing

Using the most recent three years of data, we calculate how much of the total water delivered by each member agency is purchased from JWCD.

The remaining percentage is multiplied by the base price for each analyses type to get the adjusted price.

### Member Agency 1

Purchases 100% of the total water they deliver from JWCD they pay no additional cost for analyses.

### Member Agency 2

Purchases 40% of the total water they deliver from JWCD, they pay 60% of the base price for analyses.



# Laboratory Services

## Calculating Pricing

- Colilert analysis increased from \$21 to \$22
- Total and Calcium Hardness increased from \$25 to \$28

				Current Year Base Price →		(1)	(2)	(3)		
						Presence/Absence Bacteriological	Quantitative Bacteriological	Heterotrophic Plate Count (HPC)		
						\$22	\$31	\$42		
Member Agency	% District Water (2018-20 average)	% District Water (2019-21 average)	Currently Using Lab Services	Previous Year Adjusted	Current Year Adjusted	Previous Year Adjusted	Current Year Adjusted	Previous Year Adjusted	Current Year Adjusted	
Bluffdale	100%	100%	Y	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
City of South Jordan	100%	100%	Y	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
City of South Salt Lake	44%	34%	N	\$11.76	\$14.55	\$17.36	\$20.13	\$23.52	\$27.72	
City of West Jordan	92%	92%	Y	\$1.68	\$1.76	\$2.48	\$2.44	\$3.36	\$3.36	
Draper City	100%	100%	Y	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Granger Hunter Improvement District	77%	77%	Y	\$4.83	\$5.07	\$7.13	\$7.02	\$9.66	\$9.66	
Herriman City	60%	61%	Y	\$8.40	\$8.60	\$12.40	\$11.90	\$16.80	\$16.38	
Hexcel Corporation	98%	99%	N	\$0.42	\$0.22	\$0.62	\$0.31	\$0.84	\$0.42	
Kearns Improvement District	93%	94%	Y	\$1.47	\$1.32	\$2.17	\$1.83	\$2.94	\$2.52	
Magna Water District	14%	14%	Y	\$18.06	\$18.96	\$26.66	\$26.23	\$36.12	\$36.12	
Midvale City	35%	50%	N	\$13.65	\$11.03	\$20.15	\$15.25	\$27.30	\$21.00	
Riverton City	100%	100%	Y	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Taylorsville Bennion Improvement District	33%	34%	N	\$14.07	\$14.55	\$20.77	\$20.13	\$28.14	\$27.72	
Utah Department of Corrections	100%	100%	Y	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Water Pro	16%	17%	N	\$17.64	\$18.30	\$26.04	\$25.32	\$35.28	\$34.86	
White City Water Improvement District	0%	0%	N	\$21.00	\$22.05	\$31.00	\$30.50	\$42.00	\$42.00	



**JORDAN VALLEY WATER**  
CONSERVANCY DISTRICT

**Annual Member Agency Meeting**  
**April 27, 2022**



JORDAN VALLEY WATER  
CONSERVANCY DISTRICT

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Annual Member  
Agency Meeting

April 27, 2022

# Water Conservation: Update, Progress, and Direction

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Matt Olsen  
Assistant General Manager  
*Conservation – Communications -Technology*

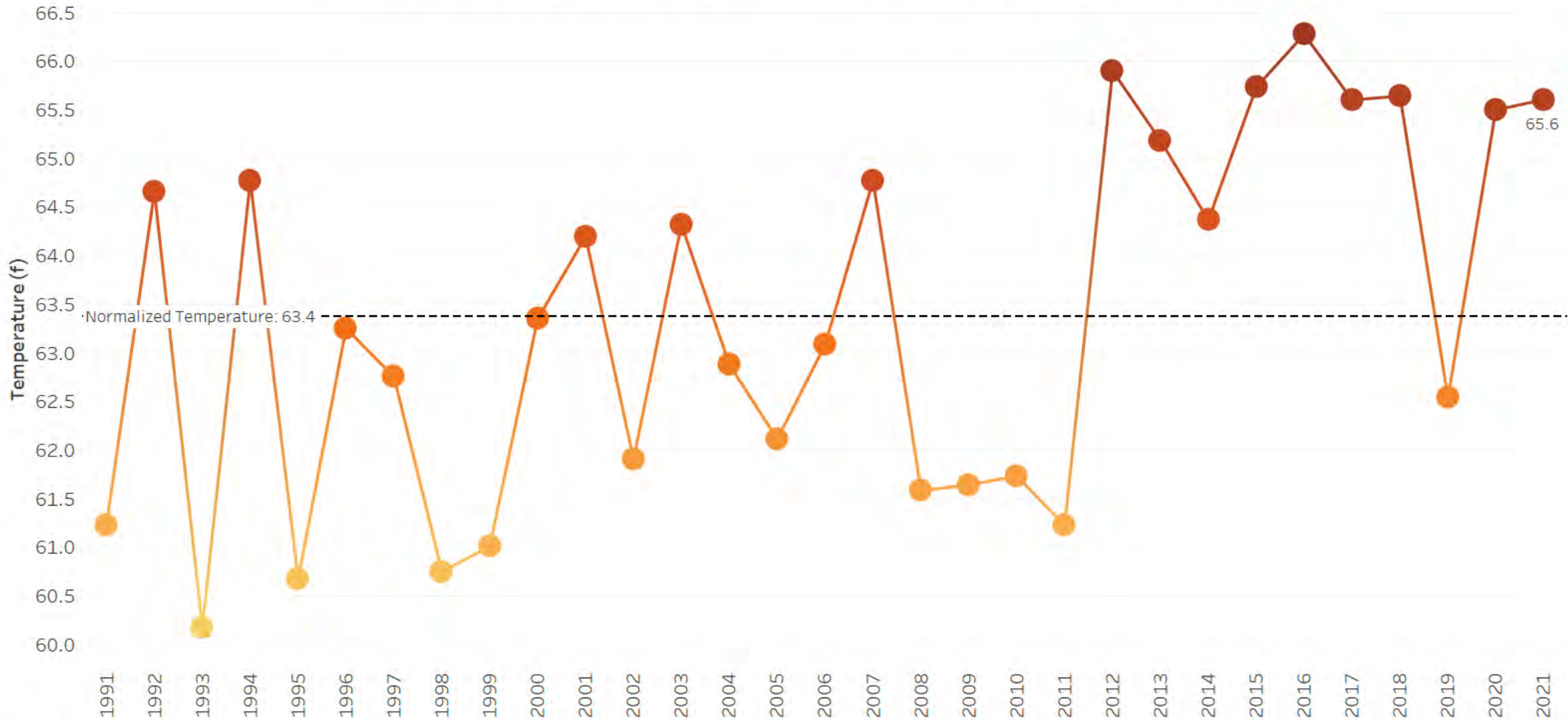


# 2021 Water Use Results

Review of water use and weather from 2021

# Jordan Valley Water Conservancy District

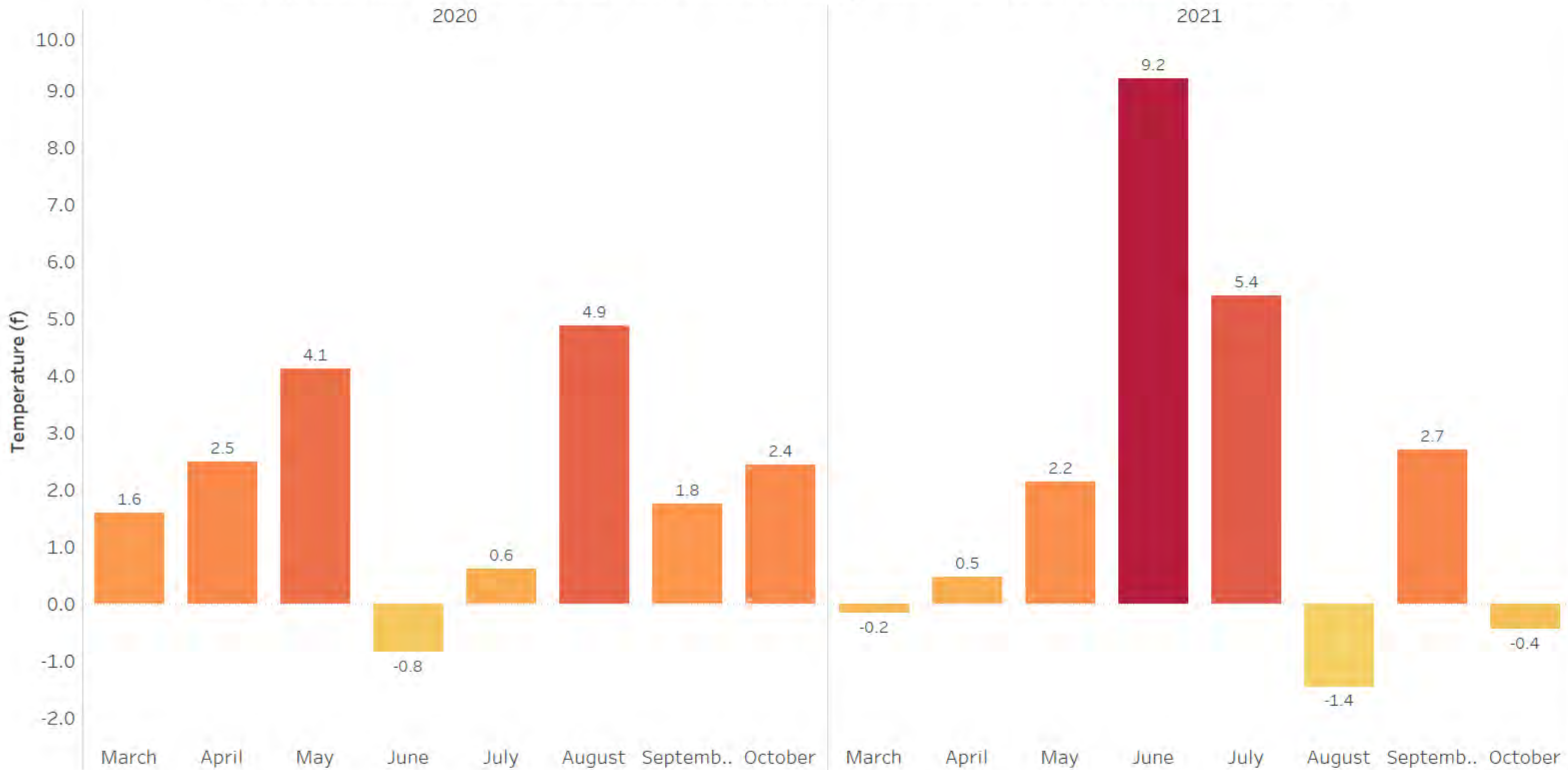
## Summer Month Average Temperature by Year - Salt Lake City International Airport



January, February, November, and December were removed from the analysis.

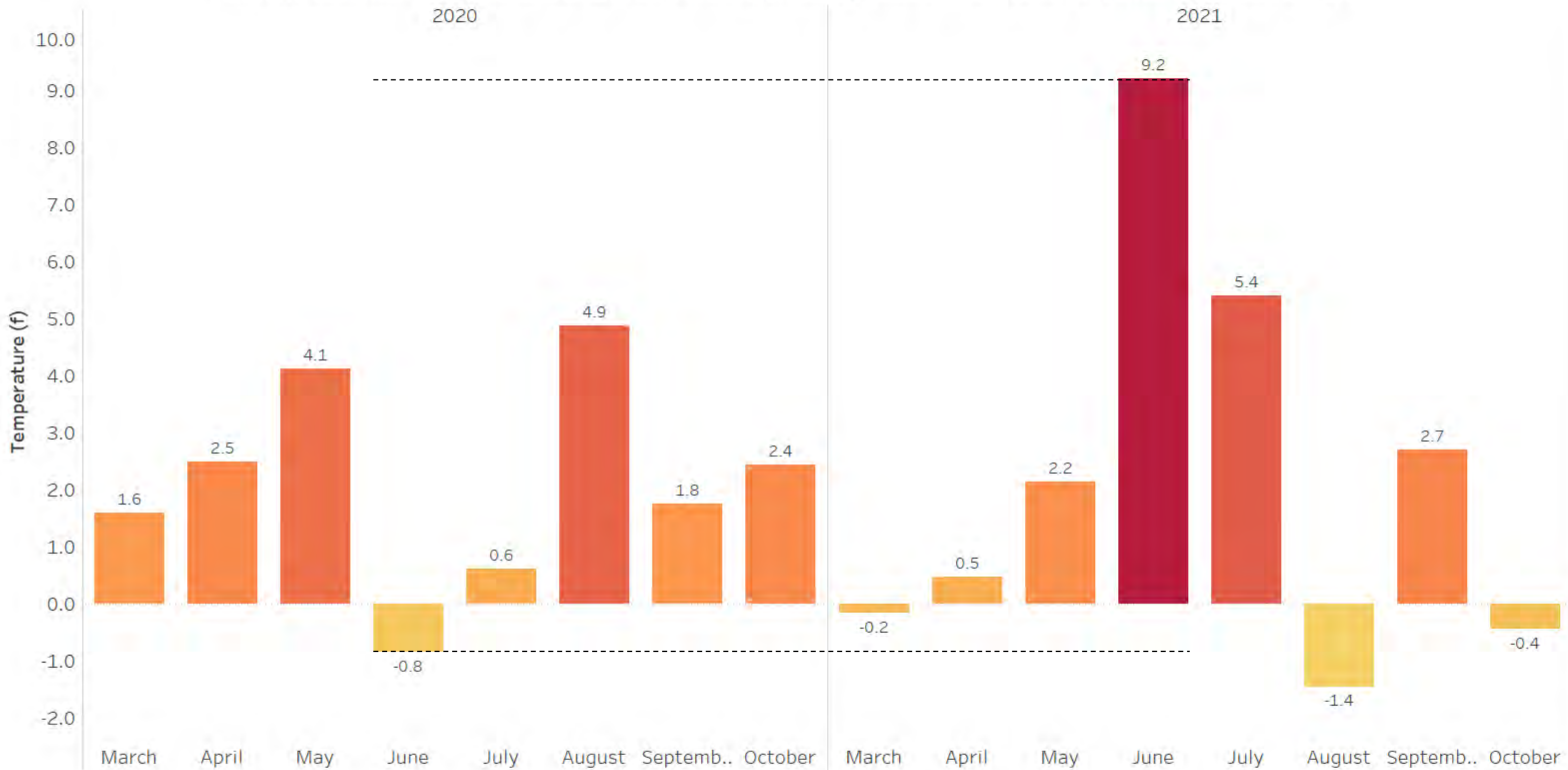
# Jordan Valley Water Conservancy District

## Average Summer Temperature Departure from Normal by Month - Salt Lake City International Airport



# Jordan Valley Water Conservancy District

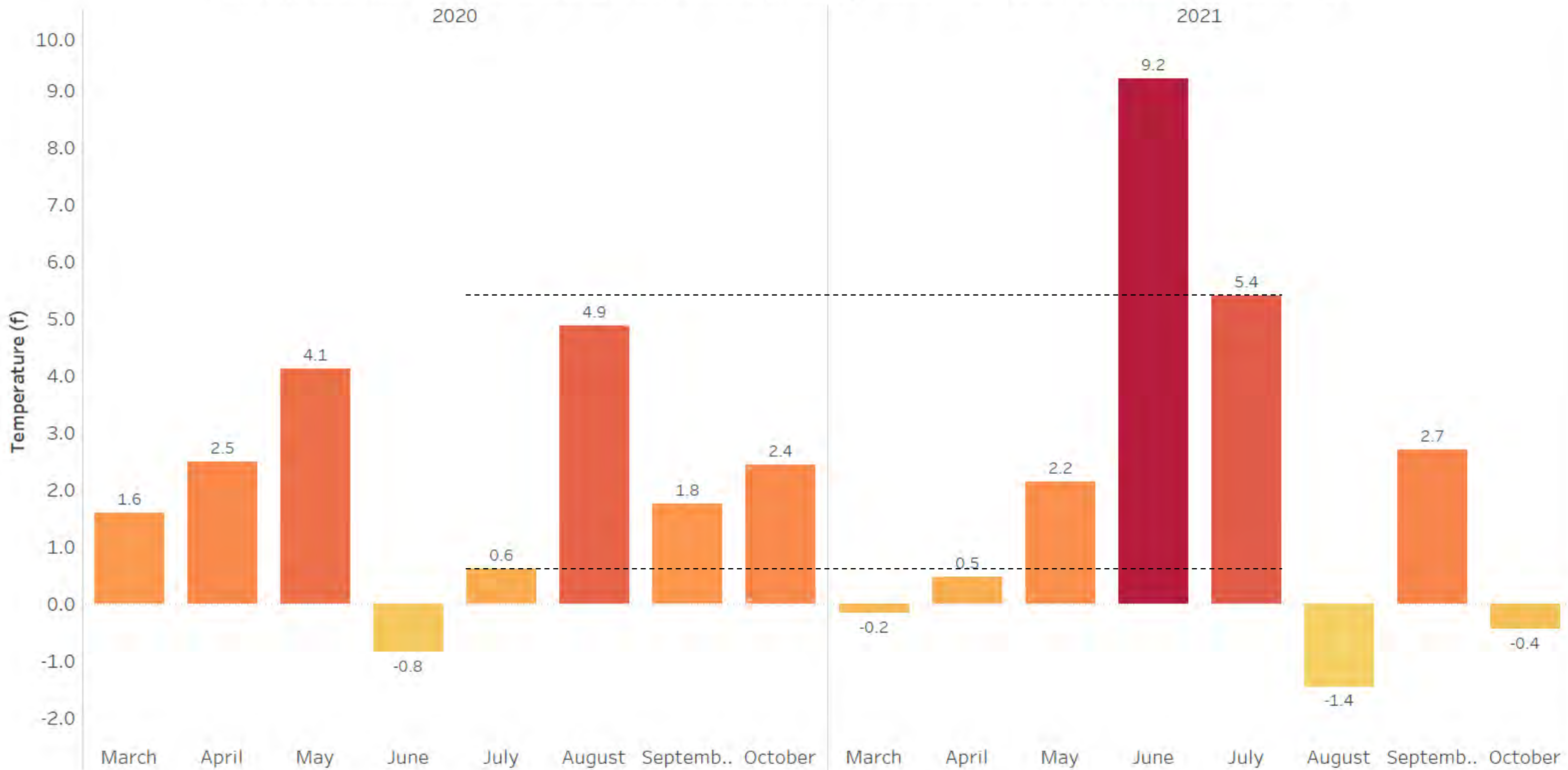
## Average Summer Temperature Departure from Normal by Month - Salt Lake City International Airport





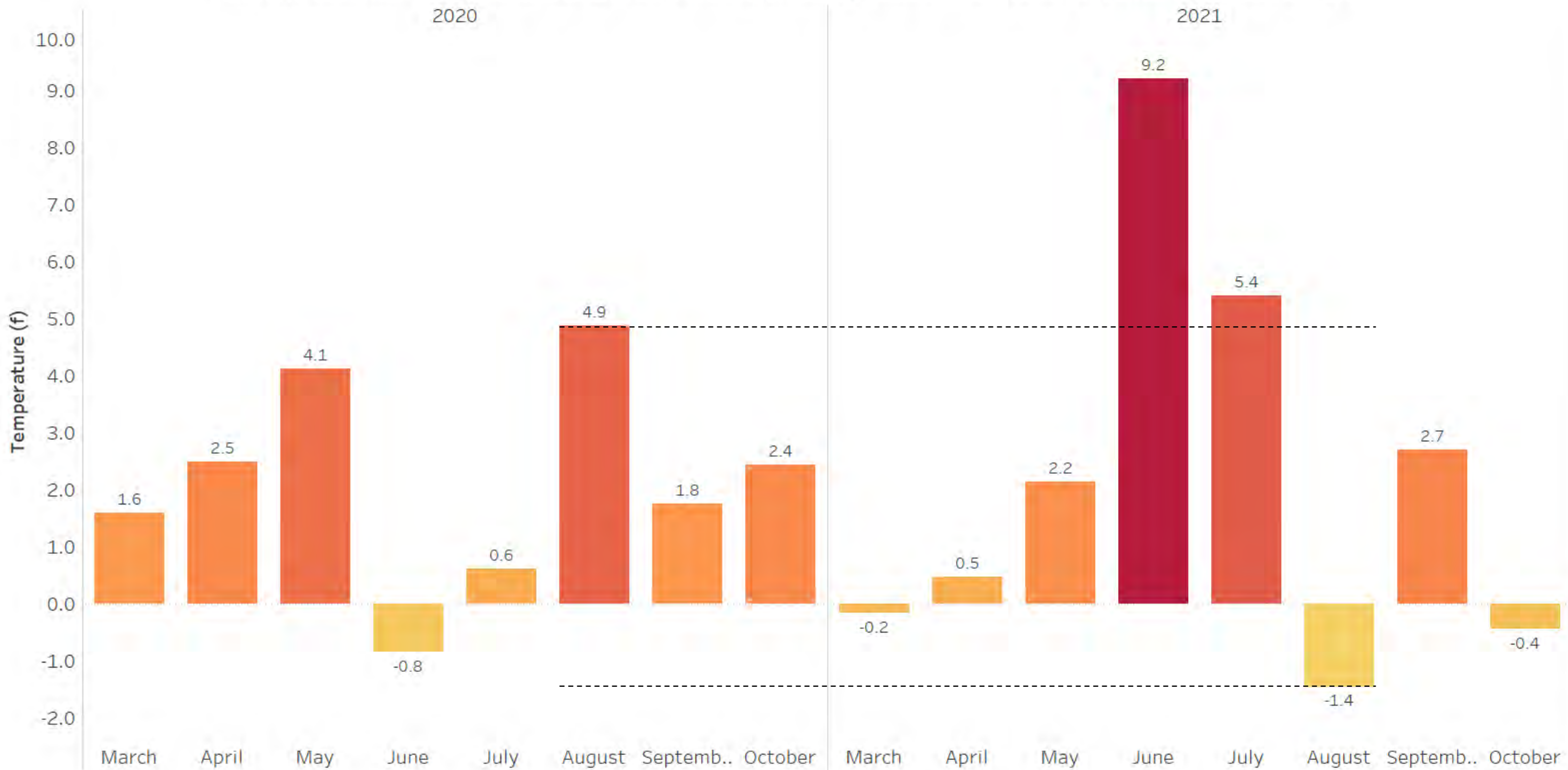
# Jordan Valley Water Conservancy District

