



Water Policy Briefing

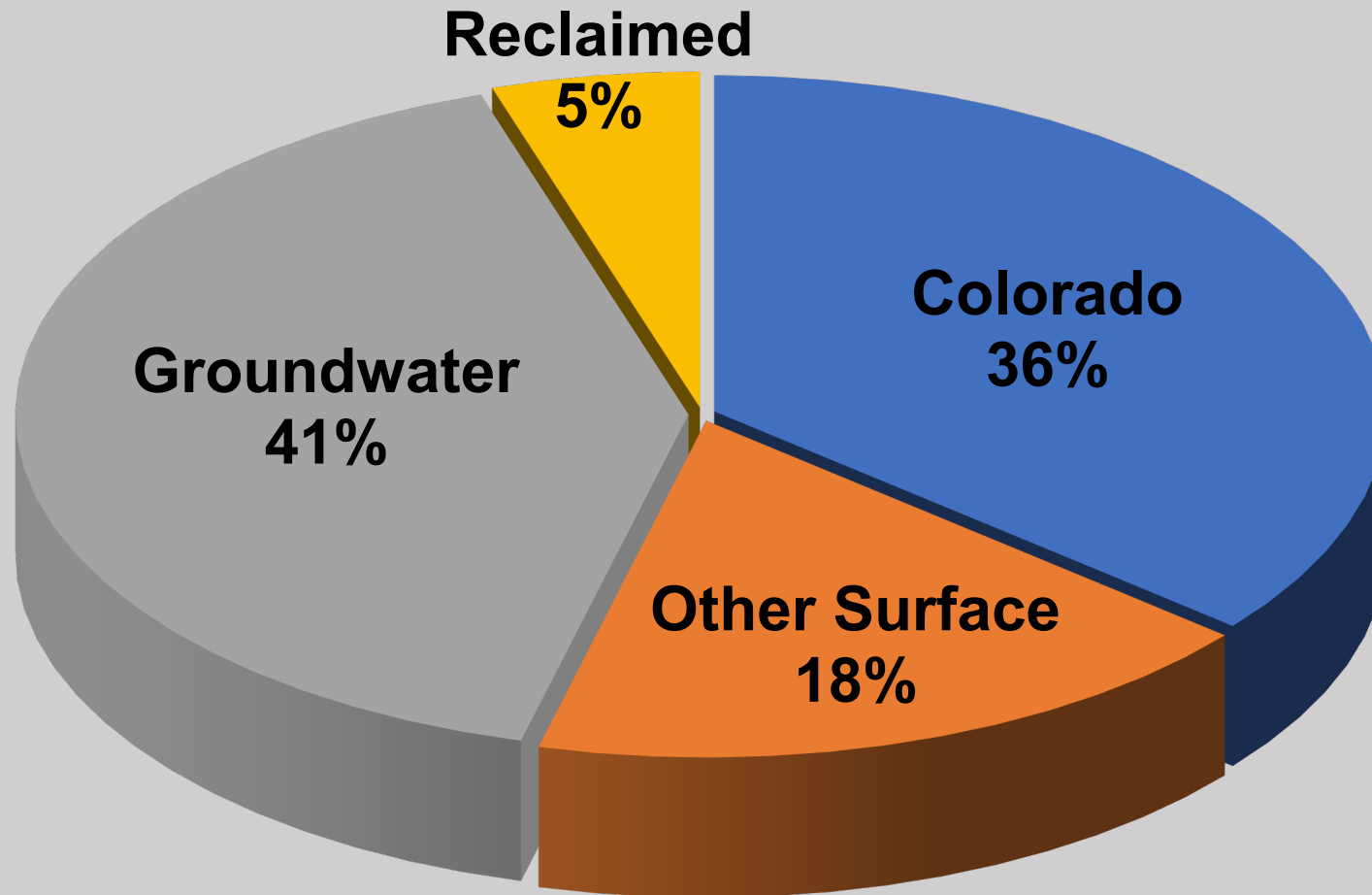
Sarah Porter
November 8, 2023

**Mission: promote informed public
dialogue on critical **water** issues in
Arizona and the West**

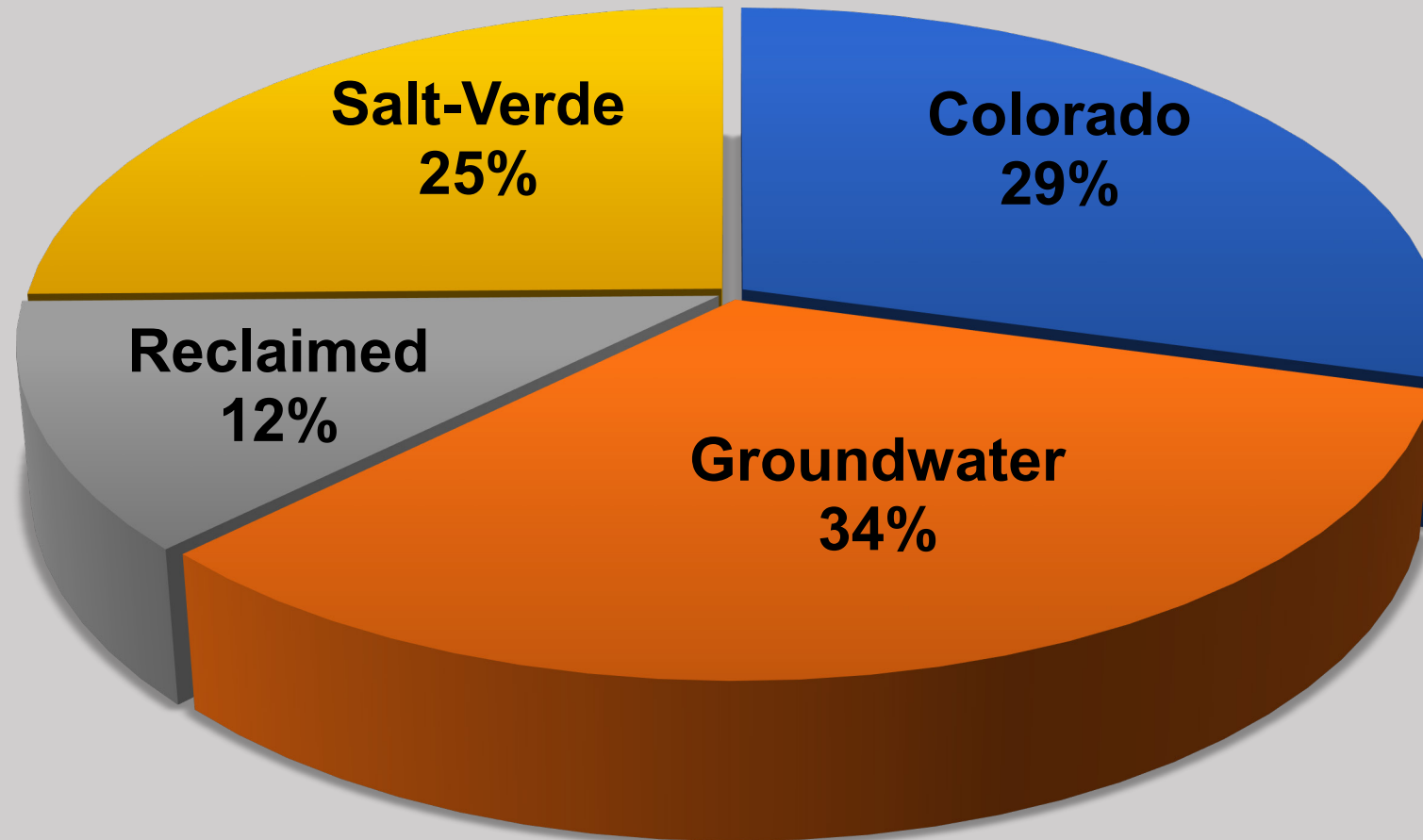
- **non-partisan**
- **research & analysis**
- **historical understanding**

