

WATER PLANNING DISCUSSION WITH SALT LAKE COUNTY COUNCIL



Gene Shawcroft, General Manager, Central Utah Water Conservancy District
Richard Bay, General Manager, Jordan Valley Water Conservancy District

August 7, 2018



JVWCD BOARD OF TRUSTEES



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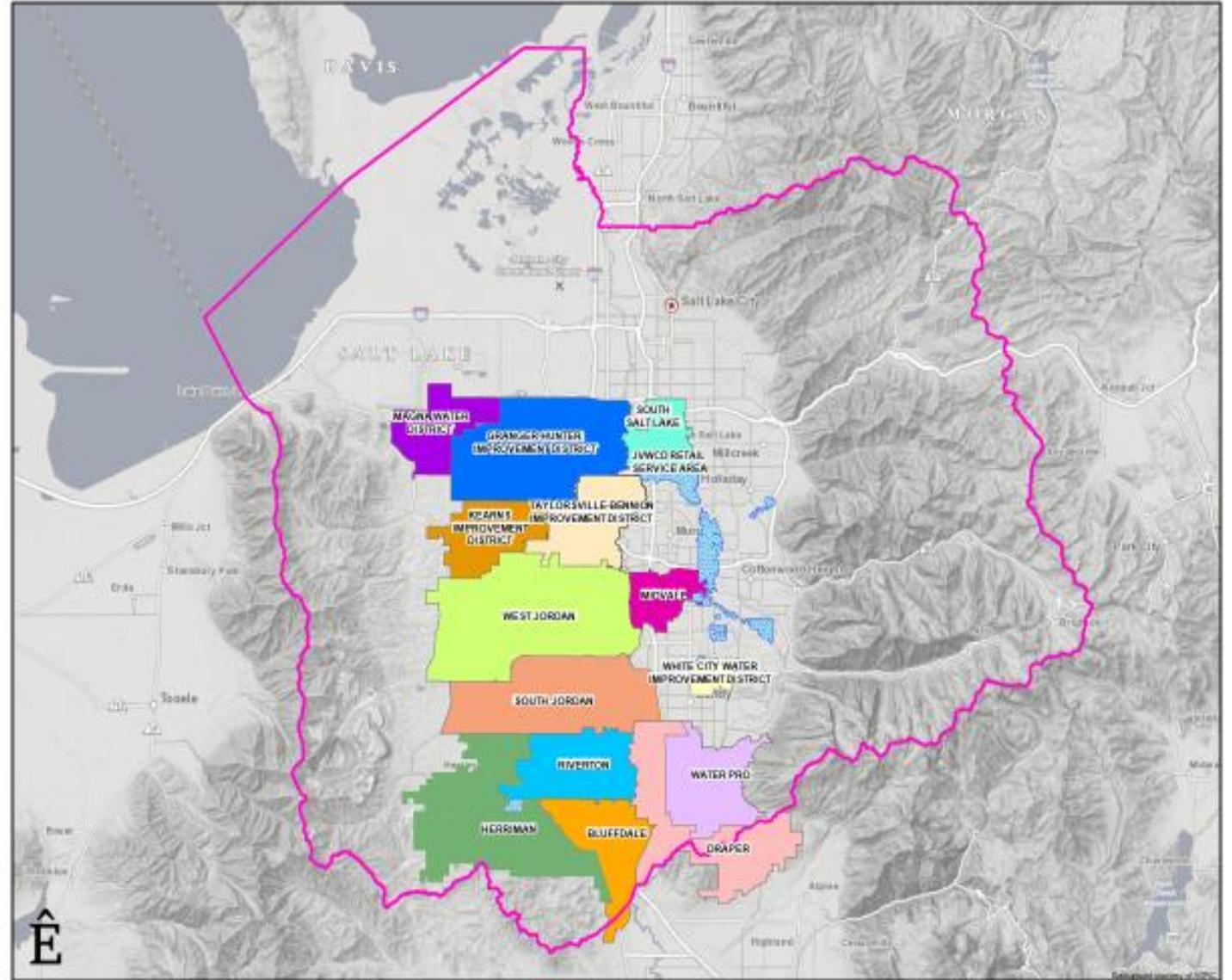
Lyle Summers

Greg Christensen

Corey Rushton

Brent Johnson

Jordan Valley Water
Conservancy District
service area to
680,000 people in
Salt Lake County