## Average Summer Temperature Departure from Normal by Month - Salt Lake City International Airport



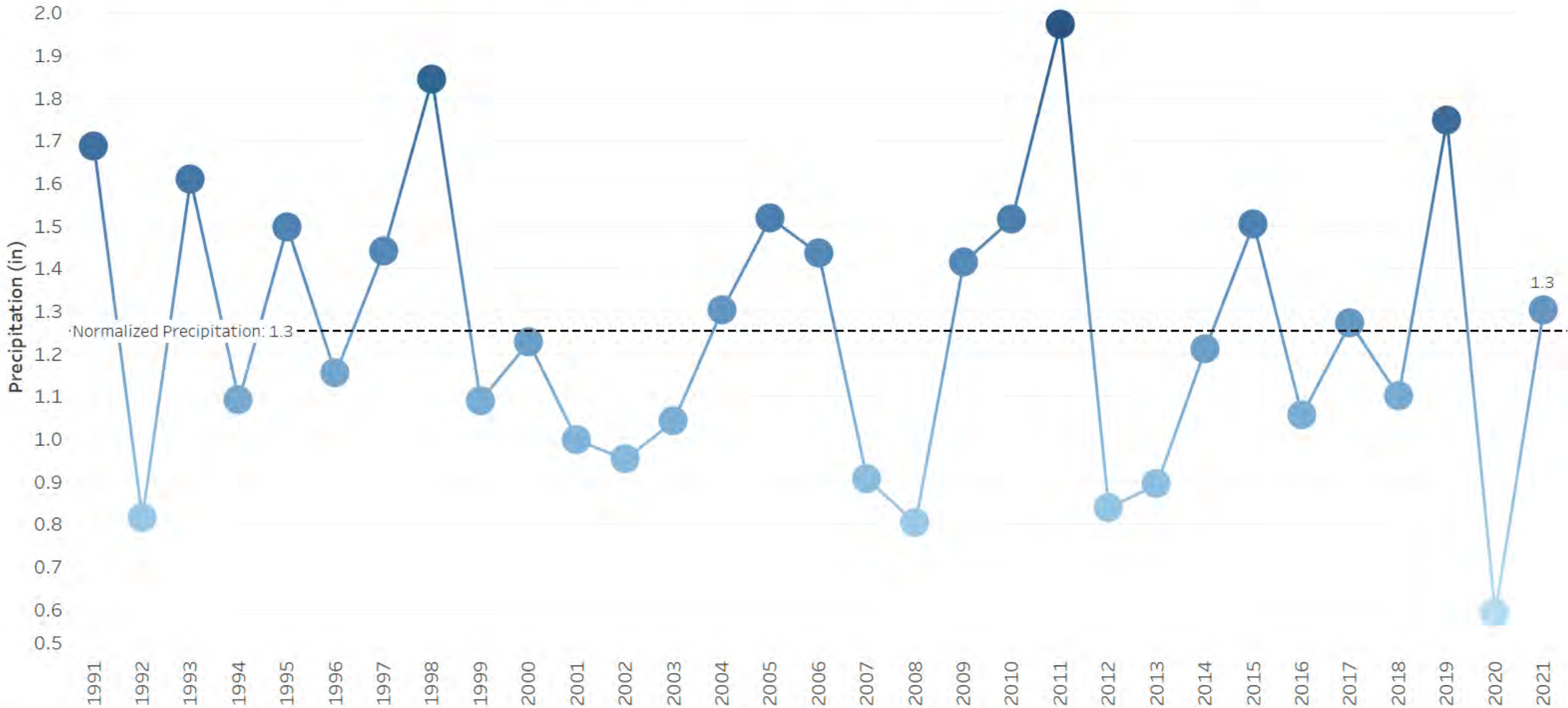
# Jordan Valley Water Conservancy District

## Average Summer Temperature Departure from Normal by Month - Salt Lake City International Airport



# Jordan Valley Water Conservancy District

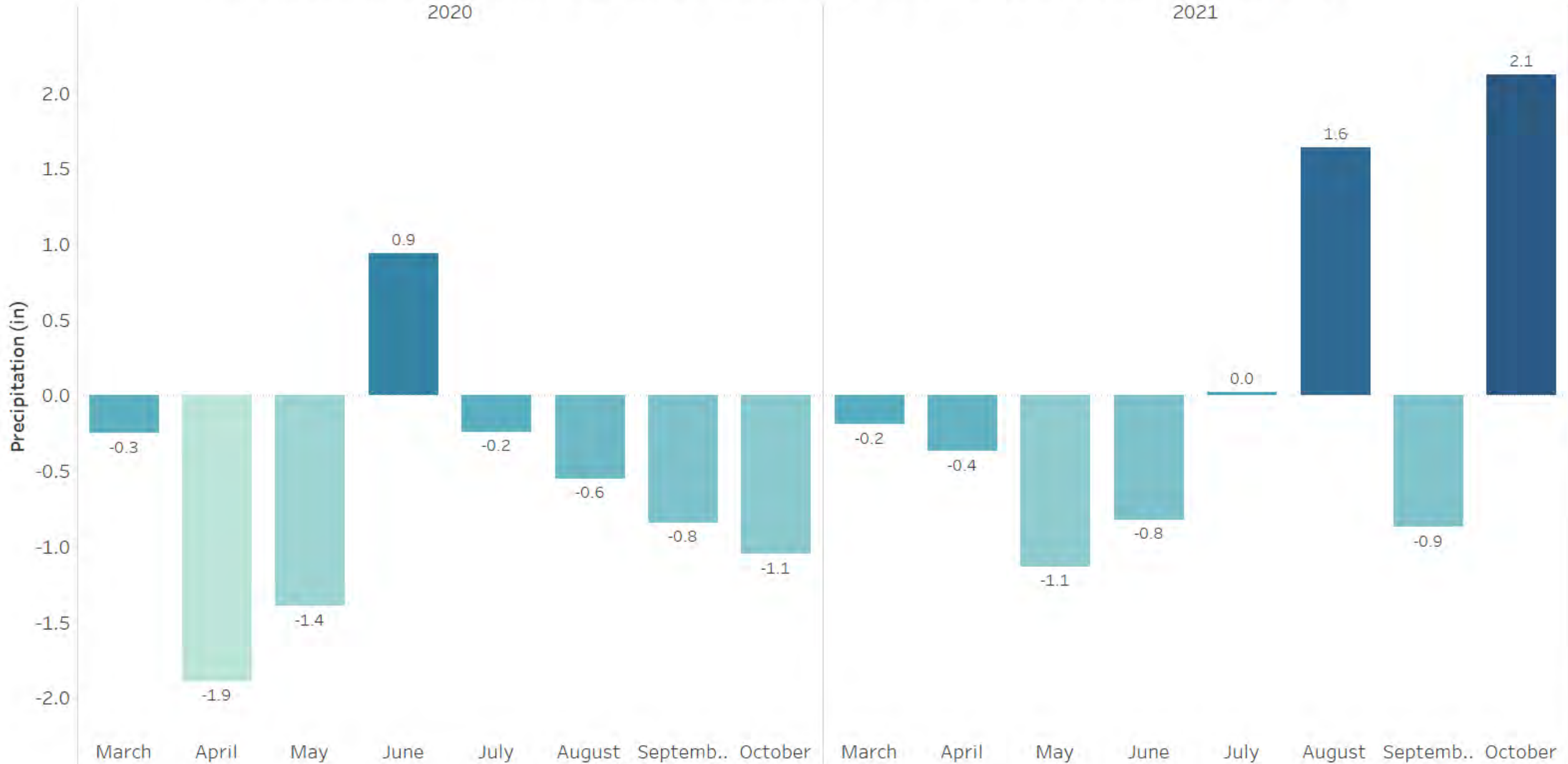
## Summer Month Average Precipitation by Year - Salt Lake City International Airport



January, February, November, and December were removed from the analysis.

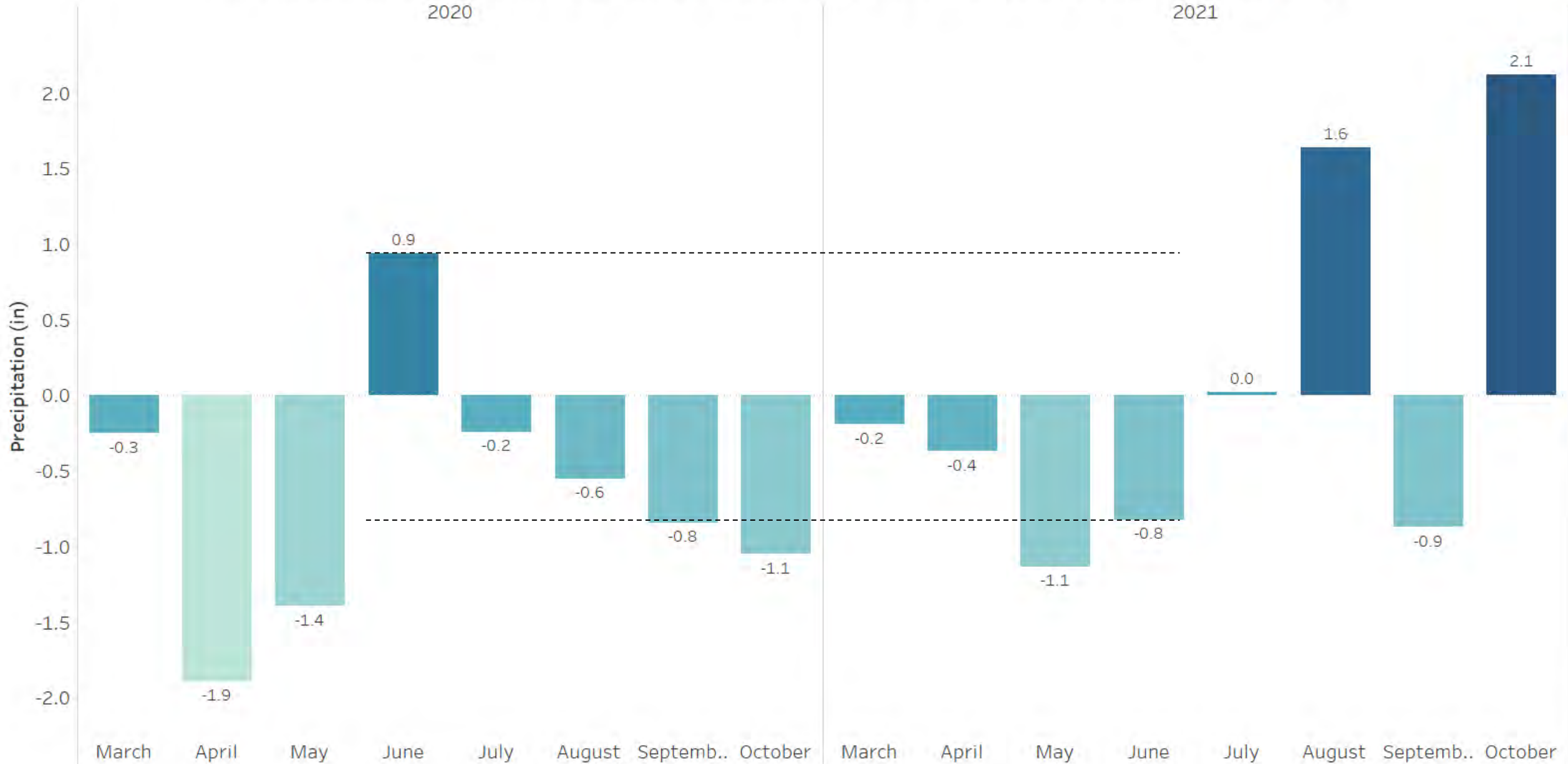
# Jordan Valley Water Conservancy District

## Average Summer Precipitation Departure from Normal by Month - Salt Lake City International Airport



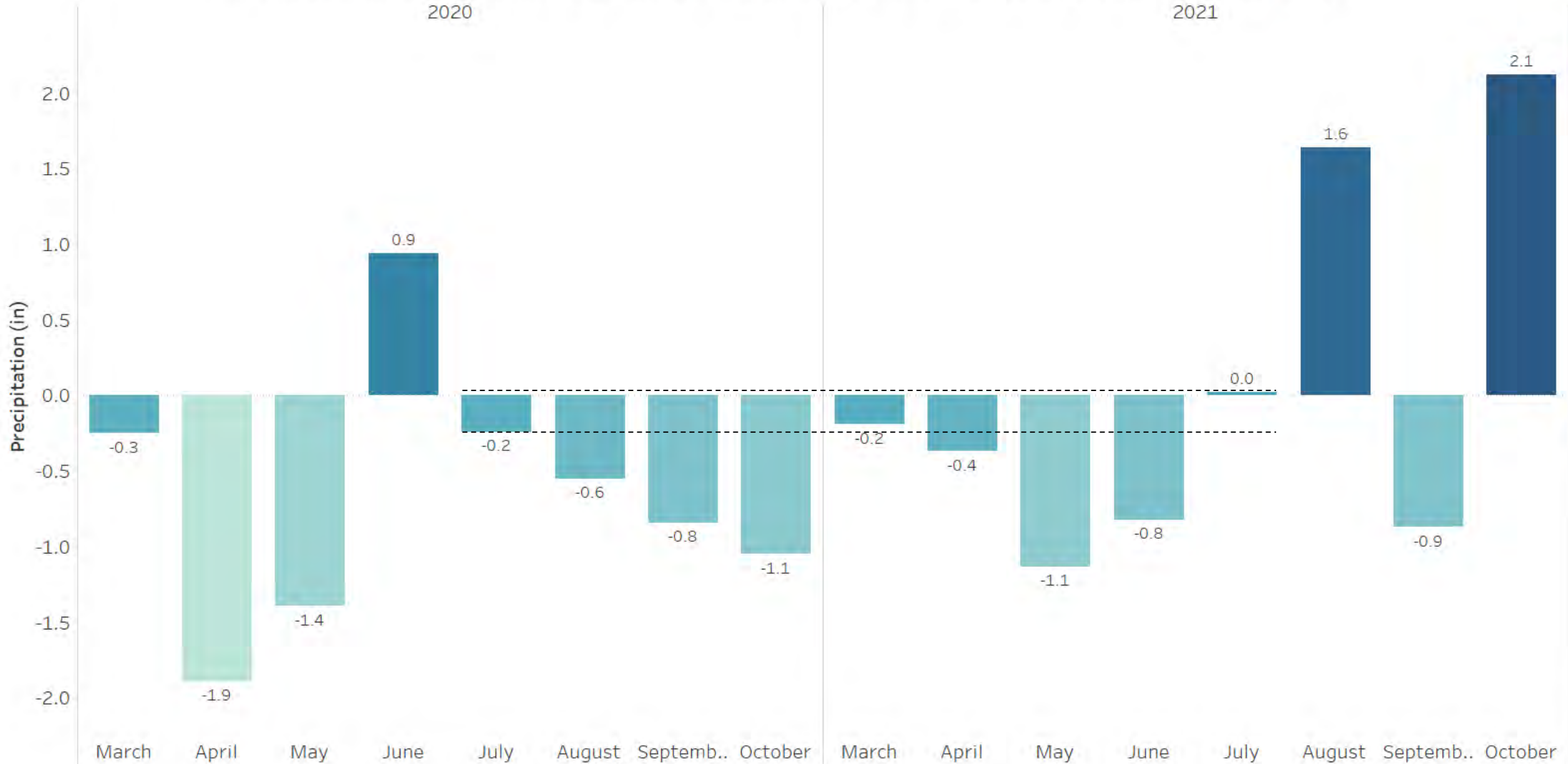
# Jordan Valley Water Conservancy District

## Average Summer Precipitation Departure from Normal by Month - Salt Lake City International Airport



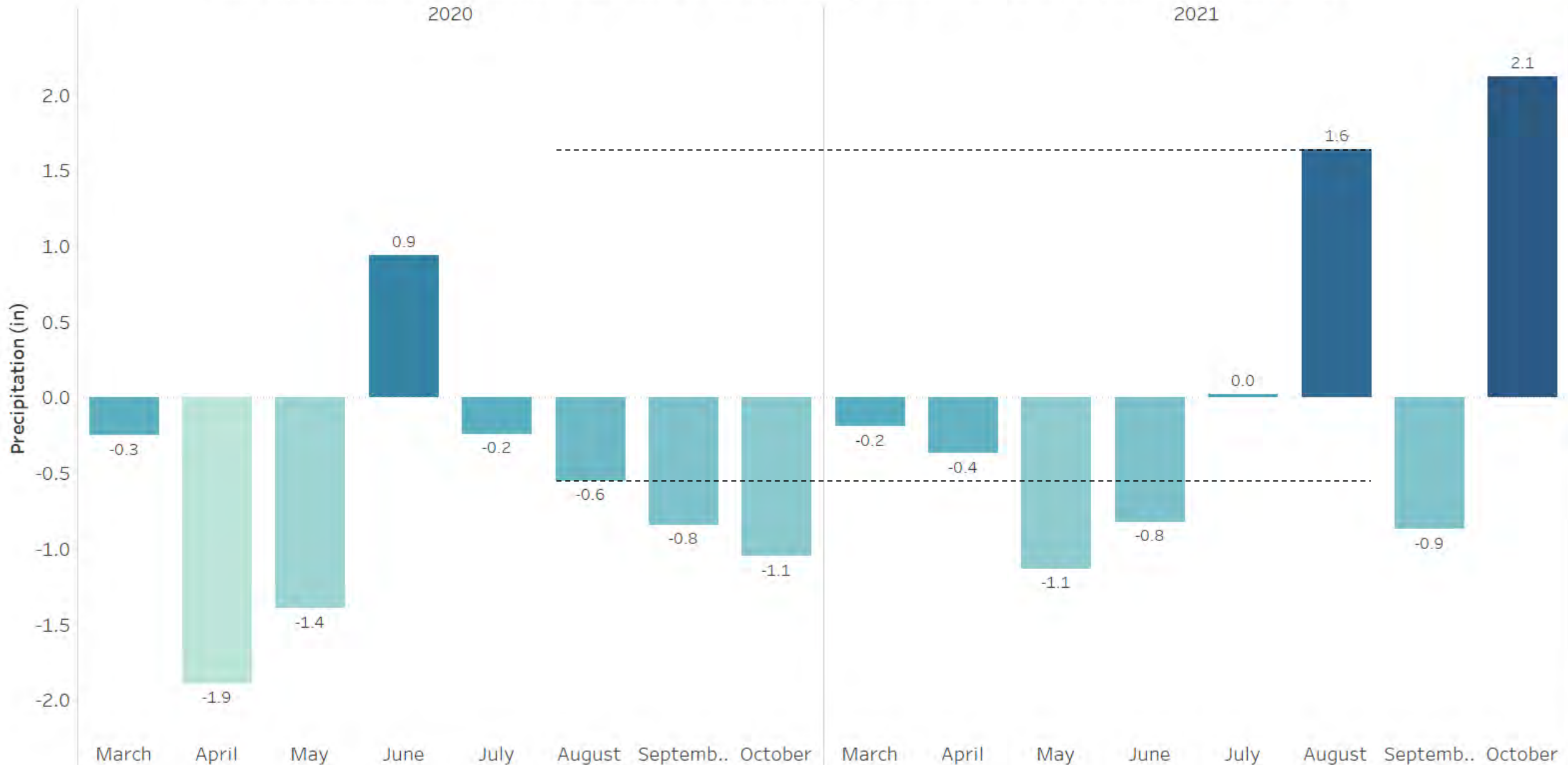
# Jordan Valley Water Conservancy District

## Average Summer Precipitation Departure from Normal by Month - Salt Lake City International Airport

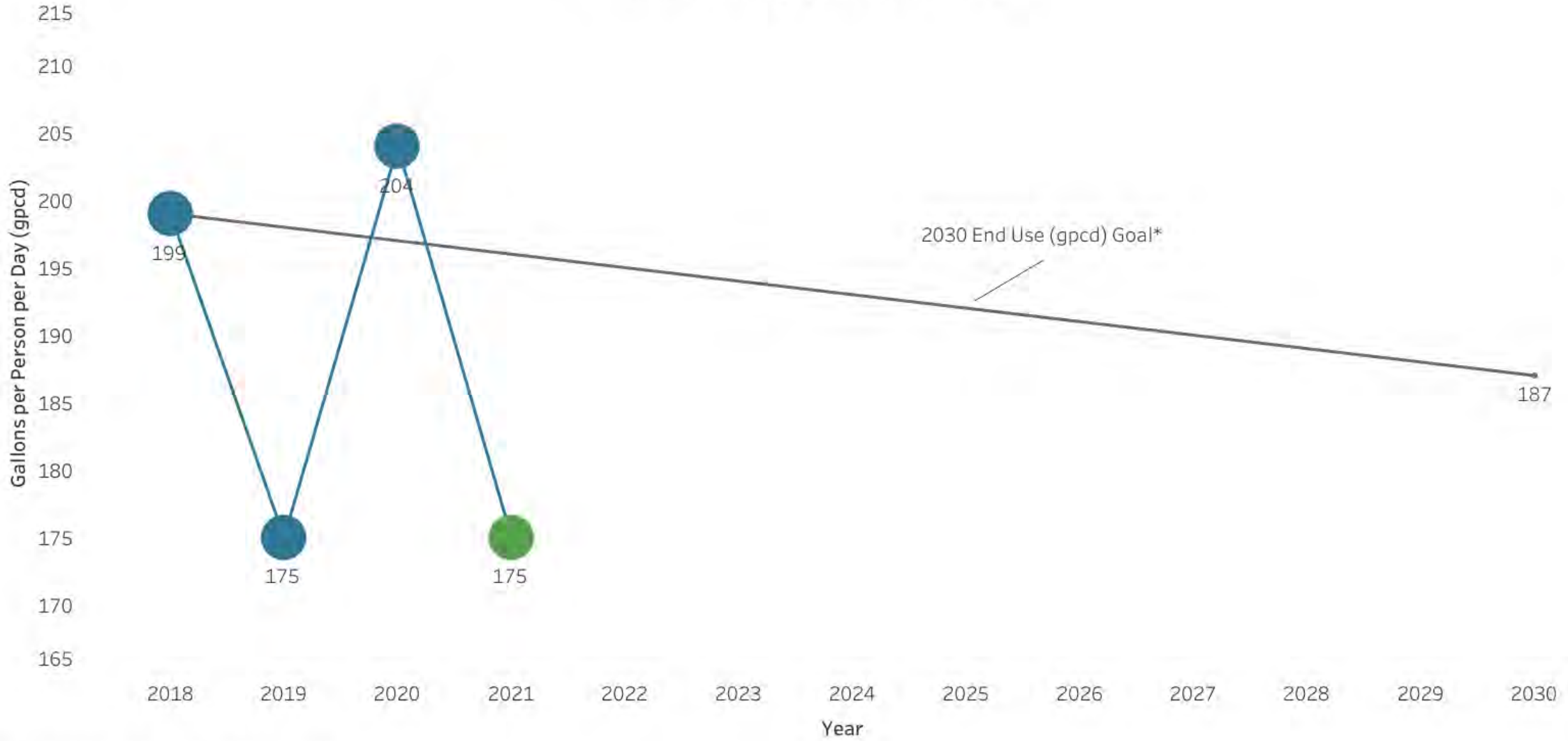


# Jordan Valley Water Conservancy District

## Average Summer Precipitation Departure from Normal by Month - Salt Lake City International Airport



# Jordan Valley Water Conservancy District Annual End Usage per Capita (gpcd)



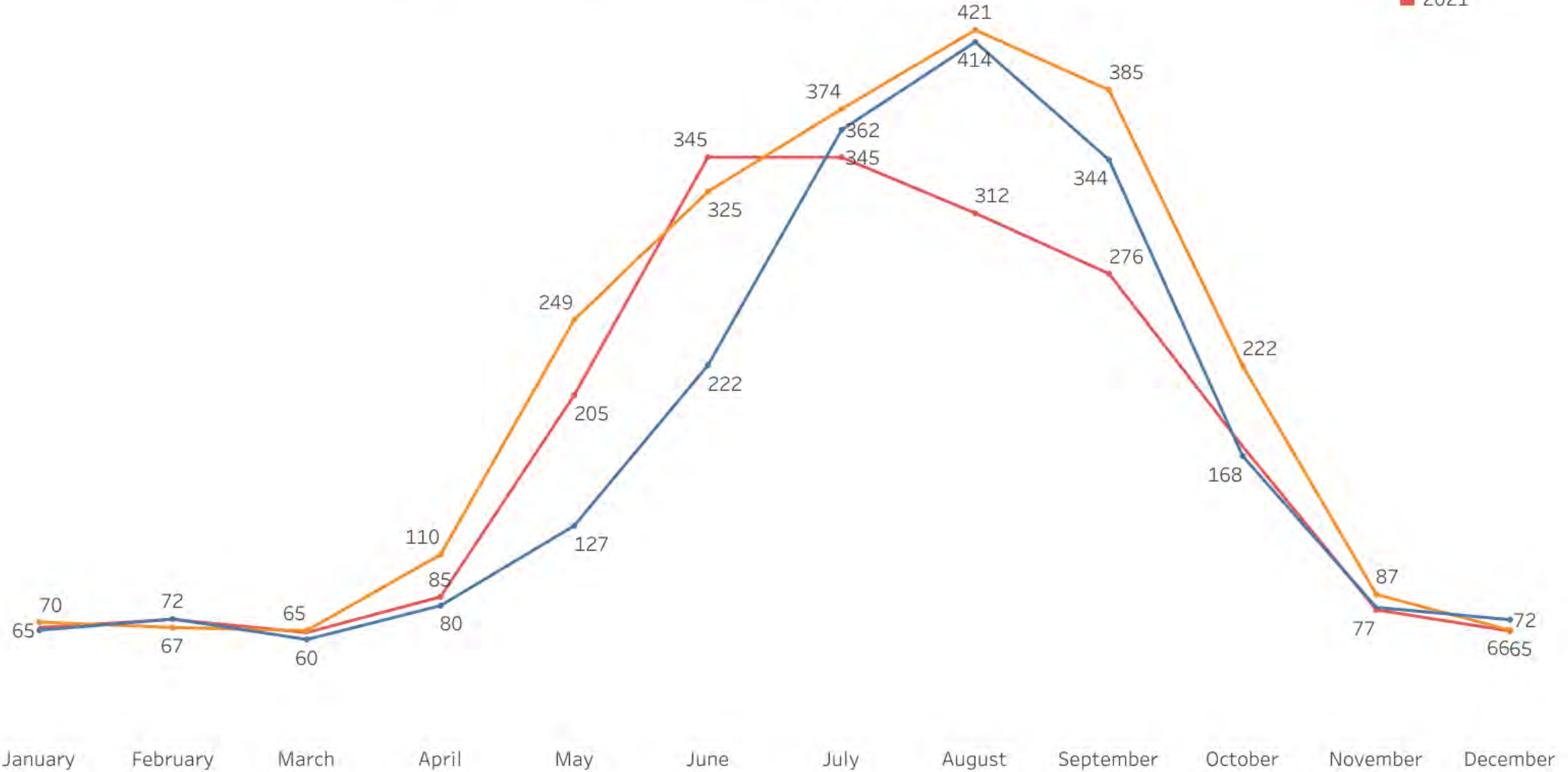
\*2030 End Use (gpcd) Goal is 187 gpcd by 2030