A few water basics

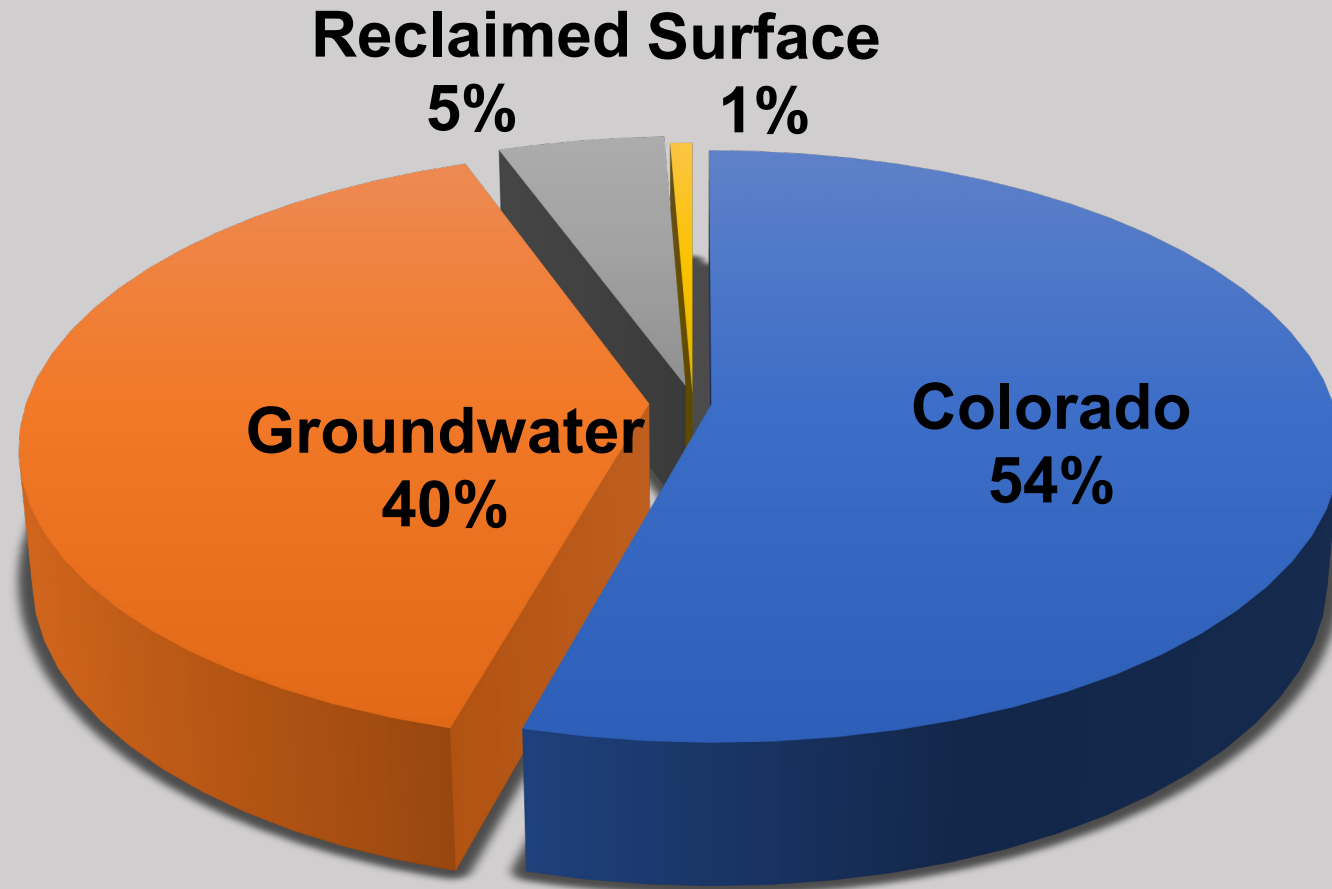
Arizona's Water Sources



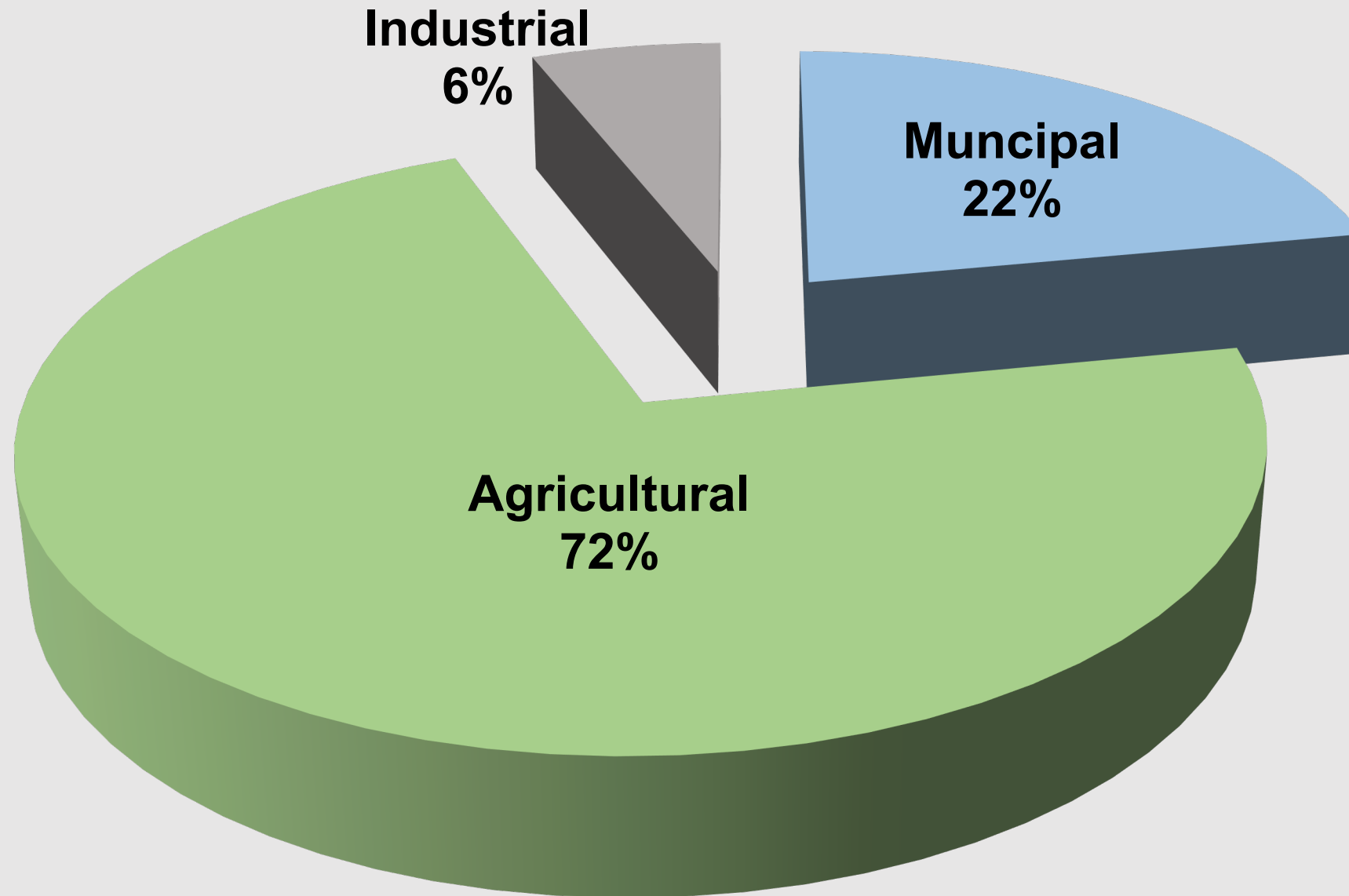
Greater Phoenix Water Sources



Greater Tucson Water Sources

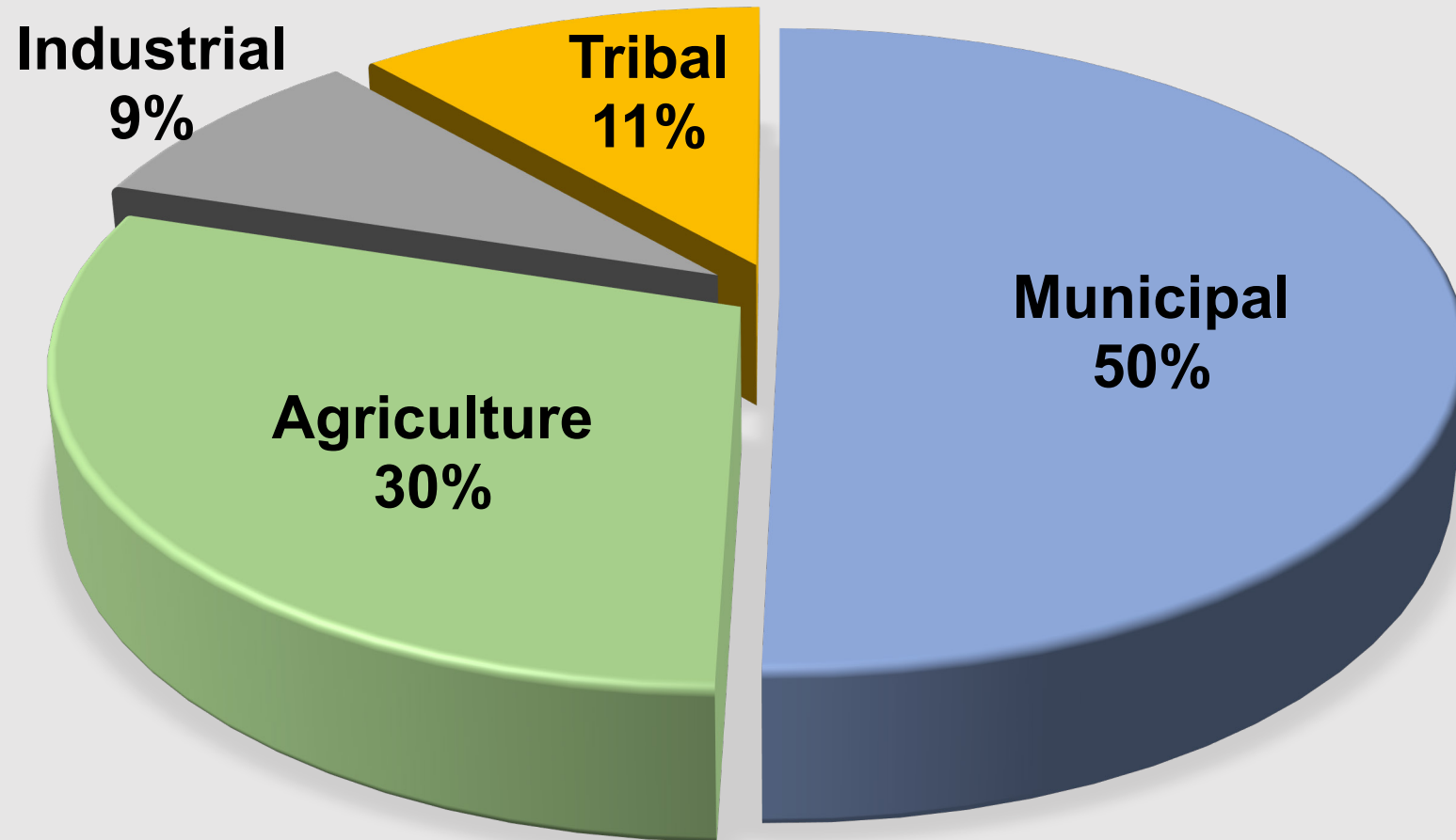


Arizona Water Demand by Sector



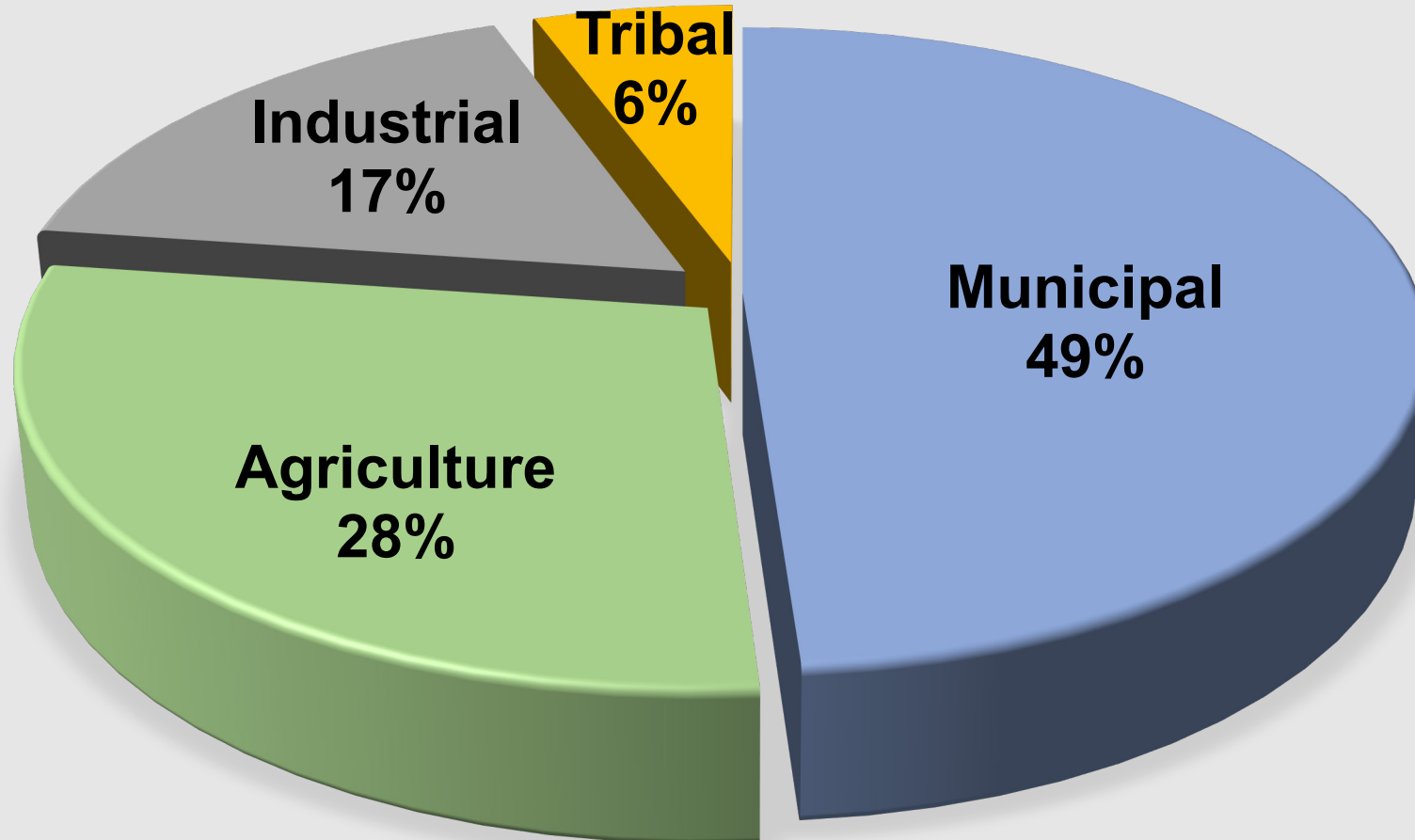
Annual Demand \approx 7 MAF