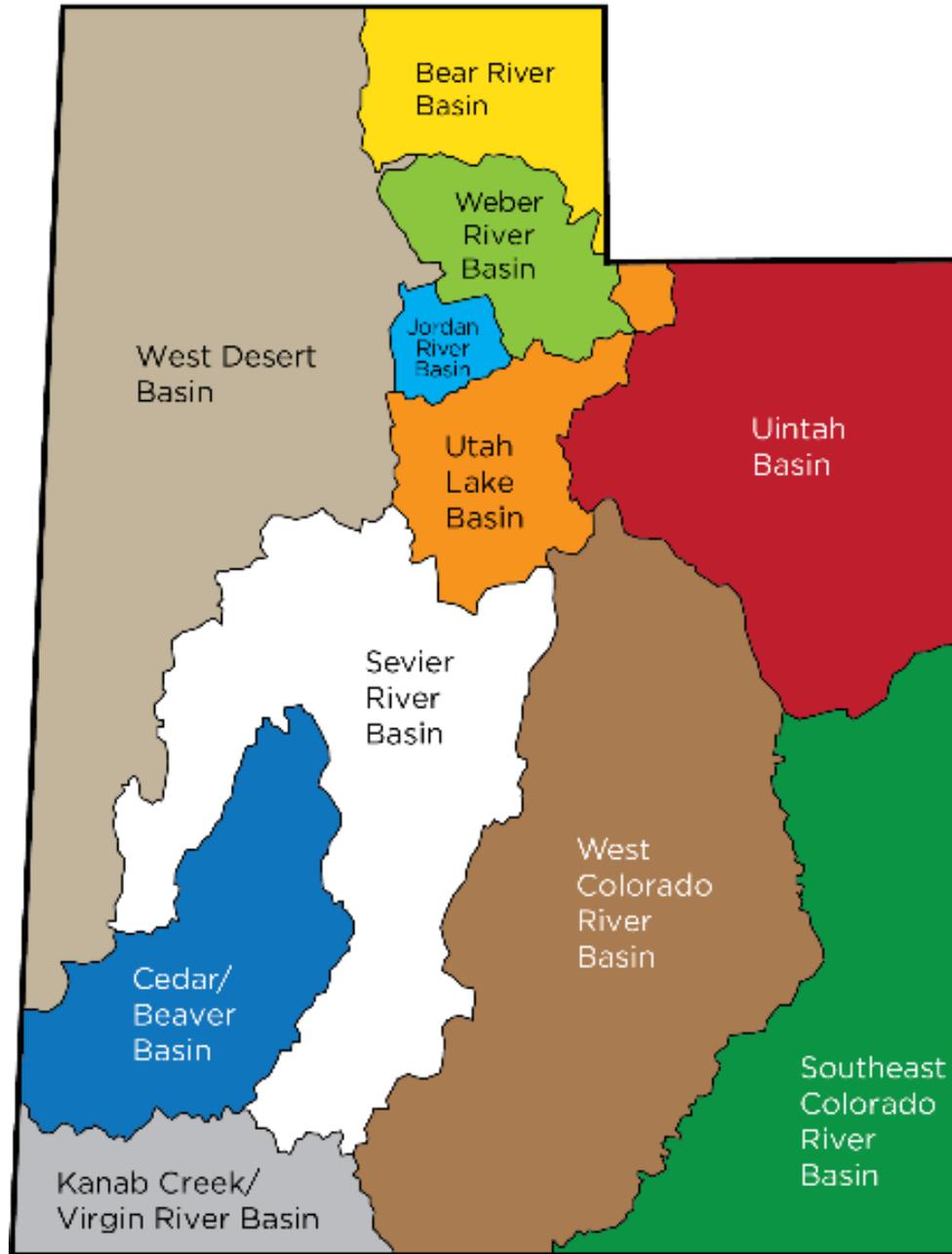




PREPARE60
SECURING UTAH'S ECONOMIC FUTURE

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



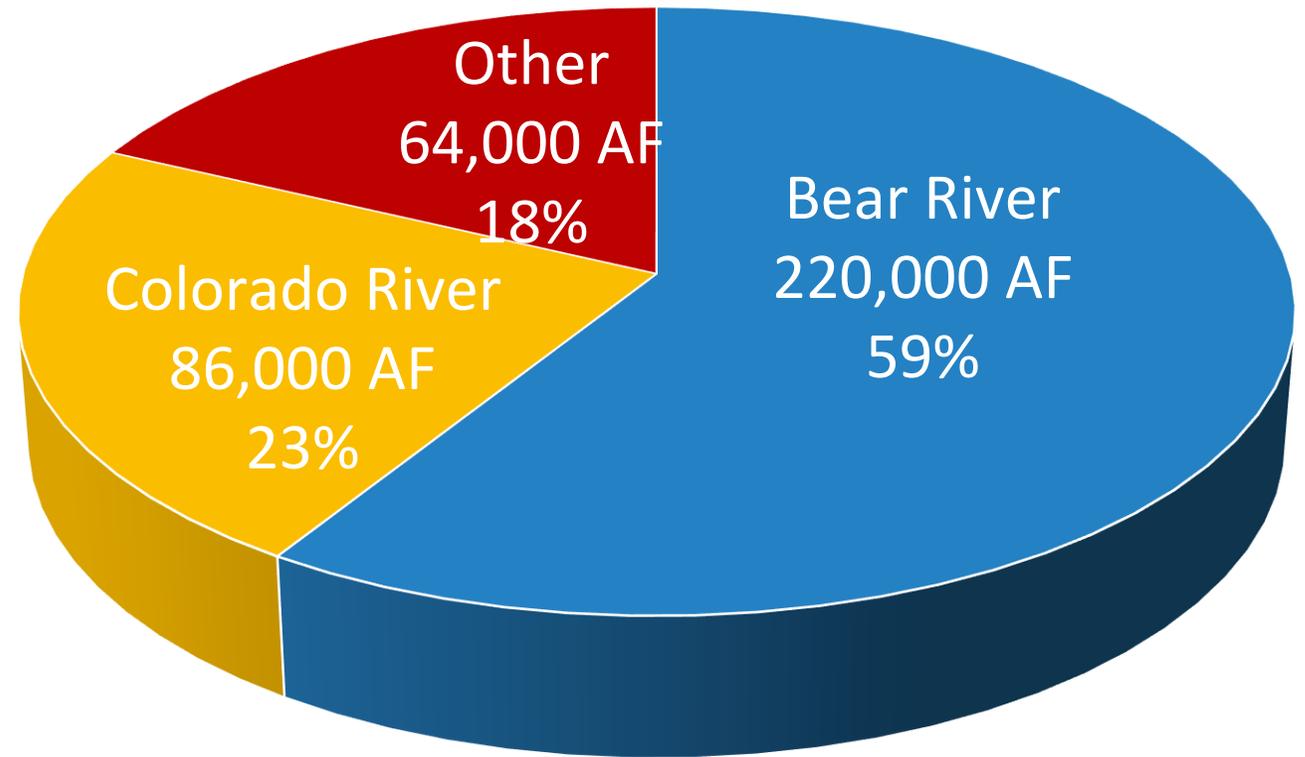


UTAH RIVER BASINS

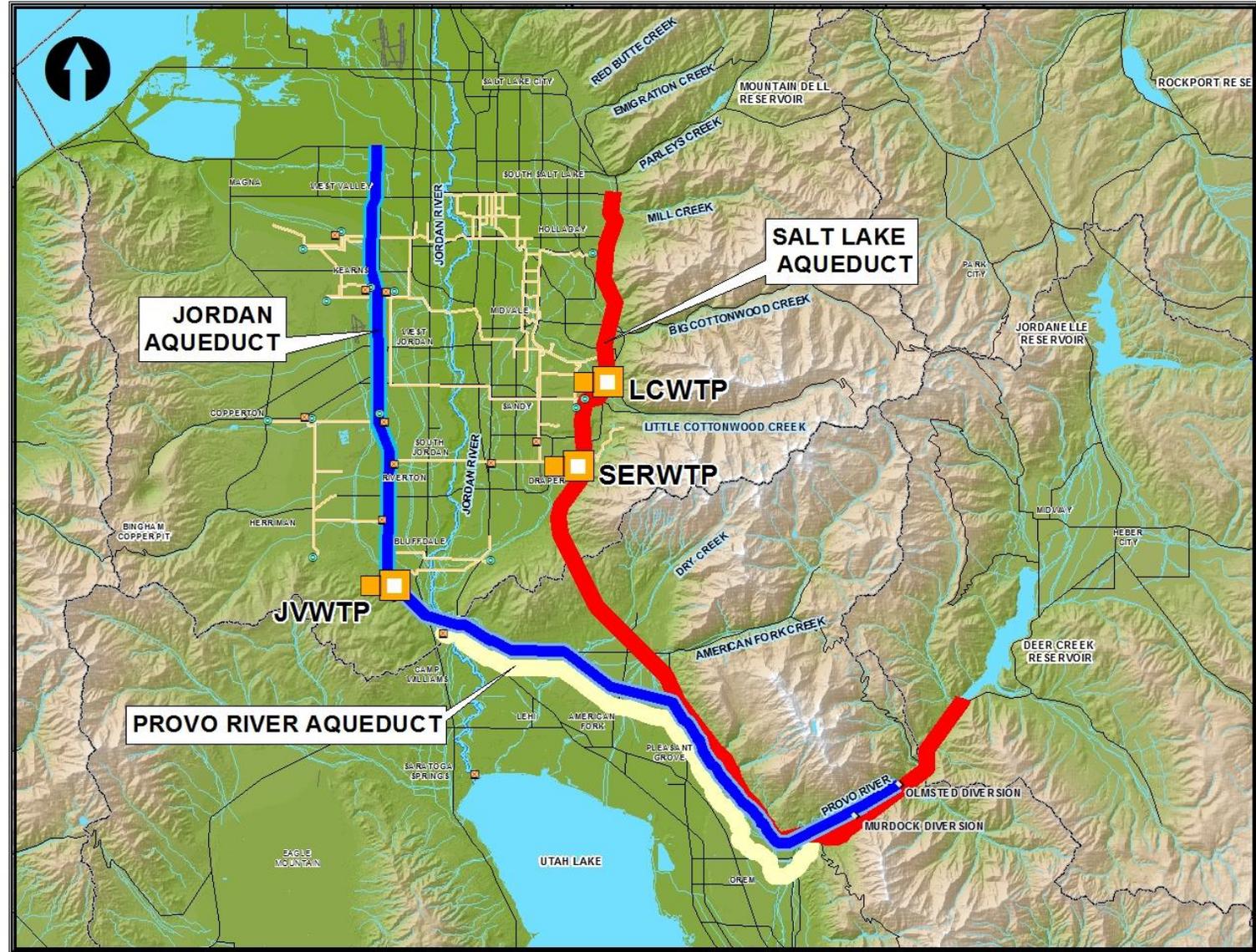
Creation of a Statewide Water Infrastructure Plan

- For statewide municipal and industrial (M&I) water
- By river basin
 - Development of local, regional, and statewide sources
 - Includes 25% to 35% conservation goals
- See Prepare60.com

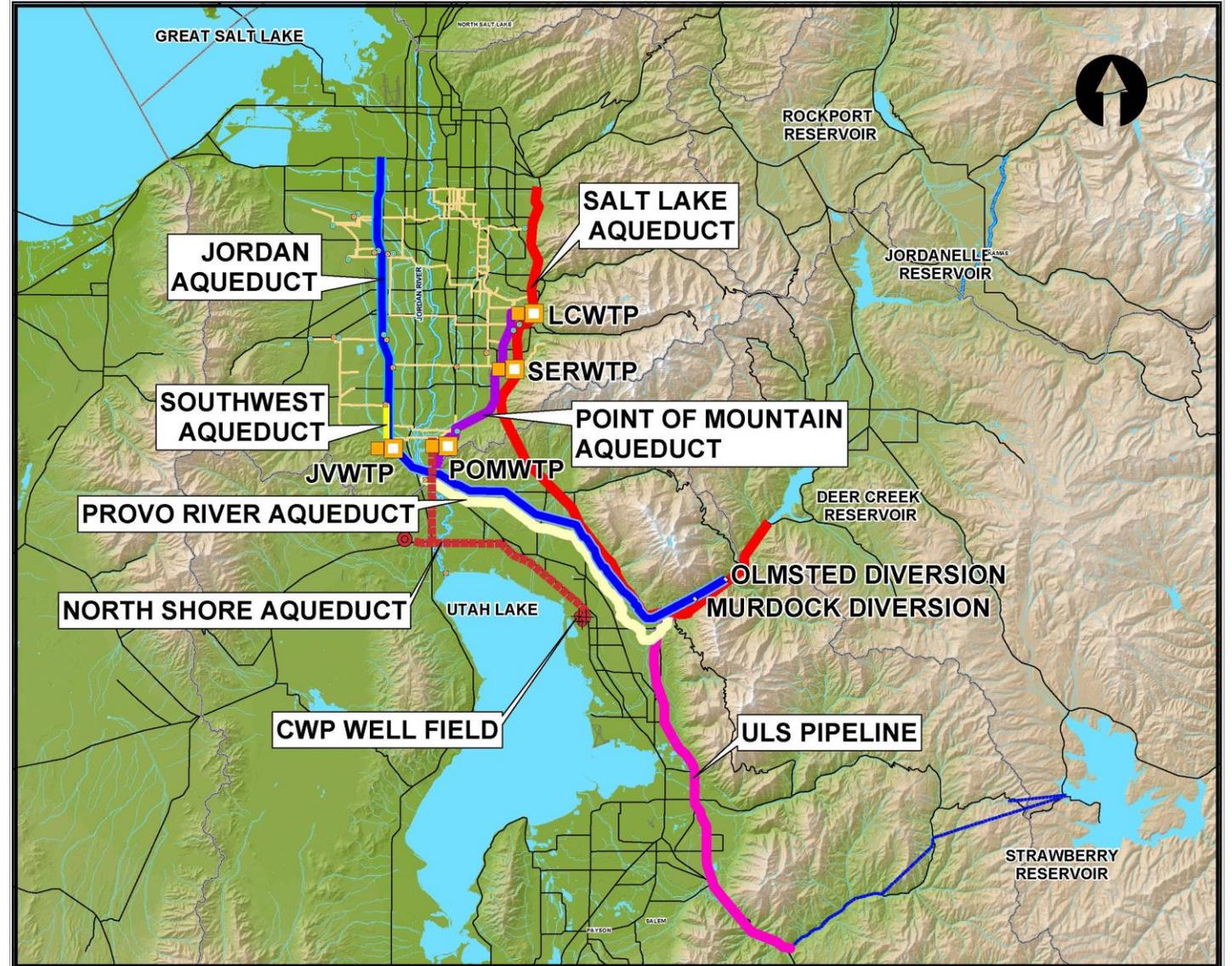
Statewide Water Infrastructure Plan: New Water Supply Sources through 2060