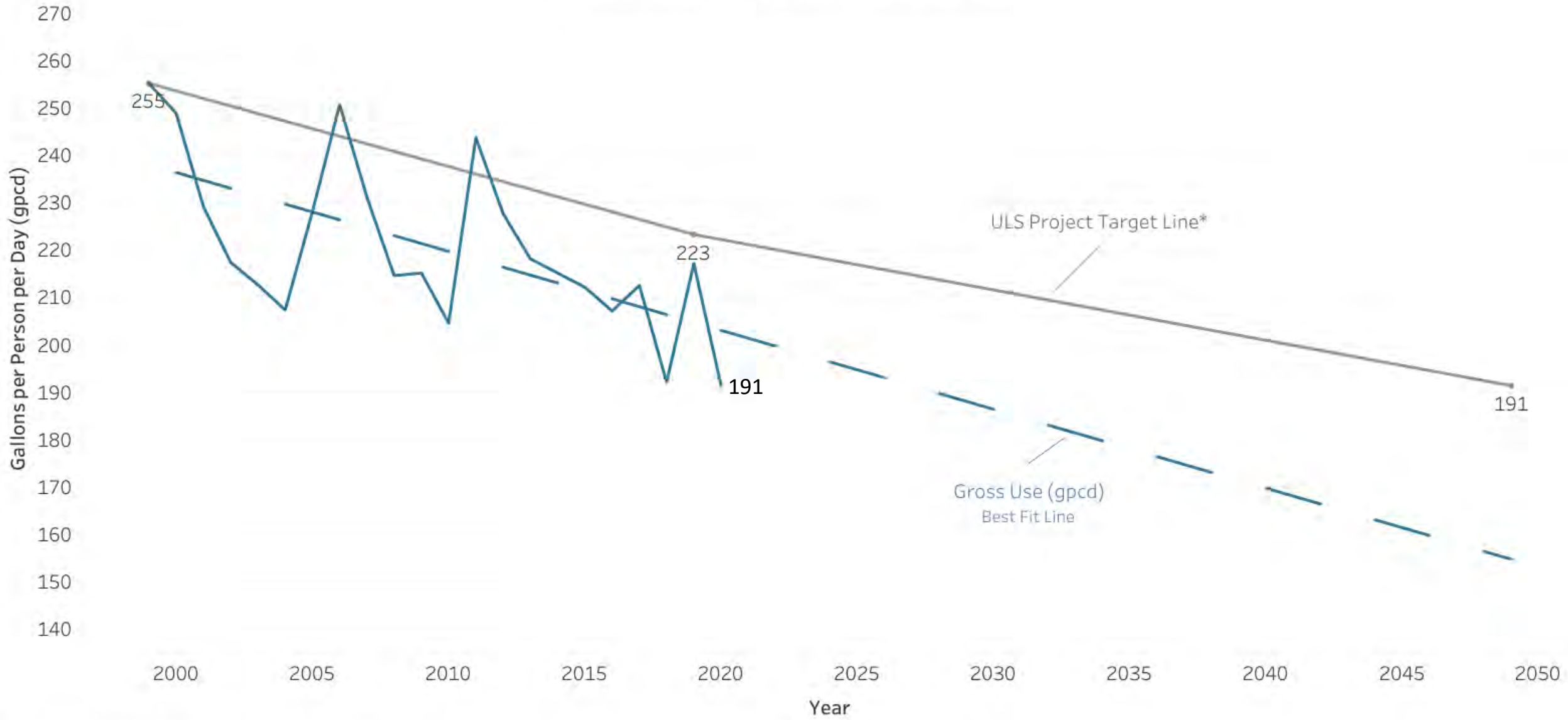
# Jordan Valley Water Conservancy District

## All Comparison of Combined End Usage per Capita By Month (gpcd)

Year  
2019  
2020  
2021



# Jordan Valley Water Conservancy District Annual Gross Usage per Capita (gpcd)



\*Uls Project Target Line is 12.5% by 2020 and 25% by 2050

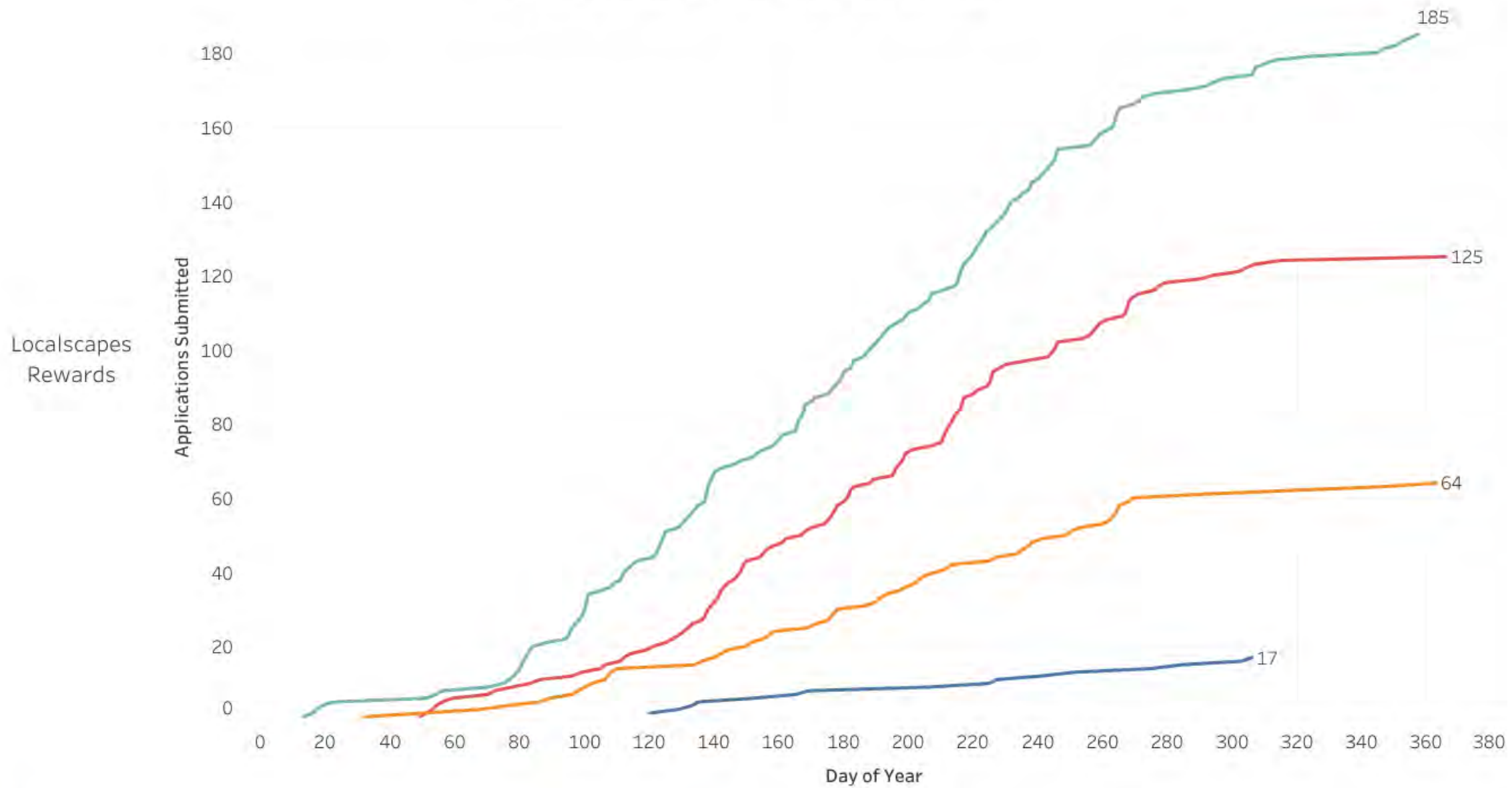


# 2021 Residential Program Participation

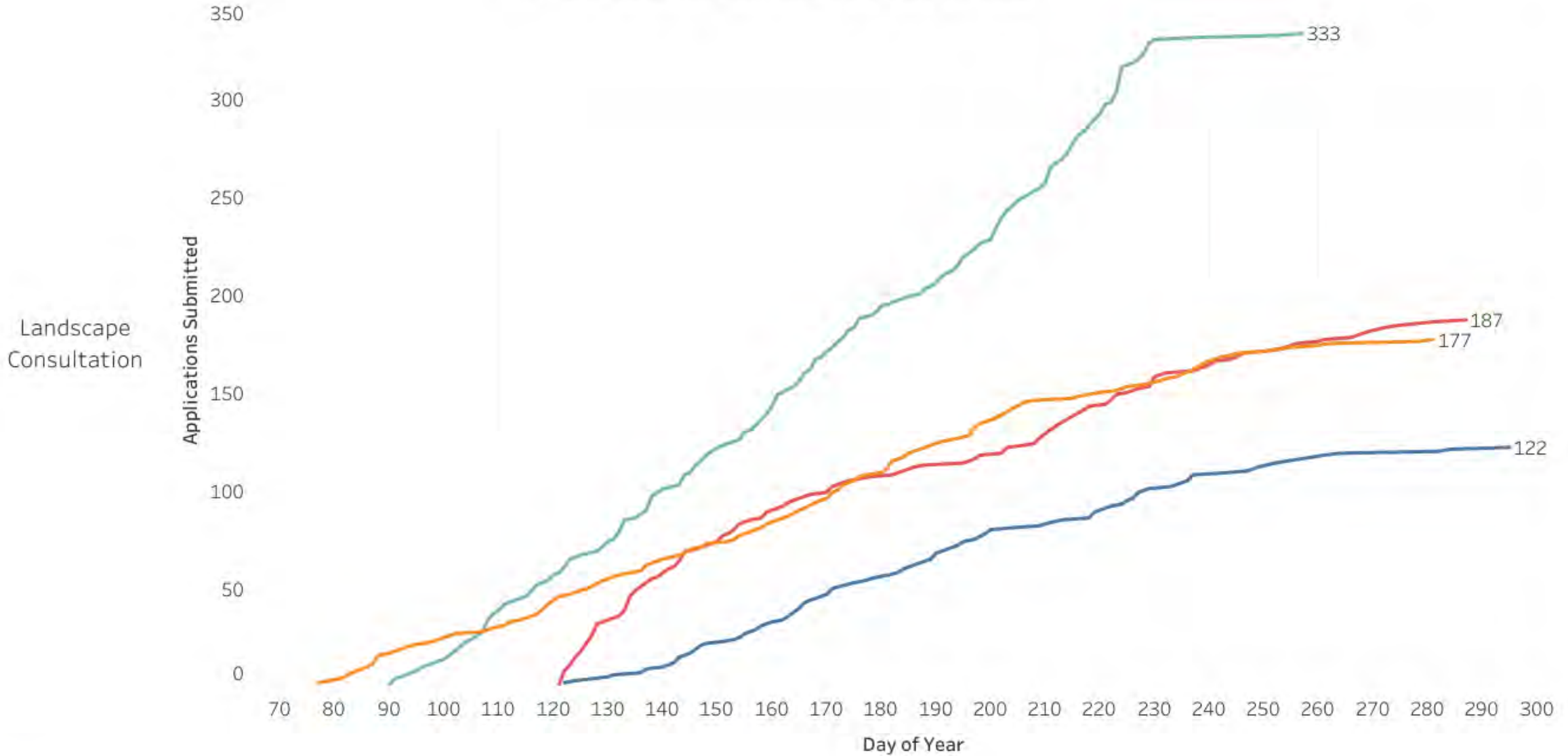
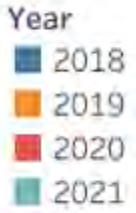
Review of Utah Water Savers activities

# Jordan Valley Water Conservancy District Localscapes Rewards Applications Submitted by Day of Year

Year  
2018  
2019  
2020  
2021



Jordan Valley Water Conservancy District  
Landscape Consultation  
Applications Submitted by Day of Year

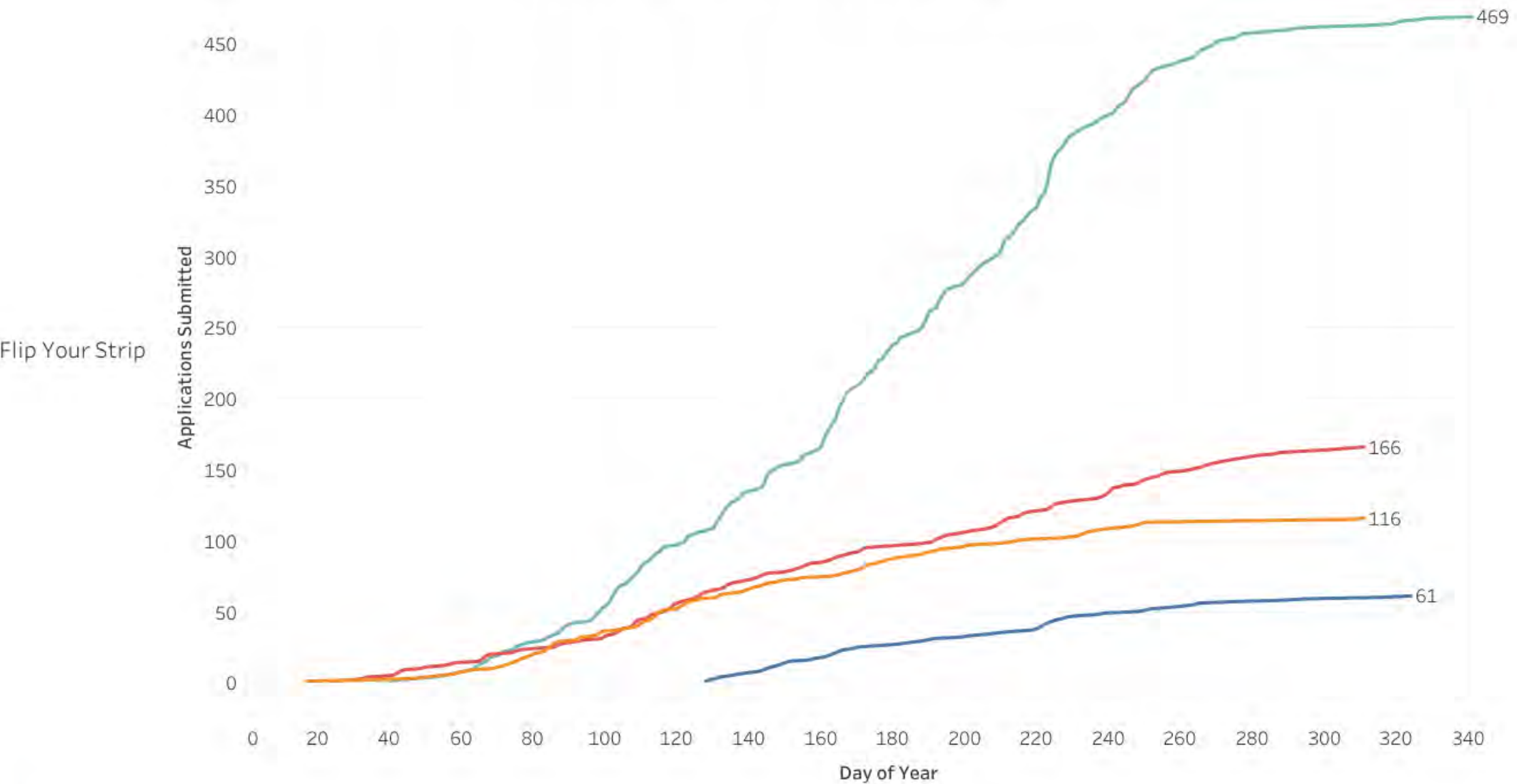


# Jordan Valley Water Conservancy District

## Flip Your Strip

### Applications Submitted by Day of Year

Year  
2018  
2019  
2020  
2021





# Summary

2021 completed projects on Utah Water Savers

Program	Participants	Square Footage	Rebate Total
Localscapes Rewards	85	461,548	\$181,916
Flip Your Strip	149	72,885	\$90,849
Landscape Consultations	321	N/A	N/A
Smart Controllers	1,144	N/A	\$84,646
Toilets	153	N/A	\$18,753
	<b>1,852</b>	<b>534,433</b>	<b>\$376,164</b>



# Water Efficiency Standards

Summary of studies related to the water efficiency standards



# Future Land Development

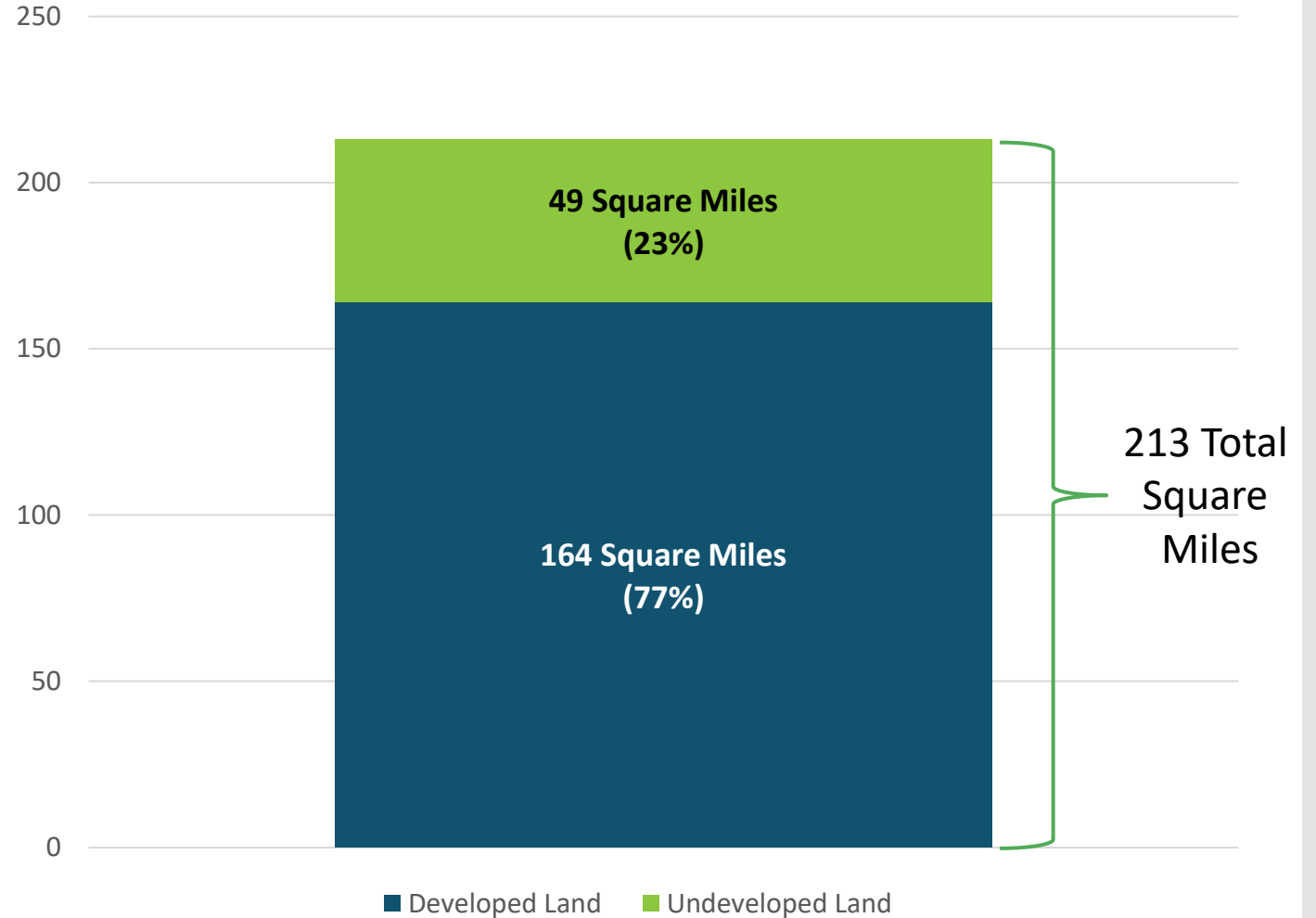
In 2019, JWCD staff performed a study to see JWCD's current water supply portfolio was sufficient to meet the demands of its existing service boundaries.

The study concluded that there is enough water to meet the needs of JWCD's existing service area so long as new construction conforms to a series of water efficiency standards.

This water supply has since been categorized as Block 1 water. It excludes the Central Water Project and the future Bear River Development.

A Block 2 water rate was created to reflect the cost of JWCD's latest water supply, the Central Water Project.

JWCD's Service Boundaries (2018)





# Impact of Water Efficiency Standards

	<b>2019 Budget and Staffing (current)</b>	<b>2030 Budget and Staffing (if water efficiency standards are adopted by 2023)</b>	<b>2030 Budget and Staffing (if no water efficiency standards are adopted)</b>
<b>Total Annual Budget</b>	\$1,655,242	\$4,090,008	\$17,846,925
<b>Full Time Employees</b>	6	9	14
<b>Seasonal Employee</b>	10	12	16
<b>Total Spending (2019-2030)</b>		\$34,312,565	\$116,487,082

*Note: Both 2030 projections use a similar methodology to achieve the 2030 goal. Each conservation program has an estimated level of public participation, staffing time, budgetary cost, and associated water savings for each year through 2030.*



JORDAN VALLEY WATER  
CONSERVANCY DISTRICT

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## Key Benefits of Adopting Water Efficiency Standards

- Every land use decision is a water management decision. As land is developed, it creates a perpetual commitment for how water will be used for many decades.
- Reductions in outdoor consumption will result in lower peaking factors, infrastructure costs, and water conservation expenses.
- The cost to retrofit a landscape to be water-efficient is 5 times higher than installing it to be water-efficient from the beginning.
- Water-efficient landscapes are more compatible with Utah's arid climate, are more resilient to droughts, and can more easily adapt to the trending hotter and drier climate conditions in the future.



