

Utah Water 2026: Challenges and Opportunities

Brian C. Steed, JD, PhD
Executive Director

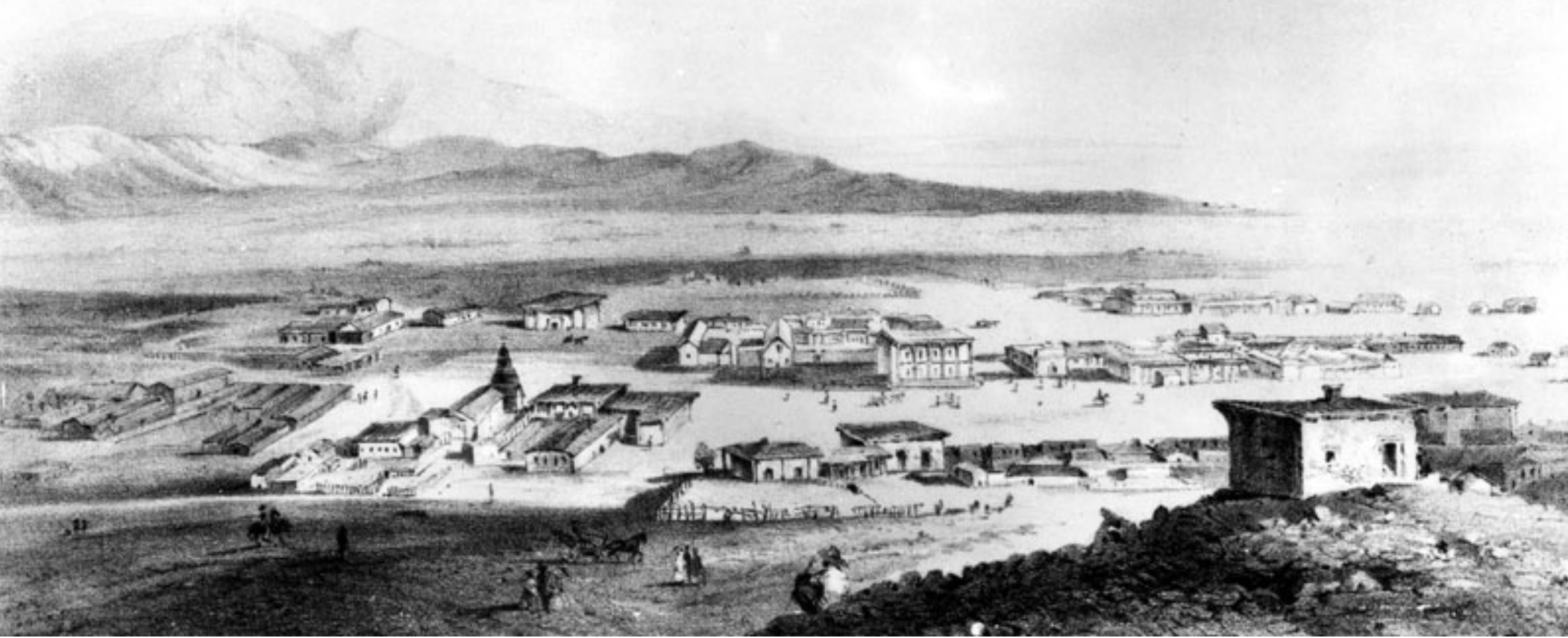
Anna McEntire, PhD
Managing Director



Janet Quinney Lawson
Institute for Land, Water & Air
UtahStateUniversity

Let's Play a Game....Name that city

1853



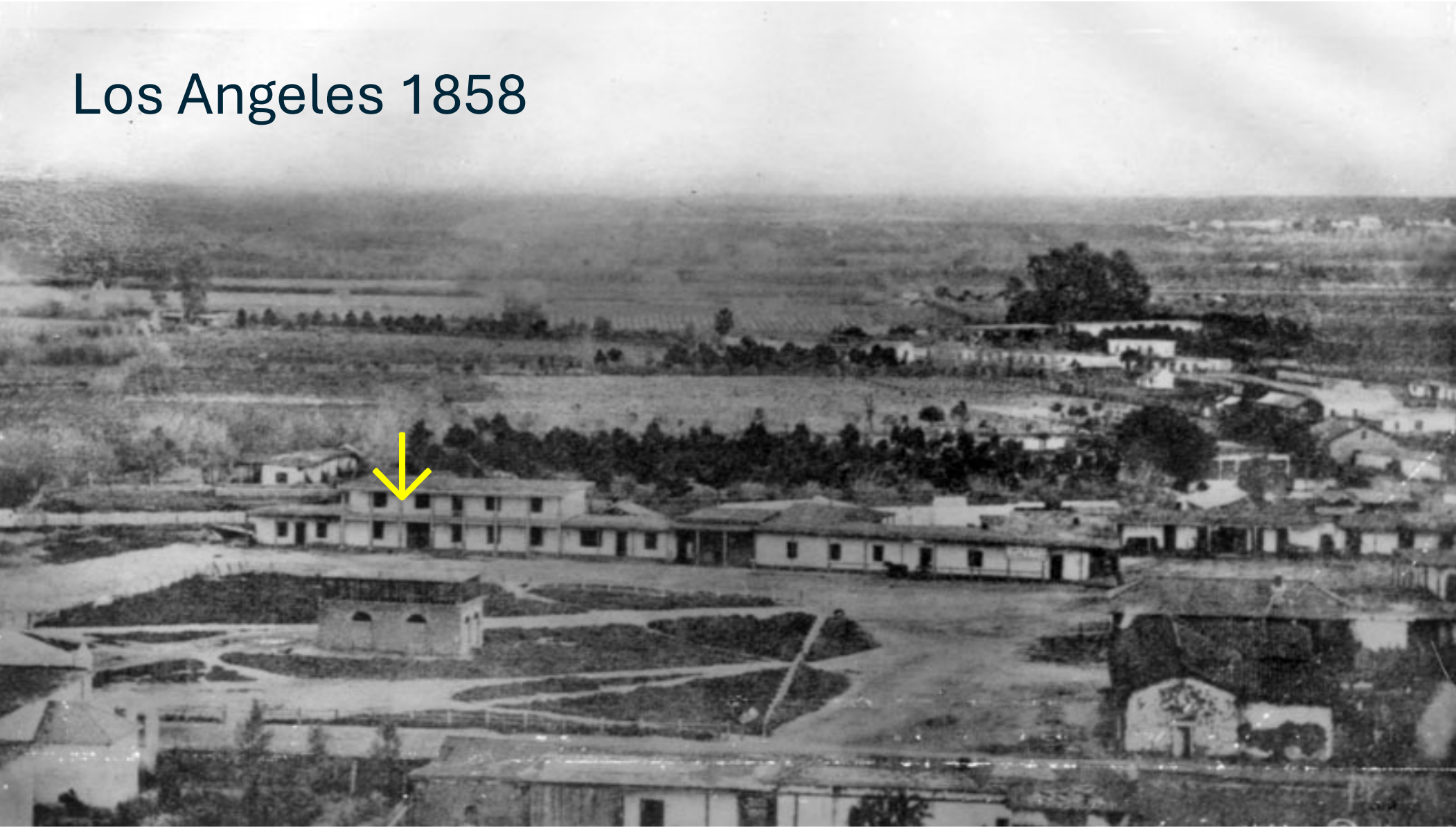


The Mighty Los Angeles River

Historian H.H. Bancroft notes, “[b]y the year 1801, the population of Los Angeles had increased to 300, less than half being adults. An adequate water supply during the long, dry summers appears to have been one of the major problems” (1888 110-111).



Los Angeles 1858



WATER SECURITY IS KEY.

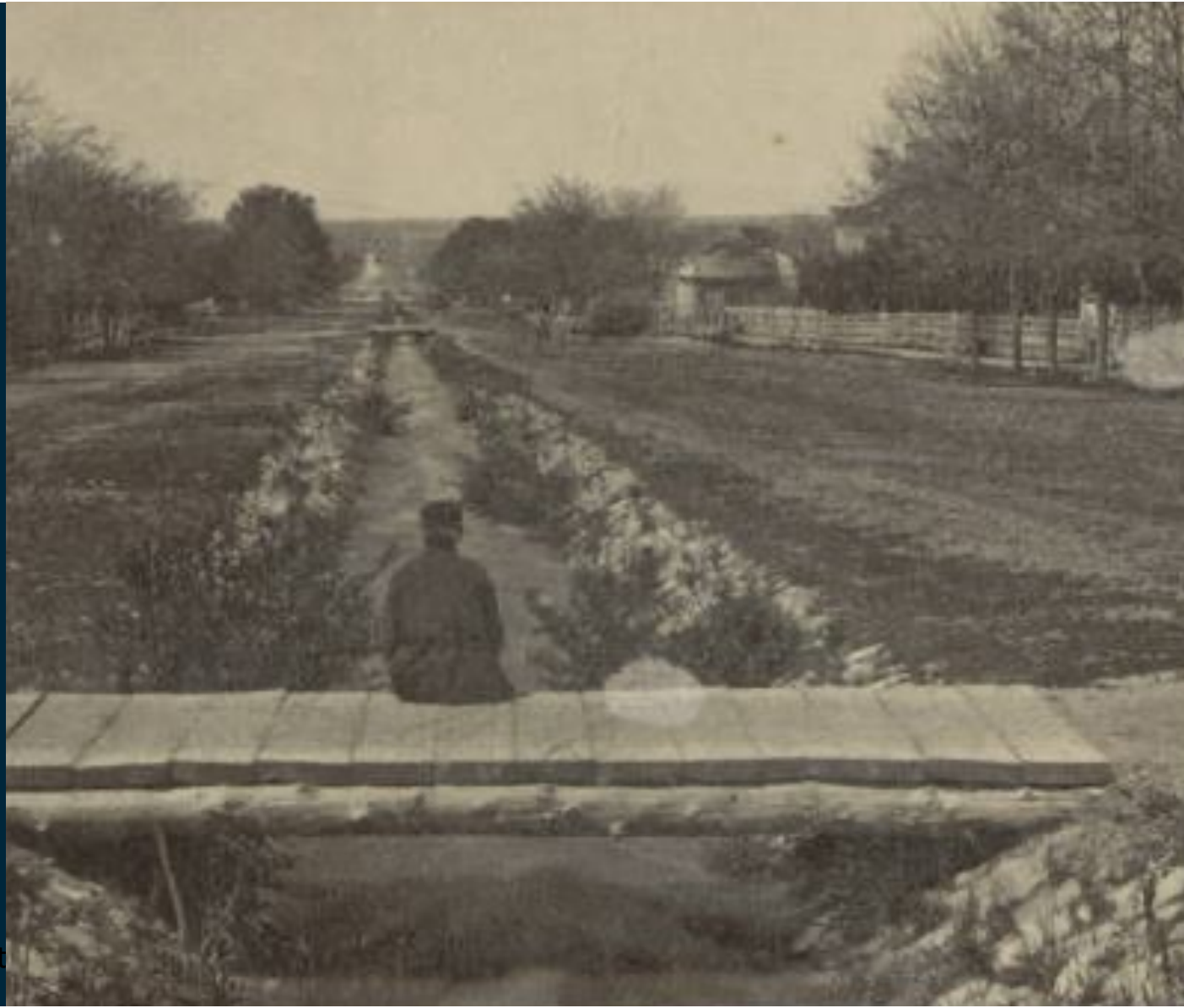
Water security has
always been the
challenge of living in
the arid West.

A REMINDER:

Before
City Creek
was
this...



It was
crucial as
this...

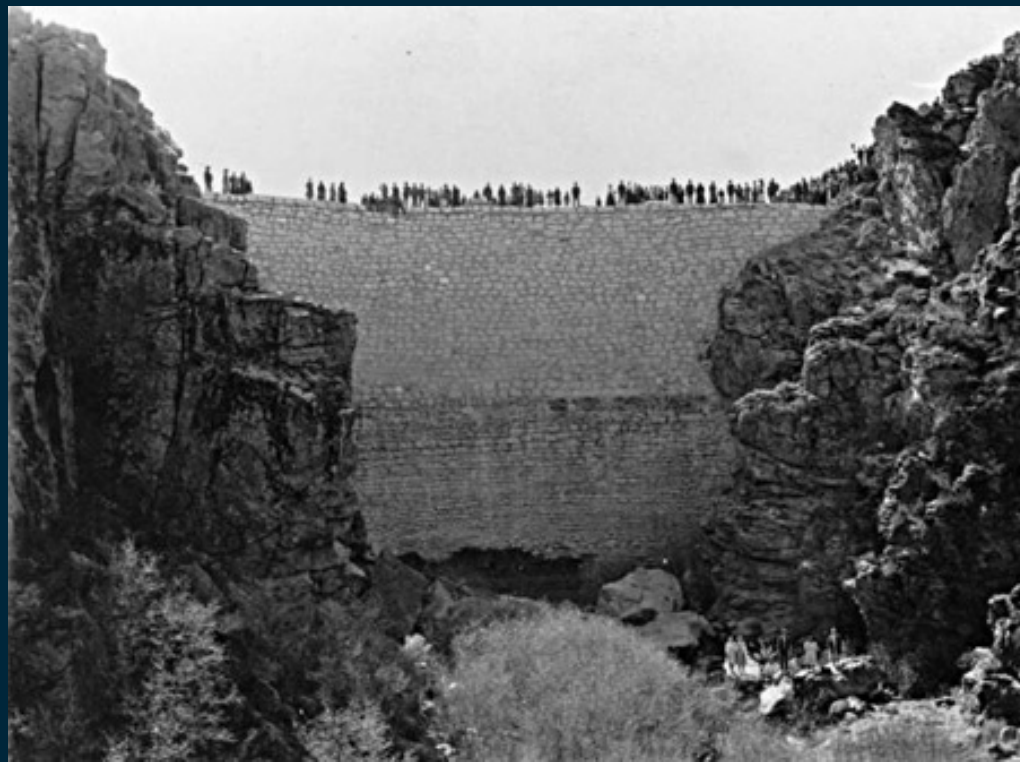


How did we make it work?