Major Aqueducts



New CWP and ULS Water Supplies



JORDAN VALLEY WATER CONSERVANCY DISTRICT

Sources of Municipal Water in 2017

Source	Percent	Acre-feet
Jordanelle Reservoir (CUP)	31	31,098
Deer Creek Reservoir	26	26,218
Provo River (other)	19	19,374
Echo Reservoir	3	2,809
Salt Lake County Creeks	3	3,077
Salt Lake County Groundwater (wells)	12	12,684
Utah County Groundwater (CWP)	6	5,746
Totals	100%	101,006

Secondary Water in Salt Lake County

Primary (municipal or culinary) water: treated drinking water (metered)



Secondary Water: untreated water distributed via secondary infrastructure for outdoor irrigation (unmetered)



JORDAN VALLEY WATER CONSERVANCY DISTRICT

Municipal Secondary Water Use in Salt Lake County⁽³⁾

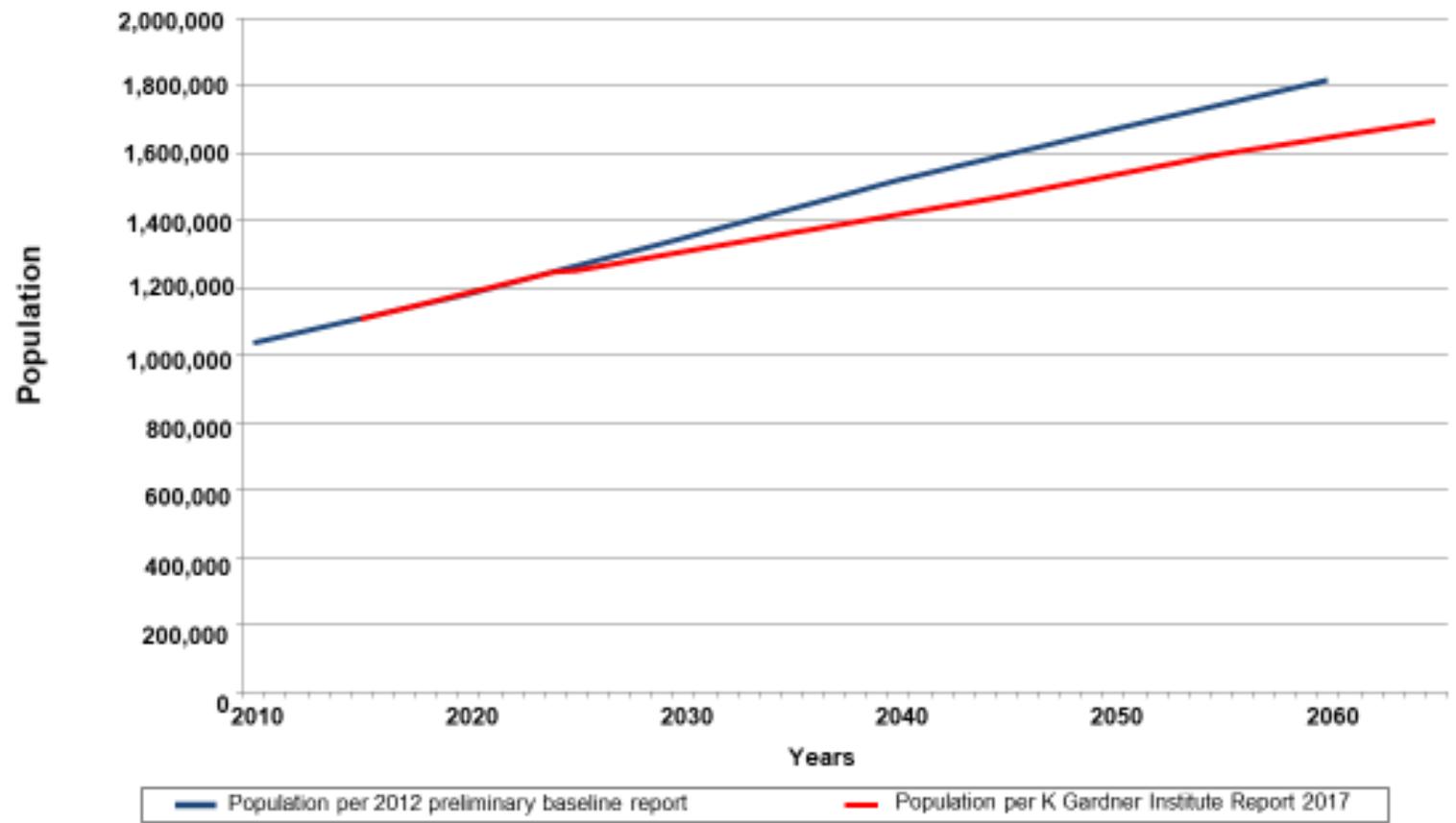
Water Provider	Estimated Volume (acre-feet)⁽¹⁾	Portion Metered
Bluffdale City	1,840	8%
City of South Jordan ⁽²⁾	5,850	0%
City of West Jordan	370	0%
Herriman City	550	100%
Magna Water District	674	100%
Riverton City ⁽²⁾	12,530	0%
WaterPro, Draper Irrigation Co. ⁽²⁾	5,034	72%
Total	26,848	

⁽¹⁾Secondary water end use data provided by Jordan Valley Water Conservancy District Member Agencies. Jordan Valley Water Conservancy District provided estimations if data was not provided.

⁽²⁾Agency meters some or all secondary source water coming into their system.

⁽³⁾ Based on 2017 measurement/estimates

Salt Lake County Population Projections



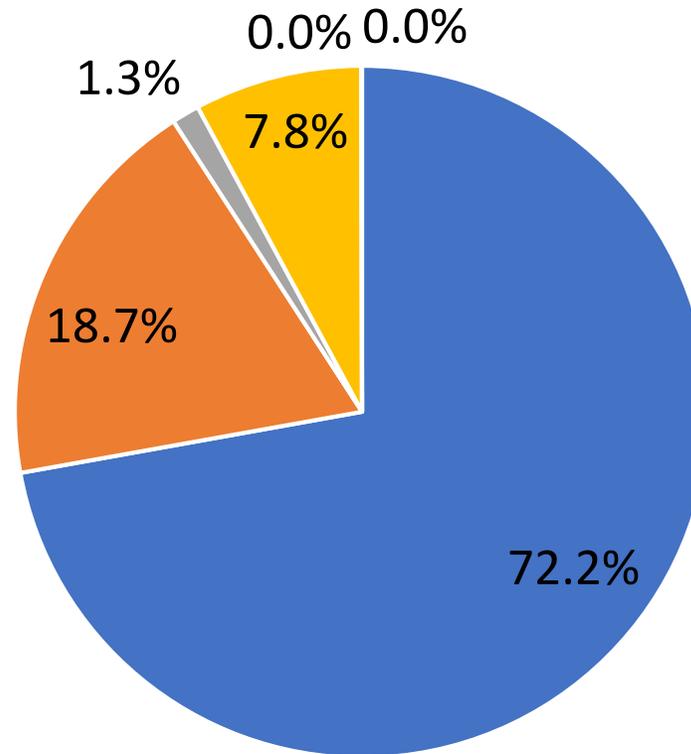
Salt Lake County Population Projections

<u>Year</u>	<u>2012 Projection</u>	<u>2017 Projection*</u>
2030	1,345,143	1,305,530
2060	1,815,394	1,644,159