Phoenix AMA Demand



Annual Demand \approx 2.29 MAF

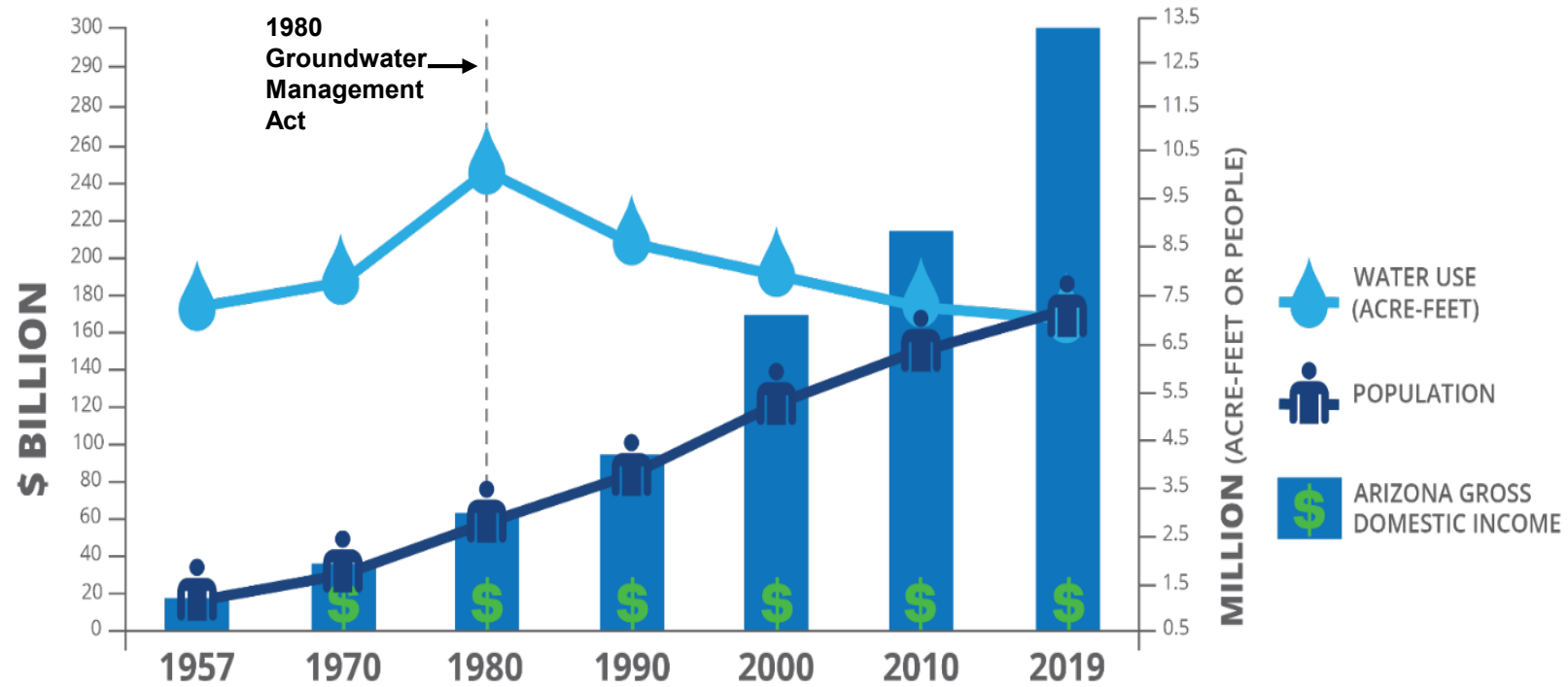
Tucson AMA Demand



Annual Demand \approx 300 KAF

Source: ADWR Phoenix AMA Data (2022)

Arizona Water Use, Population & Economic Growth (1957-2019)



TOTAL WATER USE (IN MILLIONS ACRE/FEET)

1957 7.1 MAF
 2019 6.9 MAF
-3% CHANGE FROM 1957-2019