# Water Conservation Programs

Summary of the programs available to Member Agencies and  
the public



## Member Agency Grant Program

### Two Opportunities:

- Funding for Agency Water Conservation Programs
- Funding for Assistance in Adopting Water Efficiency Standards

**\$50,000 +  
\$1 per acre-foot of contract**

- To assist in funding and implementing water conservation measures, projects, and programs within the Member Agency retail service area.

**\$50,000 +  
\$1 per acre-foot of contract**

- To assist in funding the potential financial impacts of adopting the Water Efficiency Standards.
- Areas for consideration are staffing, consulting, training, software, equipment, etc. that may be needed as a result.

# Utah Water Savers

utahwatersavers.com



Apply today for a  
**FREE consultation or cash rebates!**

(Programs available throughout most of JWCD's service area)



Cash rebates for homeowners who purchase a smart controller for their irrigation system.



Cash rebates for homeowners who replace toilets that were installed before 1994.



Cash rebates for homeowners who convert grass park strips to water-efficient designs.



Free consultations for homeowners wanting to improve the water efficiency of their yard.



Cash rewards and landscape plan reviews for those who complete Localscapes projects.

## how do I **APPLY?**

Complete the online interest form at  
**JVWCD.ORG/LANDSCAPELEADERSHIPGRANT**

Or email the following information to  
**GRANTS@JVWCD.ORG:**

1. Applicant's contact information (name, phone, and email)
2. Project address and description
3. Estimated project start date and cost
4. Concept landscape plan (or detailed construction plans if available)
5. Estimated square footage (include breakdown of turf, planter bed, and hardscape areas)

### **APPLICANT REQUIREMENTS:**

- Recipient must be a commercial business, builder/developer, institution, or HOA.
- Project must be located within the JVWCD service area.
- Project must provide quantifiable water savings.
- Project must have high promotional, marketing, or press appeal.
- Landscape changes must be voluntary and not for the purpose of complying with a governmental code or policy.



**JORDAN VALLEY WATER  
CONSERVANCY DISTRICT**

8215 South 1300 West - West Jordan, UT 84088  
801-565-4300



*example projects*

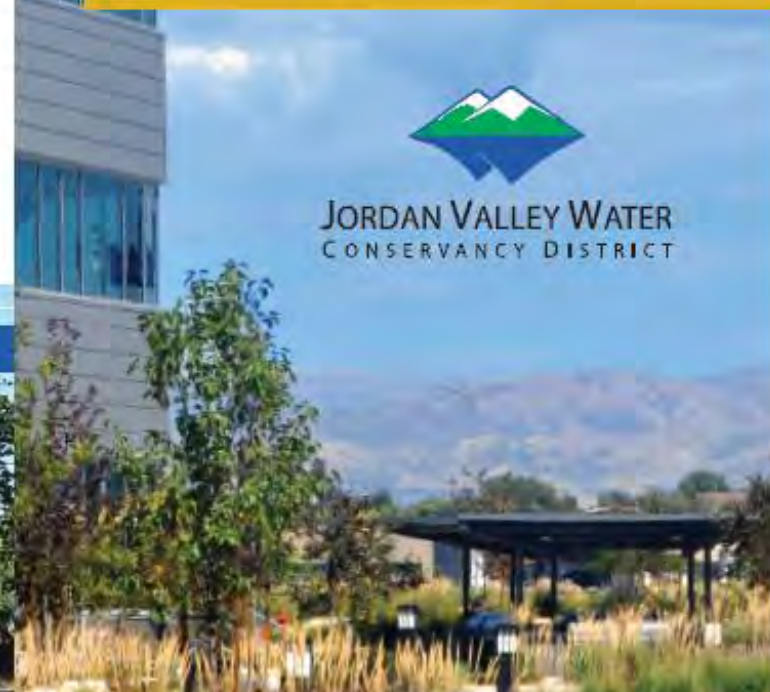
# Landscape LEADERSHIP grants

FOR BUILDERS · DEVELOPERS  
COMMERCIAL BUSINESSES AND INSTITUTIONS  
& HOMEOWNERS ASSOCIATIONS

*Funding for prominent,  
water-efficient landscaping projects.*



**JORDAN VALLEY WATER  
CONSERVANCY DISTRICT**



# Strategic WATER MANAGEMENT

Strategic Water Management is a joint effort between JWCD and eligible commercial, industrial, institutional, and multi-family water users to both save water and meet the unique needs of program participants.

The program offers:

- Water use assessments
- Custom incentives



- Irrigation system upgrades (ex. smart central irrigation controllers, drip conversions, zone adjustments)
- Indoor fixture replacement (ex. toilets, urinals, faucets, showerheads)
- Replacement of water-cooled equipment with new air-cooled equipment (ex. ice machines)
- Enhanced or added water reclamation systems
- Elimination of water intensive industrial processes
- Boiler and steam system upgrades
- Air conditioning condensate capture and reuse
- Cooling tower modifications
- Industrial laundry equipment upgrades
- More efficient reverse osmosis units
- Car wash system and equipment upgrades
- Laboratory and medical equipment upgrades



# Conservation Garden Park

(8275 S. 1300 W. West Jordan, UT)



- With more than nine acres of exhibits, pathways and Utah-friendly plants, Conservation Garden Park is Salt Lake County's premier destination for information about water-efficient landscaping. Owned and operated by JWCD, the Garden is open year-round with free admission to all patrons.
- Classes, tours, educational exhibits, field trips, community events, plant database, and online education.



**JORDAN VALLEY WATER**  
CONSERVANCY DISTRICT

**Annual Member Agency Meeting**  
**April 27, 2022**



JORDAN VALLEY WATER  
CONSERVANCY DISTRICT

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JVWCD Annual  
Member Agency  
Meeting

April 27, 2022

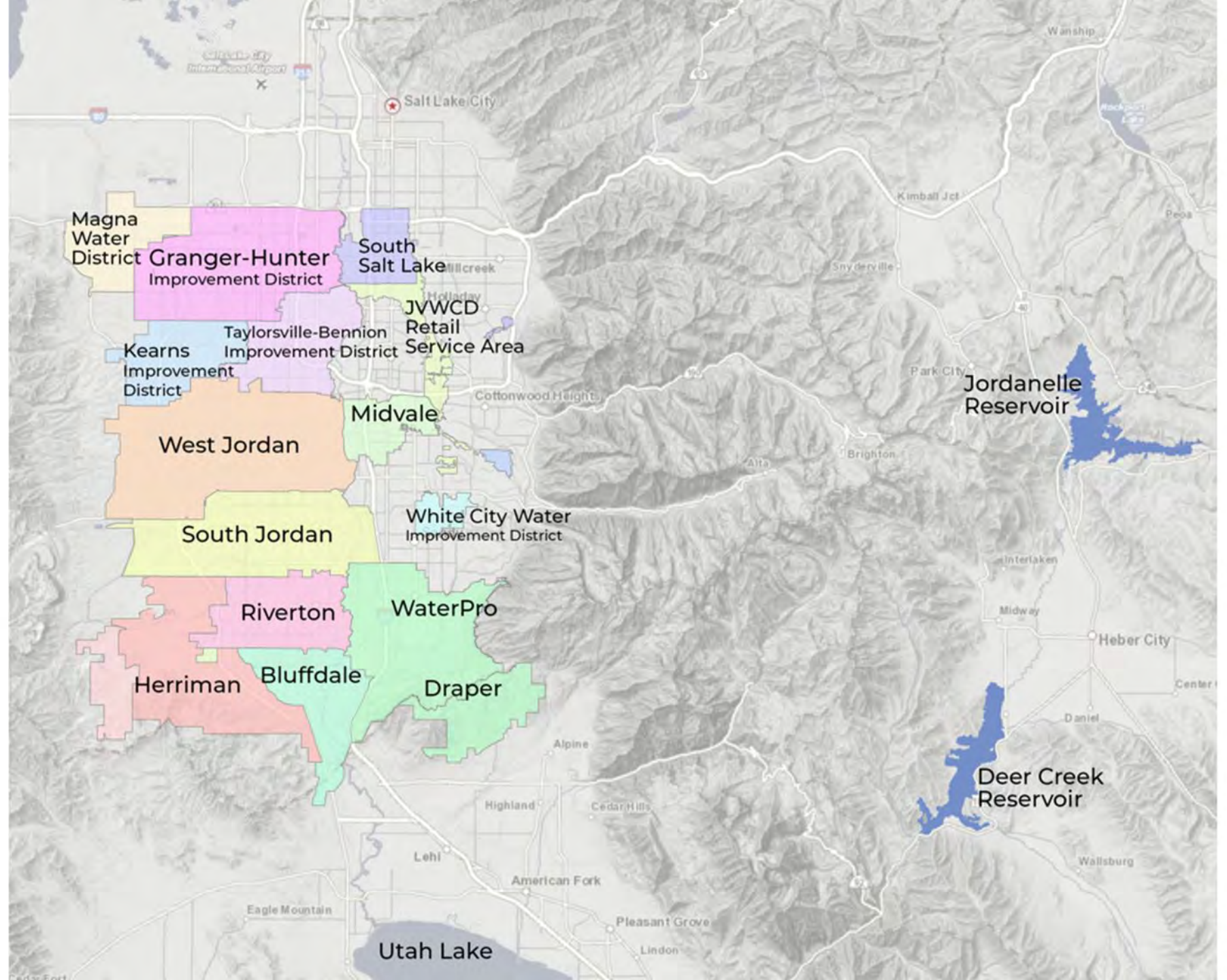
# Long-Term Water Supply Planning and 10-Year Capital Projects Plan

The highlighted areas on the map show JWCD's service area, which includes the following cities and water providers:

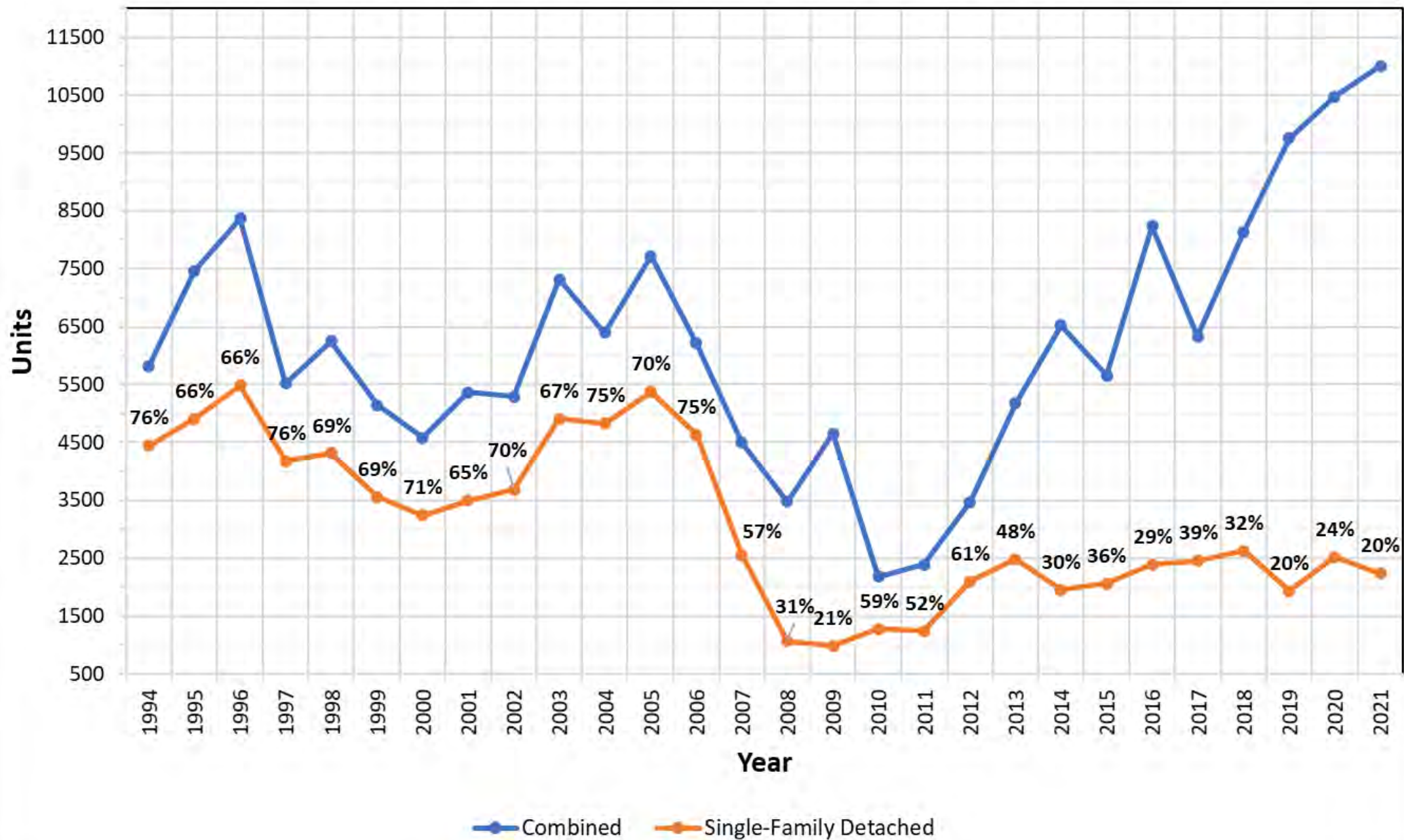
- Bluffdale City
- Draper City
- Granger-Hunter Improvement District
- Herriman City
- Kearns Improvement District
- Magna Water District
- Midvale City
- Riverton City
- City of South Jordan
- City of South Salt Lake
- Taylorsville-Bennion Improvement District
- Waterpro, Inc.
- City of West Jordan
- White City Water Improvement District

JWCD's retail service area also includes smaller portions of the following locations:

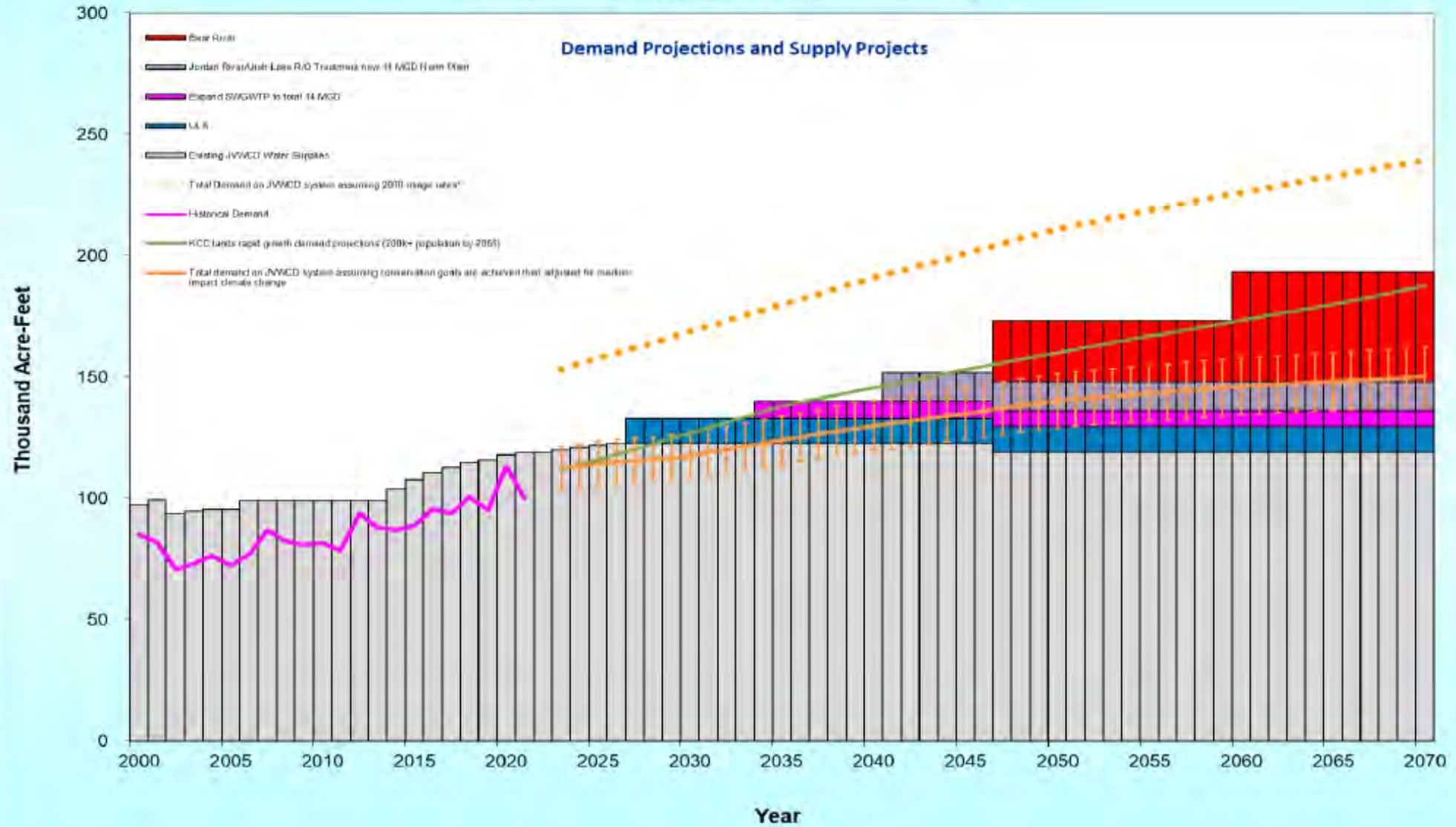
- City of Holladay
- Cottonwood Heights City
- Murray City
- Millcreek City
- Sandy City



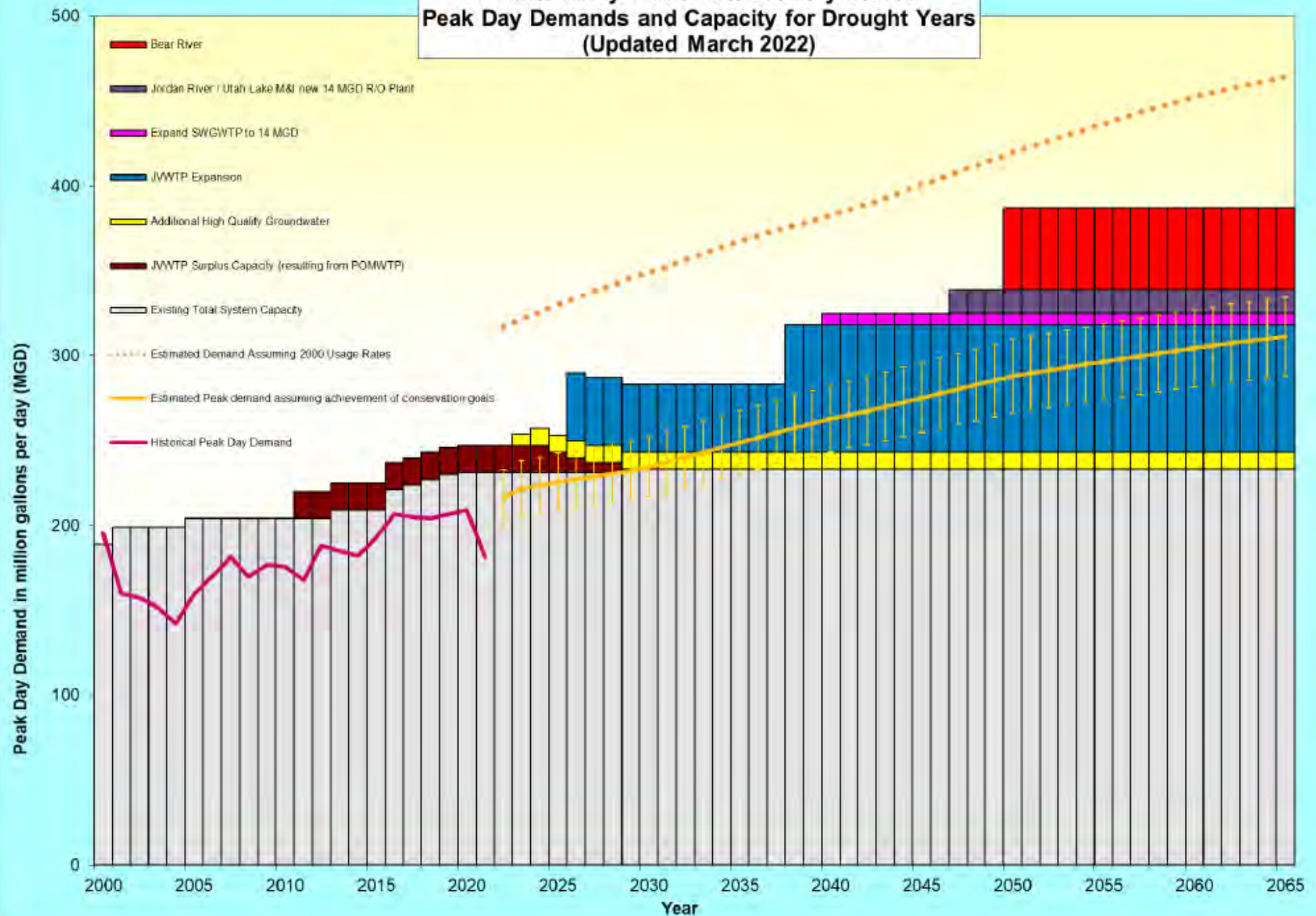
# Combined New Residential Units and Single Family as % of Total



**Jordan Valley Water Conservancy District  
Drought Year Water Supply Plan  
(using prehistoric tree ring data)  
(Updated March 2022)**