*2017 K Gardner Institute Report

JORDAN VALLEY WATER CONSERVANCY DISTRICT

2017 Retail Service Area Water Use Classes



■ Residential

■ Commercial

■ Industrial

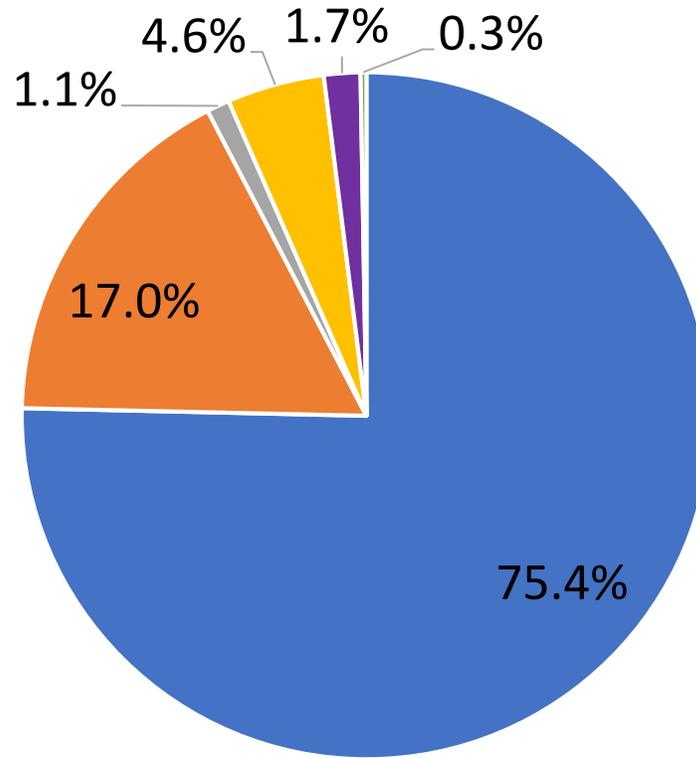
■ Institutional

■ Non-Revenue

■ Other

JORDAN VALLEY WATER CONSERVANCY DISTRICT

2017 Wholesale Service Area Water Use Classes



■ Residential ■ Commercial ■ Industrial ■ Institutional ■ Non-Revenue ■ Other

Average Single Family Lot Size

1998



.32 acres

2013



.25 acres

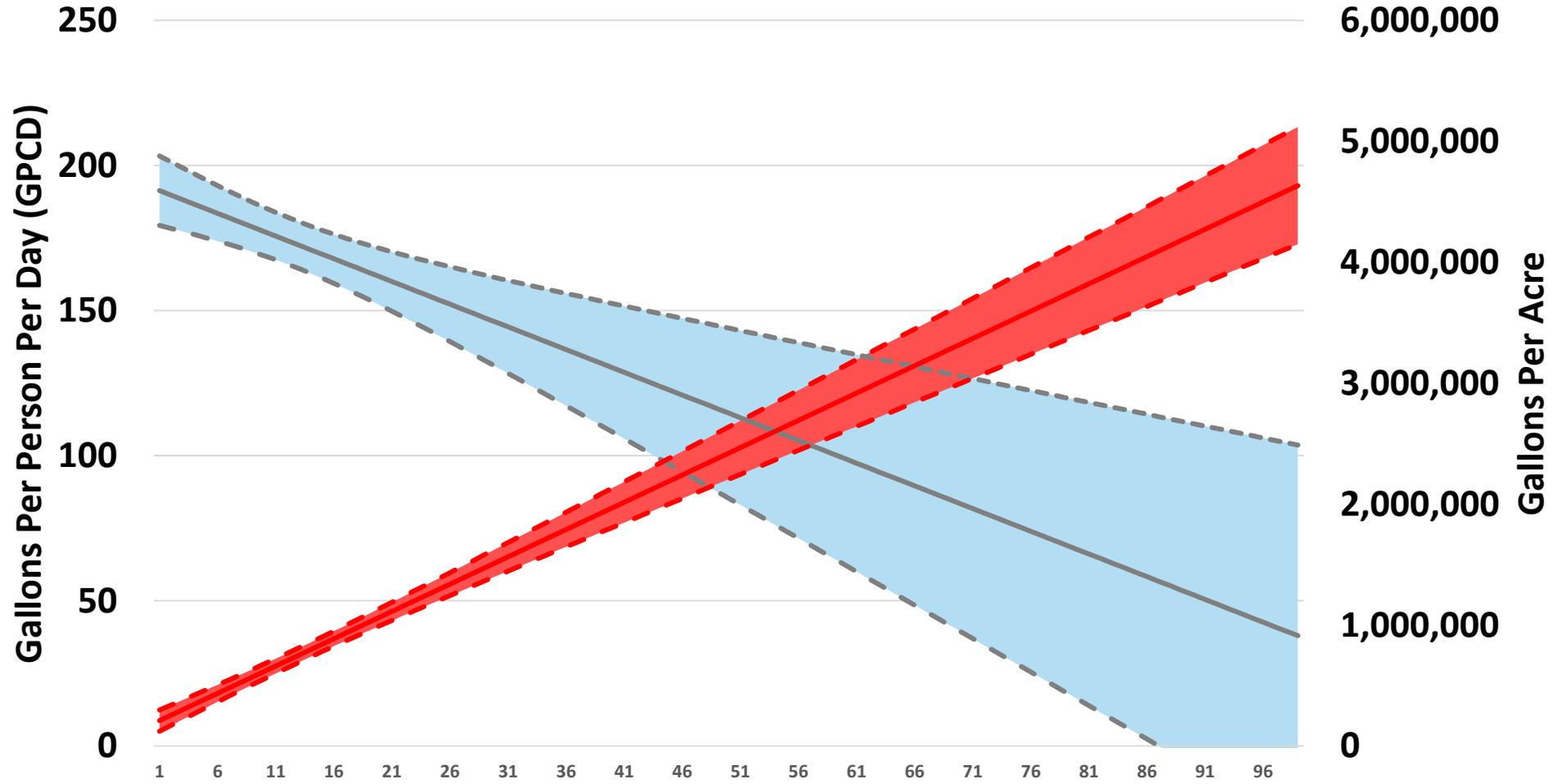
**22%
Decrease**

Source: Wasatch Front Regional Council



Source: Salt Lake County Assessor 2012, Weber County Assessor 2013, Davis County Assessor 2012, Utah County Assessor 2012, lots <5 acres

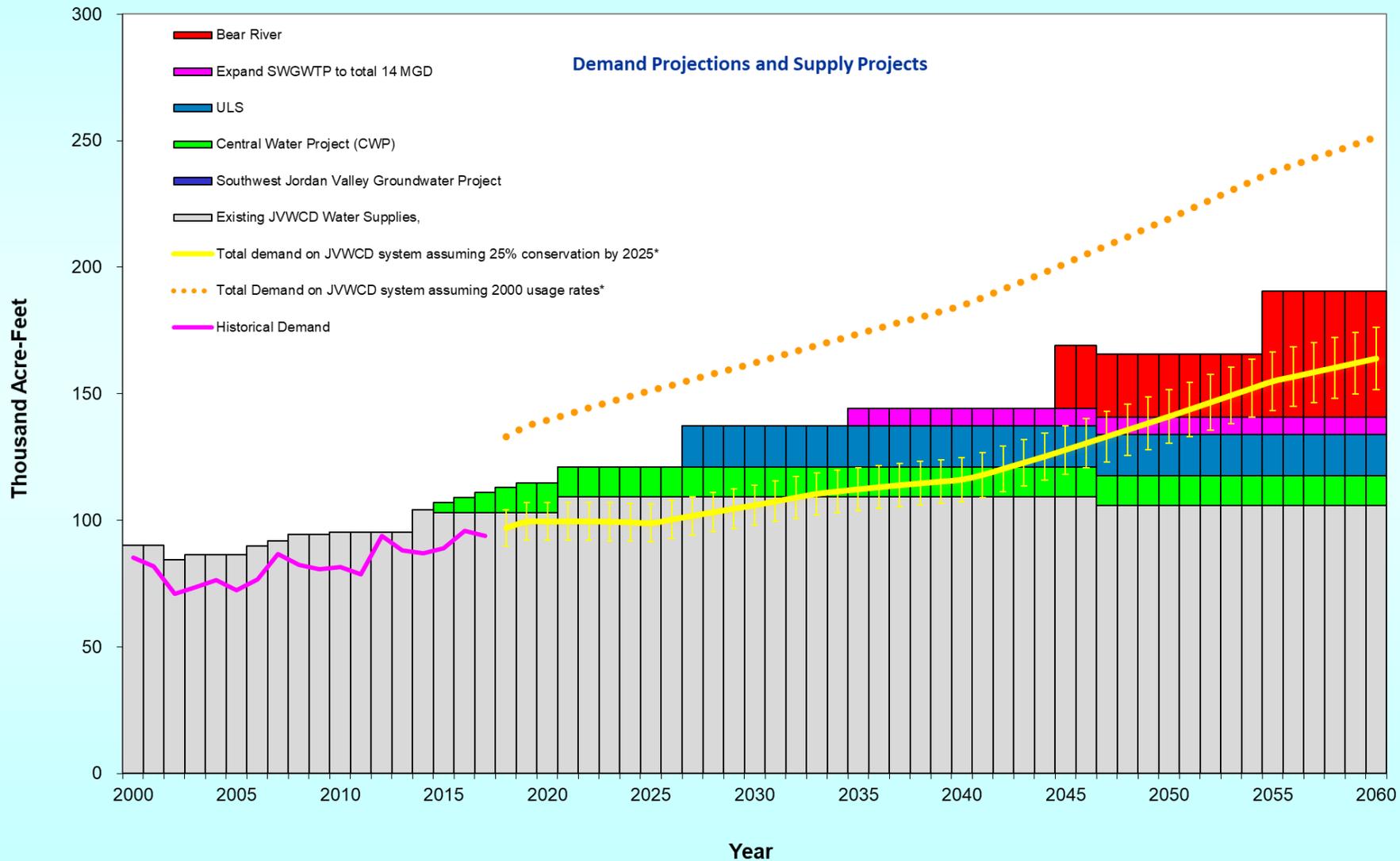
JORDAN VALLEY WATER CONSERVANCY DISTRICT
Retail Service Area Land Use Density Analysis