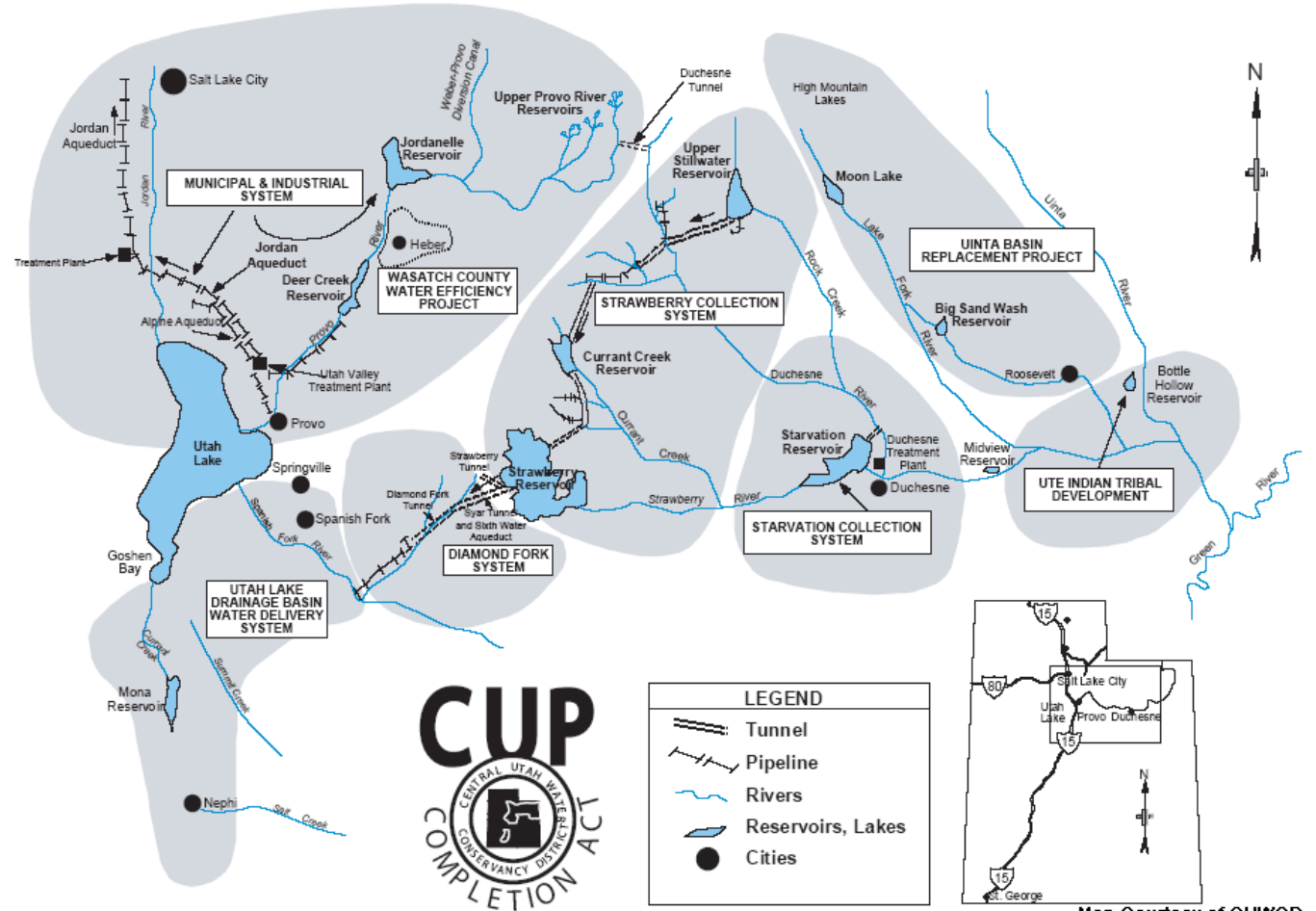
Infrastructure and Institutions



Infrastructure

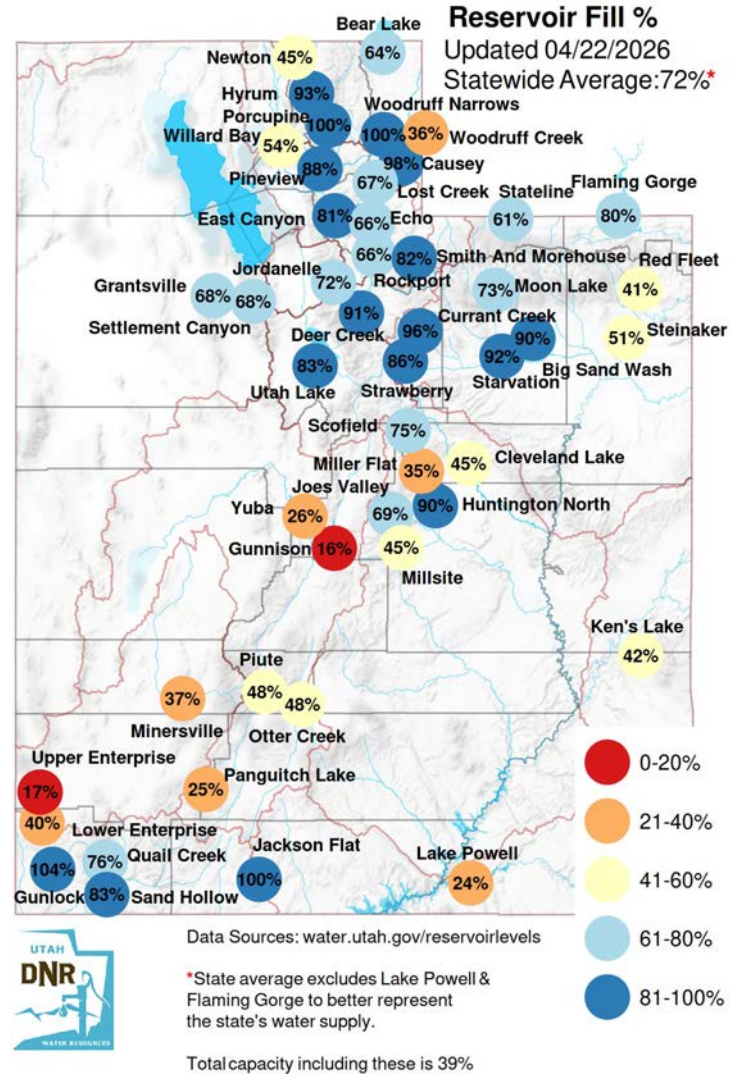
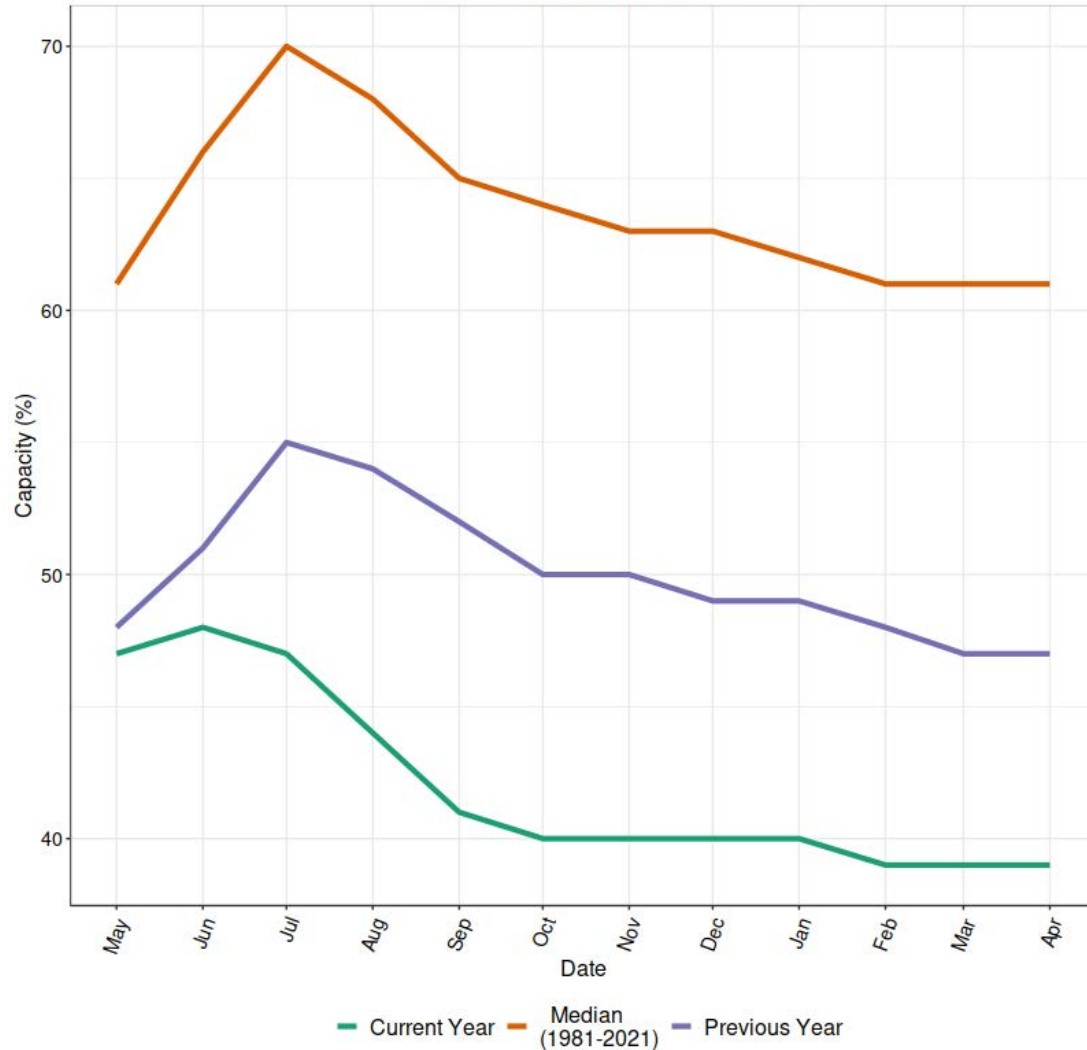


The Central Utah Project



Map Courtesy of CUWCD

All Reservoirs (Apr-22-2026)





Institutions: Rules for water distribution

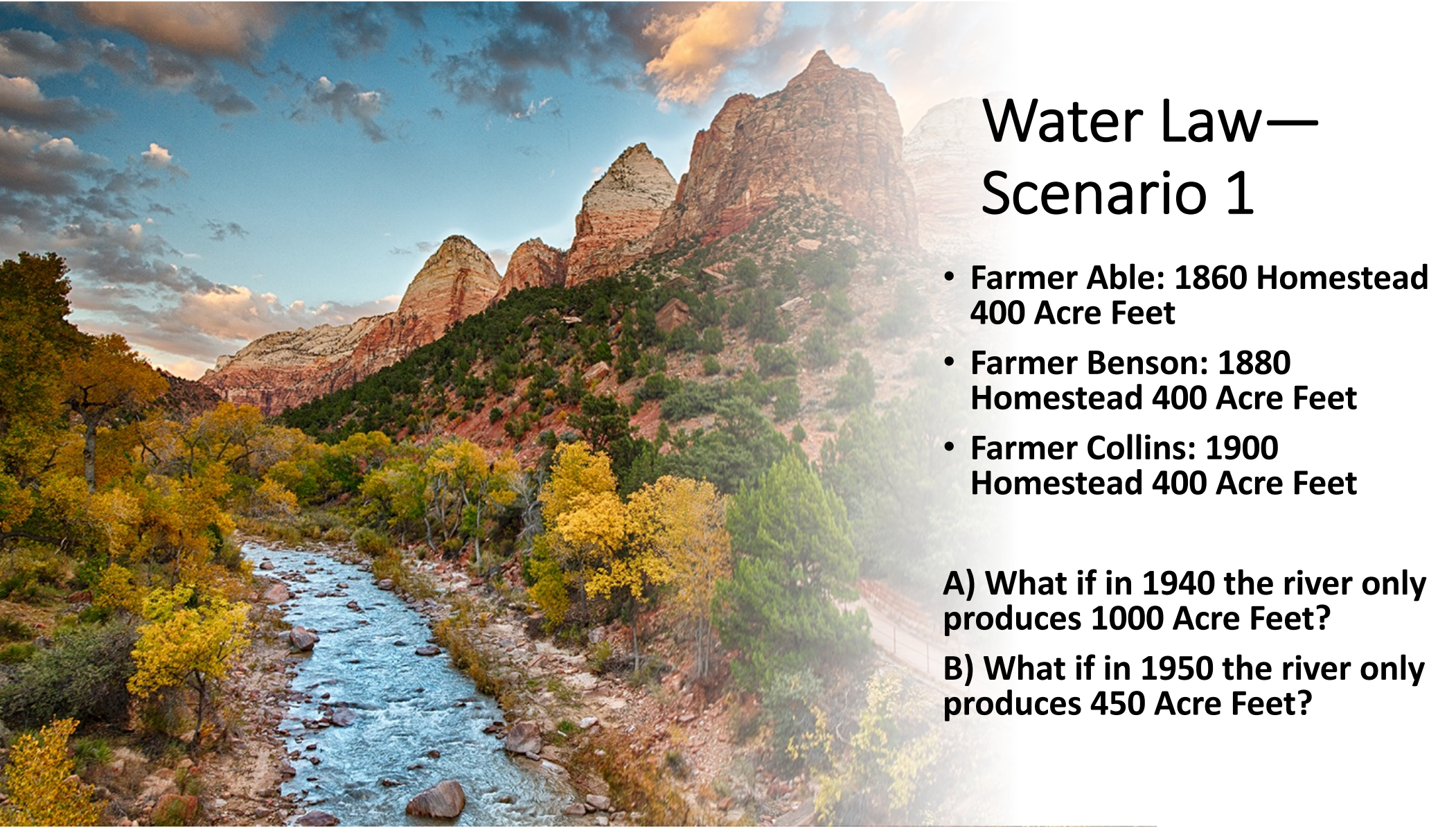
- As Europeans settled the west, farmers, ranchers, miners, and communities started diverting water from natural sources.
- Made claims based on a **date** and an **amount**.
 - Common units: “acre-foot” (over 325,000 gallons) and later cubic feet per second.
- Many Utah water rights date from late 1800’s

Beneficial Use Doctrine



Made and additional requirement that the water could only remain yours if it was put to beneficial use.

“Use it or Lose It”



Water Law— Scenario 1

- **Farmer Able: 1860 Homestead
400 Acre Feet**
- **Farmer Benson: 1880
Homestead 400 Acre Feet**
- **Farmer Collins: 1900
Homestead 400 Acre Feet**

**A) What if in 1940 the river only
produces 1000 Acre Feet?**

**B) What if in 1950 the river only
produces 450 Acre Feet?**



Water Law— Scenario 2

- **Farmer Able: 1860 Homestead 400 Acre Feet**
- **Farmer Benson: 1880 Homestead 400 Acre Feet—later farmer Benson starts the town of Benson home to 400 homes**
- **Farmer Collins: 1900 Homestead 400 Acre Feet**

A) What if in 1940 the river only produces 1000 Acre Feet?

B) What if in 1950 the river only produces 450 Acre Feet?

REMINDER: WATER SECURITY IS KEY.

Water security has
always been the
challenge of living in
the arid West.