POPULATION (IN MILLIONS)

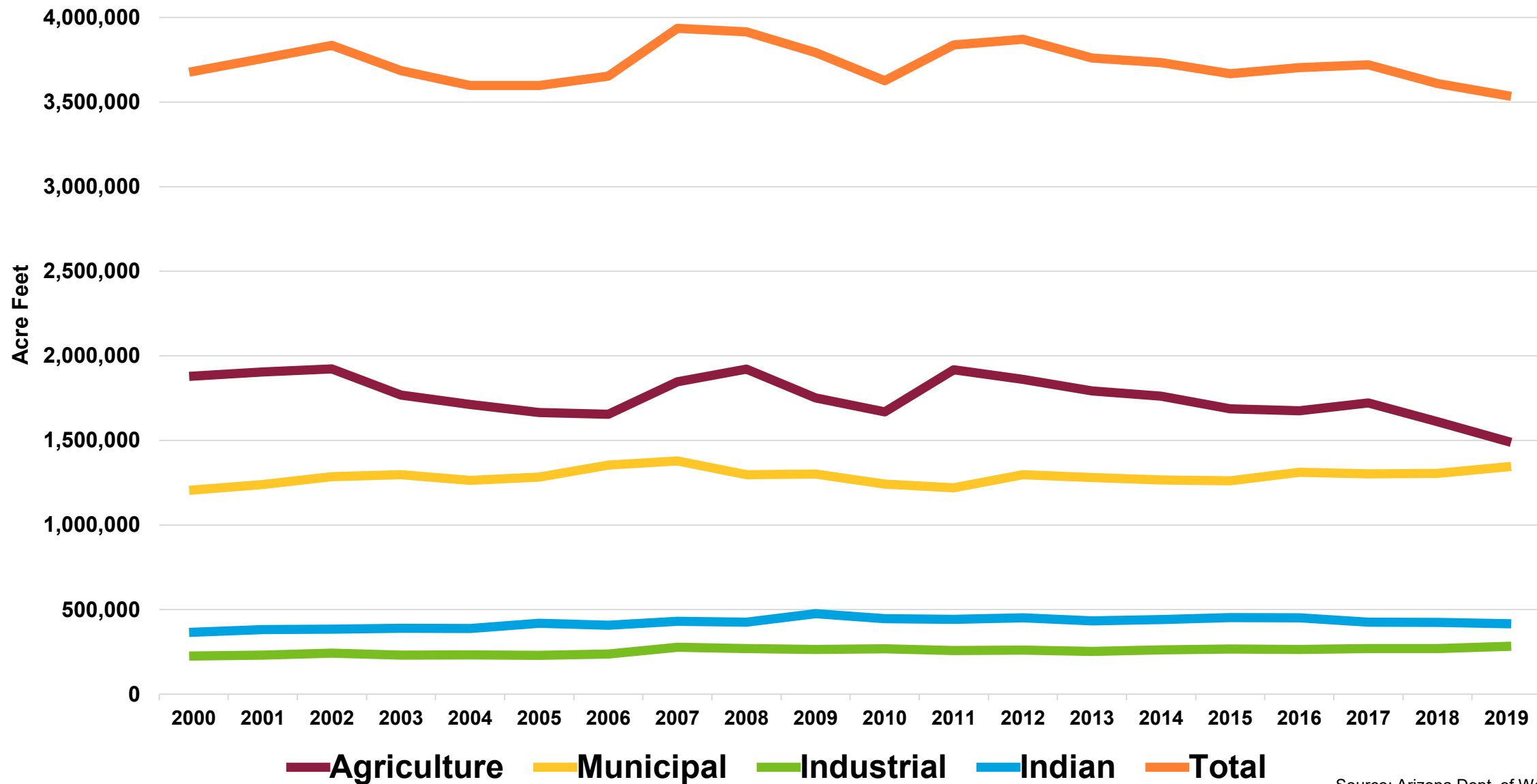
1957 1.1
 2019 7.2
555% CHANGE FROM 1957-2019

GROSS DOMESTIC INCOME (IN BILLIONS)

1957 13.4
 2019 299.8
2,137% CHANGE FROM 1957-2019

Source: Arizona Department of Water Resources (2022)

CAP Service Area Water Use by Sector 2000 - 2019



Water is a local matter.