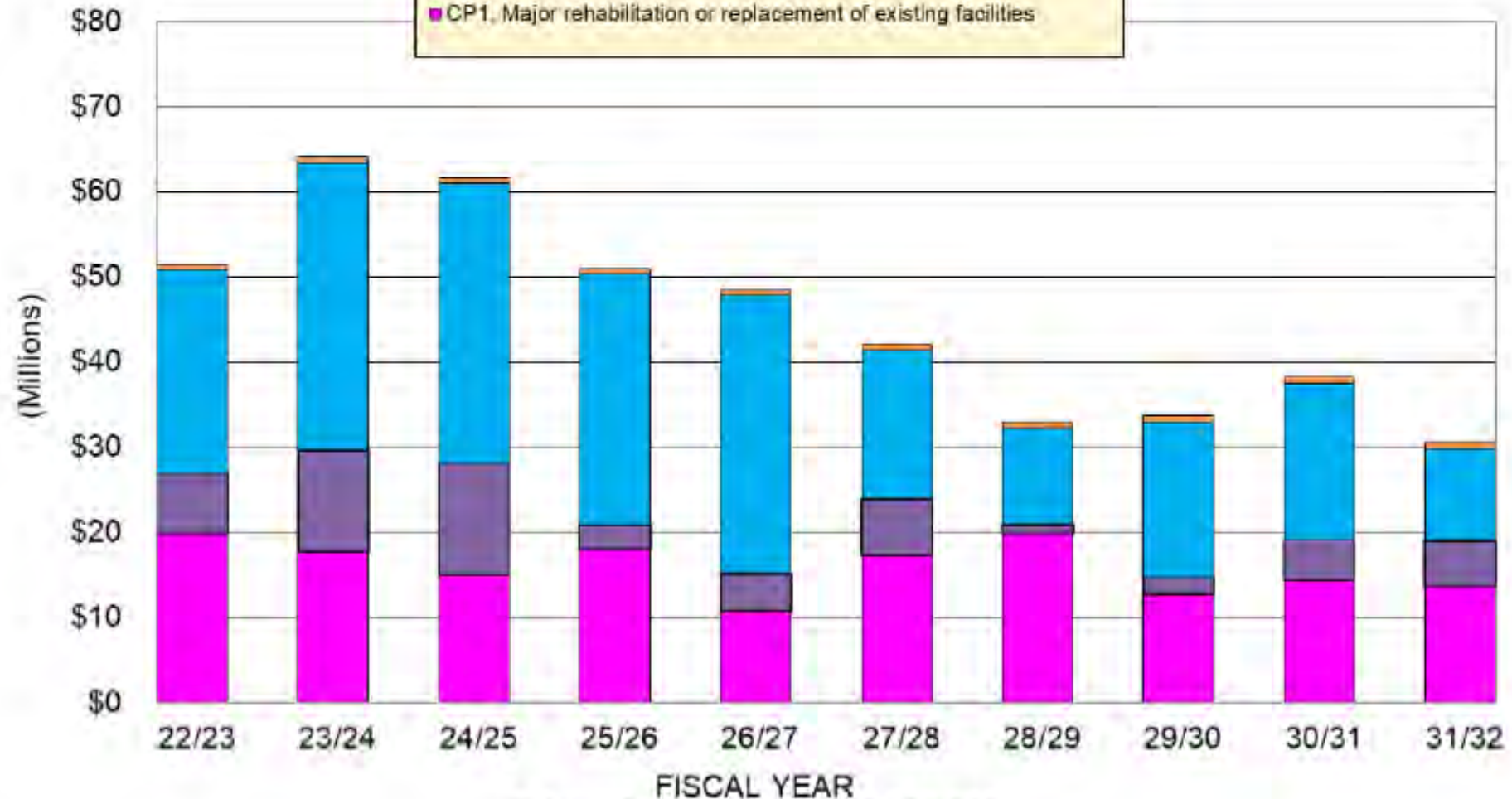


### Jordan Valley Water Conservancy District Peak Day Demands and Capacity for Drought Years (Updated March 2022)



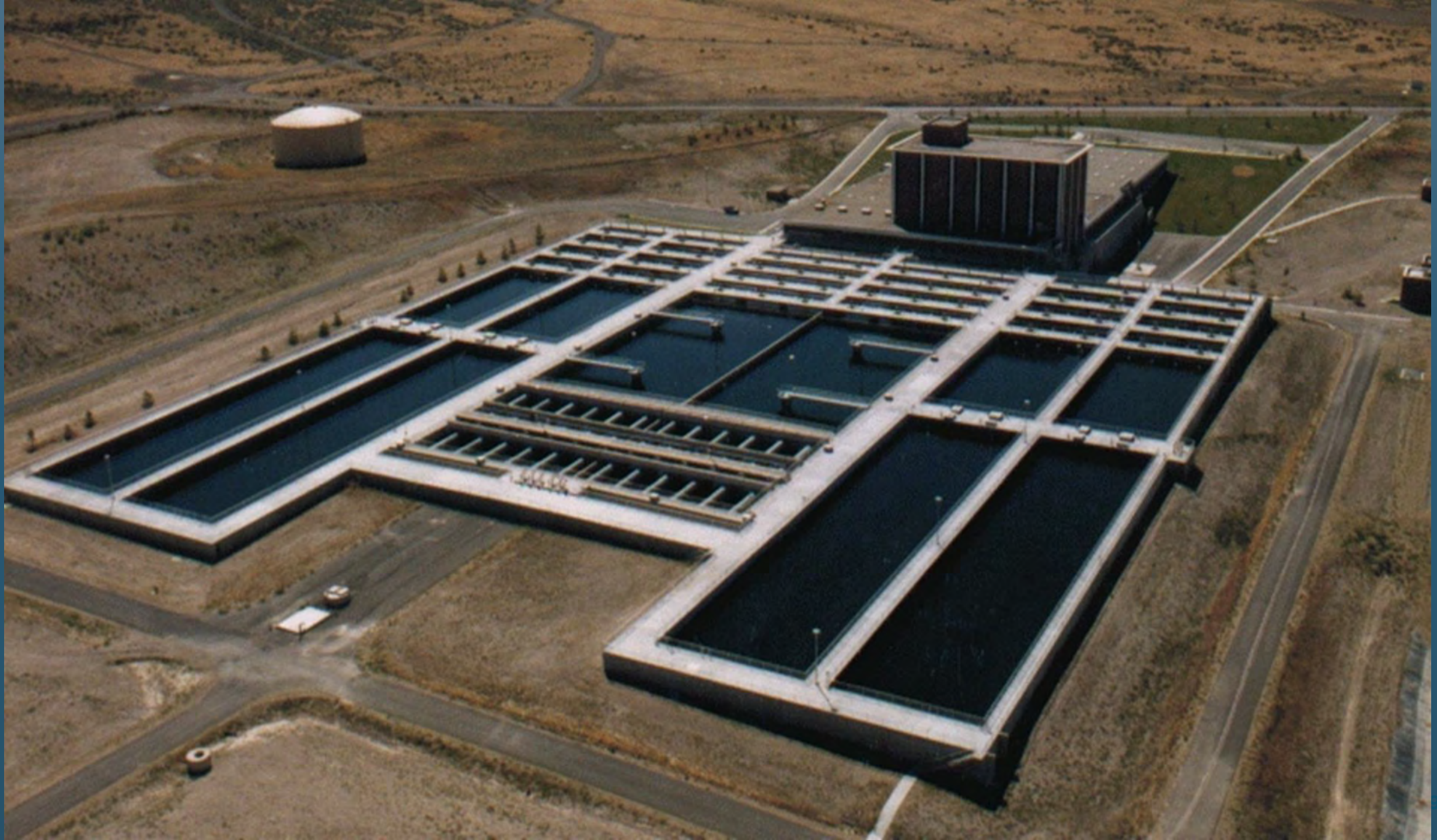
## TEN YEAR CAPITAL PROJECTS PLAN SUMMARY (updated March 2022)

- CP4, Projects needed to serve lands outside of current annexation boundaries
- CP3, New water supply, treatment, conveyance, or storage facilities which provide new system capacity
- CP2, New facilities needed for compliance or functional upgrades, but provide no new system capacity
- CP1, Major rehabilitation or replacement of existing facilities



Total in 10 Year Plan: \$454,212,875







# Questions/Comments



**JORDAN VALLEY WATER**  
CONSERVANCY DISTRICT

**Annual Member Agency Meeting**  
**April 27, 2022**



JORDAN VALLEY WATER  
CONSERVANCY DISTRICT

David Martin  
CFO/Treasurer  
April 27, 2022

# FINANCIAL PLAN, WATER RATES AND METHODOLOGY

## Annual Member Agency Meeting





# 2022 Annual Member Agency Meeting

## Financial Plan, Water Rates and Methodology

### FISCAL YEAR BUDGET

- Operating and maintenance level of service needs
- Debt payments due for fiscal year
- Funding capital replacement projects and reserves

### 10-YEAR CAPITAL PROJECTS PLAN

- Water supply and demand projections
- Prioritizing capital projects and estimated costs
- Updated annually

### 10-YEAR FINANCIAL PLAN

- Future revenue based on water demand projections
- Operating and maintenance expense projections
- Debt service based on current and anticipated debt
- Projected future bond issues

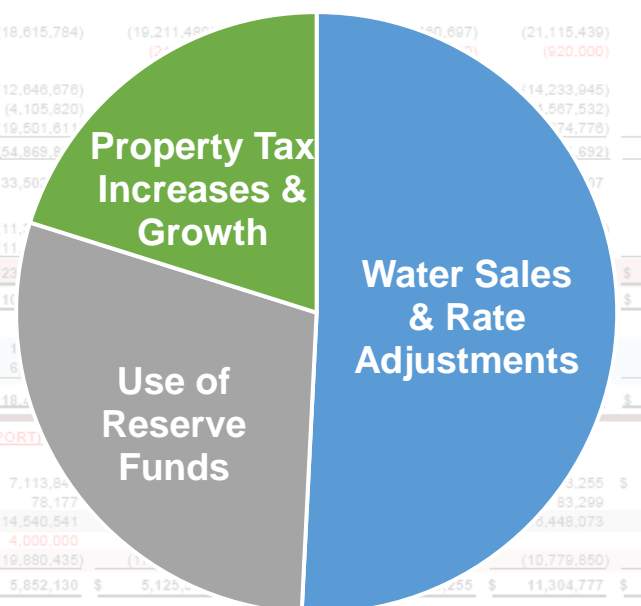
#### 10 YEAR FINANCIAL PROJECTIONS

(March 2022 Update w/ March 2022 Capital Projects Plan projections)

Fiscal Years

	CURRENT FY BUDGETED 2021/2022	PROPOSED BUDGET 2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029
<b>1.7% to 3.8% Proposed Rate Increases WITH MULTIPLE Tax Rate Increases</b>								
Water Delivery Percentage Increase (From the Water Supply Plan)	4.5%	-1.9%	8.1%	1.3%	1.3%	1.0%	1.0%	1.0%
Budgeted Water Deliveries	104,000	102,000	110,302	111,738	113,173	114,318	115,483	116,608
Average Water Rate Increase	2.0%	3.5%	3.3%	3.7%	3.8%	2.0%	2.0%	1.8%
Average Water Rate	\$555.5	\$580	\$604.10	\$627.45	\$650.28	\$673.54	\$697.22	\$721.37
<b>REVENUES:</b>								
Water Sales	\$ 58,818,378	\$ 59,649,800	\$ 66,833,438	\$ 69,986,270	\$ 73,591,875	\$ 75,823,700	\$ 78,115,338	\$ 80,310,282
Property Taxes	23,230,051	25,693,200	27,299,824	28,753,228	30,162,856	31,530,015	32,857,348	34,145,115
Other	2,580,900	3,159,300	3,367,942	3,582,728	3,804,123	4,032,866	4,269,115	4,513,812
<b>TOTAL REVENUES</b>	<b>84,609,329</b>	<b>88,372,300</b>	<b>97,501,204</b>	<b>101,922,685</b>	<b>105,983,437</b>	<b>108,788,399</b>	<b>113,736,149</b>	<b>118,562,037</b>
<b>OPERATING EXPENSES:</b>								
Water Purchased	(17,872,551)	(18,615,784)	(19,211,480)	(19,777,921)	(20,309,697)	(21,115,439)	(21,791,133)	(22,488,449)
Additional 6,300 AF CUP Water ULS Water Supply (16,400 AF)			(2,125,000)	(2,125,000)	(2,125,000)	(2,125,000)	(2,125,000)	(2,125,000)
Operating & Maintenance	(11,070,707)	(12,646,676)	(13,522,824)	(14,412,728)	(15,316,532)	(16,234,945)	(17,168,963)	(18,119,792)
General & Administrative	(3,892,473)	(4,105,820)	(4,326,824)	(4,555,532)	(4,792,532)	(5,037,532)	(5,291,532)	(5,553,532)
Personnel	(17,949,837)	(19,501,611)	(20,125,824)	(20,772,728)	(21,444,123)	(22,140,866)	(22,862,815)	(23,610,282)
<b>TOTAL OPERATING EXPENSES</b>	<b>(51,175,368)</b>	<b>(54,869,691)</b>	<b>(57,185,952)</b>	<b>(59,176,903)</b>	<b>(60,937,859)</b>	<b>(62,773,506)</b>	<b>(64,683,533)</b>	<b>(66,667,074)</b>
<b>INCOME BEFORE DEBT SERVICE</b>	<b>33,433,961</b>	<b>33,502,609</b>	<b>40,315,252</b>	<b>42,745,782</b>	<b>45,075,578</b>	<b>46,014,893</b>	<b>49,044,616</b>	<b>51,894,963</b>
<b>DEBT SERVICE PAID:</b>								
Principal	(10,692,000)	(11,125,000)	(11,562,500)	(12,004,000)	(12,450,000)	(12,900,000)	(13,354,000)	(13,812,000)
Interest	(11,895,783)	(12,345,000)	(12,799,000)	(13,257,000)	(13,719,000)	(14,185,000)	(14,655,000)	(15,129,000)
<b>TOTAL DEBT SERVICE</b>	<b>(22,357,783)</b>	<b>(23,470,000)</b>	<b>(24,361,500)</b>	<b>(25,261,000)</b>	<b>(26,169,000)</b>	<b>(27,085,000)</b>	<b>(28,009,000)</b>	<b>(28,941,000)</b>
<b>PAYGO FROM OPERATIONS</b>	<b>\$ 11,076,178</b>	<b>\$ 10,032,609</b>	<b>\$ 15,953,752</b>	<b>\$ 17,484,782</b>	<b>\$ 18,906,578</b>	<b>\$ 19,929,893</b>	<b>\$ 21,035,616</b>	<b>\$ 22,243,963</b>
<b>DEBT SERVICE COVERAGE</b>	<b>1.50</b>	<b>1.61</b>	<b>1.61</b>	<b>1.61</b>	<b>1.61</b>	<b>1.61</b>	<b>1.61</b>	<b>1.61</b>
<b>FROM REVENUE STABILIZATION FUND (RATES)</b>	<b>2,586,721</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>
<b>ADDITIONAL AMOUNT FROM REV STAB FUND</b>	<b>3,003,542</b>	<b>6,000,000</b>	<b>6,000,000</b>	<b>6,000,000</b>	<b>6,000,000</b>	<b>6,000,000</b>	<b>6,000,000</b>	<b>6,000,000</b>
<b>AVAILABLE FOR PAYGO TRANSFER</b>	<b>\$ 16,666,441</b>	<b>\$ 18,200,000</b>	<b>\$ 18,200,000</b>	<b>\$ 18,200,000</b>	<b>\$ 18,200,000</b>	<b>\$ 18,200,000</b>	<b>\$ 18,200,000</b>	<b>\$ 18,200,000</b>
<b>CAPITAL FUNDS BALANCE (CASH BASIS FROM BOARD REPORT)</b>								
<b>REPLACEMENT RESERVE FUND</b>								
Beginning of Year R&R Fund Balance:	\$ 4,906,157	\$ 7,113,847	\$ 7,113,847	\$ 7,113,847	\$ 7,113,847	\$ 7,113,847	\$ 7,113,847	\$ 7,113,847
Interest Income	20,000	78,177	78,177	78,177	78,177	78,177	78,177	78,177
Transfers from Operations	10,810,901	14,540,541	14,540,541	14,540,541	14,540,541	14,540,541	14,540,541	14,540,541
Transfers from Capital Projects Fund		4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000
CP1 Capital Expenditures (Net)	(8,623,211)	(19,880,435)	(19,880,435)	(19,880,435)	(19,880,435)	(19,880,435)	(19,880,435)	(19,880,435)
<b>End of Year R&amp;R Fund Balance:</b>	<b>\$ 7,113,847</b>	<b>\$ 5,852,130</b>	<b>\$ 5,125,122</b>	<b>\$ 4,400,114</b>	<b>\$ 3,677,106</b>	<b>\$ 2,954,098</b>	<b>\$ 2,231,090</b>	<b>\$ 1,508,082</b>
<b>CAPITAL PROJ. FUND &amp; BOND PROCEEDS</b>								
Beginning of Year Capital Funds Balance:	\$ 11,196,428	\$ 48,149,617	\$ 13,425,686	\$ 46,741,535	\$ 1,301,101	\$ 37,276,480	\$ 657,423	\$ 16,327,867
Interest Income	235,000	433,723	201,385	701,123	19,517	559,147	9,881	244,918
Transfers of Impact Fees	567,778	407,000	512,000	512,000	512,000	512,000	512,000	512,000
Transfers from Operations	649,160							
Transfers to Replacement Reserve Fund		(4,000,000)	(1,000,000)	-	(1,500,000)	-	-	-
Bond Proceeds	45,000,000		80,000,000		70,000,000		40,000,000	
CP2-CP4 Capital Expenditures	(9,498,749)	(31,564,854)	(48,397,536)	(46,853,557)	(33,056,138)	(37,890,204)	(24,851,417)	(13,187,440)
<b>End of Year Capital Projects Fund Balance:</b>	<b>\$ 48,149,617</b>	<b>\$ 13,425,686</b>	<b>\$ 46,741,535</b>	<b>\$ 1,301,101</b>	<b>\$ 37,276,480</b>	<b>\$ 657,423</b>	<b>\$ 16,327,867</b>	<b>\$ 3,917,415</b>
<b>END OF YEAR CAPITAL FUNDS BALANCE:</b>	<b>\$ 55,263,464</b>	<b>\$ 19,277,816</b>	<b>\$ 51,867,038</b>	<b>\$ 8,240,981</b>	<b>\$ 42,829,735</b>	<b>\$ 11,962,200</b>	<b>\$ 21,337,155</b>	<b>\$ 6,425,699</b>

### Funding the 10-Year Financial Plan (Operating Budgets)





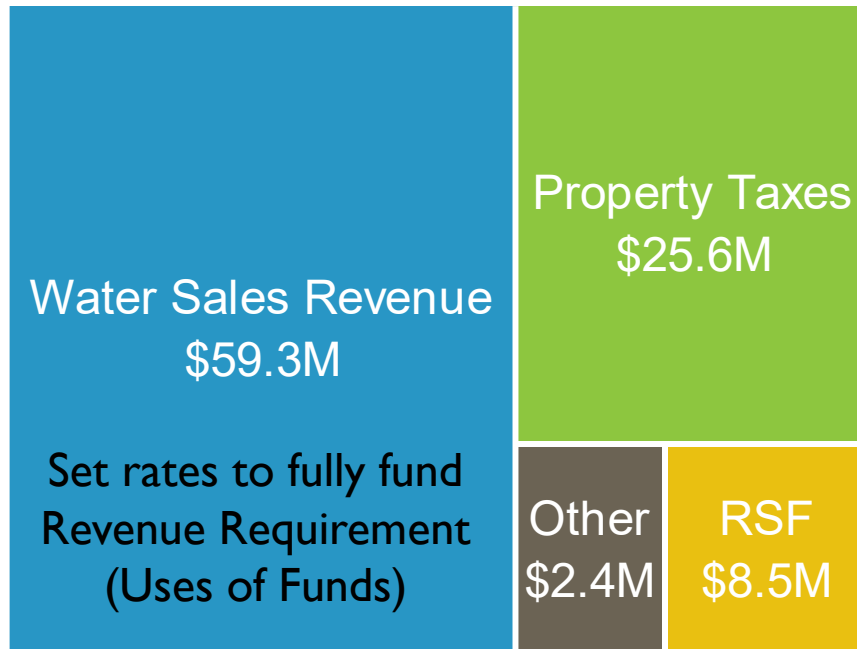
# 2022 Annual Member Agency Meeting

## Financial Plan, Water Rates and Methodology

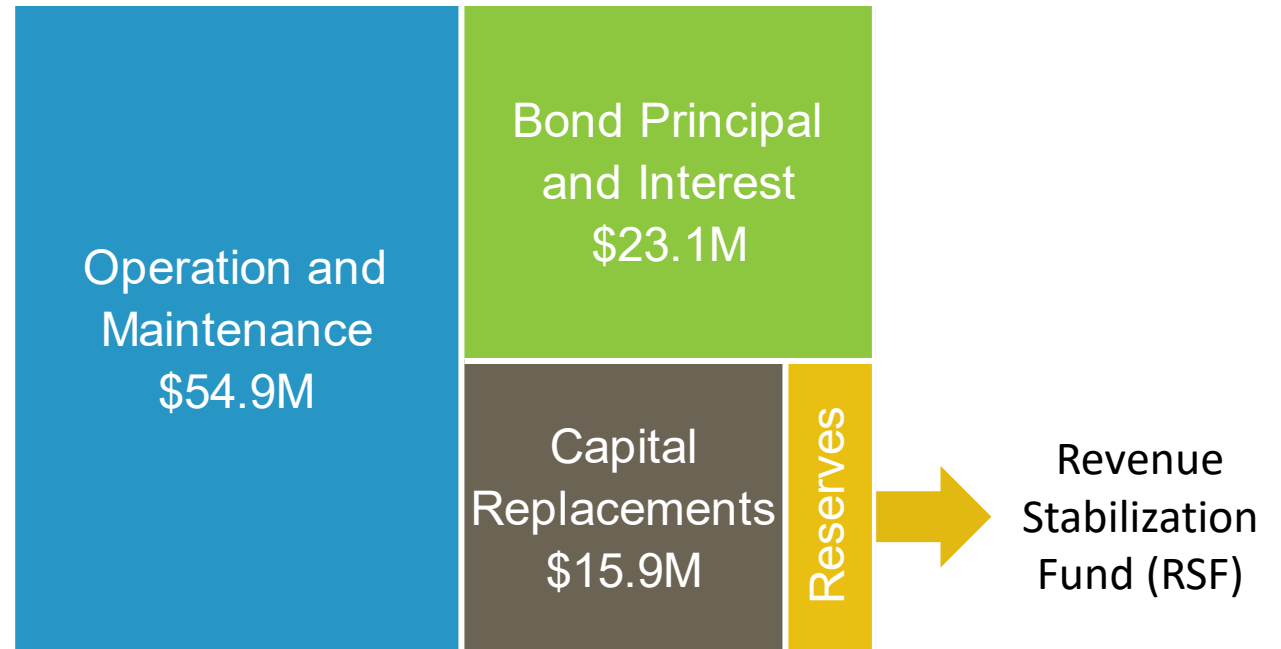
### BUDGET PROCESS

### Revenue Stabilization Fund (RSF)

#### SOURCES OF FUNDS



#### USES OF FUNDS



Revenues from higher water sales and/or unspent Uses of Funds can be used to offset future water rate adjustments



### WATER RATE METHODOLOGY – BIG PICTURE

#### WATER SYSTEM

- Jordan Valley has developed an extensive water system
- Over \$750 million invested in infrastructure and water sources
- Delivers over 100,000 acre-feet of water per year

#### USERS

- 17 member agencies and retail system of approx. 8,400 customers
- Use of the system differs – small to large wholesale contracts
- Summer extra-capacity usage ranges from 1 to 4 times average use

#### WATER RATES

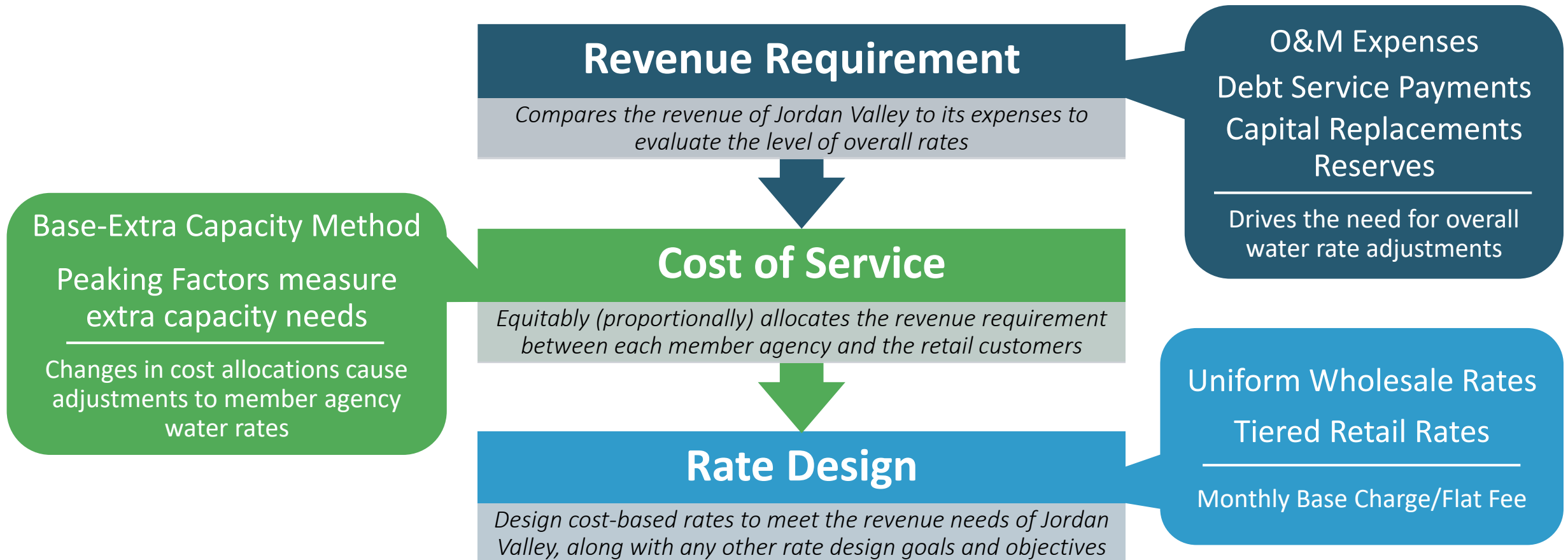
- Water rate study performed each year by a consultant
- Costs fairly allocated to users, based on how the system is used
- Water rates developed to generate sufficient revenues