Current Challenges to Water Security



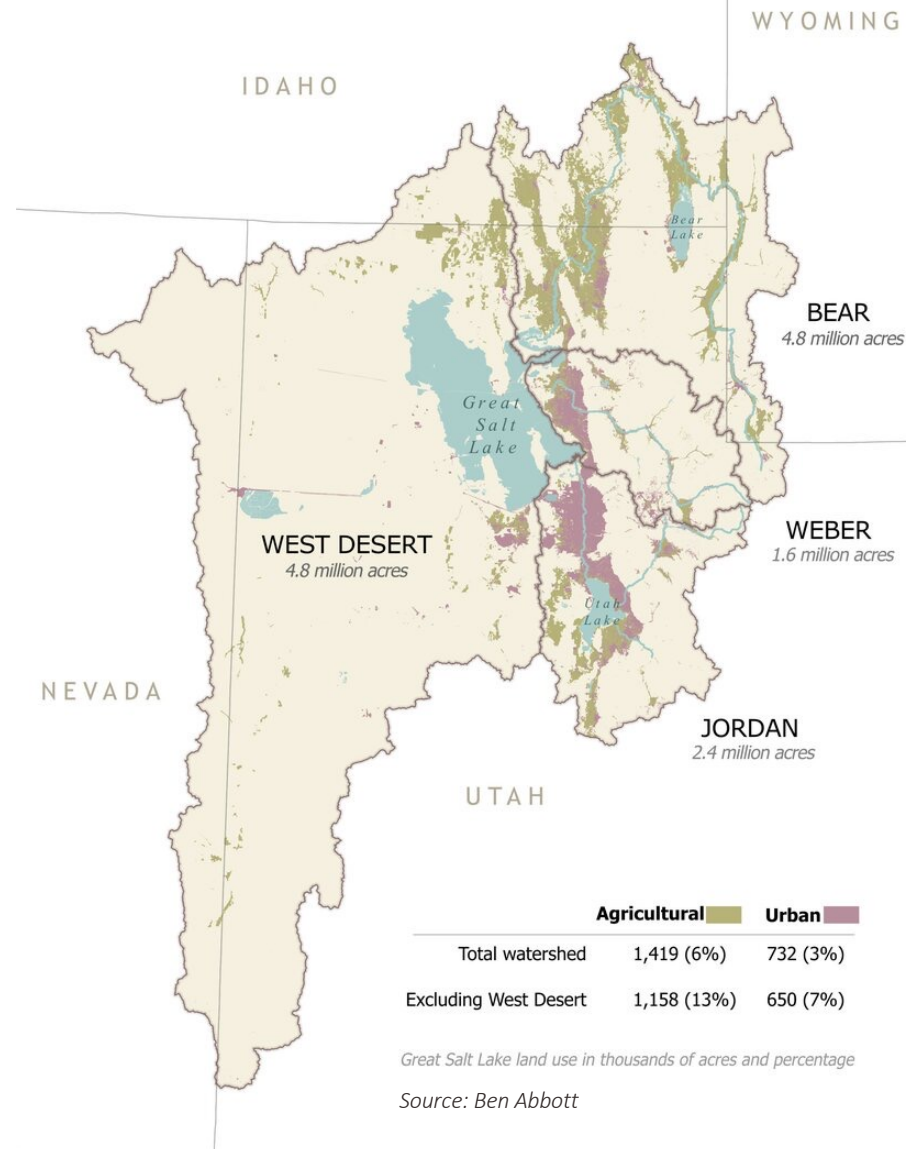
Google Earth Timelapse
Great Salt Lake, Utah
1984



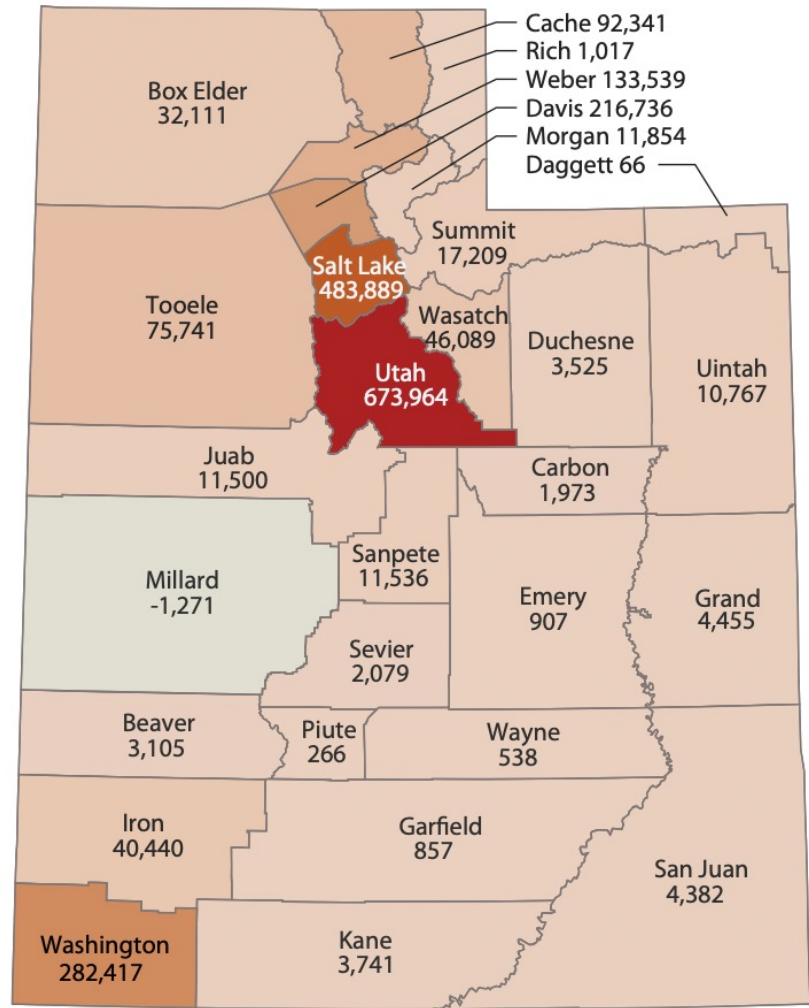


The Colorado River

Great Salt Lake
Watershed
overlays the
most populated
part of our state.



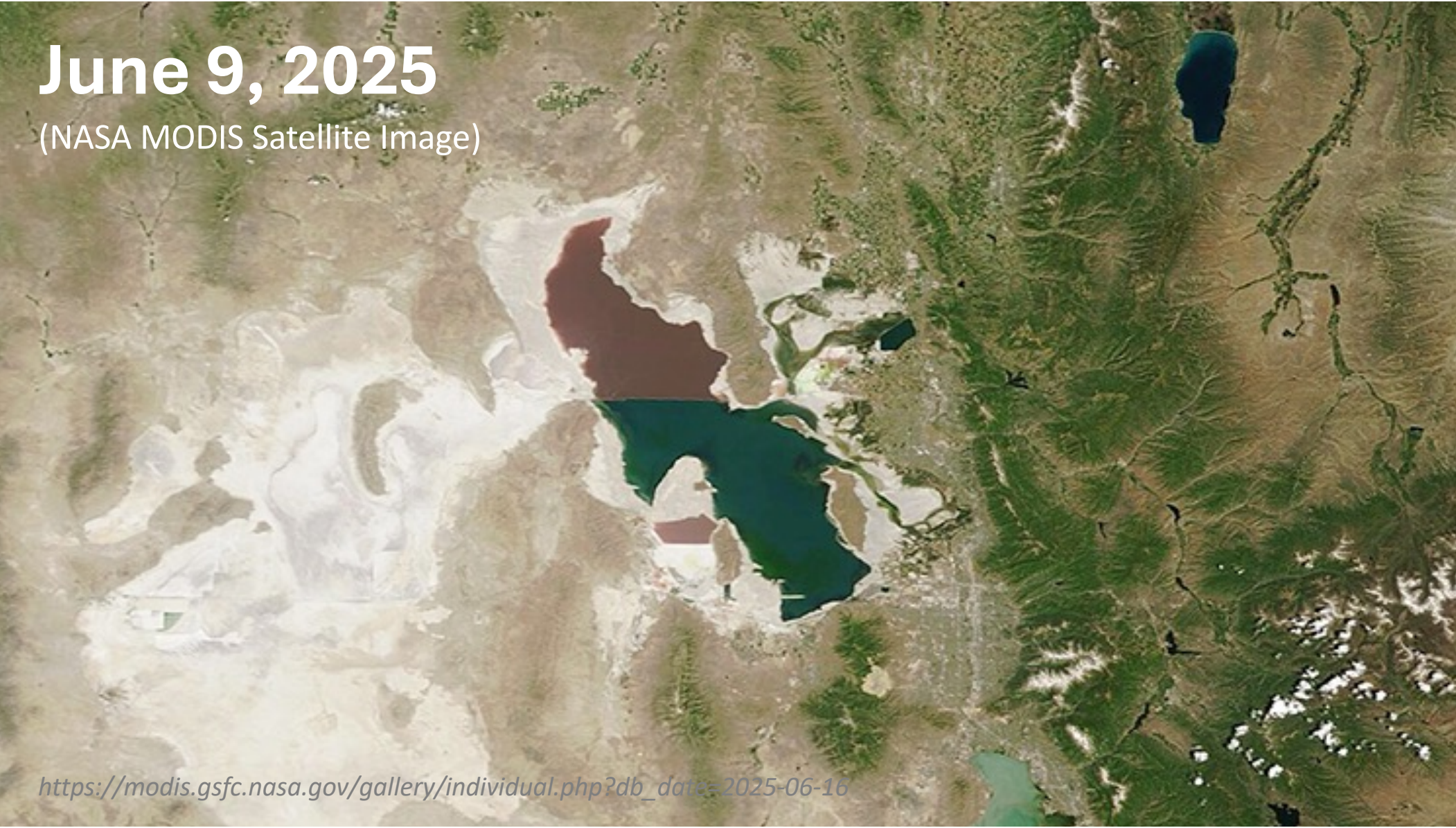
Where Utah is projected to grow (2020-2060)



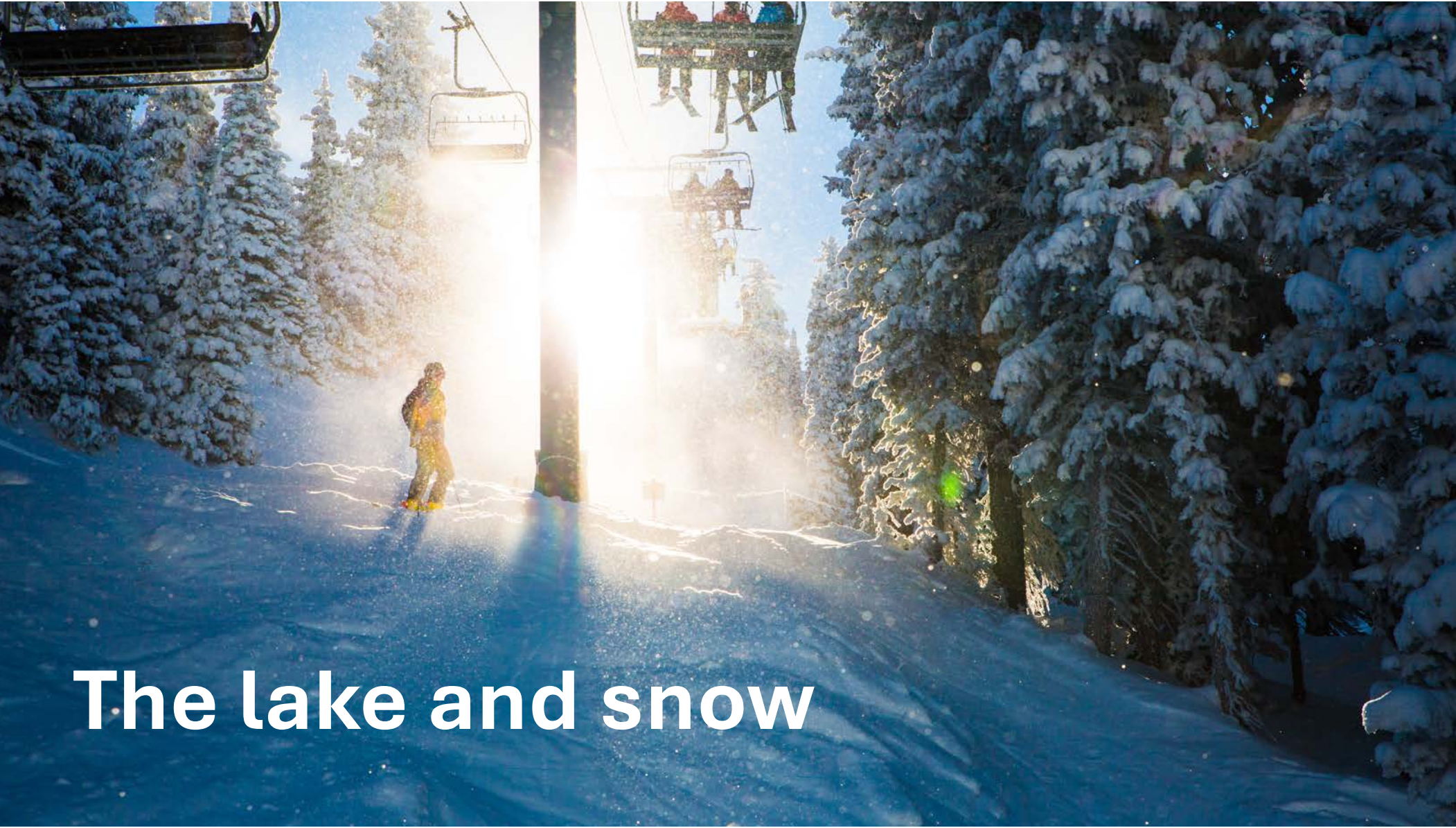
Source: Kem C. Gardner Policy Institute, 2020–2060 Projections