FLAGSTAFF WATER SERVICES

Drinking Water Wastewater Reclaimed Water Stormwater

SCOTTSDALE WATER

Glendale Water Services
Reliability • Quality • Value
Since 1915

PHX WATER SMART



City of Phoenix
WATER SERVICES DEPARTMENT
Quality Reliability Value

EPCOR

CITY OF GOODYEAR WATER



Bullhead City UTILITIES
WATER - WASTEWATER - REUSE



Apache Junction WATER DISTRICT



TUCSON WATER
A proud part of the City of Tucson



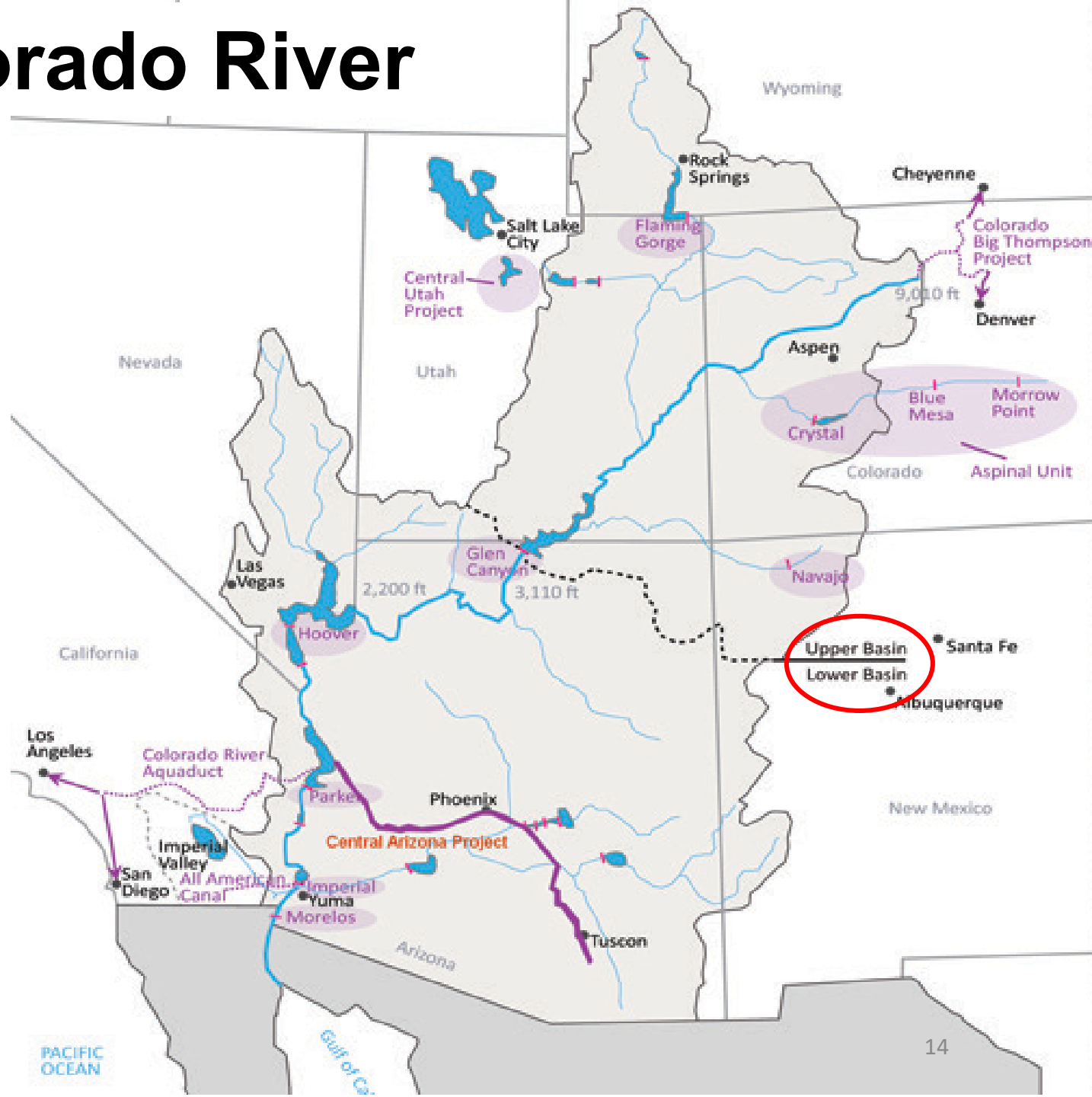
GWR
Global Water Resources

VAIL WATER

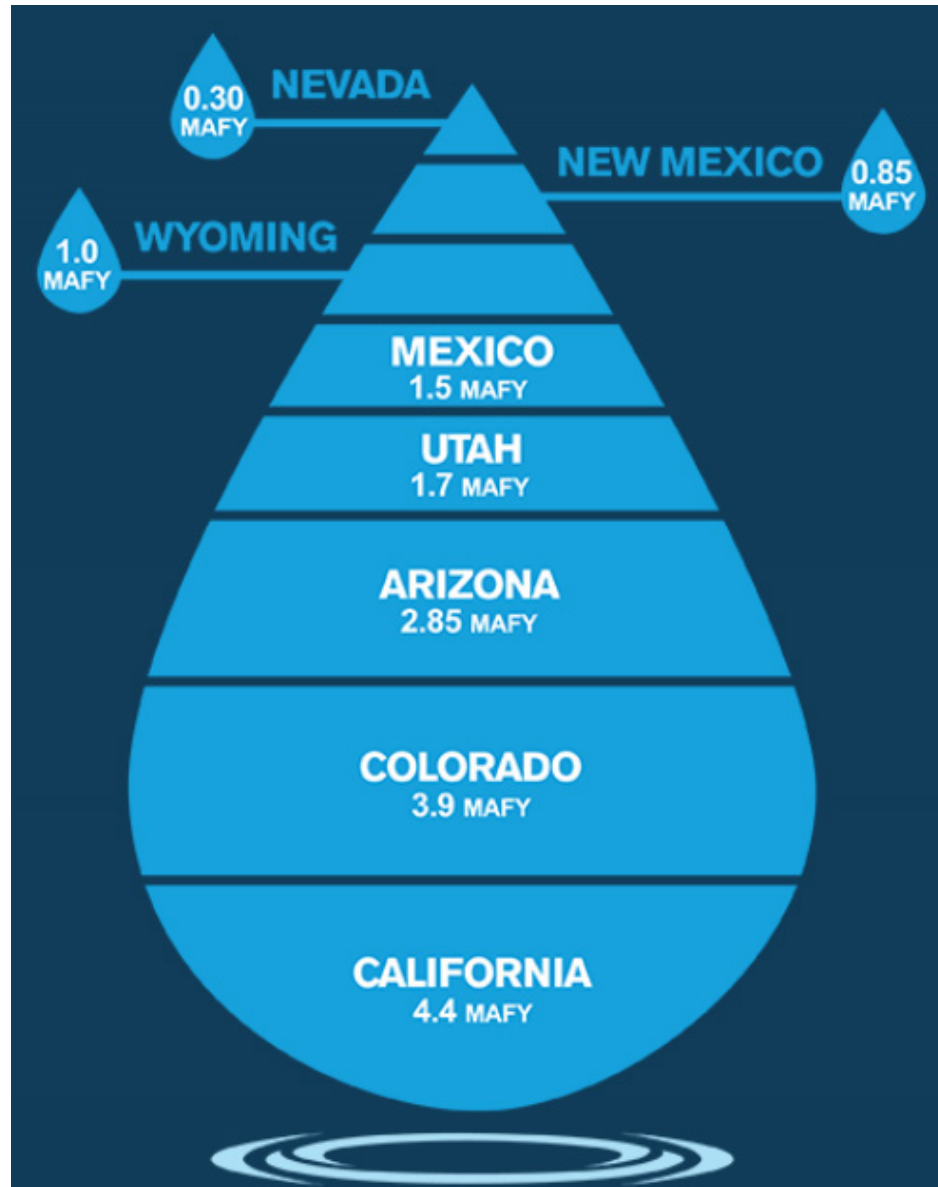
**What are the
challenges?**

Colorado River

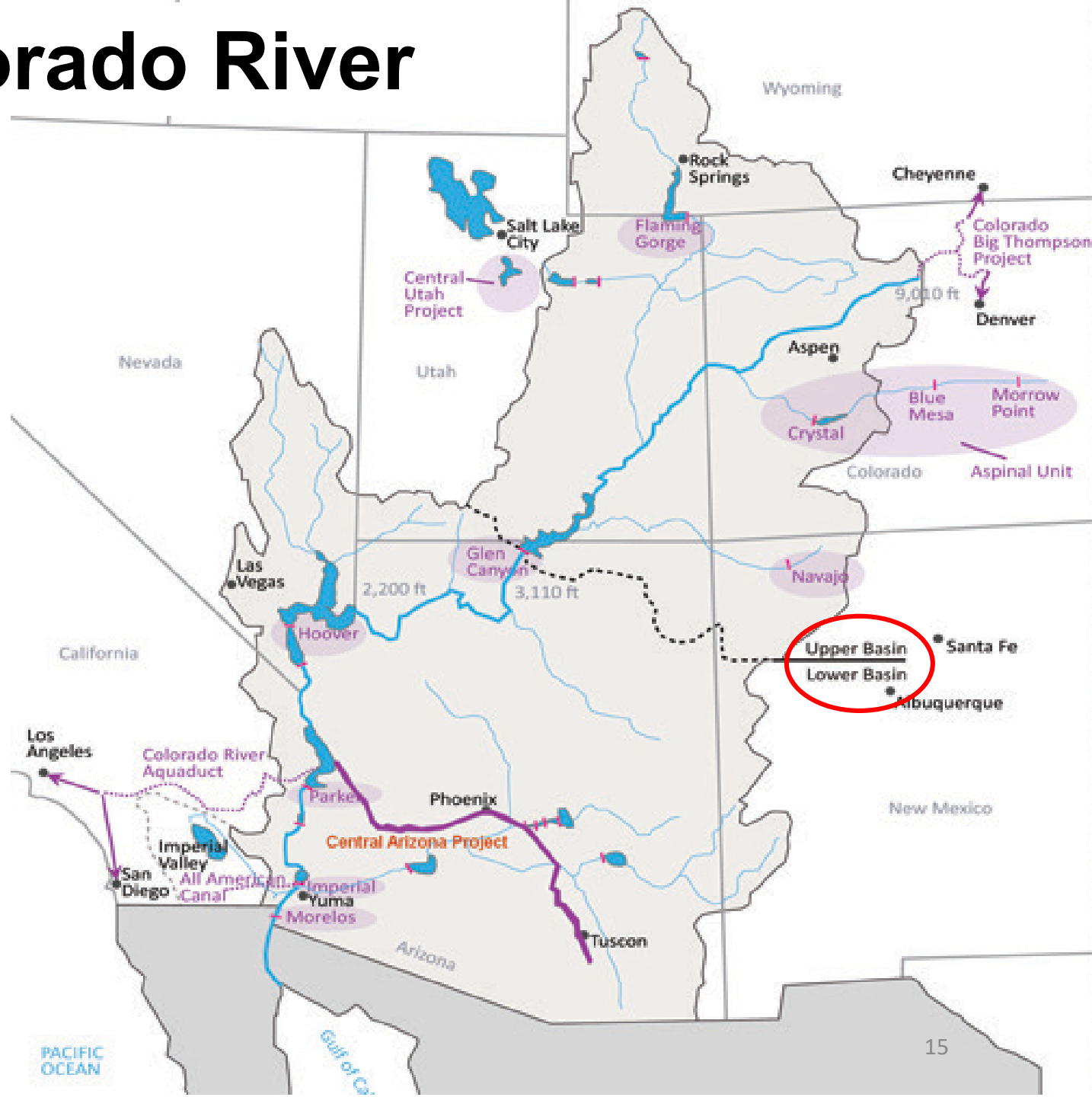
- 40 million people
- 7 states, 29 tribes & Mexico
- 5 million acres of agriculture
- Significant biodiversity
- Grand Canyon, other national parks & monuments