— Gallons Per Capita Per Day (GPCD) - Relationship Trendline

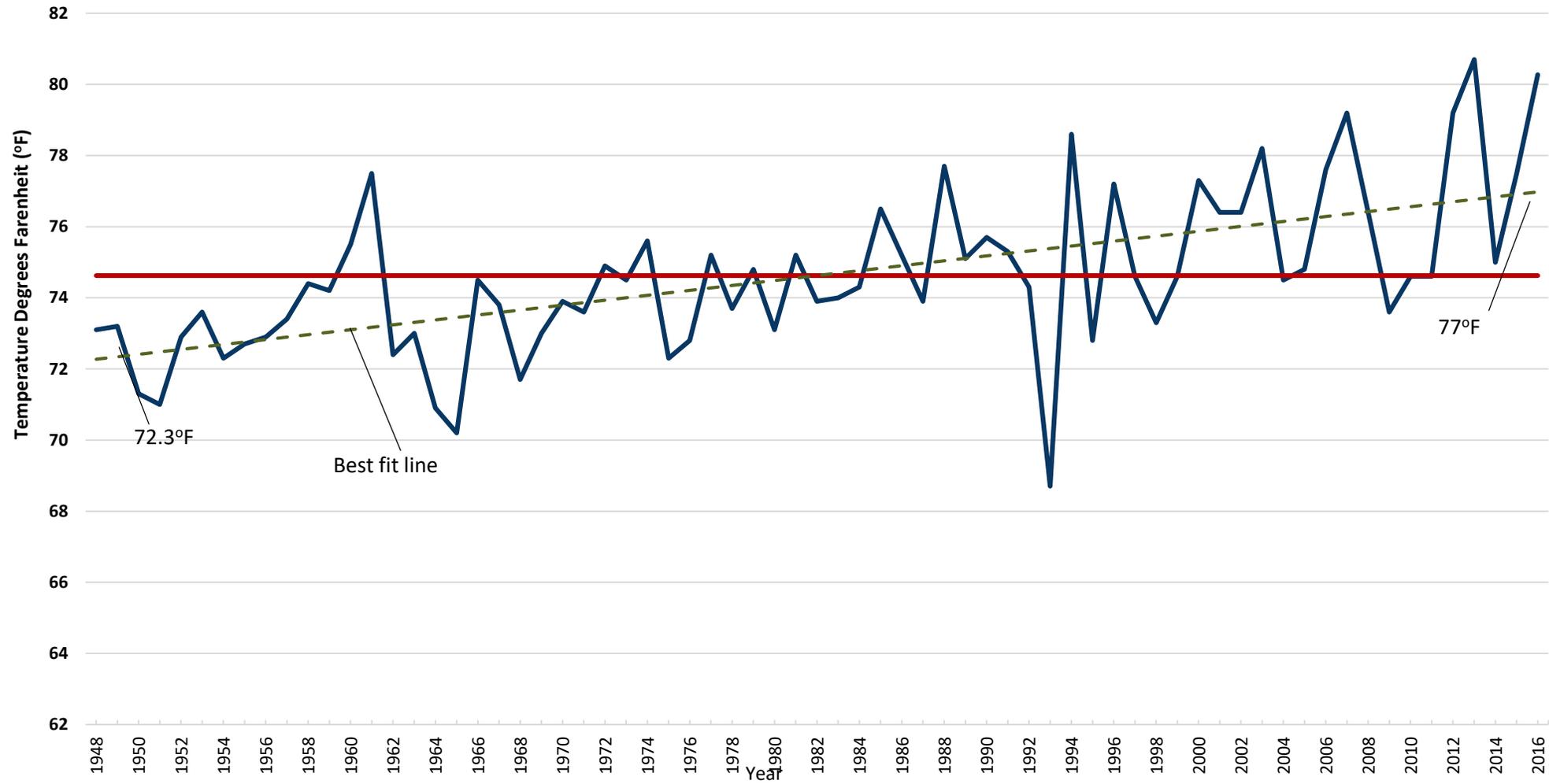
— Gallons Per Acre - Relationship Trendline

Jordan Valley Water Conservancy District Drought Year Water Supply Plan (Updated March 2018)



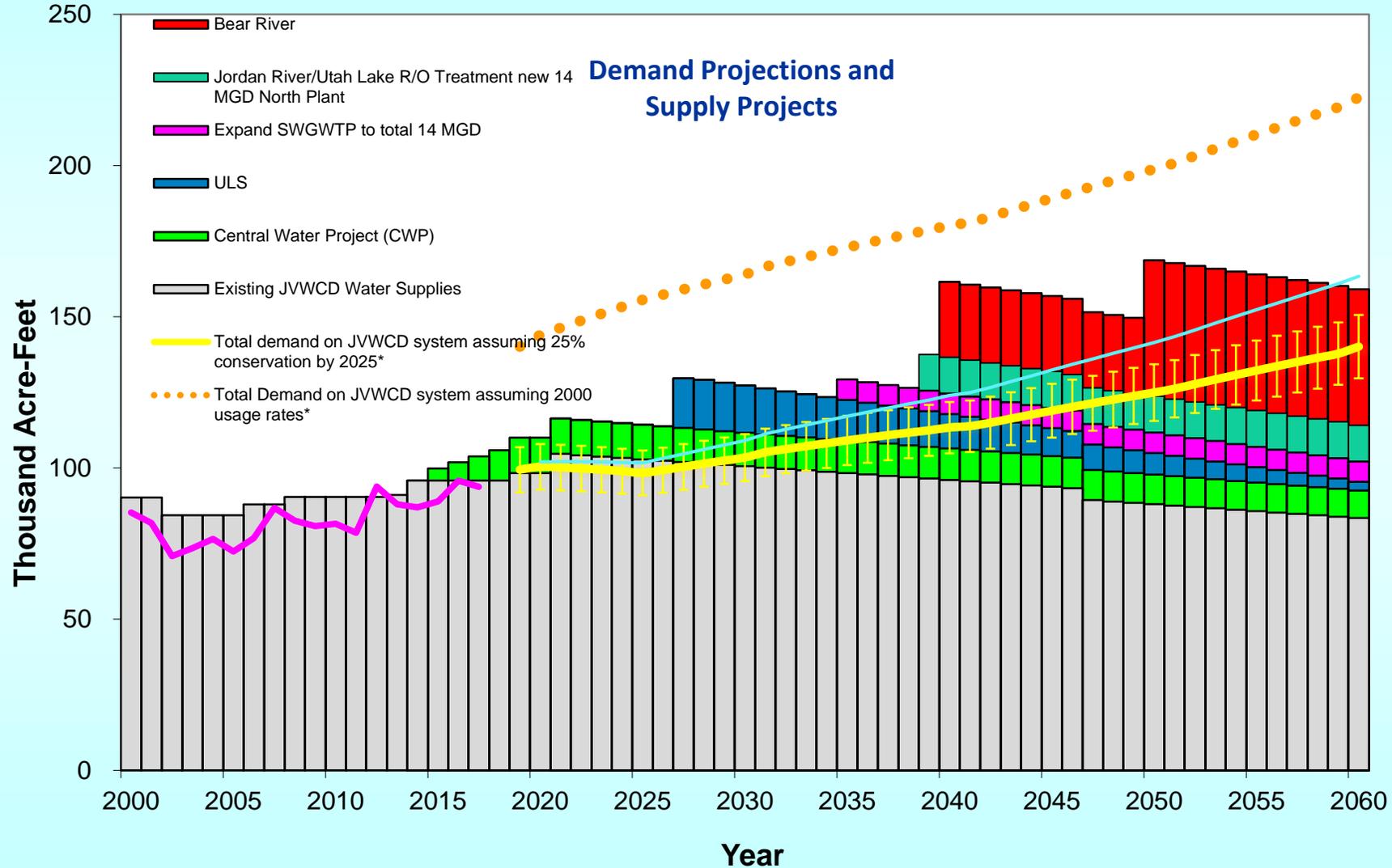
* Demand projections based on GOPB 2012 Baseline Report population projections

Salt Lake International Airport Average Temperature (June, July, August)



— Average Annual Temperature (June-Aug) — Average Temperature 1948-2016 (June-Aug) - - - Linear (Average Annual Temperature (June-Aug))