June 9, 2025

(NASA MODIS Satellite Image)



https://modis.gsfc.nasa.gov/gallery/individual.php?db_date=2025-06-16



The lake and snow

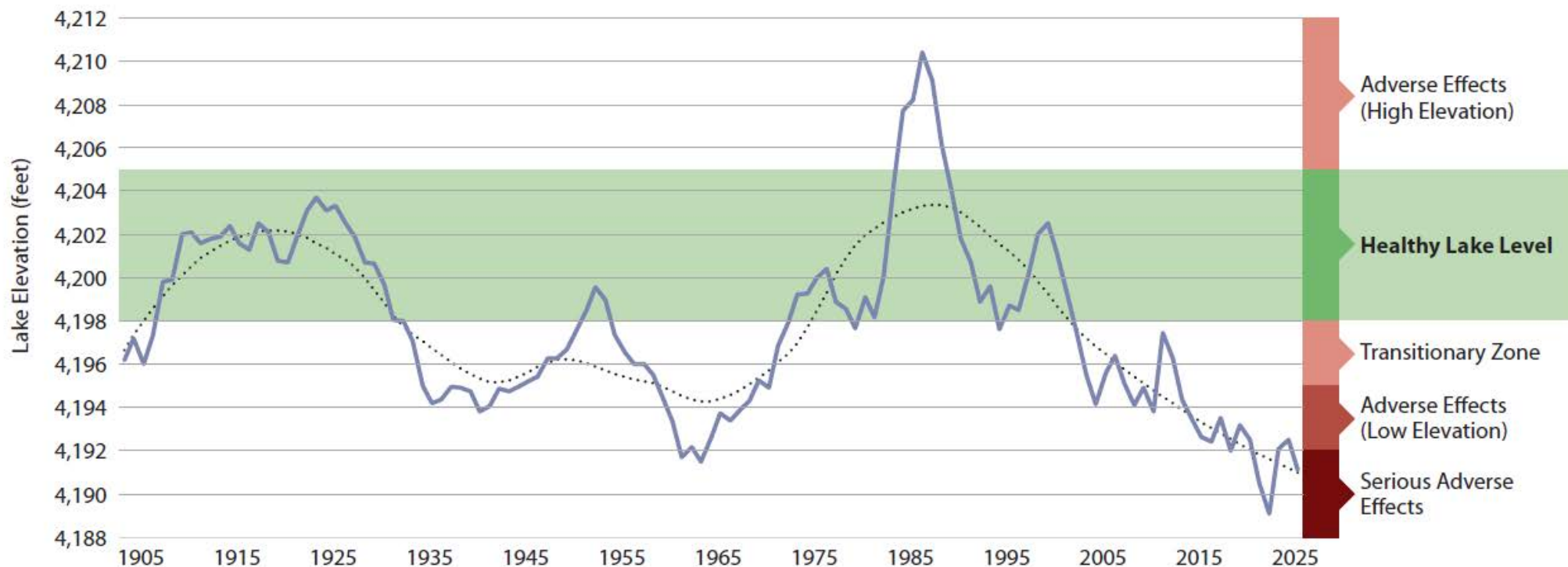
A unique and vital ecosystem

Birds, shrimp, and flies

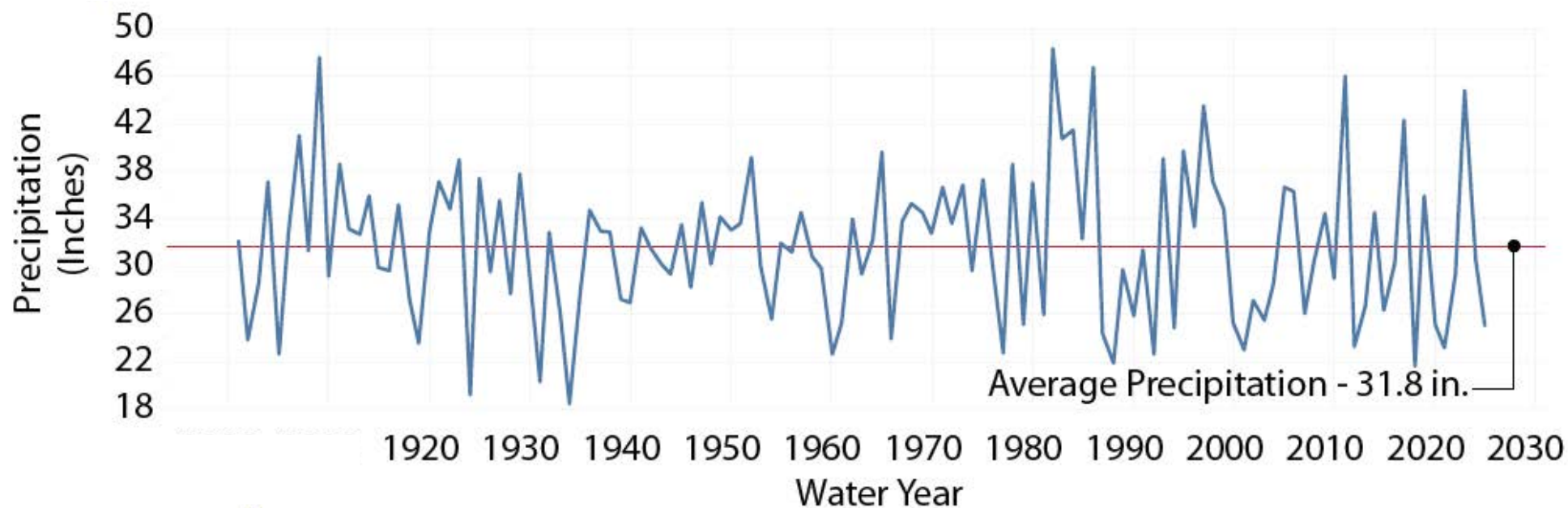




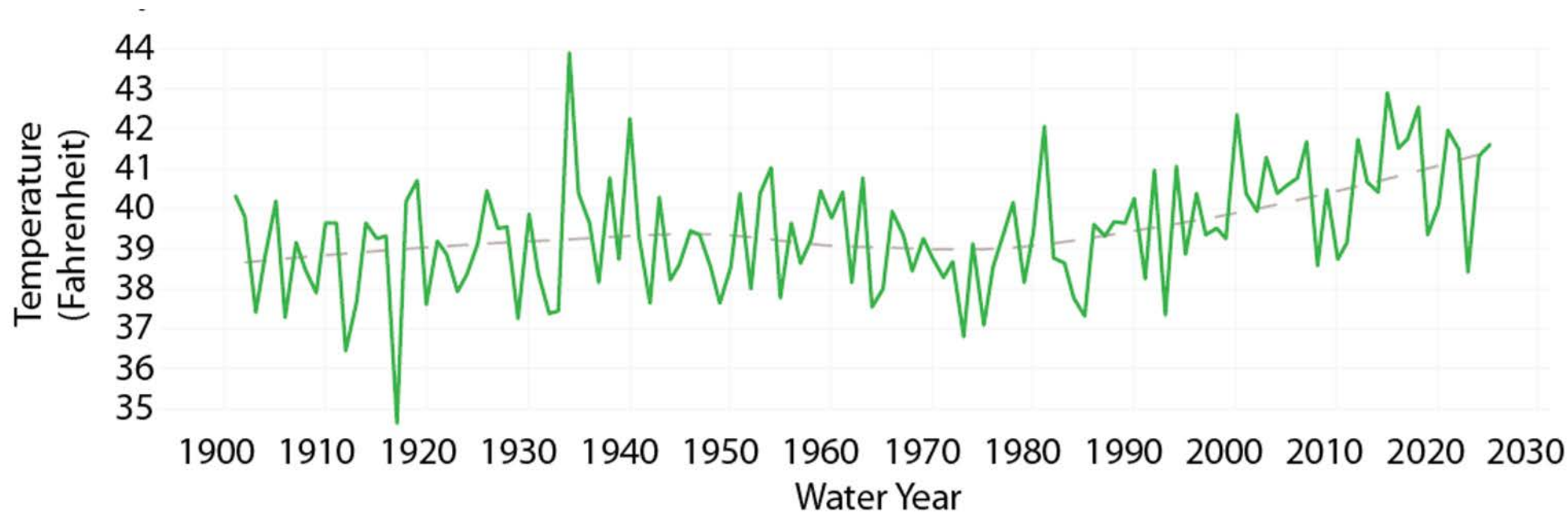
Elevation of Great Salt Lake South Arm, 1903-2025 Water-year-end Elevation



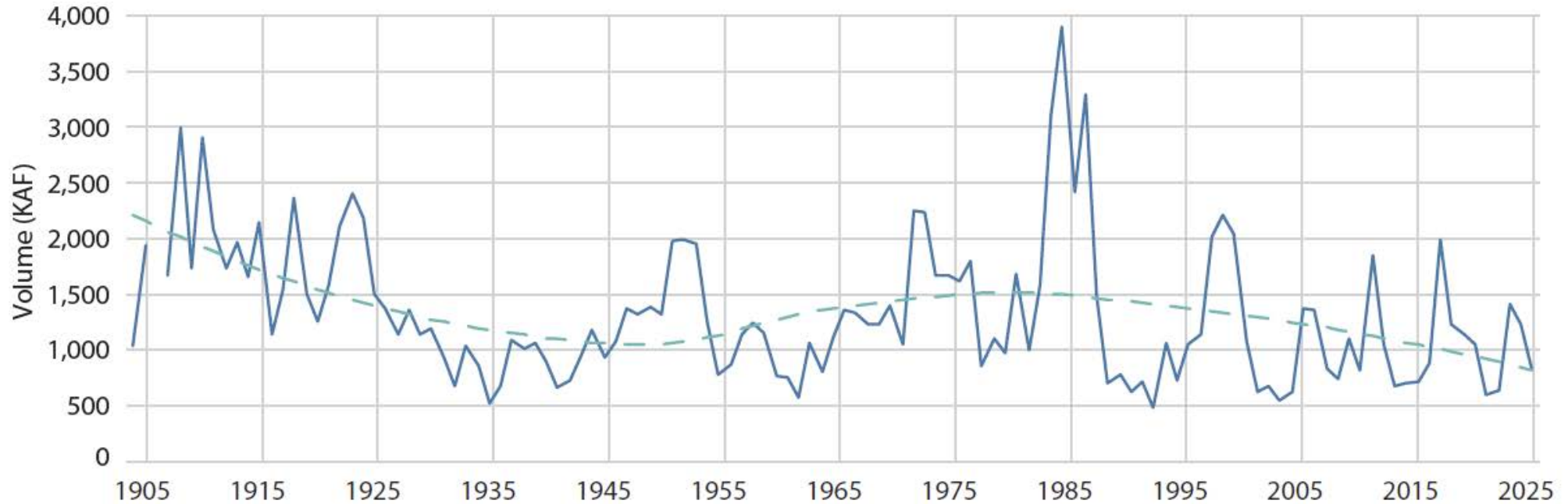
Historical **Precipitation** in Great Salt Lake Headwaters, 1901-2025



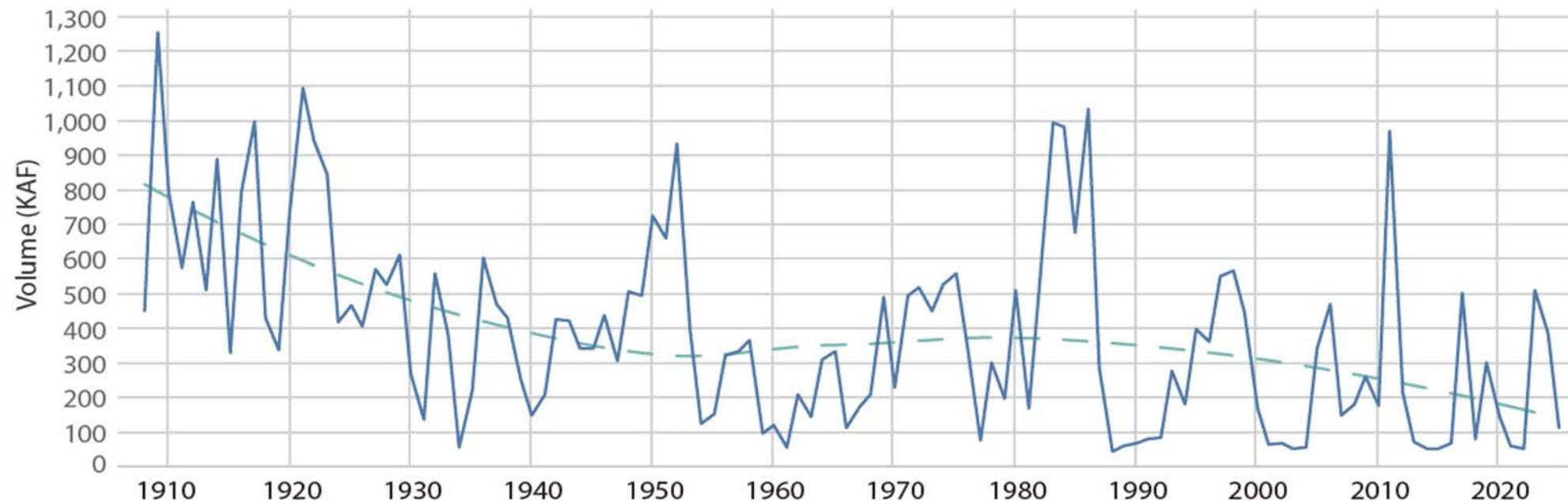
Historical **Air Temperature** in Great Salt Lake Headwaters, 1901-2025