# 2022 Annual Member Agency Meeting

## Financial Plan, Water Rates and Methodology

### OVERVIEW OF THE RATE SETTING PROCESS







### REVENUE REQUIREMENT SUMMARY CONCLUSIONS

- Tentatively approved 3.5% overall adjustment to water rates
- Property tax rate increase
- Use \$8.5 million of Revenue Stabilization Fund
- Impacting deficiencies:
  - Inflation to operating expenses
  - Capital replacement funding through rates
  - Borrowing and annual debt service payments

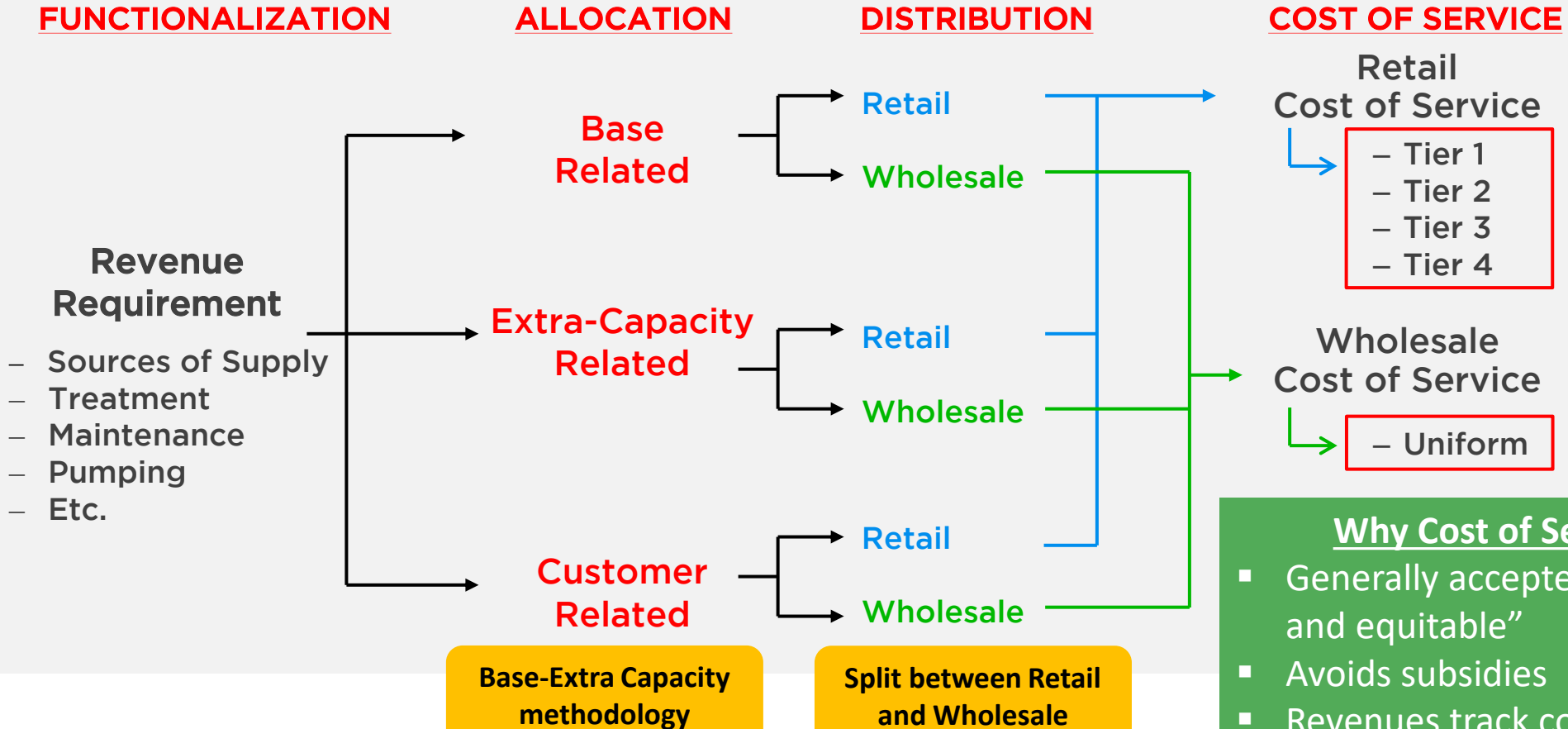


# 2022 Annual Member Agency Meeting

## Financial Plan, Water Rates and Methodology

### SIMPLIFIED OVERVIEW OF A COST OF SERVICE ANALYSIS

COST OF SERVICE ANALYSIS



**Why Cost of Service?**

- Generally accepted as “fair and equitable”
- Avoids subsidies
- Revenues track costs
- Provides accurate price signal

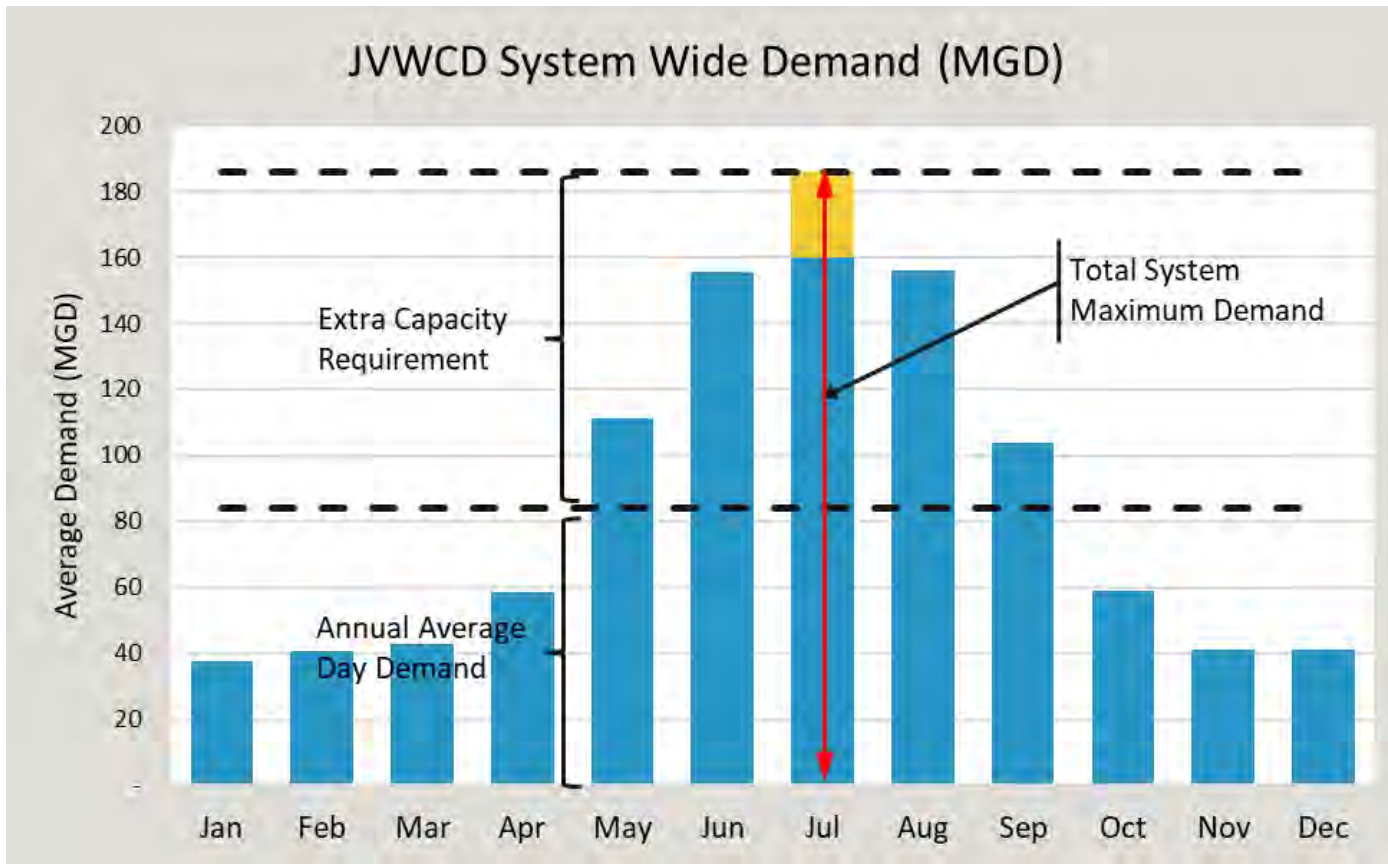


# 2022 Annual Member Agency Meeting

## Financial Plan, Water Rates and Methodology

### BASE-EXTRA CAPACITY METHOD

COST OF SERVICE ANALYSIS



	NET REVENUE REQUIREMENT	RATE PER ACRE FOOT
CUST. RELATED & DIRECT ASGN	\$1.2 million	Varies
EXTRA HOUR CAPACITY	\$3.0 million	\$0 - \$84
EXTRA DAY CAPACITY	\$12.4 million	\$0 - \$371
BASE	\$40.8 million	\$394
<b>TOTAL REVENUE REQUIREMENT</b>	<b>\$57.4 million</b>	



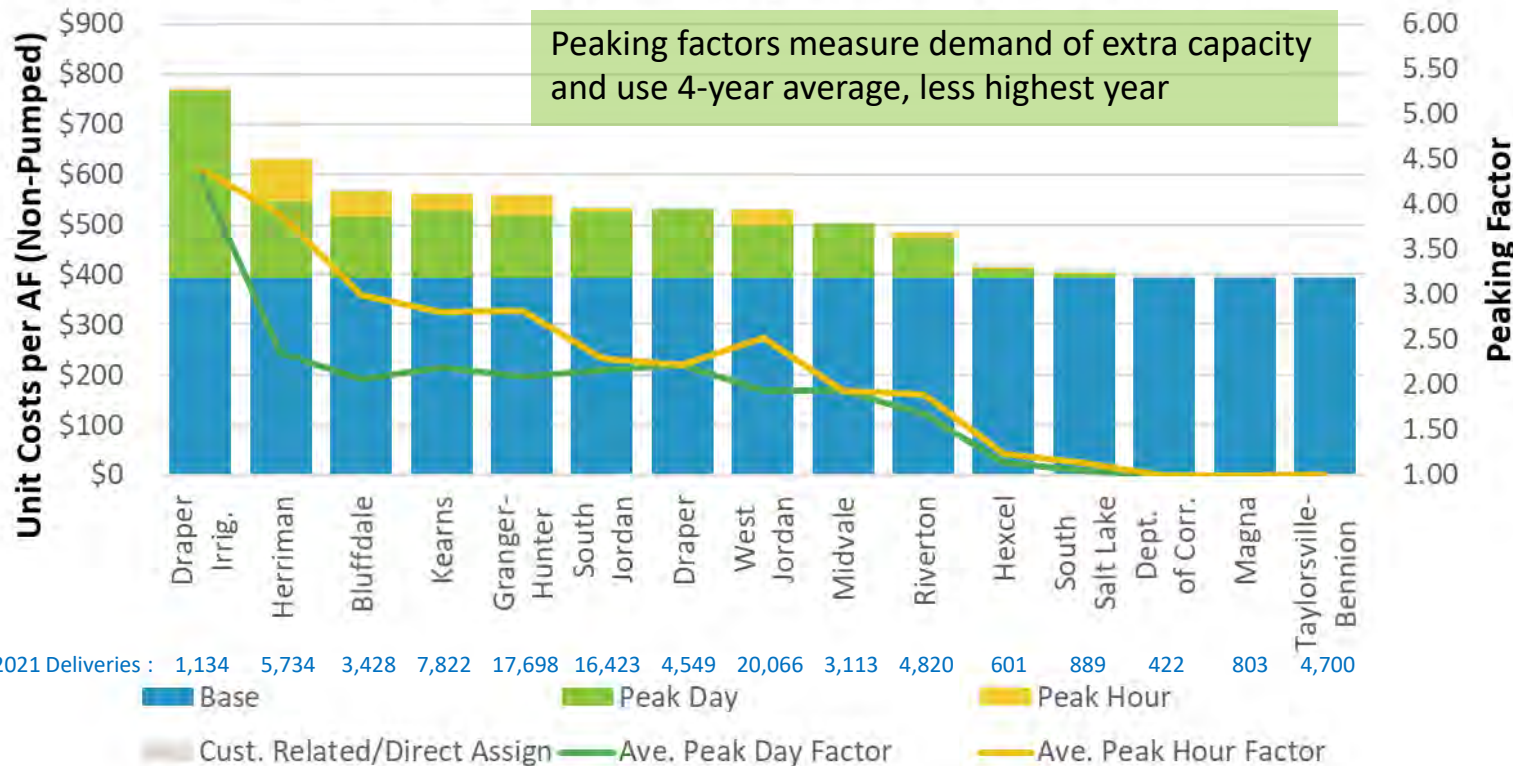
# 2022 Annual Member Agency Meeting

## Financial Plan, Water Rates and Methodology

### BASE-EXTRA CAPACITY METHOD

COST OF SERVICE ANALYSIS

Allocation of the Revenue Requirement (Unit Costs per AF)



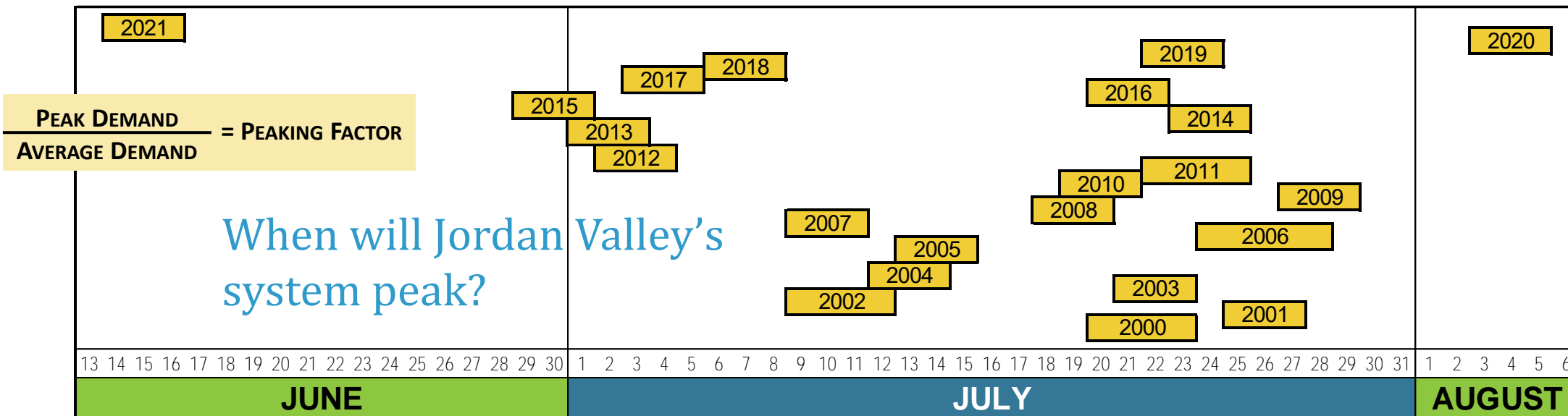
	NET REVENUE REQUIREMENT	RATE PER ACRE FOOT
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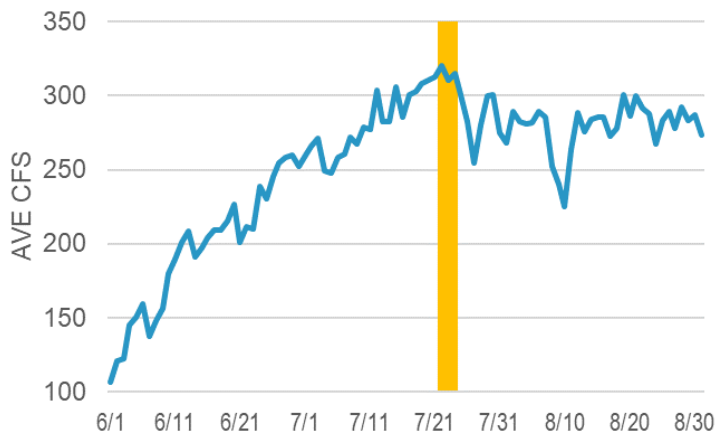
# 2022 Annual Member Agency Meeting

## Financial Plan, Water Rates and Methodology

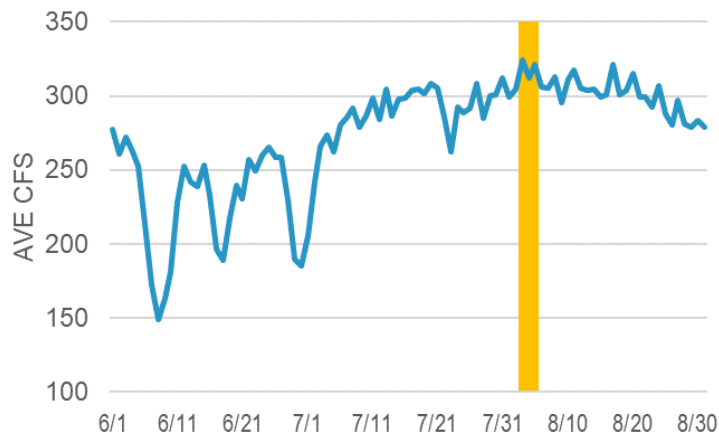
PEAKING FACTORS



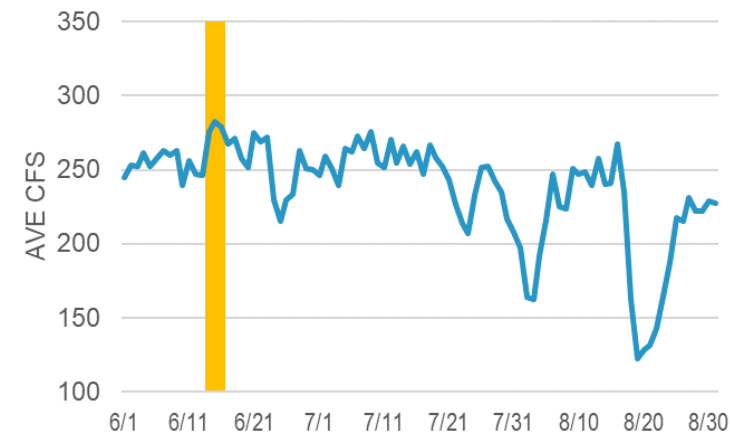
System Demand (Jun - Aug 2019)



System Demand (Jun - Aug 2020)



System Demand (Jun - Aug 2021)





# 2022 Annual Member Agency Meeting

## 2022/2023 Tentative Water Rates

2022/2023 WATER RATES

### 3.5% OVERALL ADJUSTMENT TO WATER RATES

MONTHLY METER BASE CHARGE				
METER SIZE	21/22 RATES	22/23 RATES	\$ CHANGE	% CHANGE
4"	\$25	<b>\$25</b>	\$0	0.0%
6"	50	<b>50</b>	0	0.0%
8"	78	<b>78</b>	0	0.0%
10"	114	<b>114</b>	0	0.0%
12"	168	<b>168</b>	0	0.0%
14"	228	<b>228</b>	0	0.0%
16"	300	<b>300</b>	0	0.0%
18"	378	<b>378</b>	0	0.0%
20"	462	<b>462</b>	0	0.0%
24"	672	<b>672</b>	0	0.0%
30"	1,050	<b>1,050</b>	0	0.0%

PUMP ZONE SURCHARGE				
PUMP ZONE	21/22 RATES	22/23 RATES	\$ CHANGE	% CHANGE
B North	\$22.62	<b>\$22.92</b>	\$0.30	1.3%
B South	41.98	<b>41.60</b>	(0.38)	-0.9%
C South	60.43	<b>57.93</b>	(2.50)	-4.1%
D South	105.76	<b>99.74</b>	(6.02)	-5.7%
JVWTP	29.96	<b>29.58</b>	(0.38)	-1.3%

MEMBER AGENCY (Rate per Acre Foot)	PUMP ZONES	2021/2022 RATES	2022/2023 RATES	\$ CHANGE	% CHANGE
Bluffdale	JVWTP	\$529.86	<b>\$565.38</b>	\$35.52	6.7%
Draper City		513.17	<b>532.54</b>	19.37	3.8%
Draper Irrigation		739.56	<b>772.01</b>	32.45	4.4%
Granger-Hunter	B North	548.23	<b>557.28</b>	9.05	1.7%
Herriman	C South, D South	610.70	<b>630.53</b>	19.83	3.2%
Hexcel Corp.	B North	401.51	<b>420.72</b>	19.21	4.8%
Kearns	B North	540.75	<b>561.53</b>	20.78	3.8%
Magna Water	B North	386.26	<b>397.14</b>	10.88	2.8%
Midvale		449.14	<b>501.34</b>	52.20	11.6%
Riverton	C South	476.79	<b>483.59</b>	6.80	1.4%
South Jordan	B North/South, C South, D South	513.83	<b>532.79</b>	18.96	3.7%
South Salt Lake		416.56	<b>408.51</b>	(8.05)	-1.9%
Utah Dept. of Corr.		386.72	<b>397.51</b>	10.79	2.8%
Taylorsville-Bennion	B North	384.34	<b>395.21</b>	10.87	2.8%
West Jordan	B North/South C South, D South	517.68	<b>530.43</b>	12.75	2.5%
BLOCK 2 WATER RATE	Plus Pumping	\$1,070.07	<b>\$1,094.58</b>	24.51	2.3%
BCWTP RATE		498.86	<b>527.65</b>	28.79	5.8%



## WATER RATE DESIGN & REMAINING TIMEFRAME

- 2022/2023 water rates:
  - Monthly base charge/flat fee
  - Pumping costs are directly assigned (zones)
  - Uniform wholesale rates – Block 1 and Block 2
  - Tiered retail rates
- Tentative water rates were approved 4/13/2022
- Public hearing is scheduled 5/11/2022 at 6:00 p.m.
- Final water rates to be approved/adopted 6/8/2022
- Effective 7/1/2022



# 2022 Annual Member Agency Meeting

## Financial Plan, Water Rates and Methodology

**Slides beyond this point are included to provide added explanation and updated information on the water rate setting process, methodology, and the 2022/2023 water rates.**