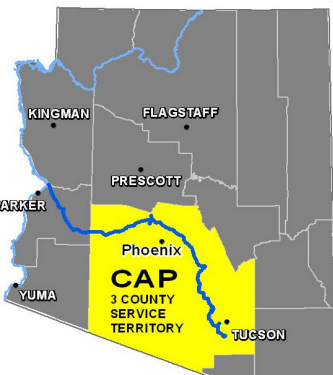
Colorado River



Source: US Bureau of Reclamation



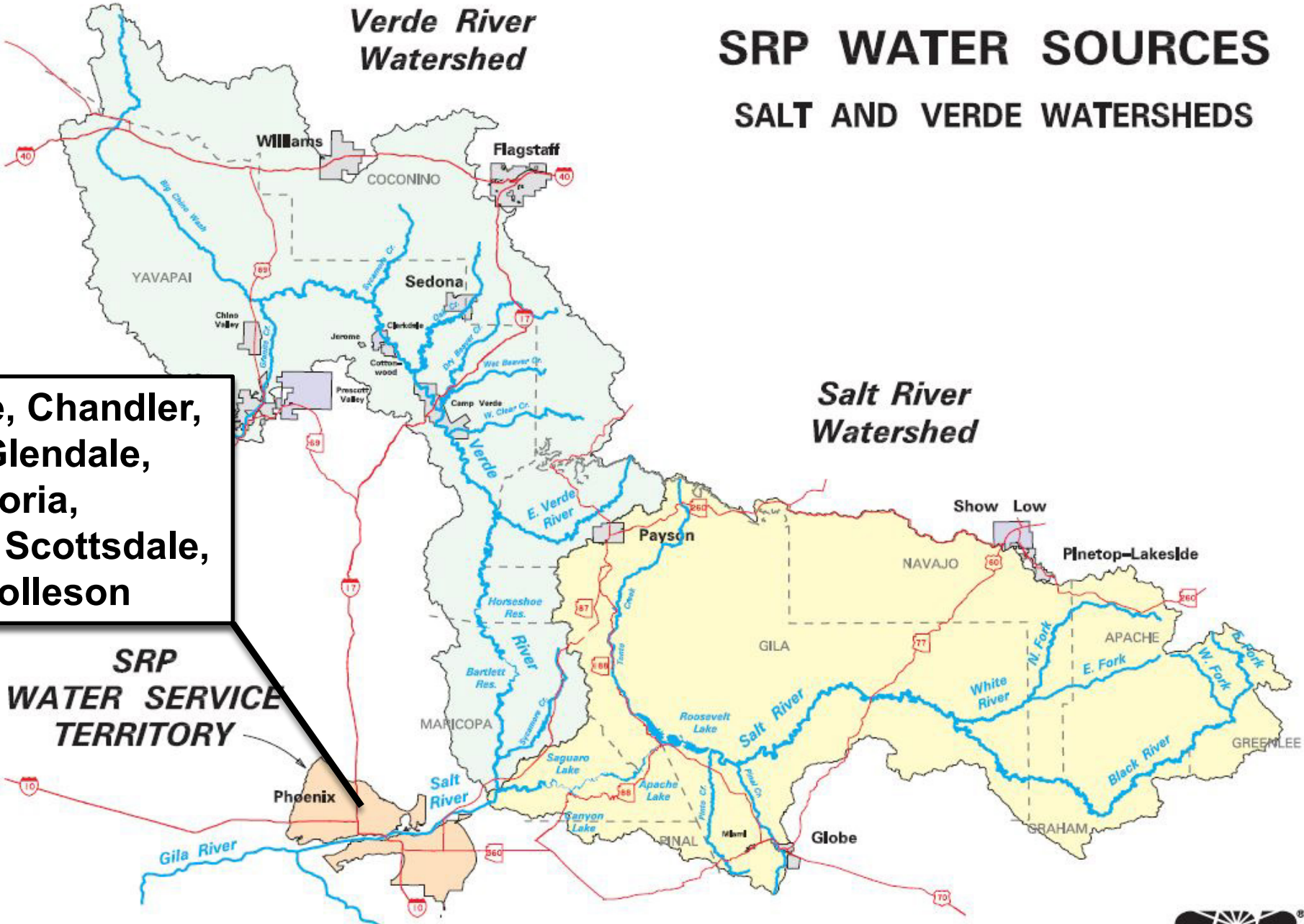
CENTRAL ARIZONA PROJECT



○ DESIGNATES RECHARGE PROJECT

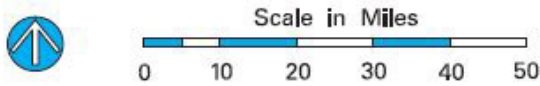
SRP WATER SOURCES

SALT AND VERDE WATERSHEDS

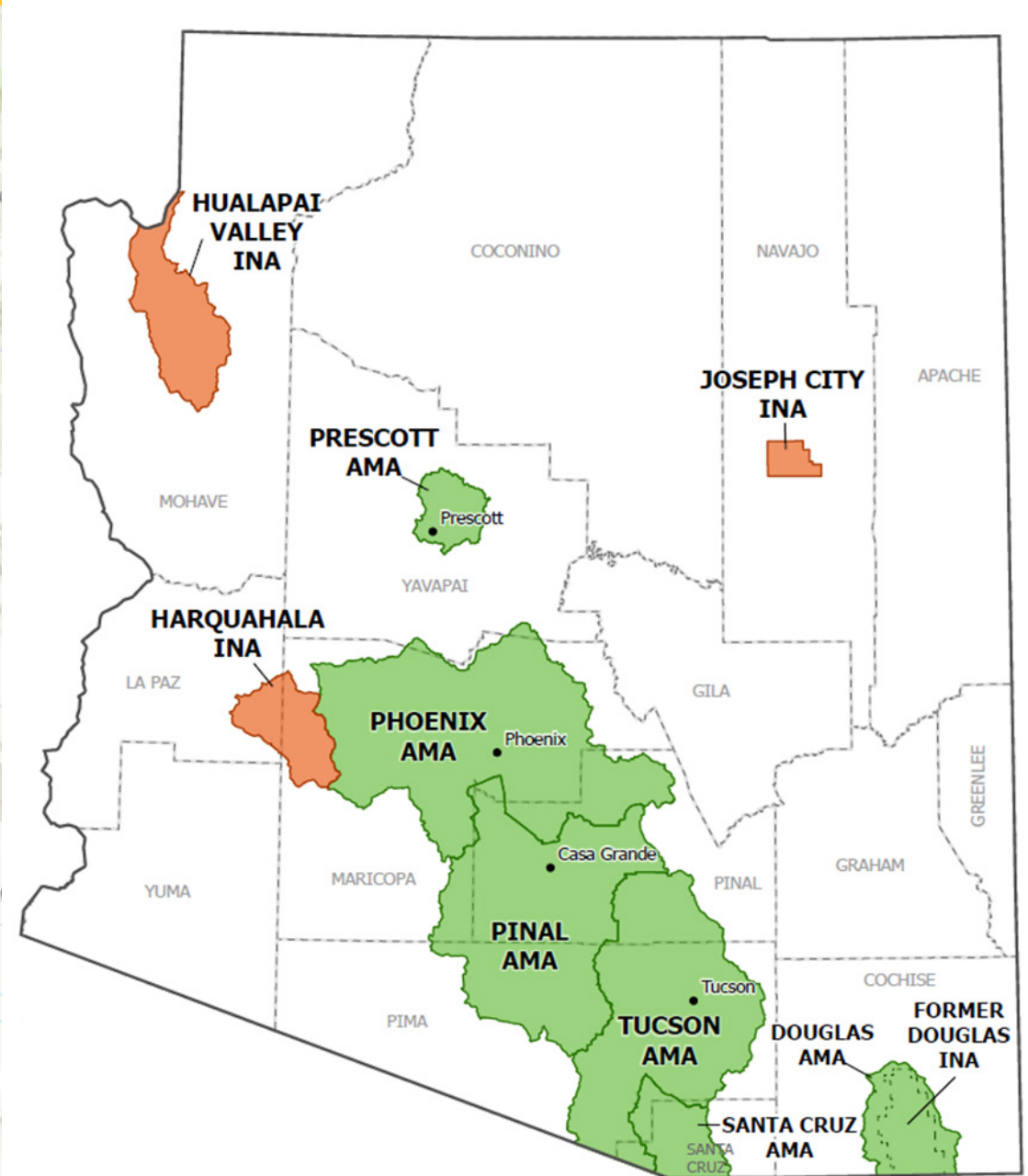


Avondale, Chandler,
 Gilbert, Glendale,
 Mesa, Peoria,