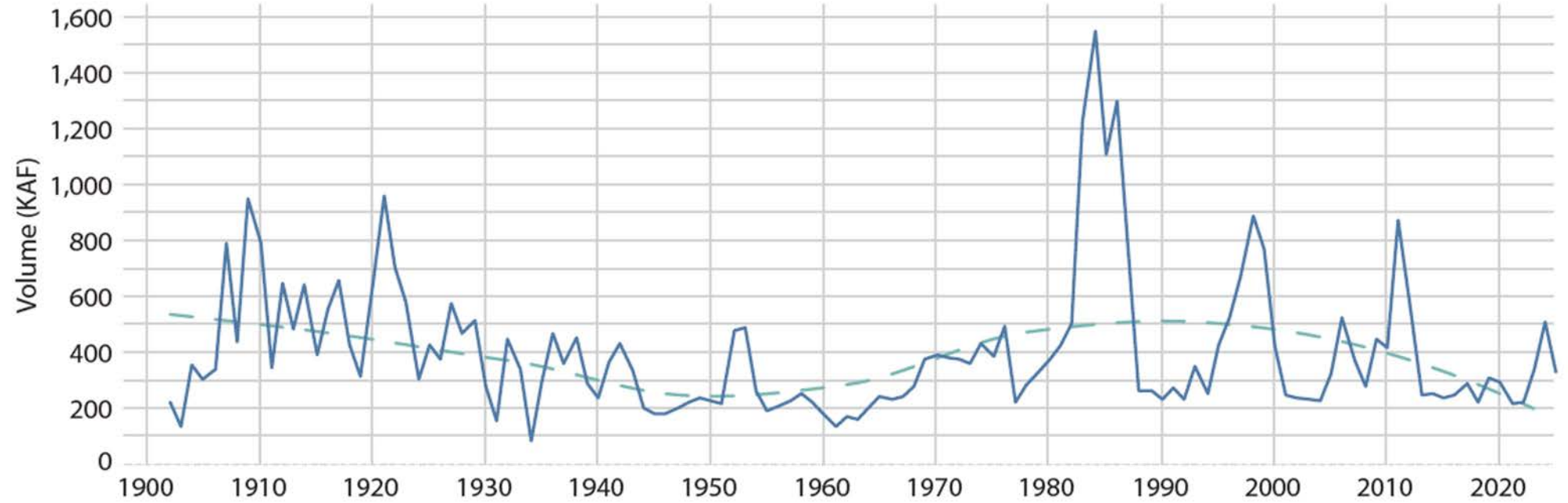
Bear River Streamflow, 1903-2025



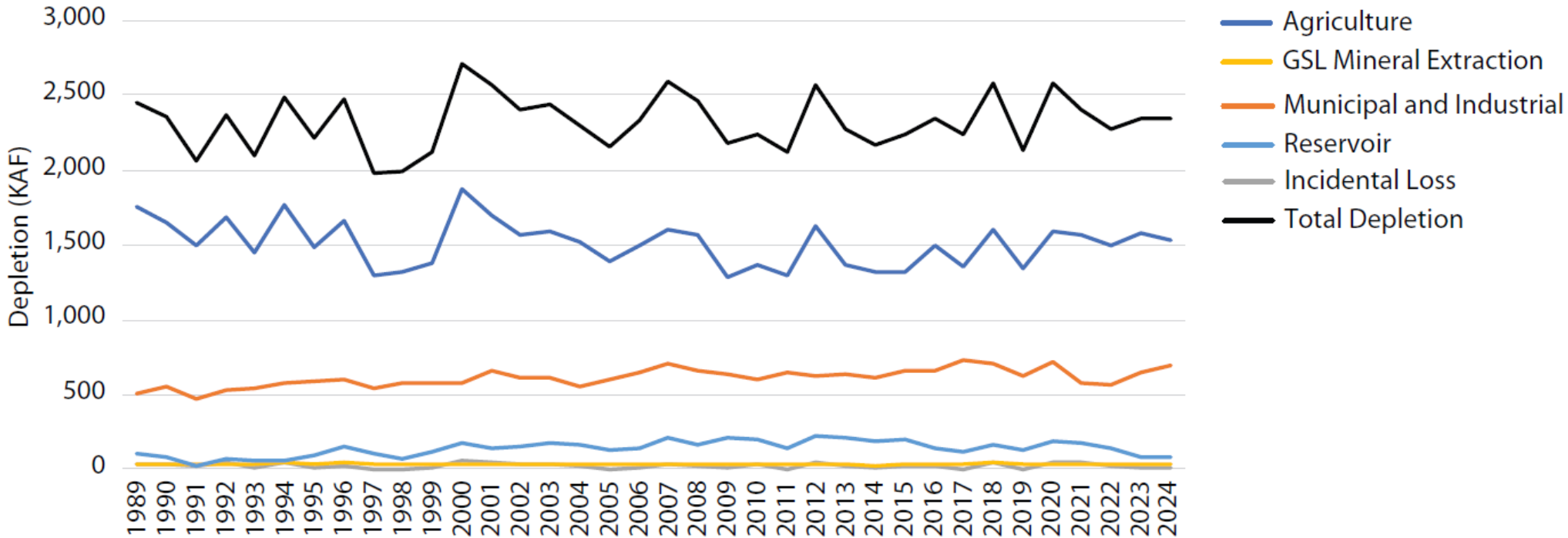
Weber River Streamflow, 1908-2025



Jordan River Streamflow, 1902-2025



Human Water Depletions by Type, 1989-2024

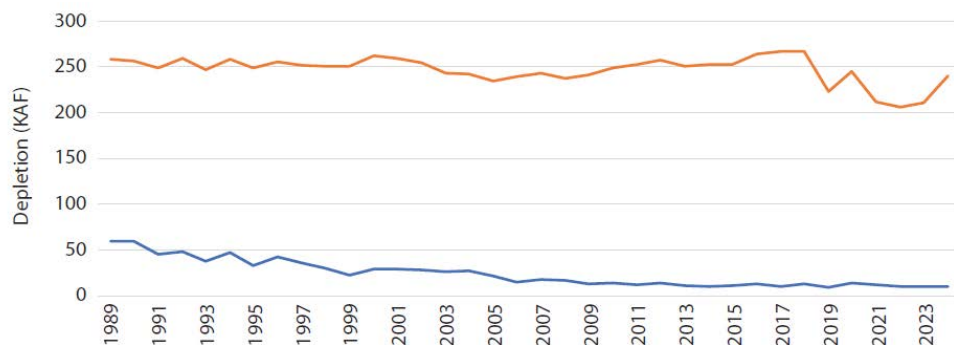


Agriculture and M&I Depletion

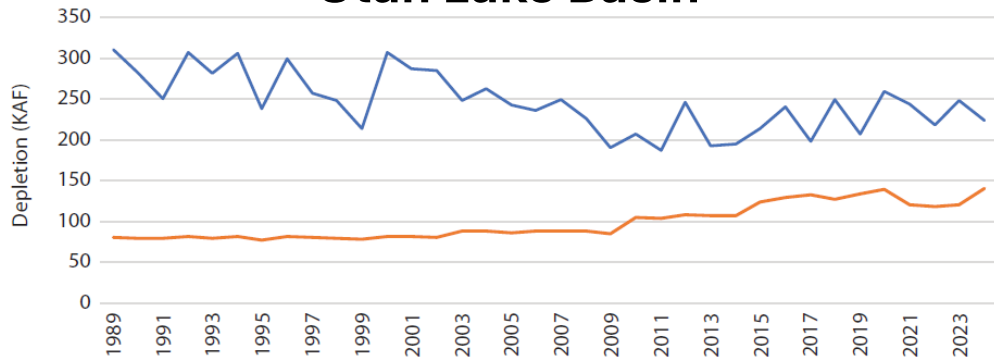
Bear River Basin



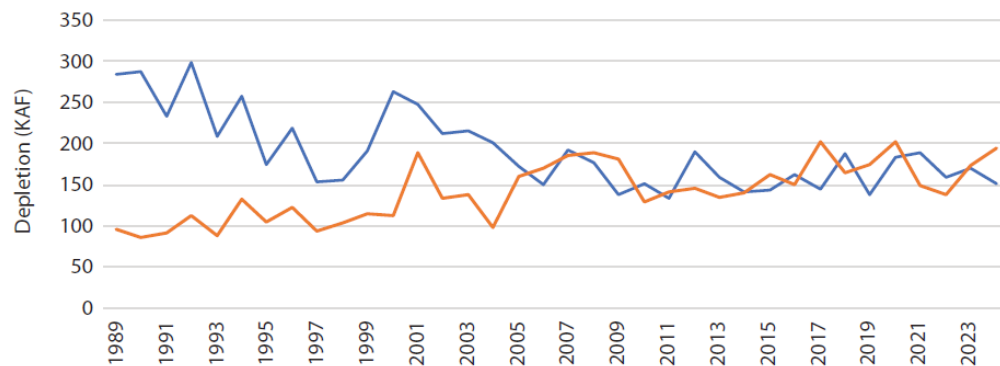
Jordan River Basin



Utah Lake Basin



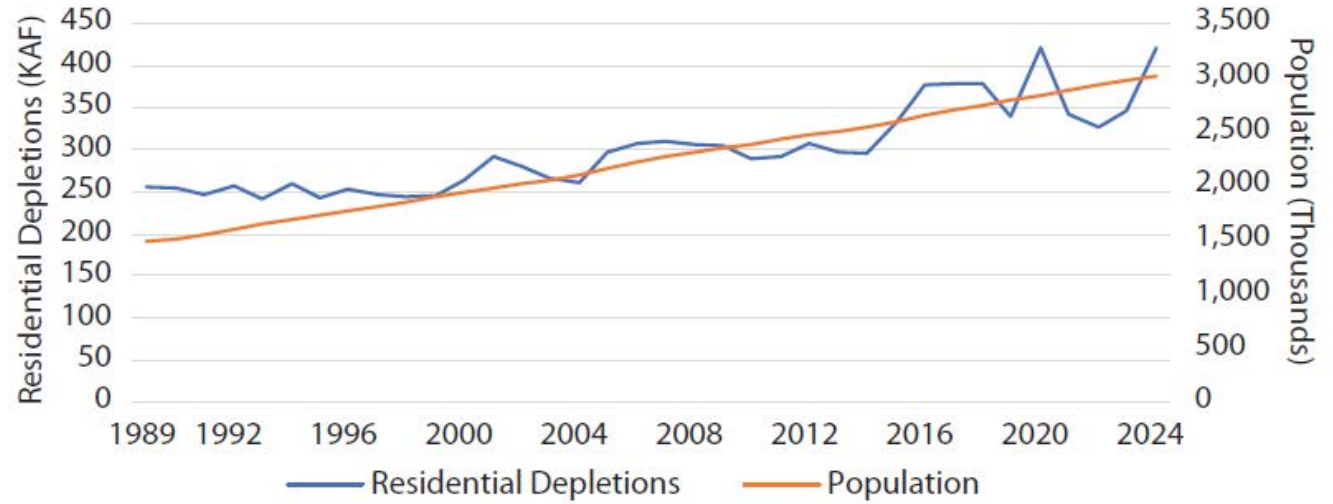
Weber River Basin



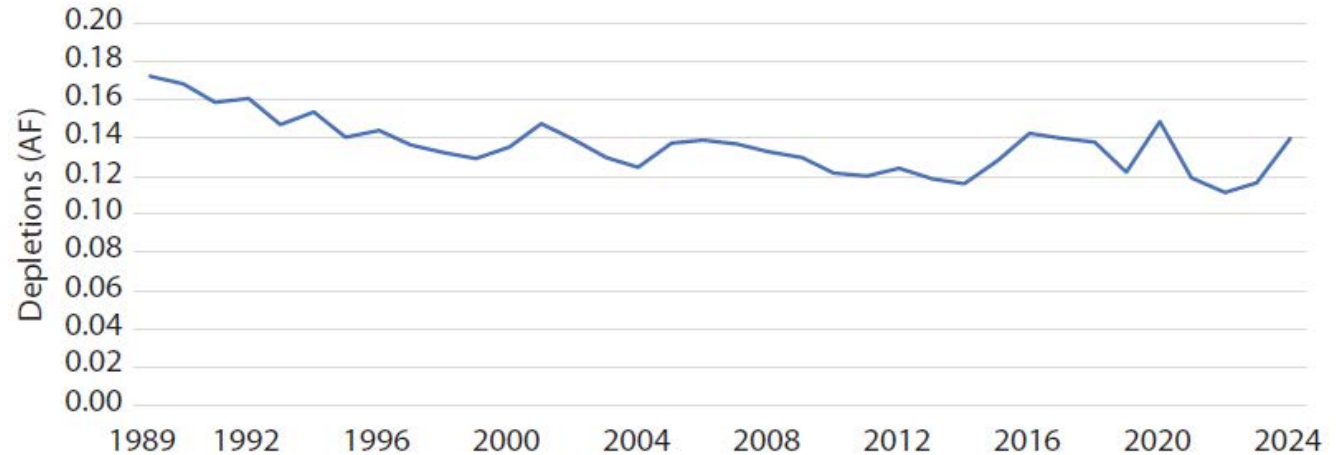
— Agriculture

— Municipal and Industrial

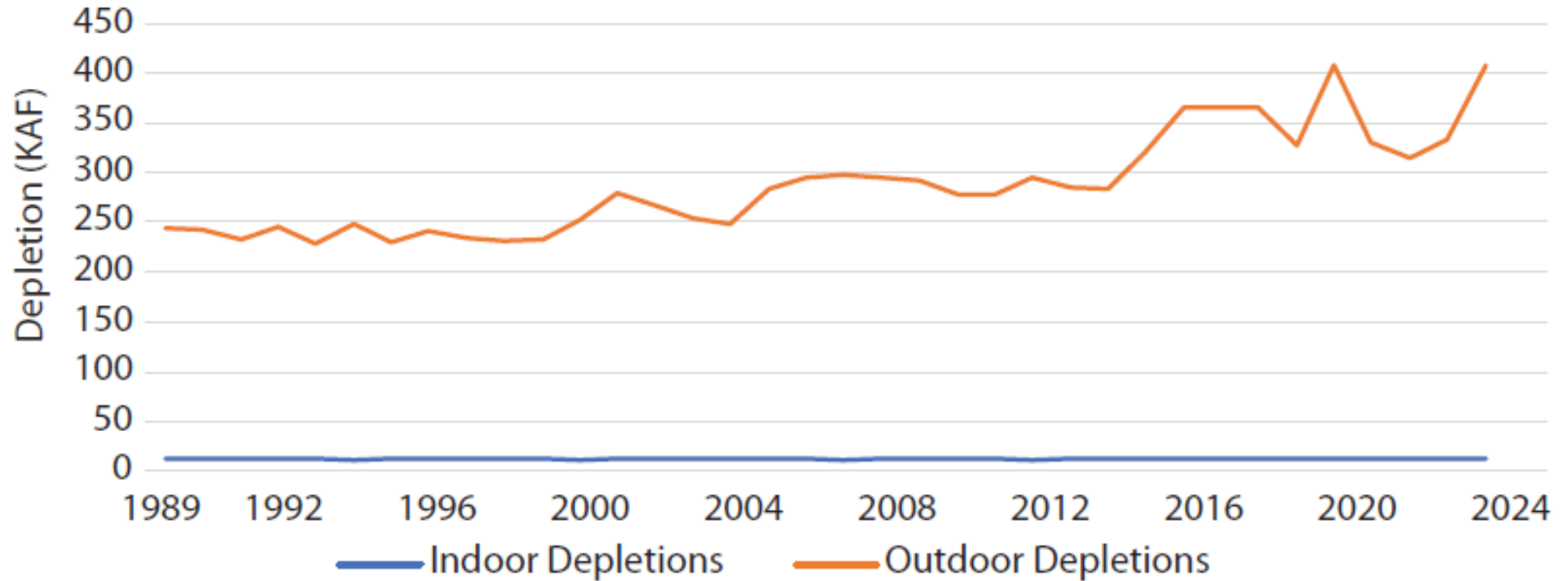
Residential Depletions and Population, 1989-2024



Residential Water Depletions Per Capita



Residential Indoor and Outdoor Depletions



Dry conditions have returned

U.S. Drought Monitor

[Current](#)

[Maps](#)

[Data](#)

[Summary](#)

[About](#)

[Conditions & Outlooks](#)

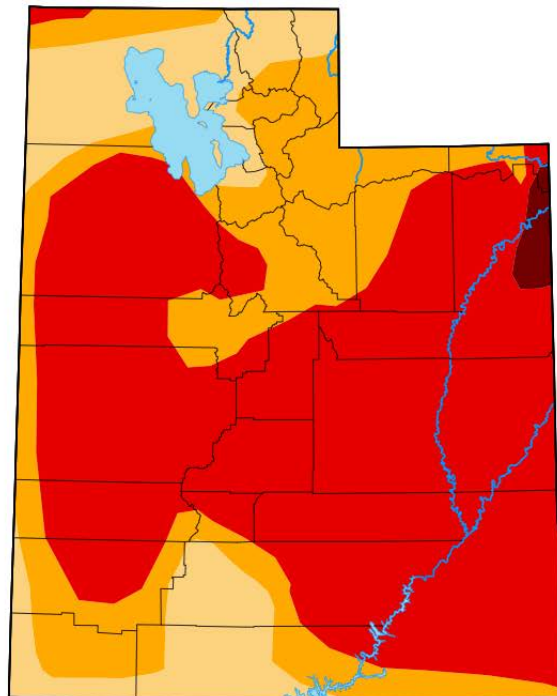
[Ag in Drought](#)

[En Español](#)

[NADM](#)

Utah

[Home](#) / [Utah](#)



Map released: Thurs. April 16, 2026

Data valid: April 14, 2026 at 8 a.m. EDT

Intensity

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

Authors

United States and Puerto Rico Author(s):