# 2022 Annual Member Agency Meeting

## Financial Plan, Water Rates and Methodology

### WATER RATE INFLUENCES

#### REVENUE REQUIREMENT

##### JORDAN VALLEY WATER

- Operation & Maintenance budget
- Planning and funding of capital improvements
  - Rate funded
  - Bonds – debt service
- Financing reserve funds
- Property tax revenue and tax rate increases
- Conservation goals

##### EXTERNAL INFLUENCES

- Economy (inflation, recession)
- Drought / Climate change
- Compliance standards
- Legislative changes

#### ALLOCATION OF COSTS

##### MEMBER AGENCY (INDIVIDUAL)

- Minimum purchase contract
- Actual annual water deliveries
- Extra-capacity demand – peak day/hour flows
- Number of meters and meter capacity
- Conservation efforts

##### MEMBER AGENCIES (GROUP)

- Jordan Valley’s system-wide peak (3-day period) is determined by Member Agencies as a group
- One Member Agency’s increase/decrease of its peak day/hour factor shifts the cost allocation for the entire group



# 2022 Annual Member Agency Meeting

## Financial Plan, Water Rates and Methodology

### WATER RATE INFLUENCES

#### REVENUE REQUIREMENT

##### JORDAN VALLEY WATER

**3.5% Average  
Water Rate  
Adjustment**

- Operation & maintenance
- Planning and funding of capital improvements
  - Rate funds
  - Bonds – debt service
- Financing
- Property tax revenue and tax rate increases
- Conservation goals

**Increased costs of operation**

**Proposed property tax rate increase and  
use of Revenue Stabilization Fund  
(prior year revenues used as offset)**

##### EXTERNAL INFLUENCES

- Economy (inflation, recession)
- Drought / Climate change
- Compliance standards
- Legislative changes

#### ALLOCATION OF COSTS

##### MEMBER AGENCY (INDIVIDUAL)

**+/- 5% of  
Average**

- Minimum purchases – contracts
- Actual annual water deliveries
- Extra-capacity day/hour flows
- Number of meters and meter capacity
- Conservation goals

**Shifting of peaking factors**

**Changes in projected water sales**

##### MEMBER AGENCIES (GROUP)

- Jordan Valley’s system-wide peak (3-day period) is determined by Member Agencies as a group
- One Member Agency’s increase/decrease of its peak day/hour factor shifts the cost allocation for the entire group



# 2022 Annual Member Agency Meeting

## Financial Plan, Water Rates and Methodology

### REVENUE REQUIREMENT – OVERVIEW

**Compares revenues to expenses**

- Determines the level of revenue adjustment necessary
- Revenues (rates) need to support operations and capital

**Uses prudent financial planning criteria**

- Adequate funding for renewal and replacement
- Maintain prudent reserve levels
- Meet debt service coverage ratios (legal requirement)

**Reviews a specific time period**

- Typically a 10-year period for Jordan Valley

**Utilizes the “cash basis” methodology**

- Generally accepted method for municipal utilities
- Historical Jordan Valley approach to establish water rates



### JORDAN VALLEY’S REVENUE REQUIREMENT – SUMMARY

- Rate revenues projected to be deficient during the 10-year review period
  - Tentatively approved 3.5% overall adjustment to rates followed by 2-4% thereafter
  - Use of revenue stabilization fund is a one-time reduction to rates
  - Future revenue adjustments may vary depending on actual operational results
- Annual deficiencies are primarily the result of:
  - Inflationary increases to O&M expenses
  - Prudent funding of capital through rates
  - Annual debt service payments
  - Maintaining adequate debt service coverage ratios
- An annual adjustment to rates has been Jordan Valley’s historical rate-setting philosophy

USE OF RATE INCREASE  
(3-Year Average)





### COST OF SERVICE ANALYSIS

#### What is cost of service?

- Analysis to equitably allocate the revenue requirement to the various customers (Retail and individual wholesale Member Agencies)

#### Why cost of service?

- Generally accepted as “fair and equitable”
- Avoids subsidies
- Revenues track costs
- Provides an accurate price signal

#### Objectives of cost of service

- Determine if subsidies exist
- Develop average unit costs



### JORDAN VALLEY'S COST OF SERVICE – SUMMARY

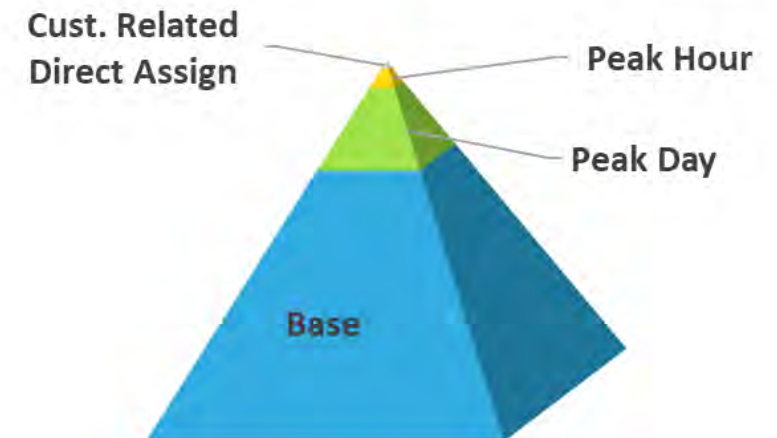
- Updated to reflect current customer characteristics and system operations
- Rate adjustments are within acceptable range based on a 3.5% overall revenue adjustment
  - +/- 5% of the system total
  - Few exceptions, based on changes in peaking factors
- Retail and Member Agency impacts reflect system use and peaking requirements
  - 3.5% adjustment for overall system
  - Wholesale – Member Agency range from -1.9% to 11.5%
  - Retail – retail customers receive 3.5% adjustment
- Pumping costs are directly assigned (zones)



### BASE-EXTRA CAPACITY METHOD

Costs of service are separated into primary cost components:

1. **Base** – Costs associated with service to customers under average load conditions (to meet average demand)
2. **Extra capacity** (peak day, peak hour) – Costs associated with meeting rate of use requirements in excess of average
3. **Customer costs and direct assign** – Costs associated with serving customers, irrespective of the amount or rate of water use (allocated based on number of meters or directly assigned)





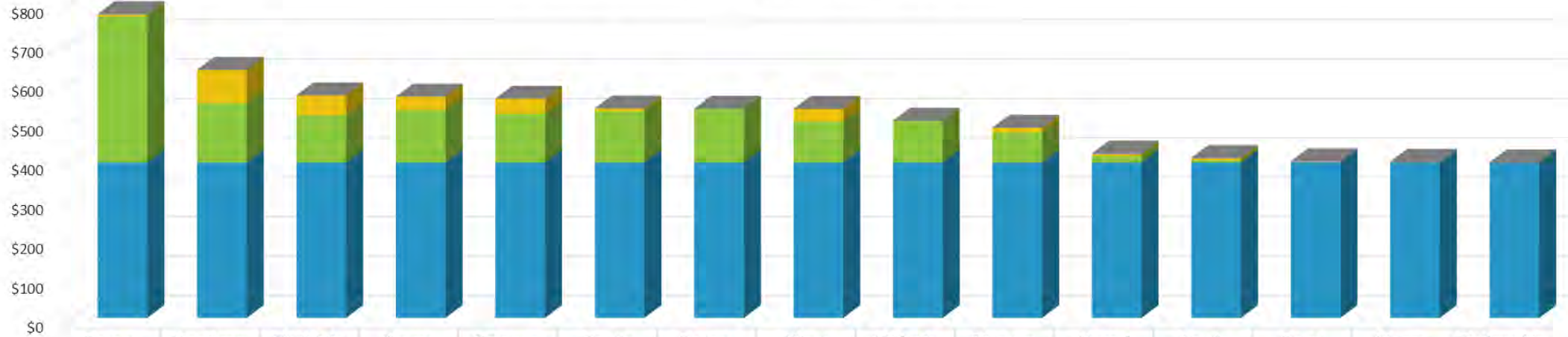
# 2022 Annual Member Agency Meeting

## Financial Plan, Water Rates and Methodology

### WHOLESALE UNIT COST BY COMPONENT (\$/ACRE FOOT)

BASE-EXTRA CAPACITY METHOD

Consumption Charge - Wholesale



	Draper Irrigation	Herriman	Bluffdale	Kearns	Granger-Hunter	South Jordan	Draper City	West Jordan	Midvale	Riverton	Hexcel Corp.	South Salt Lake	Dept. of Corr.	Magna Water	Taylorsville -Bennion
■ Fire/Rev/DA	\$1.79	\$0.30	\$0.53	\$0.22	\$0.10	\$0.10	\$0.41	\$0.09	\$0.56	\$0.41	\$2.76	\$1.76	\$3.58	\$2.24	\$0.38
■ Extra Hour Capacity	\$4.18	\$84.38	\$50.65	\$33.49	\$38.87	\$7.26	\$0.00	\$32.11	\$0.00	\$11.42	\$4.54	\$4.36	\$0.00	\$0.00	\$0.38
■ Extra Day Capacity	\$371.28	\$151.02	\$119.86	\$133.96	\$123.72	\$130.35	\$136.67	\$104.42	\$105.97	\$76.61	\$16.08	\$5.98	\$0.00	\$0.00	\$0.00
■ Base	\$394.36	\$394.36	\$394.36	\$394.36	\$394.36	\$394.36	\$394.36	\$394.36	\$394.36	\$394.36	\$394.36	\$394.36	\$394.36	\$394.36	\$394.36



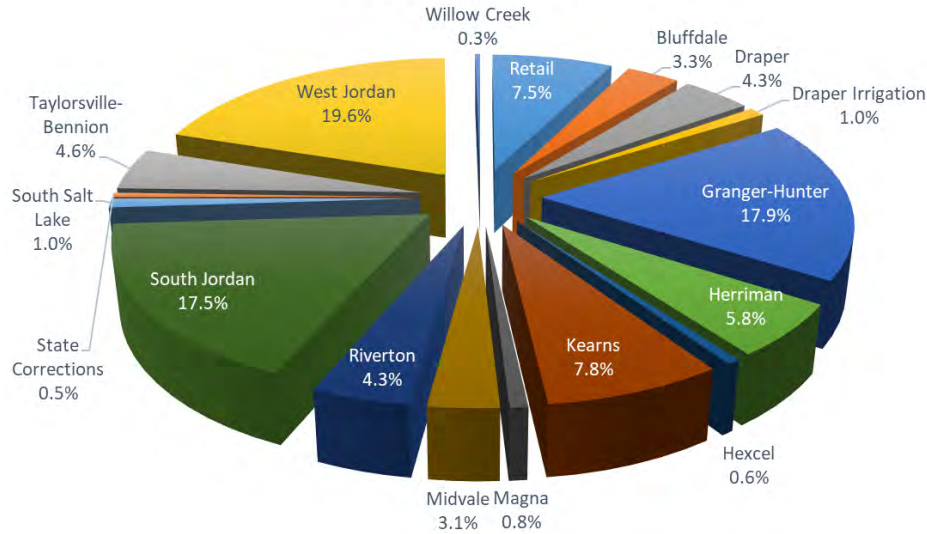


# 2022 Annual Member Agency Meeting

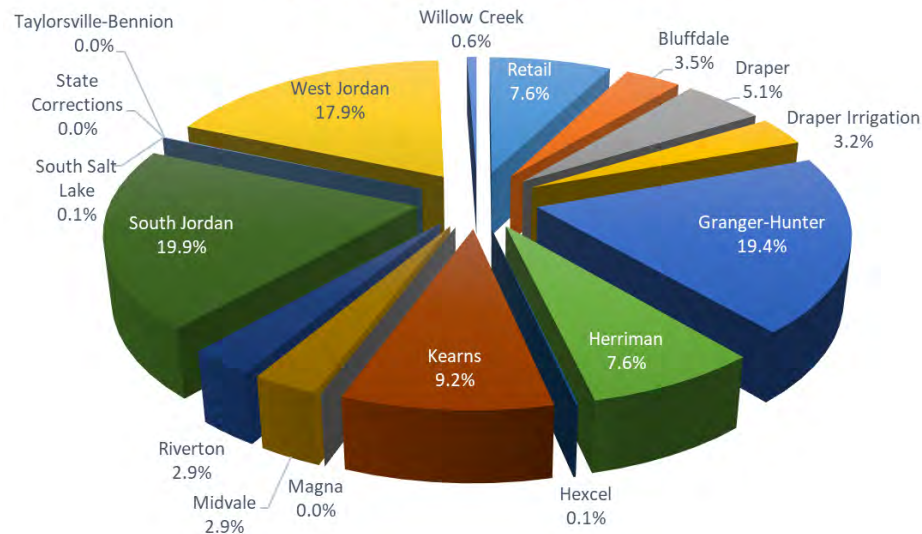
## Financial Plan, Water Rates and Methodology

BASE-EXTRA CAPACITY METHOD

### Base Allocation



### Peak Day Allocation

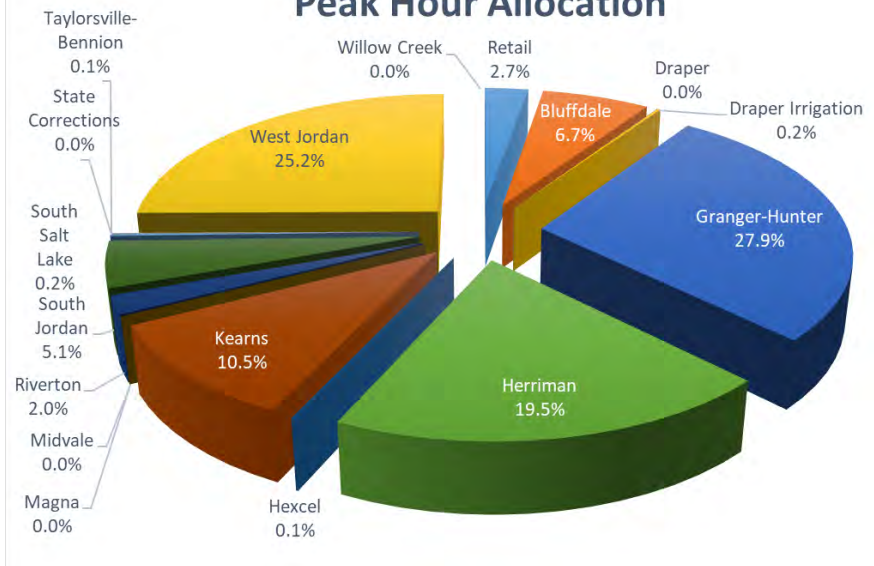


## Splitting the Pie

Base Allocation – based on deliveries

Peak Day/Hour Allocation – based on how Jordan Valley’s system is used (Peaking Factors)

### Peak Hour Allocation





### PEAKING FACTORS

Peaking factors are used to allocate Jordan Valley's system costs related to the delivery of extra-capacity demand

$$\frac{\text{PEAK DEMAND}}{\text{AVERAGE DEMAND}} = \text{PEAKING FACTOR}$$

- Extra-capacity costs are defined as those costs related to meeting demands over and above average (base) demands
  - Peak day extra demand
  - Peak hour demand in excess of peak day demand
- Member Agency's peak demands are measured and then averaged over a 3-day period, when Jordan Valley's system-wide peak demand occurs
- A Member Agency's peaking factor is the ratio of peak uses of water to its average uses of water
- A factor of 2.0 means that peak demand is twice the average



# 2022 Annual Member Agency Meeting

## Financial Plan, Water Rates and Methodology

PEAKING FACTORS

**PEAK DAY**

**PEAK HOUR**

Member Agency	Actual Peak DAY Factor					Average Peak DAY Factor (for FY)		Actual Peak HOUR Factor					Average Peak HOUR Factor (for FY)		
	Peak day period:	7/3-7/5	7/6-7/8	7/22-7/24	8/3-8/5	6/14-6/16	Average of the lowest 3 of last 4 years		7/3-7/5	7/6-7/8	7/22-7/24	8/3-8/5	6/14-6/16	Average of the lowest 3 of last 4 years	
		2017	2018	2019	2020	2021	21/22	22/23	2017	2018	2019	2020	2021	21/22	22/23
Bluffdale		2.01	2.17	2.59	2.02	2.02	2.07	2.07	2.01	3.99	3.29	3.18	2.53	2.83	3.00
Draper		2.42	2.15	2.70	2.25	2.26	2.27	2.22	2.42	2.15	2.70	2.25	2.26	2.27	2.22
Draper Irr.(WaterPro)		3.43	5.51	4.38	5.26	3.29	4.36	4.31	4.09	6.18	4.61	5.26	3.29	4.65	4.39
Granger-Hunter		2.39	2.33	2.27	2.03	2.01	2.21	2.10	3.58	3.64	3.01	2.64	2.80	3.08	2.82
Herriman		2.72	2.62	2.64	2.19	2.23	2.48	2.35	4.44	4.25	4.29	3.61	3.83	4.05	3.90
Hexcel Corp.		1.00	1.22	1.21	1.00	1.24	1.07	1.14	1.40	1.47	1.21	1.00	1.59	1.20	1.23
Kearns		2.30	2.08	2.46	2.20	2.30	2.19	2.19	3.10	3.16	3.23	2.62	2.65	2.96	2.81
Magna Water		1.00	1.00	1.06	1.00	1.00	1.00	1.00	1.00	1.00	1.06	1.00	1.00	1.00	1.00
Midvale		1.00	2.96	2.14	1.78	1.91	1.64	1.94	1.00	10.15	2.14	1.78	1.91	1.64	1.94
Riverton		1.89	1.91	1.89	1.66	1.50	1.81	1.68	2.14	2.56	2.15	1.77	1.76	2.02	1.89
South Jordan		2.35	2.29	2.67	2.11	2.09	2.25	2.16	2.35	2.29	2.83	2.31	2.28	2.32	2.29
South Salt Lake		1.84	1.10	1.06	1.62	1.00	1.26	1.05	1.84	1.34	1.06	1.62	1.00	1.34	1.13
Utah Dept. of Corr.		1.00	1.00	1.08	1.00	1.00	1.00	1.00	1.02	1.00	1.08	1.00	1.00	1.01	1.00
Taylorville-Bennion		1.00	1.00	1.00	1.01	1.00	1.00	1.00	1.00	1.30	1.00	1.02	1.00	1.01	1.01
West Jordan		2.31	1.84	2.45	1.93	2.02	2.03	1.93	3.14	2.71	2.98	2.29	2.56	2.66	2.52
JVWCD Retail System		2.02	2.02	2.25	1.85	2.20	1.96	2.02	2.27	2.23	2.41	2.03	2.32	2.18	2.19



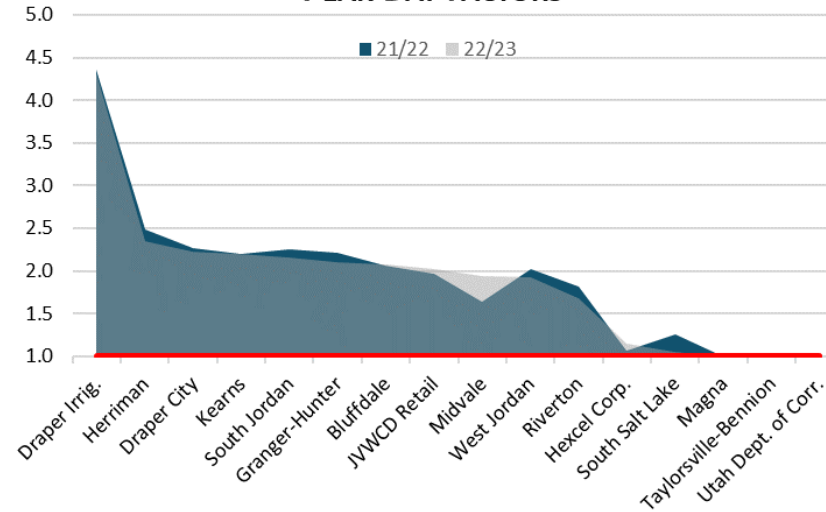
# 2022 Annual Member Agency Meeting

## Financial Plan, Water Rates and Methodology

### PEAK DAY

Peak Day Factor	21/22	22/23
Draper Irrig.	4.36	4.31
Herriman	2.48	2.35
Draper City	2.27	2.22
Kearns	2.19	2.19
South Jordan	2.25	2.16
Granger-Hunter	2.21	2.10
Bluffdale	2.07	2.07
JVWCD Retail	1.96	2.02
Midvale	1.64	1.94
West Jordan	2.03	1.93
Riverton	1.81	1.68
Hexcel Corp.	1.07	1.14
South Salt Lake	1.26	1.05
Magna	1.00	1.00
Taylorville-Bennion	1.00	1.00
Utah Dept. of Corr.	1.00	1.00

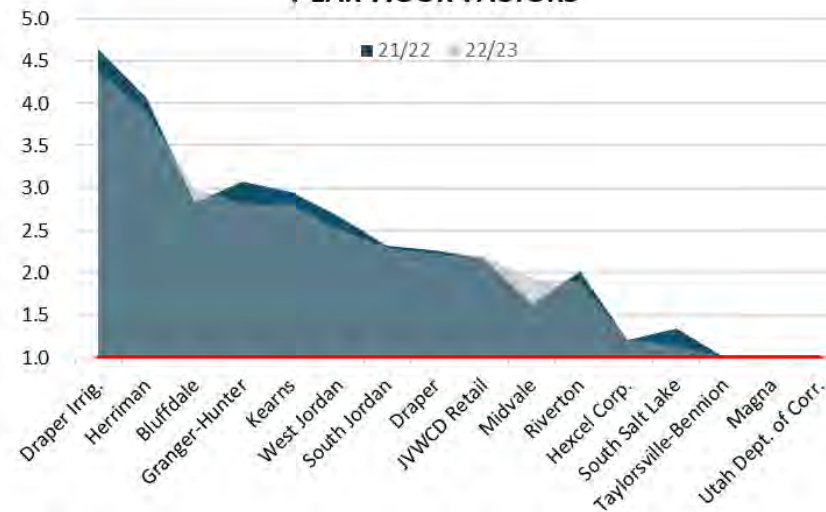
### PEAK DAY FACTORS



### PEAK HOUR

Peak Hour Factor	21/22	22/23
Draper Irrig.	4.65	4.39
Herriman	4.05	3.90
Bluffdale	2.83	3.00
Granger-Hunter	3.08	2.82
Kearns	2.96	2.81
West Jordan	2.66	2.52
South Jordan	2.32	2.29
Draper	2.27	2.22
JVWCD Retail	2.18	2.19
Midvale	1.64	1.94
Riverton	2.02	1.89
Hexcel Corp.	1.20	1.23
South Salt Lake	1.34	1.13
Taylorville-Bennion	1.01	1.01
Magna	1.00	1.00
Utah Dept. of Corr.	1.01	1.00