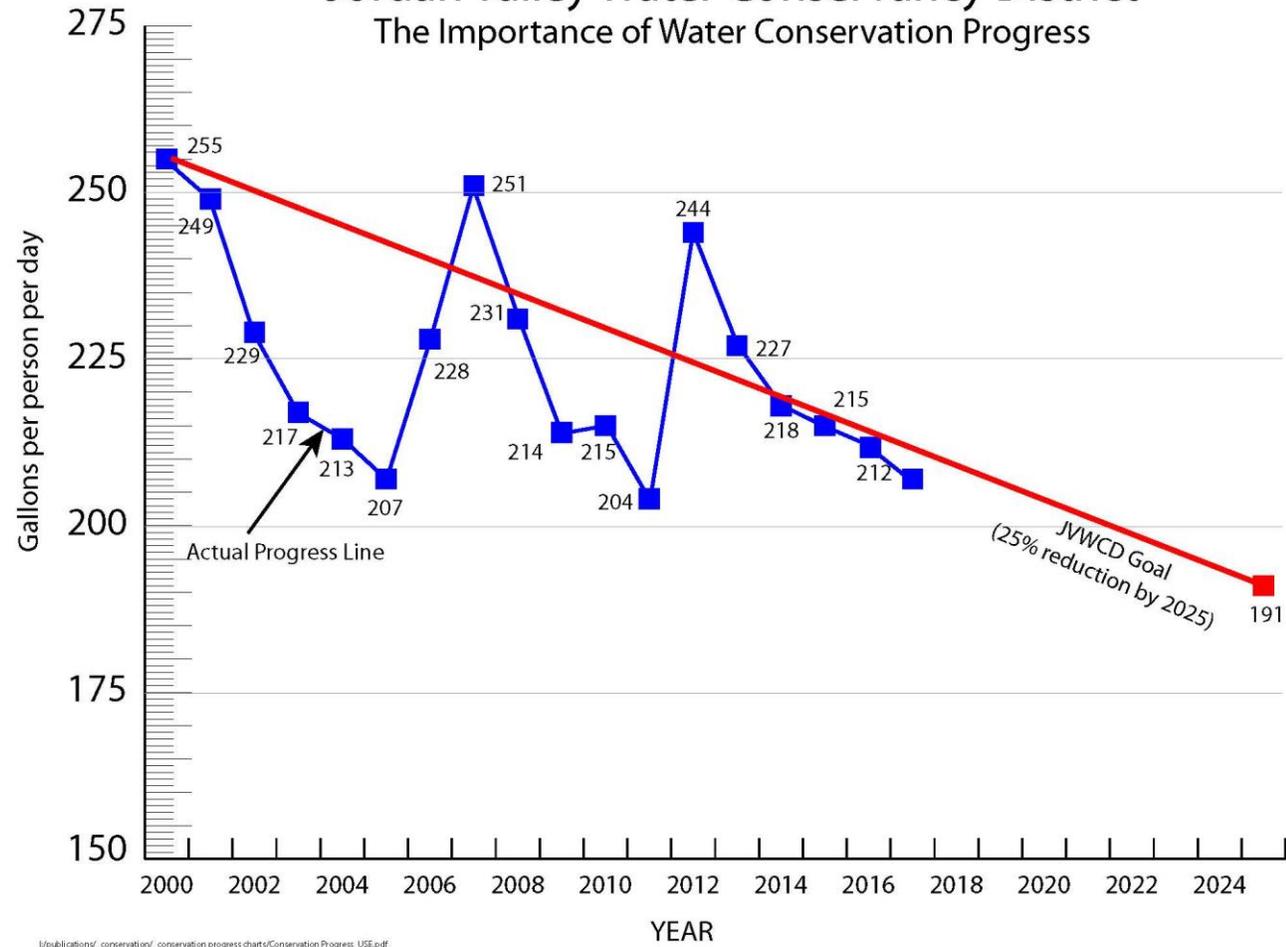
Jordan Valley Water Conservancy District Climate Change Water Supply Plan (Updated January 2018)



* Demand projections based on 2017 K Gardner Institute population projections

Jordan Valley Water Conservancy District

The Importance of Water Conservation Progress





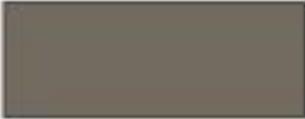
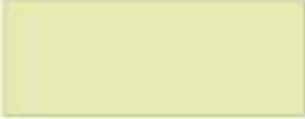
Landscape for where you live.

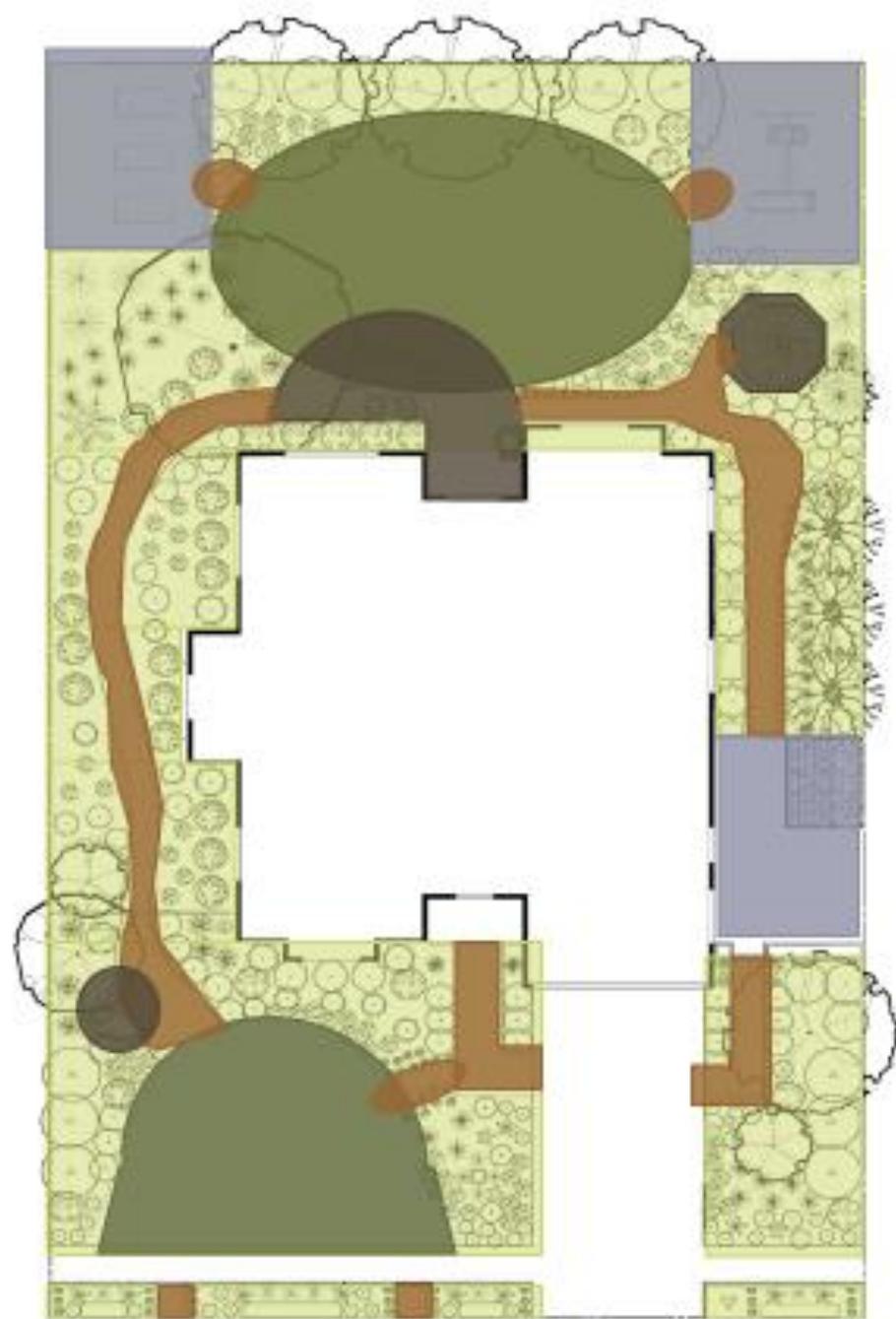
www.Localscapes.com





Localscapes House Plan View

-  1. Central Open Shape
-  2. Gathering Areas
-  3. Activity Zones
-  4. Paths
-  5. Plantings



What does it do for conservation?

Localscapes™
Localscapes.com

130,000 gallon annual water savings



Typical @ 40" per season = **196,250 Gal.** Vs. Designed for Utah Localscape = **64,766 Gal.**



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 use more than 1.6 gallons per flush.



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.

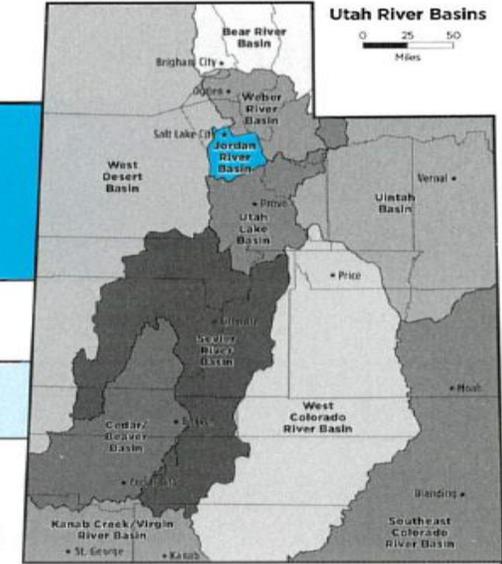


Cash rebates for sprinklers converted to drip identified during a Landscape Consultation.