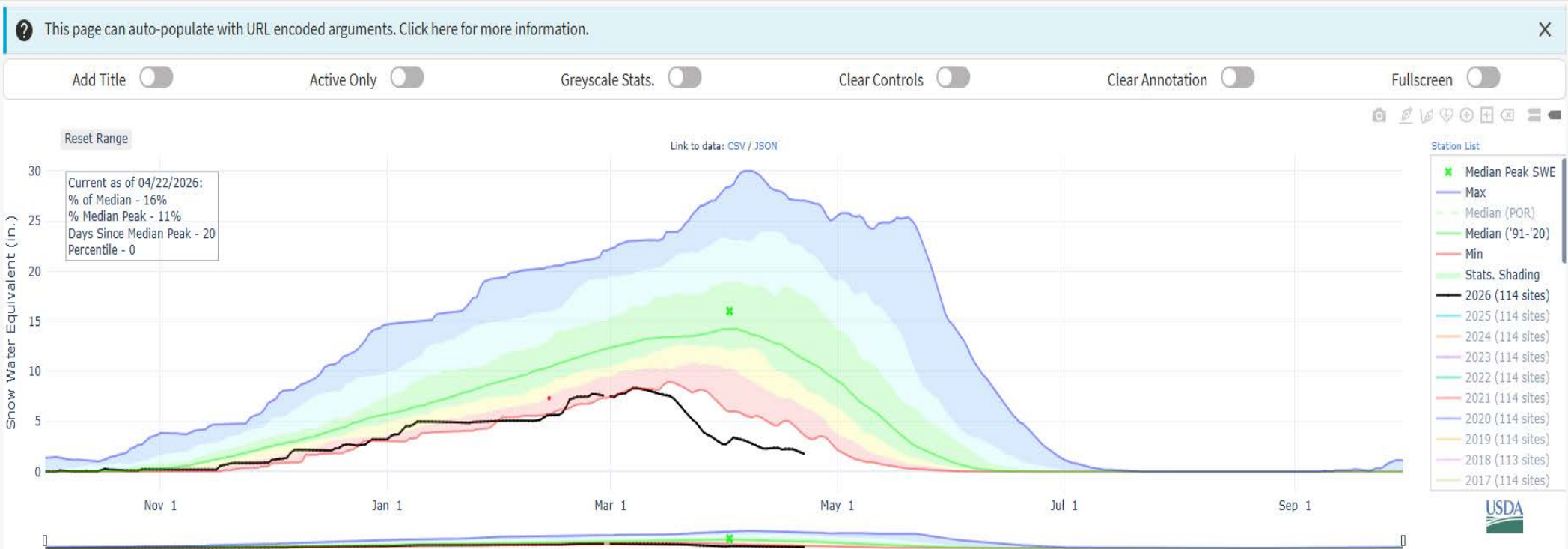
[Brian Fuchs](#), National Drought Mitigation Center

Pacific Islands and Virgin Islands Author(s):

[Richard Tinker](#), NOAA/NWS/NCEP/CPC

AWS Plot | SNOW WATER EQUIVALENT IN STATE OF UTAH

NWCC Home Interactive Map Site Plots Site Tools Basin Plots Basin Tools Water Supply Webservices Contact Us



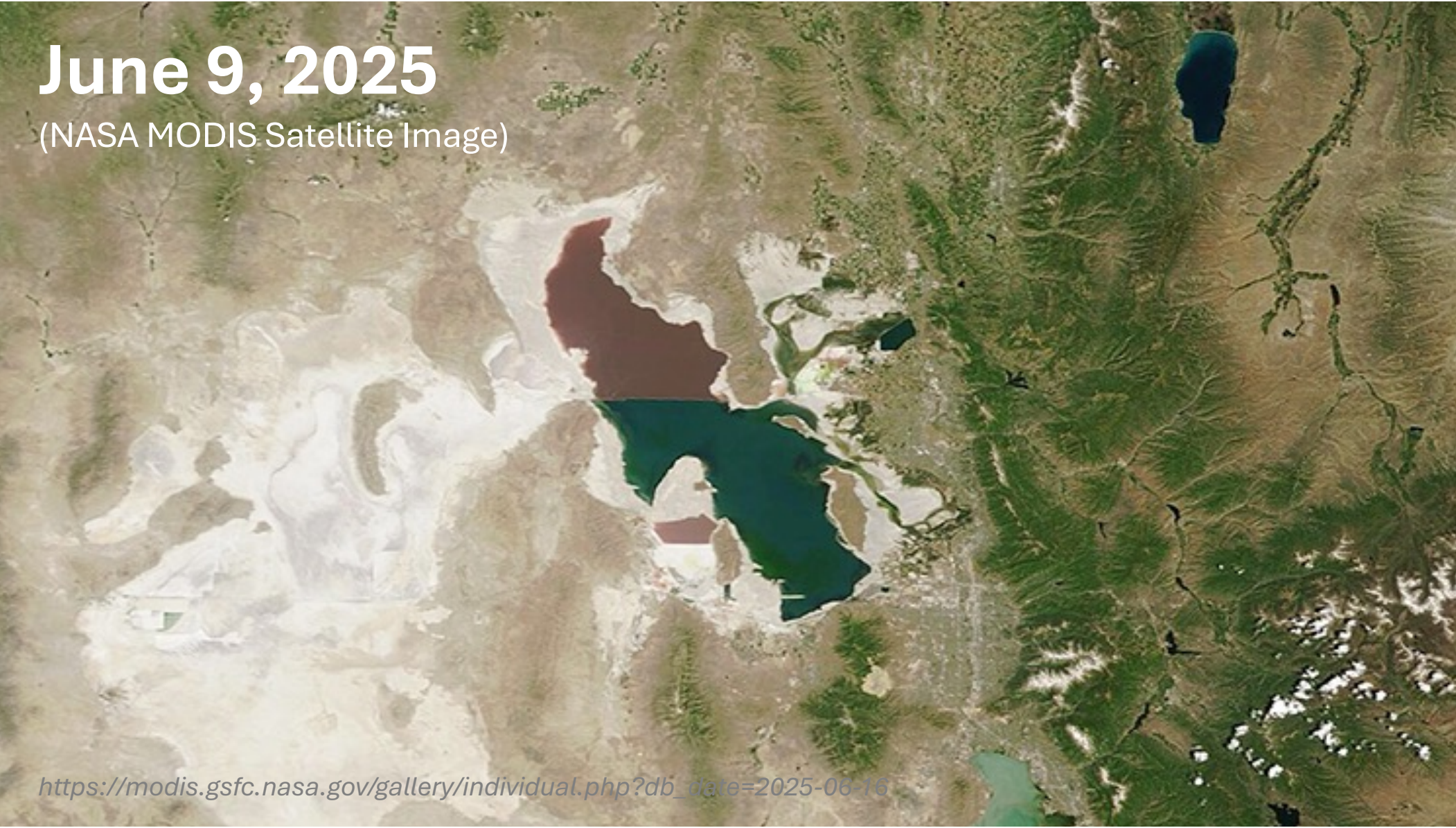
Statistical shading percentiles are calculated from period of record (POR) data, excluding the current water year. Percentile categories range from: minimum to 10th percentile, 10th - 30th, 30th - 70th, 70th - 90th, and 90th - maximum.

For more information visit: [30-Year Hydroclimatic Normals](#)

Updated: Wednesday, Apr 22, 2026 09 PM CST

June 9, 2025

(NASA MODIS Satellite Image)



https://modis.gsfc.nasa.gov/gallery/individual.php?db_date=2025-06-16

Exposed Lakebed—Bear River







ESA listing petition



Source: [https://en.wikipedia.org/wiki/Wilson%27s_phalarope#/media/File:Wilson's_Phalarope,_Oregon_03_\(cropped\).jpg](https://en.wikipedia.org/wiki/Wilson%27s_phalarope#/media/File:Wilson's_Phalarope,_Oregon_03_(cropped).jpg)