### PEAK HOUR FACTORS



PEAKING FACTORS



# 2022 Annual Member Agency Meeting

## Financial Plan, Water Rates and Methodology

COST OF SERVICE ANALYSIS - RESULTS

### COST OF SERVICE ANALYSIS (COSA) RESULTS – PROPOSED ADJUSTMENT

COSA	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	Proposed	10 YR AVE
										COSA Adj	
<b>Average Rate Adjustment</b>	<b>5.0%</b>	<b>4.0%</b>	<b>5.0%</b>	<b>4.0%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>1.5%</b>	<b>0.0%</b>	<b>2.0%</b>	<b>3.5%</b>	<b>3.2%</b>
Bluffdale	5.2%	2.4%	4.5%	2.3%	2.8%	-1.5%	2.2%	1.8%	2.2%	6.6%	2.9%
Draper City	1.3%	3.7%	1.4%	0.7%	2.0%	3.5%	0.1%	1.9%	2.2%	3.8%	2.1%
Draper Irrigation	0.0%	7.6%	4.1%	3.3%	2.8%	-0.4%	3.2%	-0.5%	12.9%	4.4%	3.7%
Granger-Hunter	4.6%	3.9%	4.4%	5.7%	3.4%	4.7%	1.8%	-2.3%	0.9%	1.6%	2.9%
Herriman	0.7%	3.7%	2.7%	6.1%	3.3%	2.8%	1.7%	-1.2%	1.7%	3.2%	2.5%
Hexcel	8.2%	3.5%	3.4%	1.3%	3.2%	3.9%	2.1%	-1.9%	1.1%	4.8%	3.0%
Kearns	3.1%	2.6%	3.6%	4.0%	2.0%	4.5%	0.8%	-0.3%	3.7%	3.8%	2.8%
Magna	5.6%	4.0%	1.7%	0.6%	1.3%	3.9%	1.0%	-0.5%	1.6%	2.8%	2.2%
Midvale	5.2%	7.7%	2.8%	-0.7%	2.0%	-0.1%	0.9%	8.6%	8.5%	11.5%	4.6%
Riverton	9.1%	4.4%	-0.7%	5.3%	8.3%	2.6%	9.6%	-3.7%	0.1%	1.4%	3.6%
South Jordan	3.7%	3.5%	4.6%	2.9%	3.2%	0.5%	0.3%	-0.1%	1.0%	3.7%	2.3%
South Salt Lake	4.0%	6.0%	3.4%	1.4%	3.2%	8.3%	2.9%	-5.0%	5.6%	-1.9%	2.8%
State Corrections	7.0%	5.5%	2.9%	2.0%	1.6%	2.0%	0.0%	-0.5%	1.7%	2.7%	2.5%
Taylorsville-Bennion	1.6%	-4.5%	0.8%	0.8%	1.7%	2.9%	1.3%	-0.3%	1.4%	2.8%	0.9%
West Jordan	8.3%	4.4%	6.1%	3.5%	1.7%	3.5%	-0.3%	-0.6%	1.3%	2.5%	3.0%
Retail	6.5%	5.6%	8.6%	3.1%	5.4%	4.1%	1.0%	2.2%	1.0%	3.5%	4.1%



**JORDAN VALLEY WATER**  
**CONSERVANCY DISTRICT**

**Annual Member Agency Meeting**  
**April 27, 2022**

# *Legislative Issues*

Bart Forsyth

General Manager

April 27, 2022

# Water Conservation and Preservation Bills

The 2022 general legislative session included introduction of a record number of water-related bills, including:

- ❖ HB 33: Instream Water Flow Amendments (passed)
- ❖ HB 37: State Water Policy Amendments (passed)
- ❖ **HB 39: State Construction Code Amendments (passed)**
- ❖ HB 95: Landscaping Requirements (did not pass)
- ❖ HB 115: Water Distribution Efficiency (did not pass)



# Water Conservation and Preservation Bills, cont.

- ❖ **HB 121: Water Conservation Modifications (passed)**
- ❖ HB 131: Watershed Restoration Initiative (passed)
- ❖ HB 157: Sovereign Lands Revenue Amendments (passed)
- ❖ HB 160: State Resource Management Plan (passed)
- ❖ HB 168: Preference of Water rights (passed)
- ❖ HB 177: Water Well Amendments (passed)
- ❖ **HB 232: Utah Lake Authority (passed)**
- ❖ HB 240: Utah Lake Amendments (passed)

# Water Conservation and Preservation Bills, cont.

- ❖ HB 242: Secondary Water Metering Amendments (passed)
- ❖ HB 282: Water Use Landscaping Amendments (passed)
- ❖ HB 410: Great Salt Lake Watershed Enhancement (passed)
- ❖ HB 429: Great Salt Lake Amendments (passed)
- ❖ SB 73: Flow Rate or Quantity for Plumbing Fixtures (did not pass)
- ❖ SB 89: Water Amendments (passed)
- ❖ SB 110: Water As a Part of General Plan (passed)

# General Water Bills

- ❖ HB 21: School and Child Care Center Water Testing Requirements (passed)
- ❖ HB 64: Drinking Water Amendments (did not pass)
- ❖ HB 118: Wetlands Amendments (passed)
- ❖ HB 129: Navigable Water Amendments (did not pass)
- ❖ HB 166: Water Facilities Amendment (passed)
- ❖ HB 263: Utah Watershed Council Amendments (passed)
- ❖ HB 269: Capital Assets For Water (passed)
- ❖ HB 271: Water Release Amendments (did not pass)

## General Water Bills, cont.

- ❖ HB 319: Jordan River Improvement Amendments (passed)
- ❖ HB 334: State Engineer Modifications (passed)
- ❖ HB 343: Water Supply Amendments (did not pass)
- ❖ HB 377: Water Rights Adjudication Amendments (passed)
- ❖ HB 393: Water Reporting Requirements (passed)
- ❖ SB 31: Water Rights Proofs on Small Amounts of Water (passed)
- ❖ SB 160: Colorado River Authority of Utah Amendments (passed)
- ❖ SB 221: Water Related Sales and Use Taxes (passed)

# HB 39: State Construction Code Amendments

*Sponsor:* Rep. Joel Ferry (passed)

(Replaced SB 73, Flow Rate or Quantity for Plumbing Fixtures, Sponsored by Sen. Jani Iwamoto)

*Topic:* Among other things, provides for water efficient plumbing fixtures for new construction

*Impacts to JVWCD Member Agencies:*

- ❖ Changes the maximum allowable flowrate for three plumbing fixtures as follows:

<u>Fixture</u>	<u>Previous Maximum Allowable Flowrate</u>	<u>New Maximum Allowable Flowrate</u>
Showerheads	2.5 gpm	2.0 gpm
Bathroom Faucets	2.2 gpm	1.5 gpm
Urinals	1.0 gpf	0.5 gpf

# HB 121: Water Conservation Modifications

***Sponsor:*** Rep. Robert Spendlove (passed)

***Topic:*** Imposes water conservation requirements for existing and new state buildings and provides funding for turf grass removal incentive programs

***Impacts to JVWCD Member Agencies:***

- ❖ Provides a one-time appropriation of \$5 million for turf grass removal incentive programs to be administered by the State Division of Water Resources
- ❖ For existing state government facilities, outdoor water use must be reduced by 5% by the end of FY 2022 and 25% by the end of FY 2026
- ❖ For new state government facilities built or reconstructed after May 4, 2022, landscapes may not have more than 20% turf grass

# HB 232: Utah Lake Authority

***Sponsor:*** Rep. Brady Brammer (passed)

***Topic:*** Creates the Utah Lake Authority, an independent, non-profit with purposes, among other things, to work with others to encourage, facilitate, and implement management of the lake to improve water and environmental quality, enhance aesthetic qualities, recreational use, and economic development on the lake

***Impacts to JVWCD Member Agencies:***

- ❖ Provides that Utah Lake management plans may not interfere or impair water rights, a water project, and the operation of a water facility associated with Utah Lake, or impair or affect a right to store, use, exchange, restore, or deliver water under a water right and associated contract
- ❖ The Utah Lake Authority supplants the Utah Lake Commission
- ❖ Provides for a 15-member Board which includes the executive directors of the Dept. of Natural Resources and Dept. of Environmental Quality
- ❖ The Utah Lake Authority Board shall appoint an advisory committee to advise on water rights, water projects, and water facilities associated with Utah Lake

# HB 242: Secondary Water Metering Amendments

*Sponsor:* Rep. Val Peterson (passed)

*Topic:* This bill provides funding and requirements for meters to be installed on pressurized secondary service connections by no later than January 1, 2030, with some exceptions

*Impacts to JVWCD Member Agencies:*

- ❖ Over \$250 million appropriated to fund grants for secondary metering projects
- ❖ Up to \$5 million available to secondary suppliers with up to 7,000 connections and up to \$10 million available for secondary suppliers with over 7,000 connections
- ❖ Up to 70% of the cost of a project is available in 2022 and 2023, 65% in 2024, 60% in 2025, with percentage available for the cost of projects declining until 2030
- ❖ Provides for an enforcement mechanism to comply with the bill/law



# HB 282: Water Use Landscaping Amendments

*Sponsor:* Rep. Ryan Wilcox (passed)

*Topic:* Prohibits certain public and private entities from prohibiting water wise landscaping

*Impacts to JVWCD Member Agencies:*

- ❖ Prohibition pertains to municipalities, counties, and associations
- ❖ Legislation then does not prohibit an entity from requiring water wise landscaping adopted by the entity
- ❖ Entities may not require property owners to install or keep in place turf grass in an area with a width less than 8 feet

# HB 410: Great Salt Lake Watershed Enhancement

*Sponsor:* Speaker Brad Wilson (passed)

*Topic:* Bill provides for creation of a Great Salt Lake Watershed Enhancement Program

*Impacts to JVWCD Member Agencies:*

- ❖ Appropriates \$40 million to the State Division of Forestry, Fire, and State Lands to create and administer a water trust
- ❖ The water trust will be operated by a private, non-profit organization to administer the Great Salt Lake Watershed Enhancement program for purposes, among other things, of:
  - ❖ Attracting public and private funding to protect and support the Great Salt Lake
  - ❖ Reform and enhance flows
  - ❖ Conserve and restore upstream habitats
  - ❖ Engage entities to support the health of the Great Salt Lake

# HB 429: Great Salt Lake Amendments

*Sponsor:* Rep. Kelly Miles (passed)

*Topic:* Develops a Great Salt Lake Watershed Integrated Water Assessment

*Impacts to JVWCD Member Agencies:*

- ❖ Appropriates \$5 million to the State Division of Water Resources (DWRe) to develop the assessment which will look at surface water and groundwater supplies to the Great Salt Lake
- ❖ DWRe will develop a work plan for the assessment by November 30, 2023
- ❖ The work plan will include, but not be limited to:
  - ❖ A Great Salt Lake budget (amounts and quality of water resources)
  - ❖ Evaluate trends in water availability
  - ❖ Benefits of forest management and watershed restoration

# HB 429: Great Salt Lake Amendments, cont.

## Impacts to JWCD Member Agencies, cont:

- ❖ Snowpack retention
- ❖ Water supply reliability
- ❖ How to meet agricultural objectives and M & I demands
- ❖ Understanding changing watershed conditions including changes in climate, evapotranspiration, and other water supply variables

# SB 89: Water Amendments

*Sponsor:* Sen. Jani Iwamoto (passed)

*Topic:* Requires water providers to adopt the 2030 water conservation goal provided by the state DWRe in November 2019

*Impacts to JVWCD Member Agencies:*

- ❖ Water providers must adopt the applicable 2030 water conservation goal in its water conservation plan, or a goal that would result in more water being conserved than would have been conserved under the applicable goal
- ❖ A water provider may establish a goal that would result in less water being conserved than the applicable 2030 goal with a written justification

# SB 110: Water As a Part of General Plan

*Sponsor:* Sen. Mike McKell (passed)

*Topic:* Requires municipalities to incorporate a water use and preservation element in its General Plan

*Impacts to JVWCD Member Agencies:*

- ❖ The water use and preservation element to consider: the effect of development on water demand and infrastructure; methods of reducing water demand; and opportunities to modify operations to eliminate water waste, including:
  - ❖ Consultation with the water supplier
  - ❖ Considering regional conservation goals
  - ❖ Reviewing its water conservation plan
  - ❖ Making recommendations for water conservation policies and practices including water wise landscaping options and ordinances
  - ❖ Considering principles of sustainable landscaping
  - ❖ Looking at development trends that reduce the demand for water
  - ❖ Etc.



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**Prepare60 is the center established by Utah's four largest water conservancy districts to protect what we have, use it wisely, and provide for the future.**

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**More than 85% of the state's population resides within the boundaries of the four water districts.**



# *Prepare60 Focus*

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**Repair and replace aging infrastructure**



**Reduce water use; adopt water efficiency standards**



**Develop infrastructure to meet demand**



# Planning for the Future

ESTIMATED STATEWIDE INFRASTRUCTURE COSTS **\$38 BILLION**

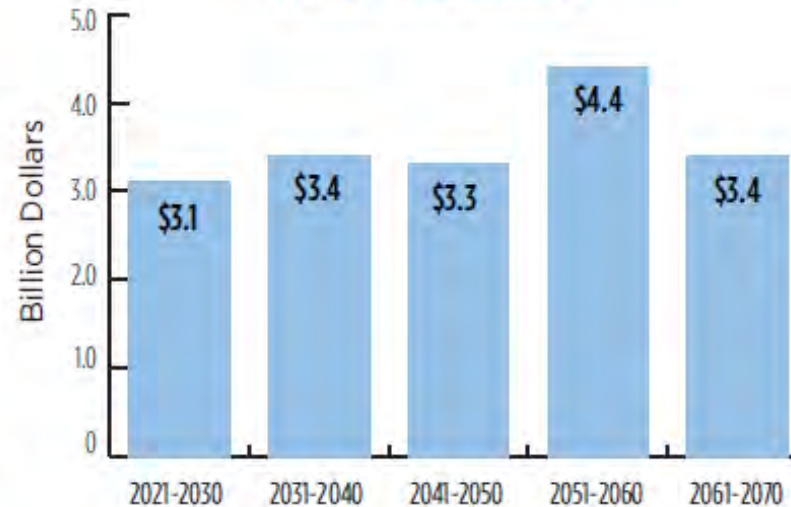
REPAIR & REPLACEMENT OF  
AGING INFRASTRUCTURE

**\$20.6 BILLION**



NEW INFRASTRUCTURE, WATER  
SUPPLIES, and WATER SUPPLIER  
CONSERVATION COSTS

**\$17.6 BILLION**



Statewide cost projections by decade in billions of dollars,  
not including **\$9.5 billion** in conservation costs paid by businesses and homeowners.



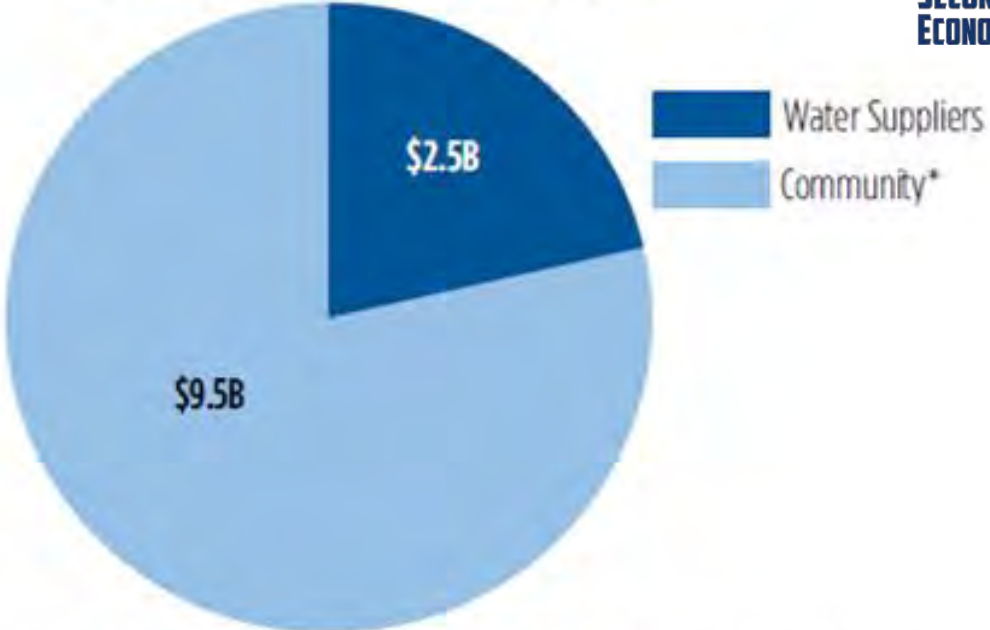
# Water Conservation



### PROJECTED WATER CONSERVED BY DECADE (CUMULATIVE)



### ESTIMATED WATER CONSERVATION COSTS THROUGH 2070



\*Community investment includes costs to home and business owners for water conservation efforts, such as landscape/irrigation alterations or indoor plumbing changes.

# H<sub>2</sub>O Collective

## What is it?

Created by the Utah League of Cities and Towns and Prepare60 to provide meaningful water conservation tools, strategies, and training for local governments

## Purpose

To provide a repository of information and support about water conservation that cities and towns can apply in their communities

## Current Emphasis

Working on strategies to integrate water use and conservation with land use in municipal planning





**JORDAN VALLEY WATER**  
CONSERVANCY DISTRICT

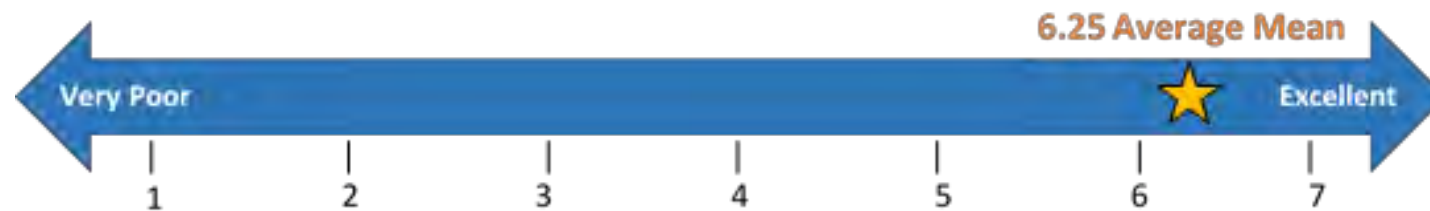
**Annual Member Agency Meeting**  
**April 27, 2022**

# *Member Agency Survey Results & Follow Up*

**Bart Forsyth**  
General Manager  
April 27, 2022

# General Improvements

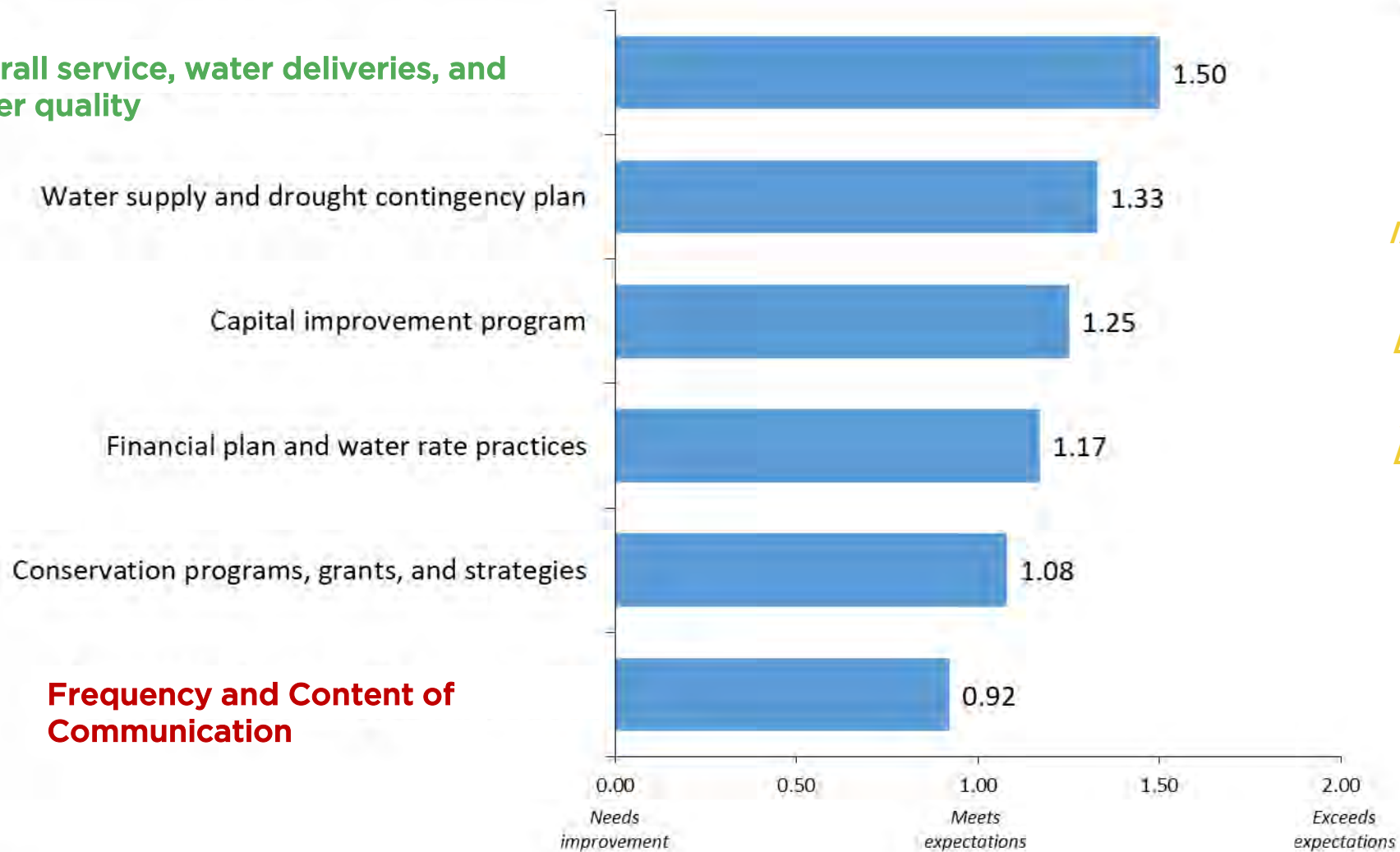
*How well has Jordan Valley Water Conservancy District done at responding to feedback provided by member agencies?*



# Overall Satisfaction

*How would you rate Jordan Valley Water Conservancy District on the following areas?*

**Overall service, water deliveries, and water quality**



*0 = Needs Improvement*

*1 = Meets Expectations*

*2 = Exceeds Expectations*

**Frequency and Content of Communication**

# Overall Satisfaction

*How would you rate Jordan Valley Water Conservancy District  
on the following areas?*

*0 = Needs Improvement, 1 = Meets Expectations, 2 = Exceeds Expectations*

	2019	2022	Difference
<b>Overall service, water deliveries, and water quality</b>	1.25	1.50	<b>+0.25</b>
Water supply and drought contingency plan	1.50	1.33	<b>-0.17</b>
<b>Capital improvement program</b>	1.08	1.25	<b>+0.17</b>
<b>Financial plan and water rate practices</b>	0.83	1.17	<b>+0.34</b>
Conservation programs, grants, and strategies	1.50	1.08	<b>-0.42</b>
Frequency and content of communication	1.08	0.92	<b>-0.16</b>



## ***MAIN TAKE-AWAYS***

Overall, members appear to be more satisfied with Jordan Valley Water Conservancy District now than they were three years ago.

However, Jordan Valley Water Conservancy District can improve by:

- 1) Increasing one-on-one outreach to member agencies
- 2) Improving collaboration with member agencies

Functions	Primary Contact	Alternate Contact
Finance, water rates, property taxes, budgets, and bonding	Dave Martin	
Water deliveries, service disruptions, and pressure issues	Matt Hinckley	Shazelle Terry
Water quality, water treatment, and laboratory services	Jon Hilbert	Shazelle Terry
Emergency response and planning	Jeff King	Shazelle Terry
Construction projects	Shane Swensen	
Water supply and infrastructure planning	Shane Swensen	Alan Packard
Water conservation programs and grants	Courtney Brown	Matt Olsen
SCADA and telemetry	Jason Brown	Matt Olsen
Water use data collection and member agency web portal	Todd Schultz	Clifton Smith
Communications, outreach, social media, news, and community relations	Linda Townes	Megan Jenkins
Executive topics and issues	Bart Forsyth	Shazelle Terry Matt Olsen Alan Packard



## *Questions and Discussion*



**JORDAN VALLEY WATER**  
CONSERVANCY DISTRICT

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*Delivering Quality Every Day<sup>®</sup>*

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