 Phoenix, Scottsdale,
 Tempe, Tolleson

**SRP
 WATER SERVICE
 TERRITORY**



In other areas, groundwater is minimally regulated.



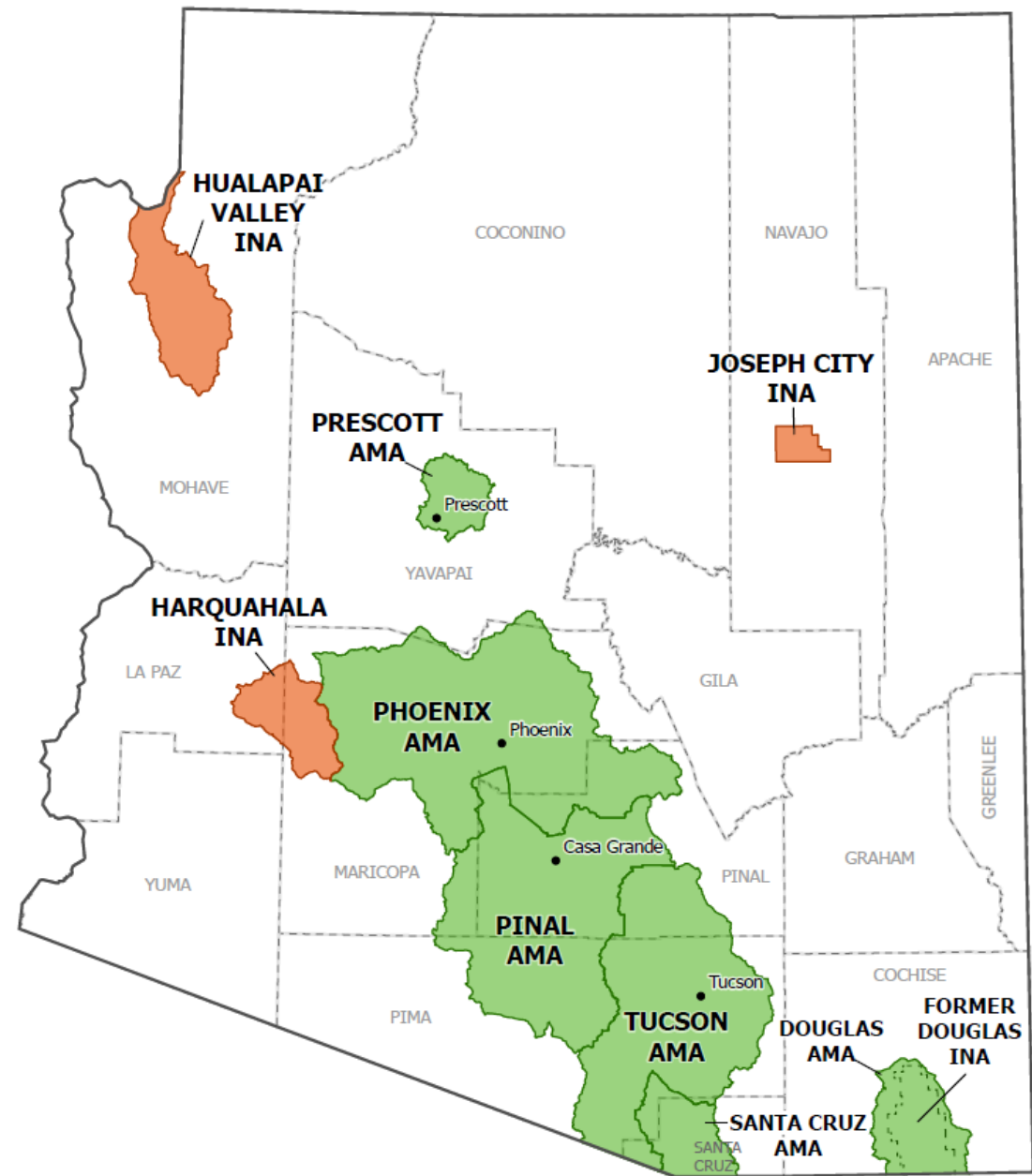
Non-AMA & Non-INA Areas

- No metering requirements
- Groundwater use must be “beneficial.”
- With limited exceptions, groundwater may not be transported out of basin.

In INAs, groundwater is less regulated.