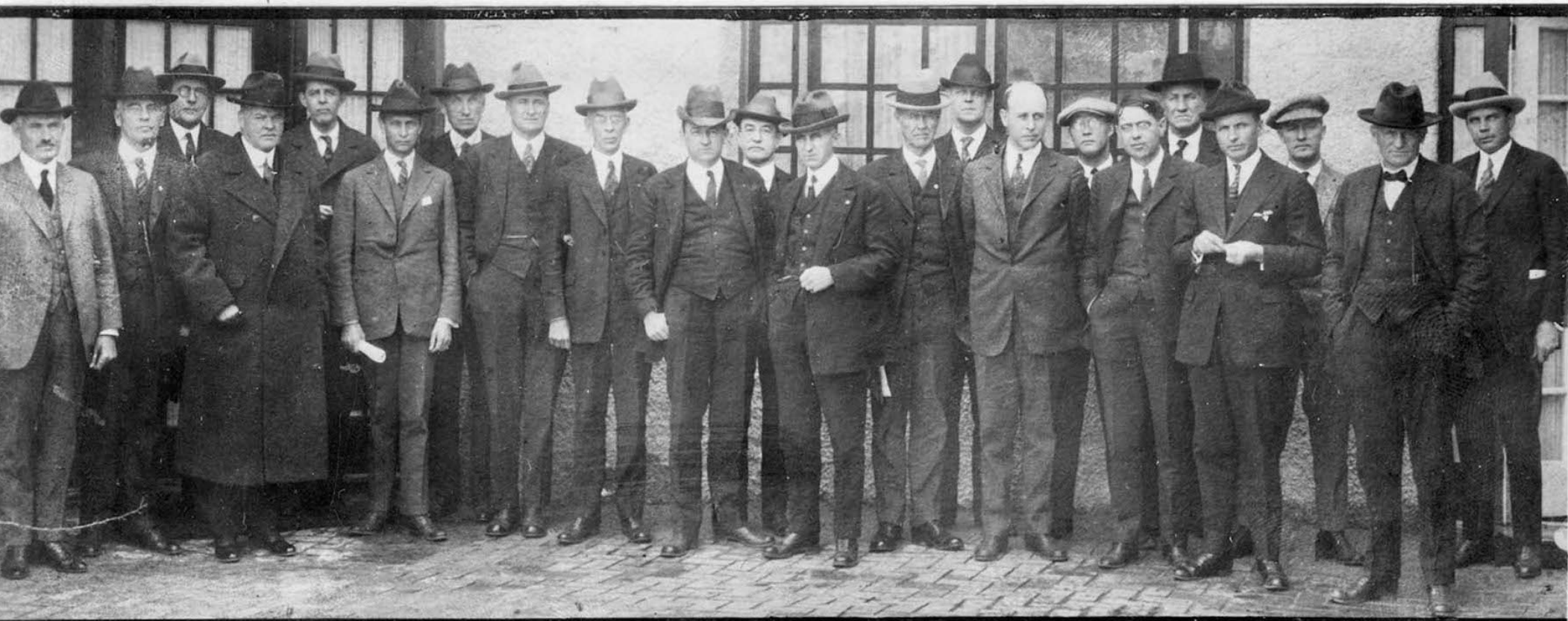
Litigation



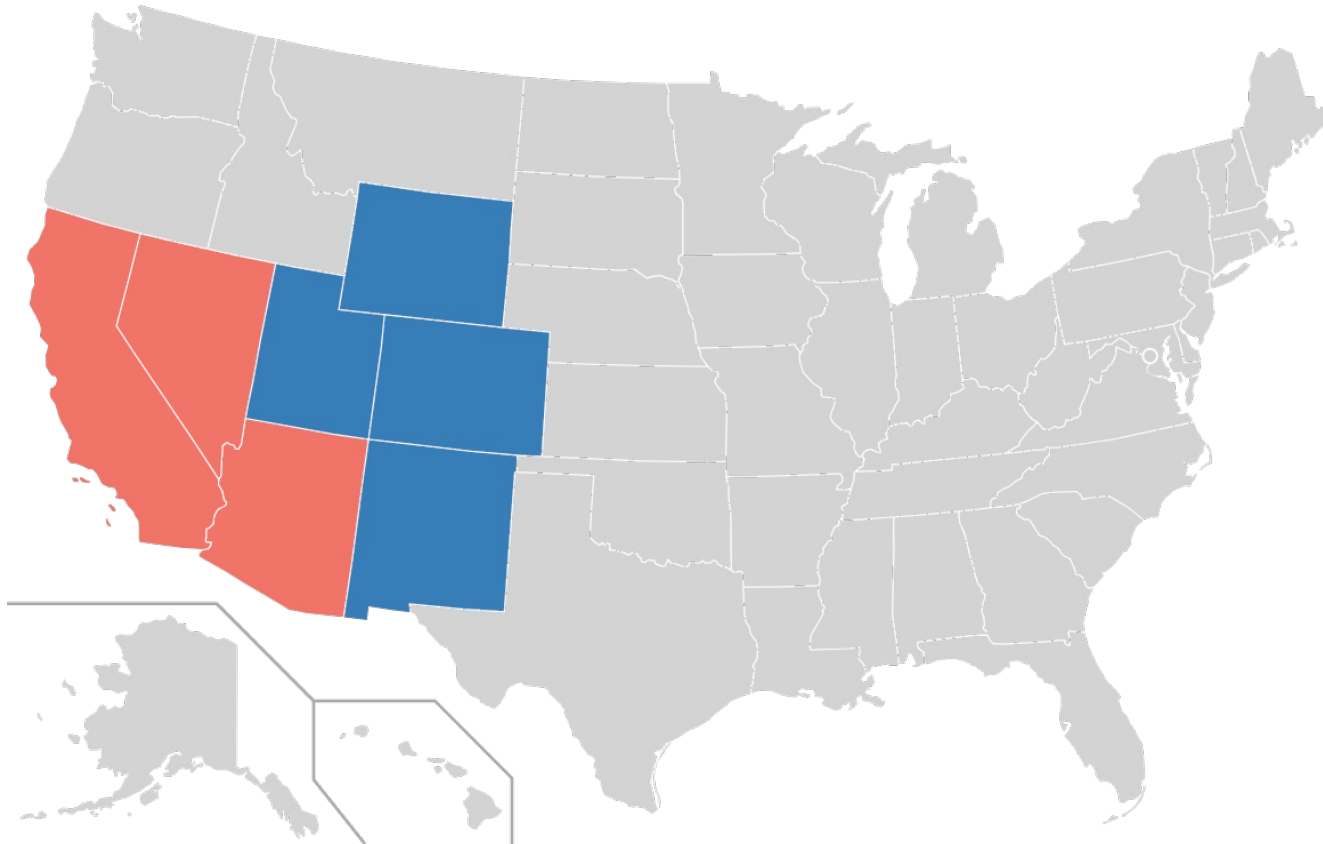
Now let's talk the Colorado River



1922—Herbert Hoover and crew



The Colorado River Compact



Colorado River System



Dividing the waters

Upper Basin

Colorado 51.75%

New Mexico 11.25%

Utah 23%

Wyoming 14%

Lower Basin

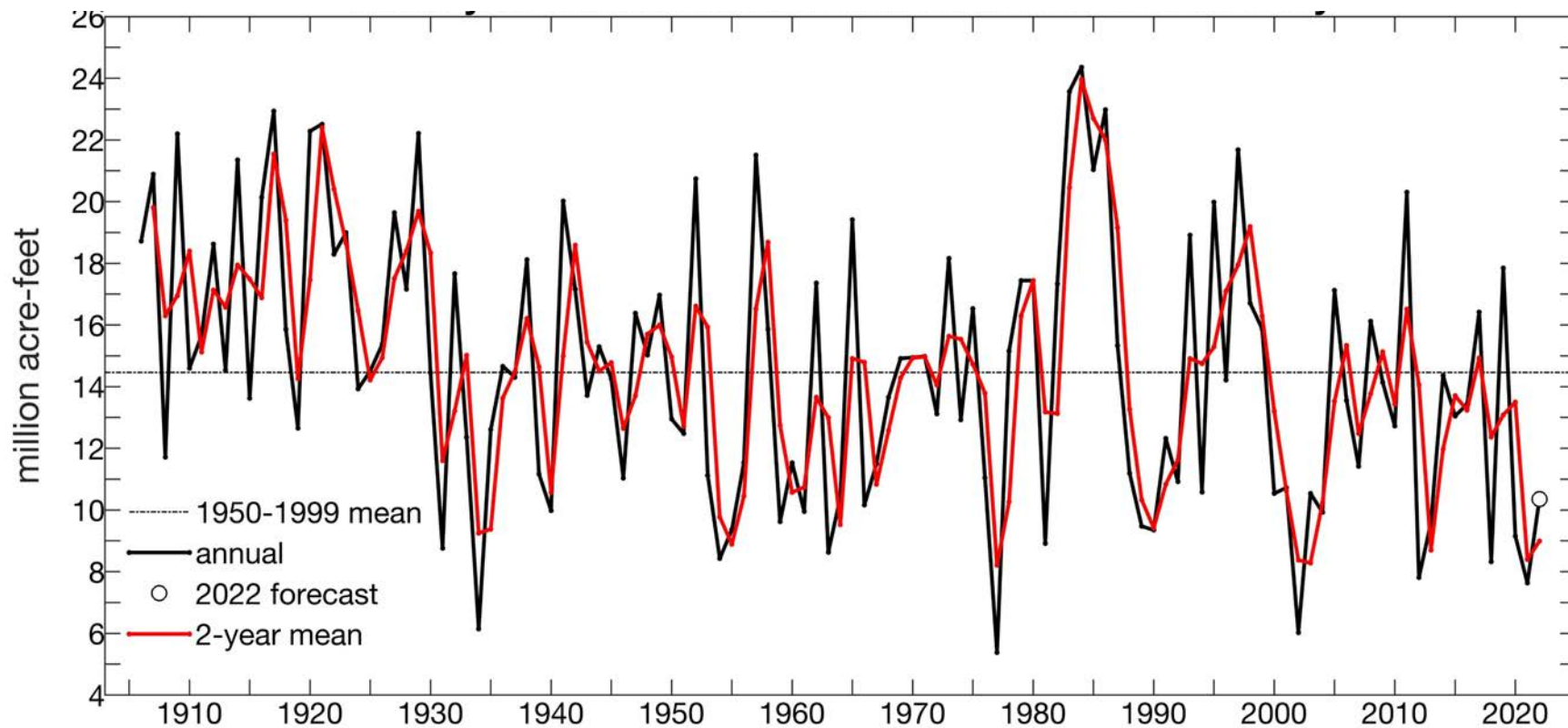
Arizona 2.8 MAF

California 4.4 MAF

Nevada 300 KAF

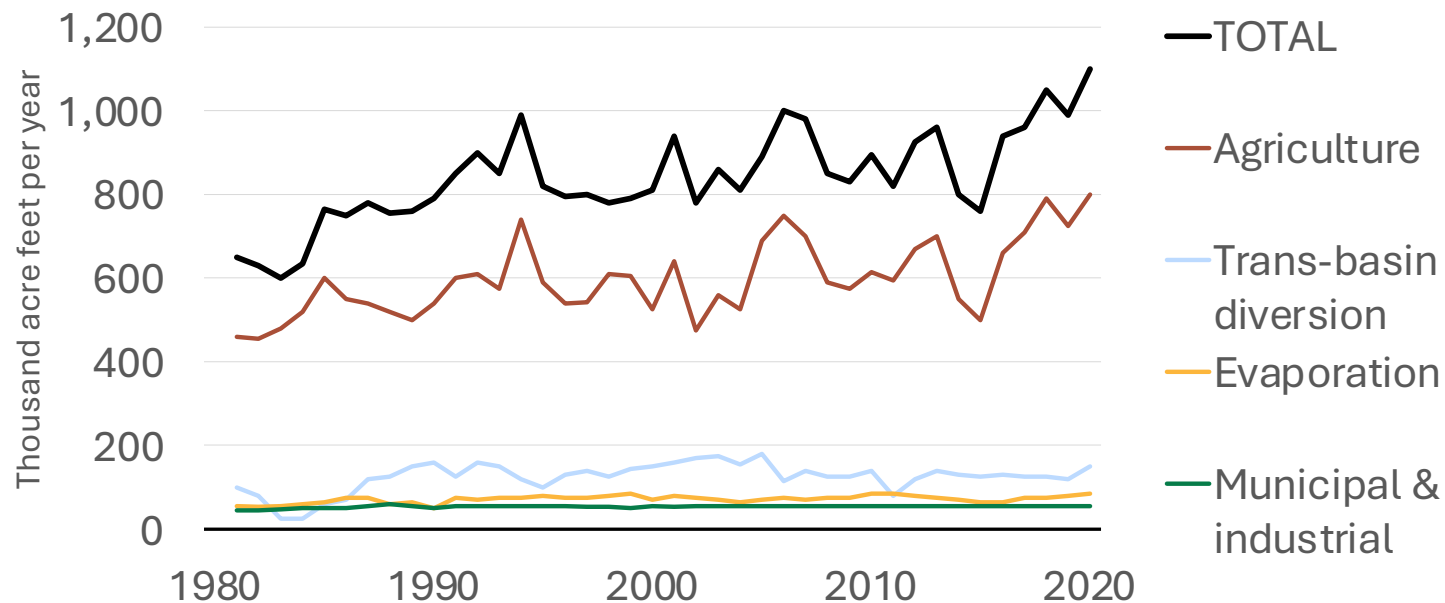
The flow problem

Water-year Naturalized Colorado River Flow at Lees Ferry





Consumptive uses and losses in Utah's portion of the Upper Colorado River (1980-2020)

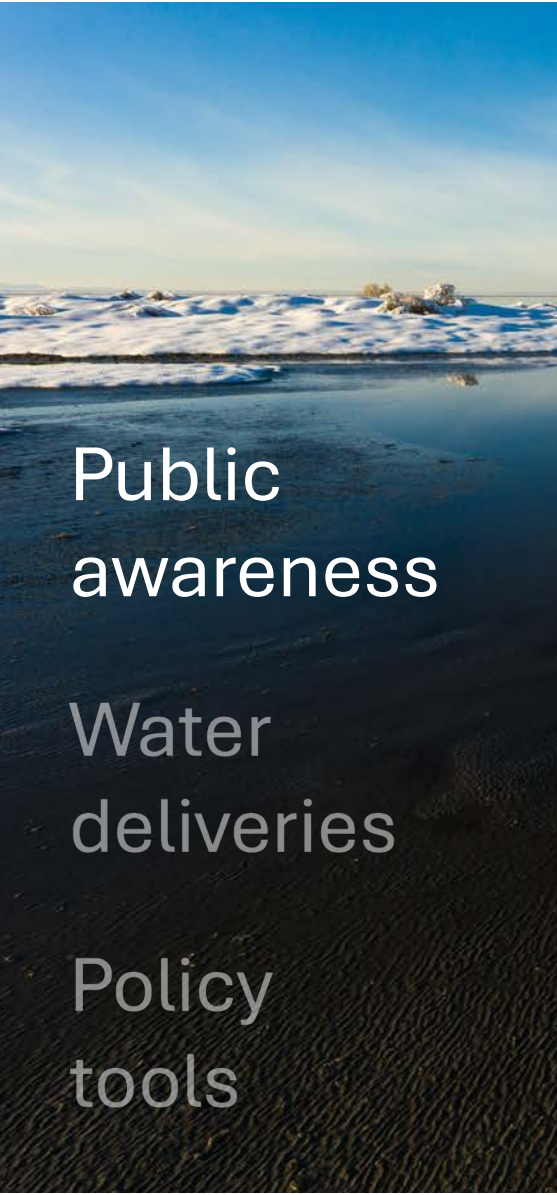


Emerging Concerns

Concern
Drought and extremely low snowpack
GSL Dust
Federal Regulatory Action
Litigation
Decreased Ecologic Functions

A first-person perspective shot of a hand holding a vintage-style compass. The hand is wearing a green long-sleeved shirt. The compass is held over a paved road that stretches into the distance, flanked by dry, yellowish-brown desert hills. The scene is bathed in warm, golden light, suggesting late afternoon or early morning. The text "Where do we go from here?" is overlaid in white, sans-serif font across the center of the image.

Where do we go from here?



More public awareness

Many people think water:

- Is unimportant
- Is declining due to natural forces
- Can't be impacted by humans
- Is less important than other issues

Public
awareness

Water
deliveries

Policy
tools



Getting more water security

Public
awareness

Water
deliveries

Policy
tools

- Finding additional water
- Aggressive removal of non-native invasives
- More conservation in cities
- More agricultural water delivered to where it needs to be



Public
awareness

Water
deliveries

Policy
tools

Additional water

- **Water importation**
(Pipelines from rivers, oceans, other water bodies)
- **Water augmentation**
(Cloud seeding, restoring natural flows)



Aggressive removal water-sucking
invasive species





More municipal and industrial conservation

- Reductions in use from secondary metering
- Tiered water rates
- Reductions in watering
- Reductions in turf

Public
awareness

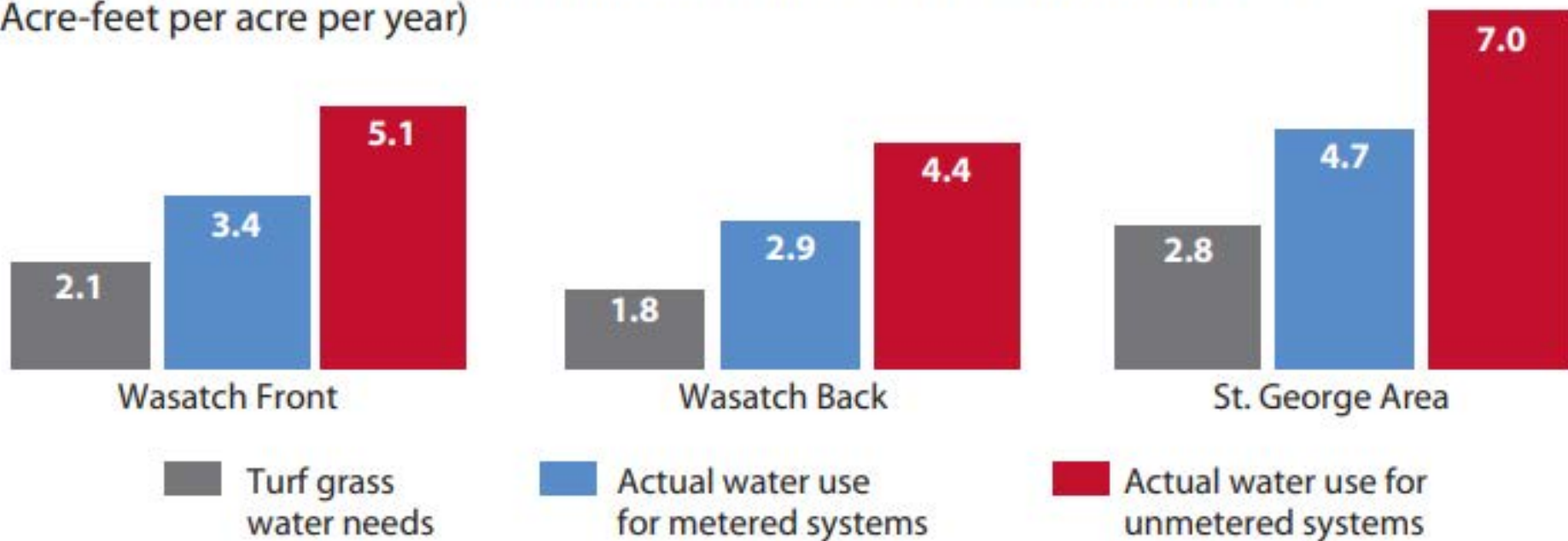
Water
deliveries

Policy
tools

More conservation in municipal/industrial

Figure 14: Estimated Lawn Watering Use Compared to Plant Needs, 2018

(Acre-feet per acre per year)



Source: Utah Department of Natural Resources - State of Utah Water Use Data Collection Program Report

Water transactions

Solutions that benefit both agricultural producers and the lake.