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

Jordan River Basin Water Plan



Decade	Population (ending) ¹	Conservation Goal ²	Per Capita Use (GPCD) ³	M&I Water Use (AF/yr) ³	Additional Water Demand (AF/yr) ⁴	Projected Water Project Costs ⁵ (millions ⁶)		Actions Needed (by)
						Supply & Infrastructure	Repair & Replacement	
2000 ⁷	879,850	0%	70 183 264	69,000 180,000 260,000	—	—	—	
2001-2010	1,031,130	18%	62 150 216	72,000 173,000 249,000	—	—	—	
2011-2020	1,182,809	23%	56 142 203	74,000 188,000 269,000	20,000	\$443.6	\$617.9	<ul style="list-style-type: none"> • Repair and Replacement (cities, districts) • Growth-Related Infrastructure (cities, districts) • Groundwater Development (cities, districts) • PRCEP, SWJVGW Project, and CWP supplies (districts) • Conservation (cities, districts, DWRe) • Bear River Project-Preconstruction & Option Preservation (DWRe, JWCD) • Watershed Protection (cities, districts)
2021-2030	1,343,129	25%	53 138 197	80,000 208,000 296,000	27,000	\$659.4	\$851.3	<ul style="list-style-type: none"> • Repair and Replacement (cities, districts) • Growth-Related Infrastructure (cities, districts) • Groundwater Development (cities, districts) • Conservation (cities, districts, DWRe) • Bear River Project-Preconstruction (DWRe, JWCD) • ULS Supplies & related infrastructure (JWCD, MWDSL) • Watershed Protection (cities, districts)

2031-2040	1,511,049	25%	53 138 197	90,000 234,000 333,000	37,000	\$833.0	\$1,191.2	<ul style="list-style-type: none"> • Repair and Replacement (cities, districts) • Growth-Related Infrastructure (cities, districts) • Groundwater Development (cities, districts) • Conservation (cities, districts, DWRe) • Bear River Project- Ph 1 Completion (DWRe, JWCD) • Jordan River Ph 1 WTP (JWCD) • Watershed Protection (cities, districts)
2041-2050	1,663,245	25%	53 138 197	99,000 257,000 367,000	34,000	\$452.0	\$1,487.3	<ul style="list-style-type: none"> • Repair and Replacement (cities, districts) • Growth-Related Infrastructure (cities, districts) • Groundwater Development (cities, districts) • Conservation (cities, districts, DWRe) • Bear River Project- Ph 2 Completion (DWRe, JWCD) • Watershed Protection (cities, districts)
2051-2060	1,817,143	25%	53 138 197	108,000 281,000 401,000	34,000	\$504.0	\$1,644.8	<ul style="list-style-type: none"> • Repair and Replacement (cities, districts) • Growth-Related Infrastructure (cities, districts) • Groundwater Development (cities, districts) • Conservation (cities, districts, DWRe) • Jordan River Ph 2 WTP (JWCD) • Watershed Protection (cities, districts)
					152,000	\$2,892.0	\$5,792.5	

1) Population ending data from Governor's Office of Management and Budget

2) Percentage reduction from 2000 per capita use, at end of decade, per state goal of 25% by 2025

3) Gallons per capita per day calculated by DWRe; first number is residential indoor use; second number is residential indoor and outdoor use (inc secondary); third number is residential indoor and outdoor plus commercial, industrial, and institutional (CI&I)

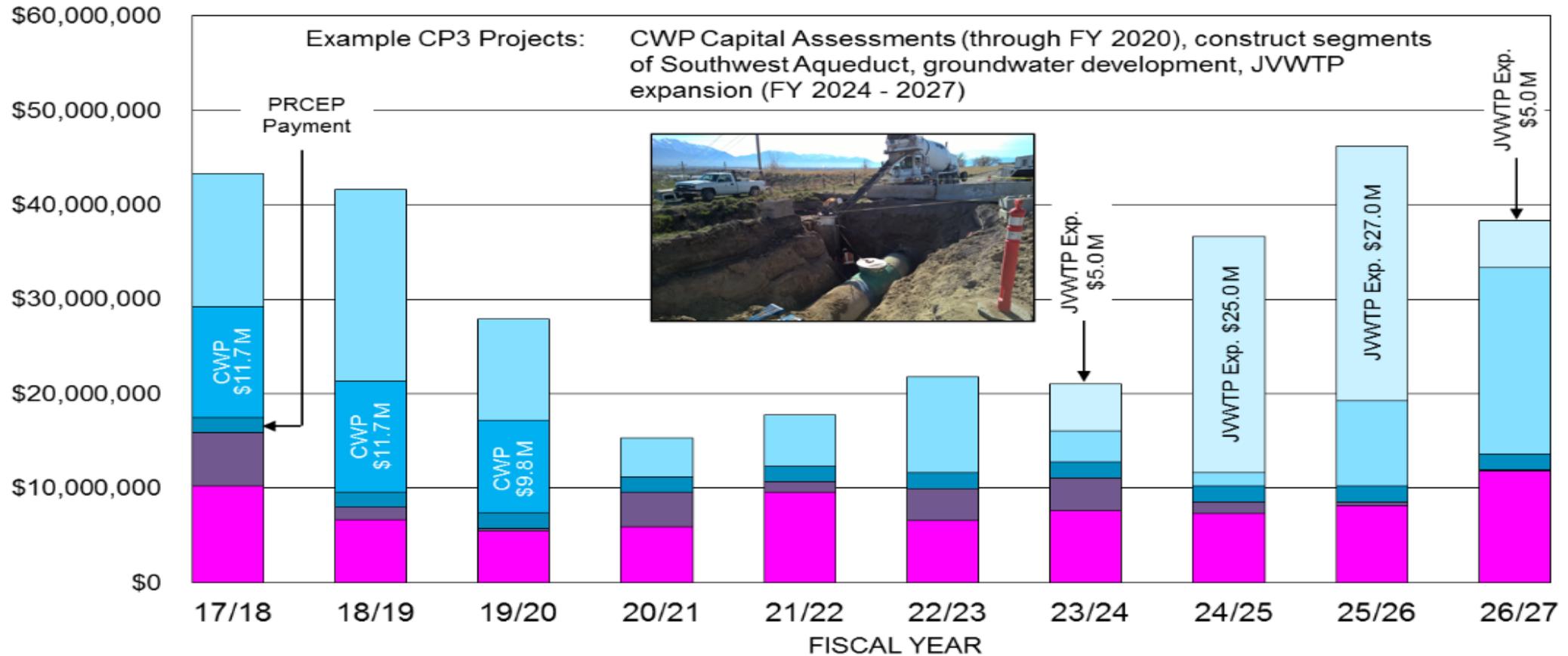
4) The aggregate water supply needed in addition to previous decade to meet demands of the decade for the basin as a whole; conditions may exist where shortages in one area of the basin cannot be met by the surpluses in another

5) Estimated from a several sources including Capital Plans of JWCD, MWDSL, SLC, water infrastructure asset value noted in Financial Reports submitted to the State Auditor, and DWRe Bear River estimates. Costs include conservation capital projects through 2025, after which the conservation goal is assumed to be achieved. Ongoing conservation O&M costs (and all other O&M costs) are excluded from cost estimates.

6) In 2013 dollars

7) 2000 is the baseline year; 2000 and 2010 data are current approximations for those decades; 2011-2060 data is projected

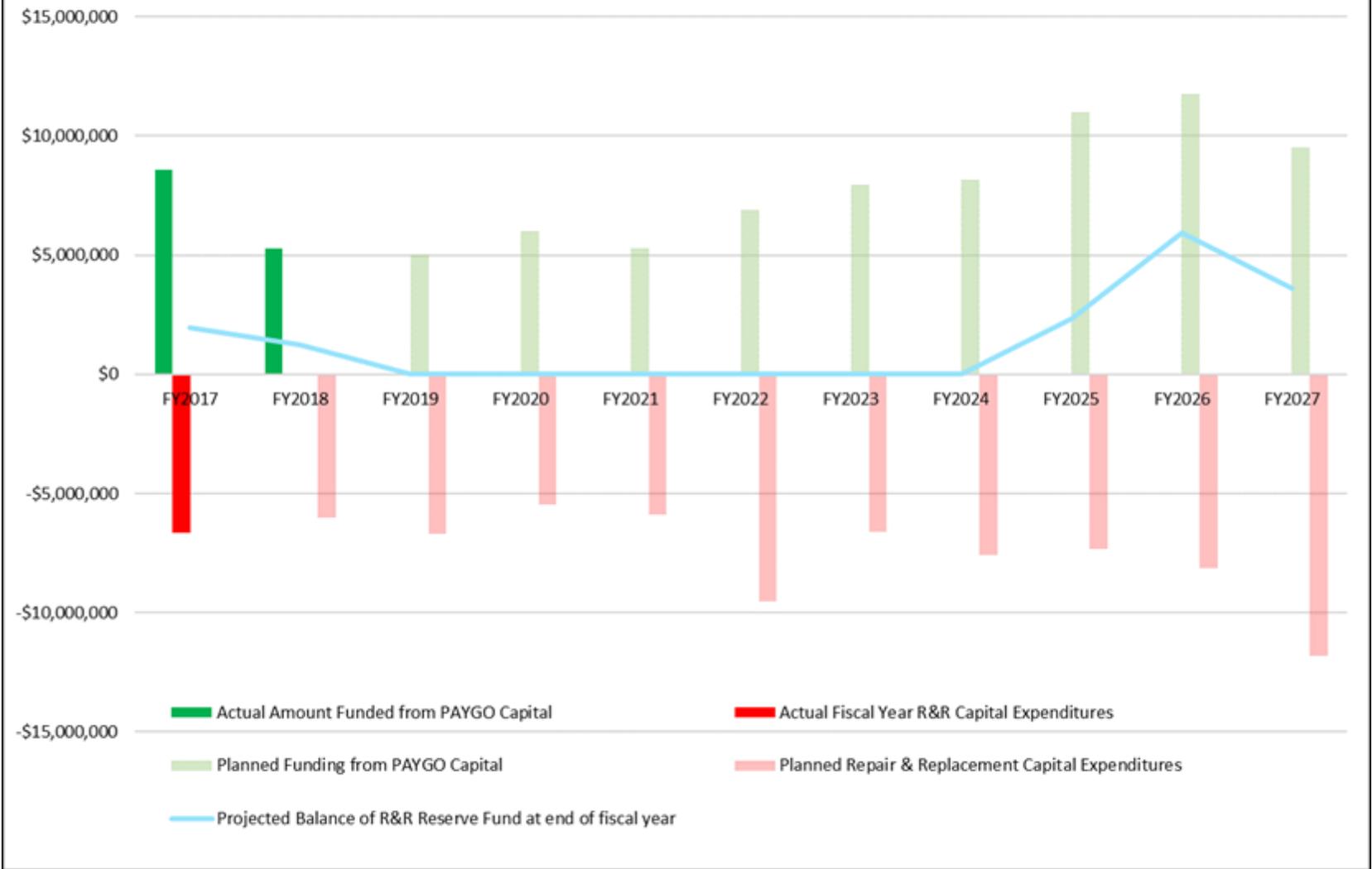
TEN YEAR CAPITAL PROJECTS PLAN SUMMARY (updated March 2017)