- Leasing water rights
- Purchasing water rights
- Saved water from agricultural optimization



Public
awareness

Water
deliveries

Policy
tools



Public
awareness

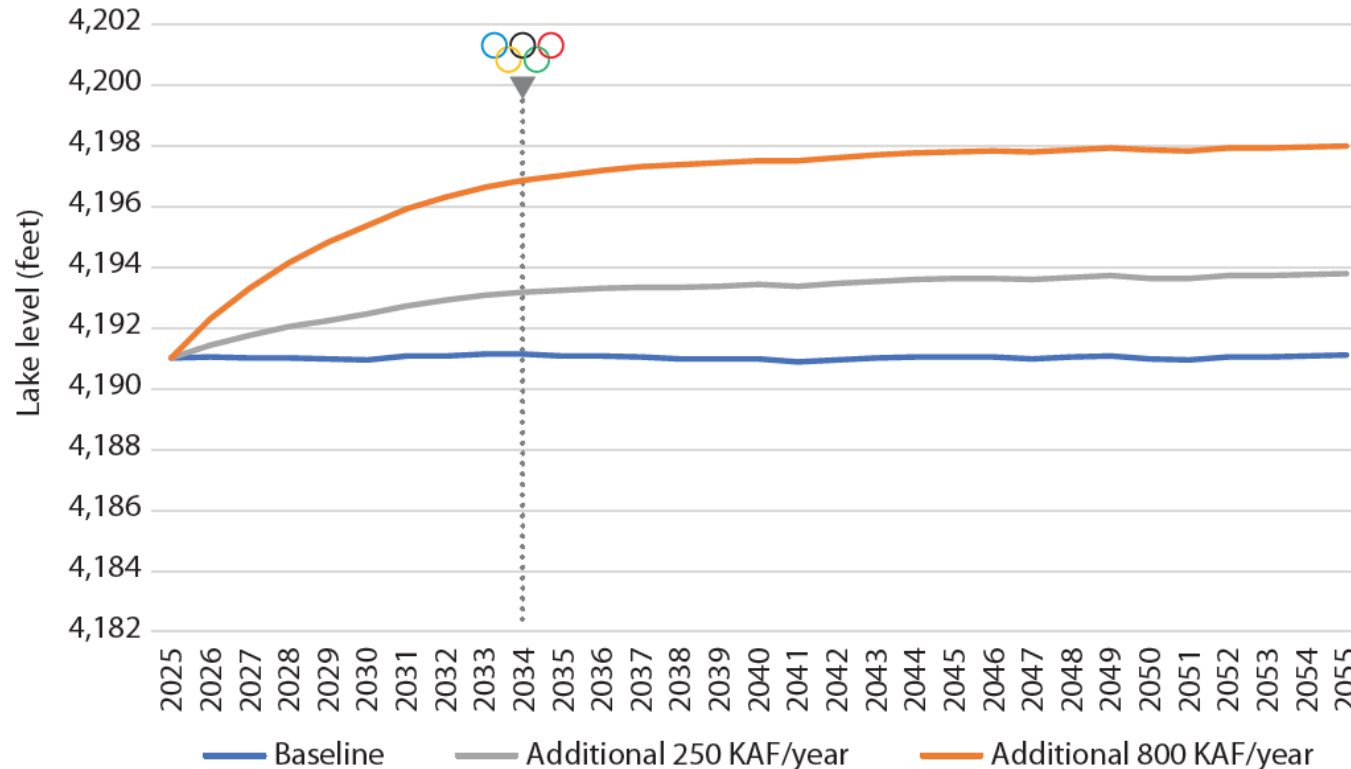
Water
deliveries

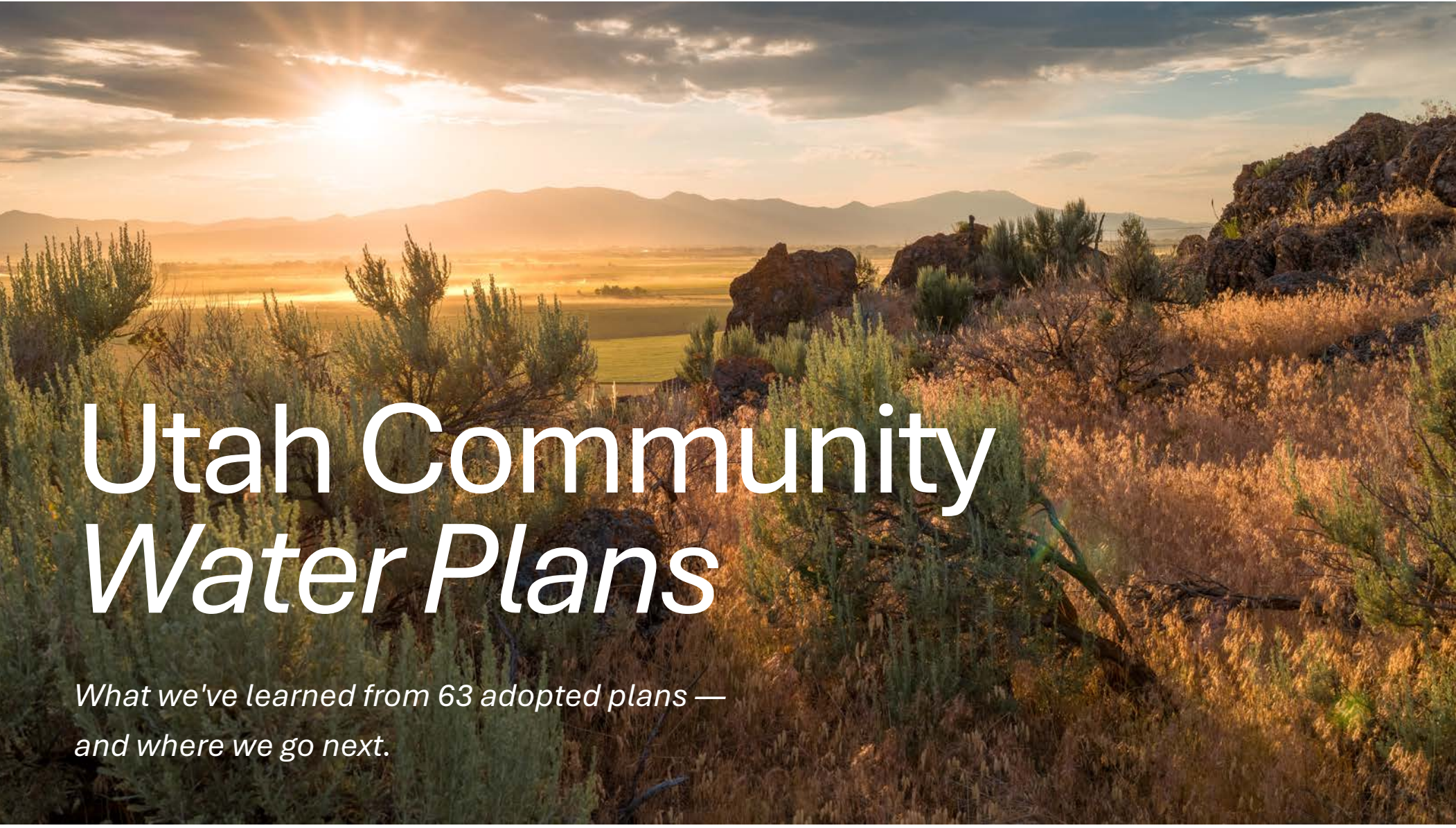
Policy
tools

Better policy tools

- Easier water transactions
- Easier water dedication from municipalities
- Conservation incentives

The Good News: Additional Inflows Can Raise Water Levels





Utah Community *Water Plans*

*What we've learned from 63 adopted plans —
and where we go next.*

Two instruments for water

	Conservation Plan	Water Element
Policy	Utah Code 73-10-32 (Water Conservation Act)	SB 110 (2022)
Purpose	the utility's promise about how it will operate	the city's promise about how it will grow
Plans	150+	63

How the two plans can best interact

Treat them as one package

Use the Water Element to do what the Conservation Plan cannot

Name the Conservation Plan explicitly

Watch the clock on updates

Lean on the wholesale district when the footprint fits



What every Water Element must address

Current water use and available supply.

Population growth projections and corresponding demand.

Conservation goals aligned with regional targets.

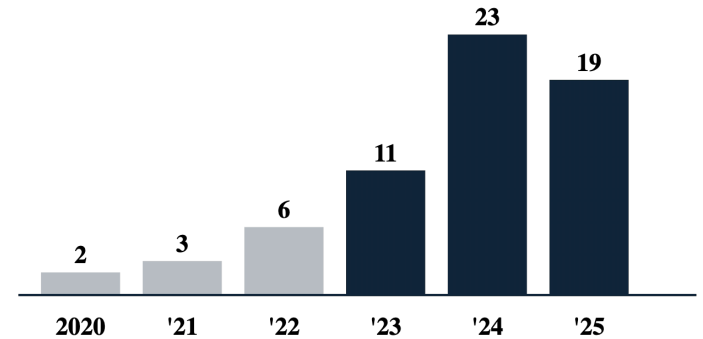
Methods to reduce demand — existing and future development.

Integration with the land-use element.



The first wave is in

Adoptions cluster in **2024 and 2025** — the SB 110 response wave. Many threshold-eligible communities are still drafting.



63

Adopted Water Elements —
from Rich County in the northeast
to San Juan County in the southeast.



By the numbers

PLAN LENGTH

140×

Brigham City's plan is ~330 words. Midvale's is ~46,000. Both are in legal compliance.

PER-CAPITA USE

147–502

Gallons per capita per day. Almost entirely climate, lot size, and secondary water.

MOST-CITED TARGET

179

Gpcd by 2030 — the Provo River Region number, cited across many plans.



Utah Growing Water Smart

Multi-day workshops for municipal teams.

Technical assistance for plan development and implementation.

Connects local work to state and regional goals.

Builds cross-jurisdictional relationships that outlast any single plan.







URBAN WATER BIG IDEAS

TOP 5

80% Provide rebates or incentives to encourage
residential landscape landscaping

- 72% Implement natural drainage design strategy
in all new developments to improve water quality
- 72% Regulate type water use landscaping in all new
residential and commercial developments
- 71% Invest in municipal scale water recycling and
reuse systems
- 67% Implement or require more efficient irrigation
practices (e.g., irrigation only ground level)

OTHER IDEAS

- 67% Implement municipal landscape water
conservation program
- 67% Invest in low water consumption landscape
materials and practices
- 54% Regulate water use and landscape irrigation
practices in landscaping
- 52% Invest in building reuse or retrofit water use
efficiency and equipment (e.g., high-efficiency
dishwashing, shower)
- 38% Invest in municipal building water conservation
and reuse (e.g., reuse)





LONG TERM GOALS

Water Resiliency, Outdoor Demand,
Quality, Stewardship

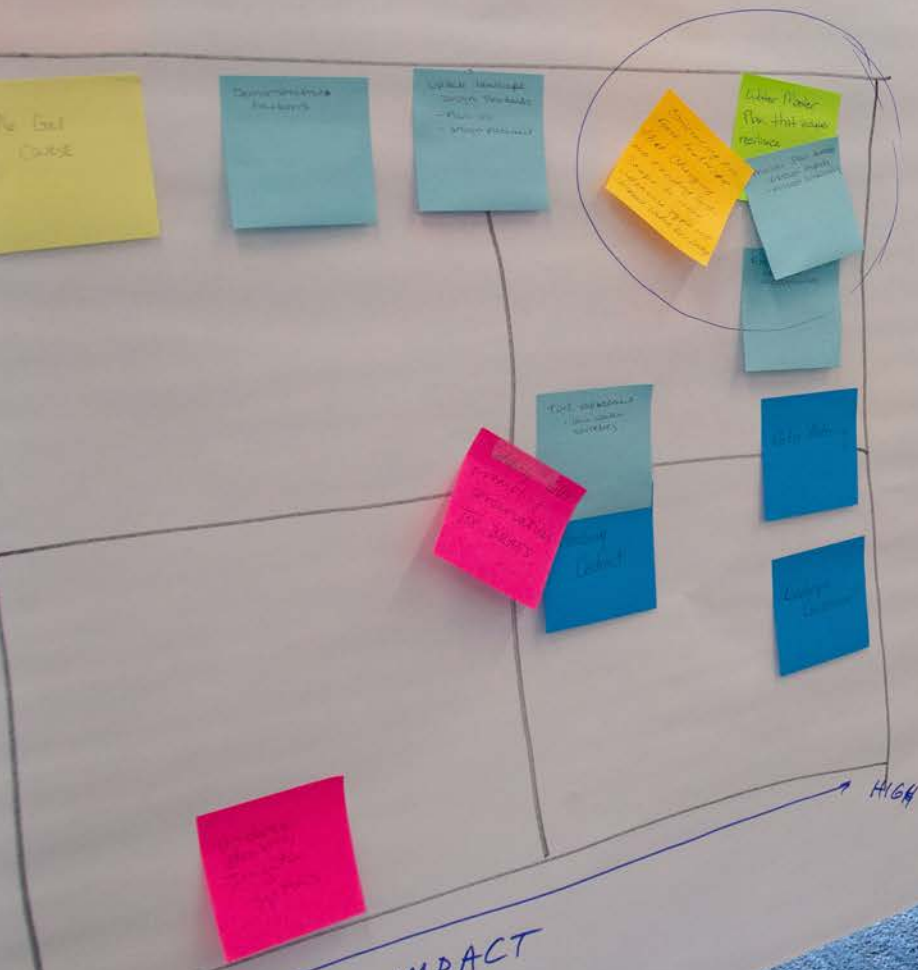
- ① Gen Plans - Scoped & budgeted + Council adoption (Feb)
(community dev + PW, engineer)
- ② Research/resources

3 Months

- ① RFP developed → out for bid
 - ↑ Selecting consultant
 - ↳ identify stakeholders
 - Water Master: supply/demand, climate
 - System efficiency, conservation, Scenario planning
 - General Plan: SB 110
 - includes impact fees, rate analysis, secondary conservation-oriented
- (ii)
- City staff electeds community member

DATE DESIGN STDS.

- STILL IN WORKS
- WATER MASTER PLAN
- NOT TOO DIFFICULT



Aligning Values w/ Goals

- Hire + retain employees (# 1 employer)
- Excellence for retention
- People want to have pride in appearance, can be disappointed.
- Morale from living in a beautiful, well-maintained place

Alignment w/ other Comm. Initiatives

- Directly (landscape)
- Air Quality

LEAD THE WAY!!

3) What will make you feel like you have won this worship & worshipping?

LAR VIE PULL OVER

2. The first of these is the fact that the

Expand the LHS. + 1000

about 1000 ft. from the shore
to the 1000 ft. mark.

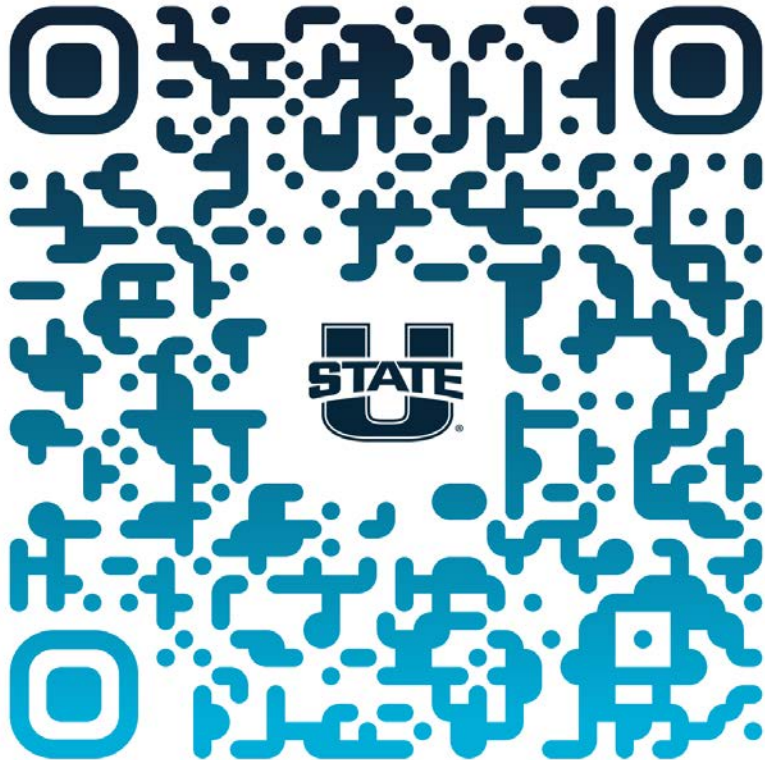
1. The first two are the same.

12. 1941 - 1942

2004/05/01

10

Utah Growing Water Smart Community Interest Form



Janet Quinney Lawson
Institute for Land, Water & Air
UtahStateUniversity®

Anna McEntire
Managing Director
anna.mcentire@usu.edu



We are all in this together!