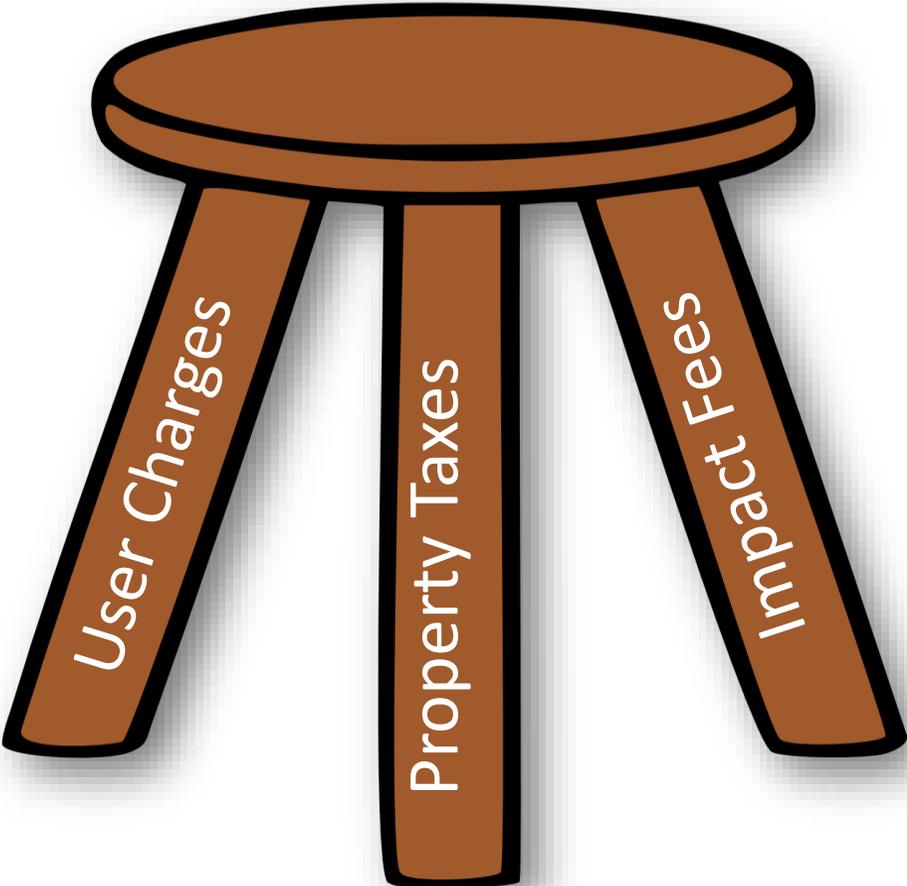
Total CP3 10 Year Plan: \$210,032,161

- CP3 - (JWWT 35 MGD expansion)
- CP3 - New water supply, treatment, conveyance, or storage facilities which provide new system capacity
- CP3 - (CWP)
- CP3 - (PRCEP)
- CP2, New facilities needed for compliance or functional upgrades, but provide no new system capacity
- CP1, Major rehabilitation or replacement of existing facilities

Repair and Replacement Funding from PAYGO Capital



Authorized Revenue Sources for Water Districts

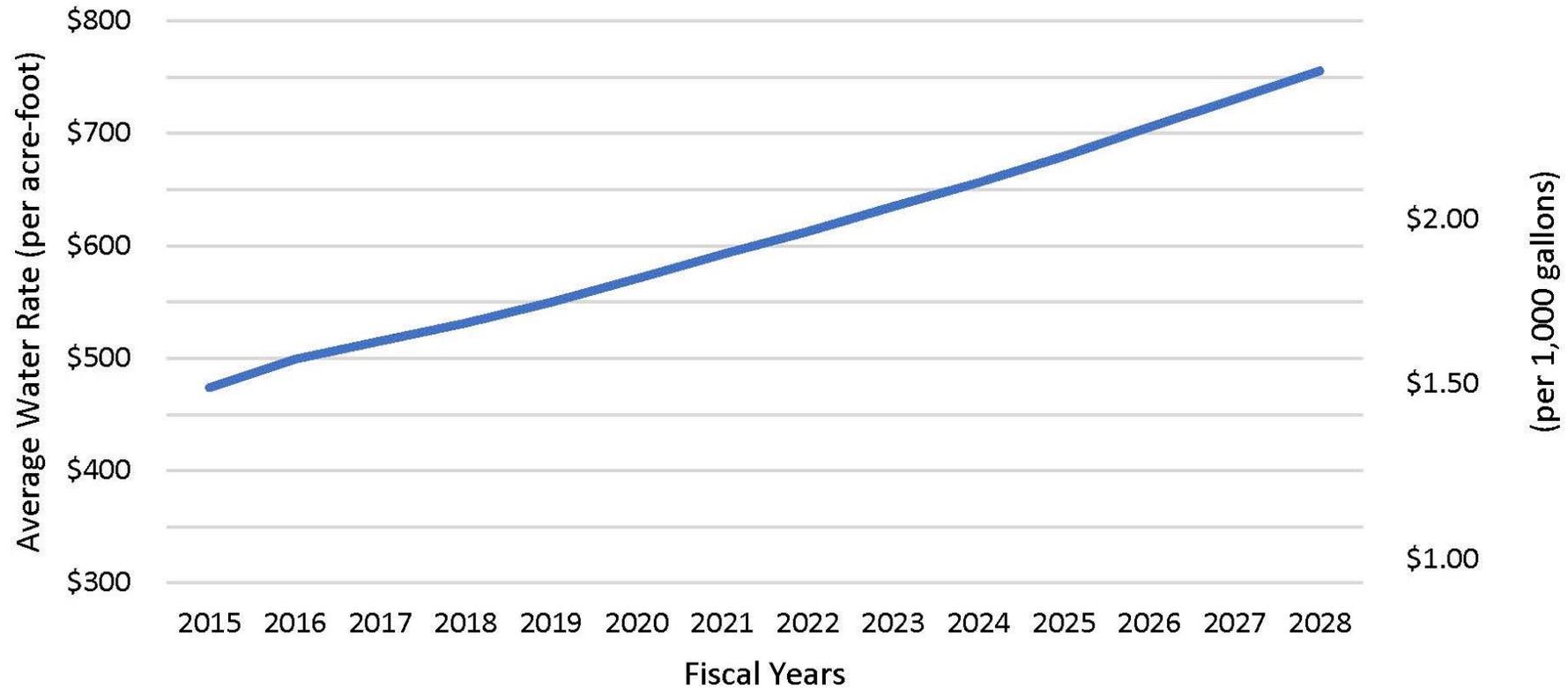


JORDAN VALLEY WATER CONSERVANCY DISTRICT

Planned Funding Sources for Water Infrastructure

<u>INFRASTRUCTURE</u>	<u>FUNDING SOURCES</u>
REPLACE AGING INFRASTRUCTURE	<ul style="list-style-type: none">● User charges● Pay-go capital
NEW INFRASTRUCTURE (RETAIL)	<ul style="list-style-type: none">● Impact fees● Property tax● Bonds● User charges
NEW INFRASTRUCTURE (WHOLESALE)	<ul style="list-style-type: none">● Annexation fees (under consideration)● Property tax● Bonds● User charges

JORDAN VALLEY WATER CONSERVANCY DISTRICT Wholesale Water Rate Projection



Questions and Discussion