Irrigation Non-Expansion Areas

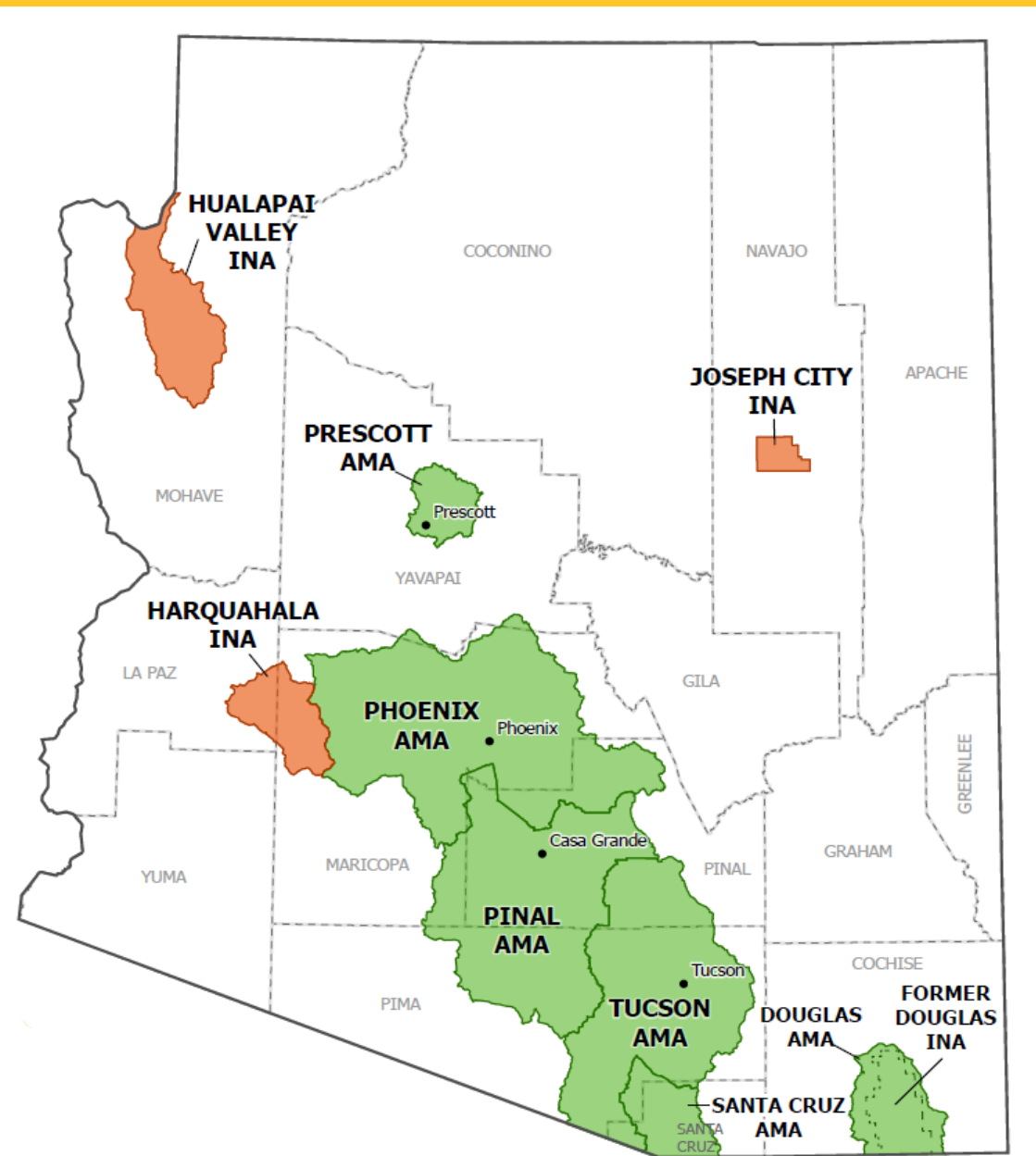
- No new irrigated agriculture
- Larger wells are metered



In AMAs, groundwater is highly regulated.

Active Management Areas

- Growth on renewable supplies
- Credit for water stored in aquifers
- No new irrigated agriculture
- Mandatory conservation
- Larger wells metering & reporting
- 10-year management plans
- 100-year Assured Water Supply requirement for new subdivisions



What is an Assured Water Supply?



Determination by ADWR that:

- 1) sufficient water of adequate quality is physically, continuously and legally available to meet demand for 100 years**
- 2) any projected groundwater use is consistent with AMA management plan -- and --**
- 3) provider has financial capacity to build facilities, treat and deliver the water.**

How do developers meet AWS requirements?

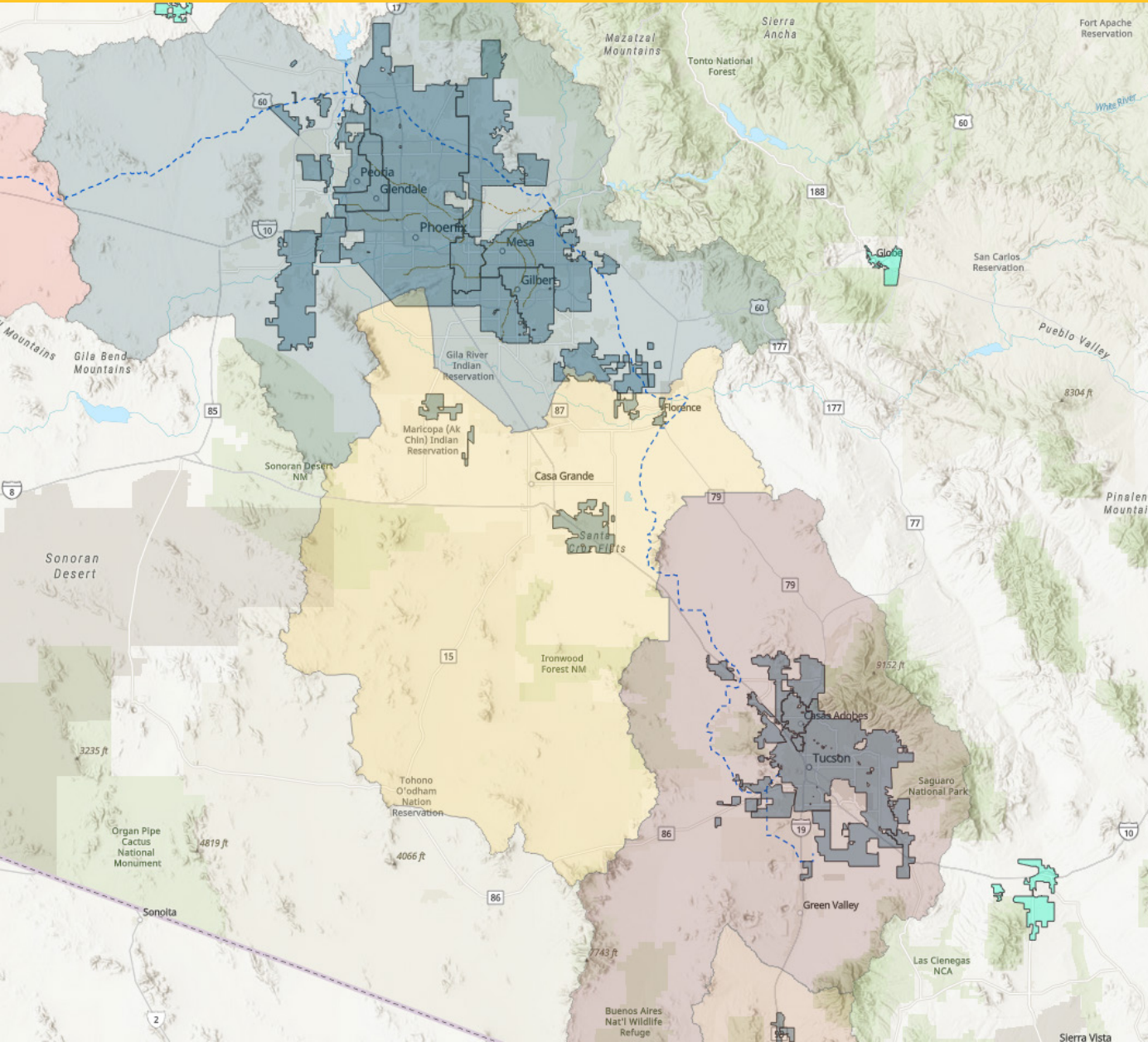


**1) Letter of Commitment
from AWS Designated
Provider**

-- or --

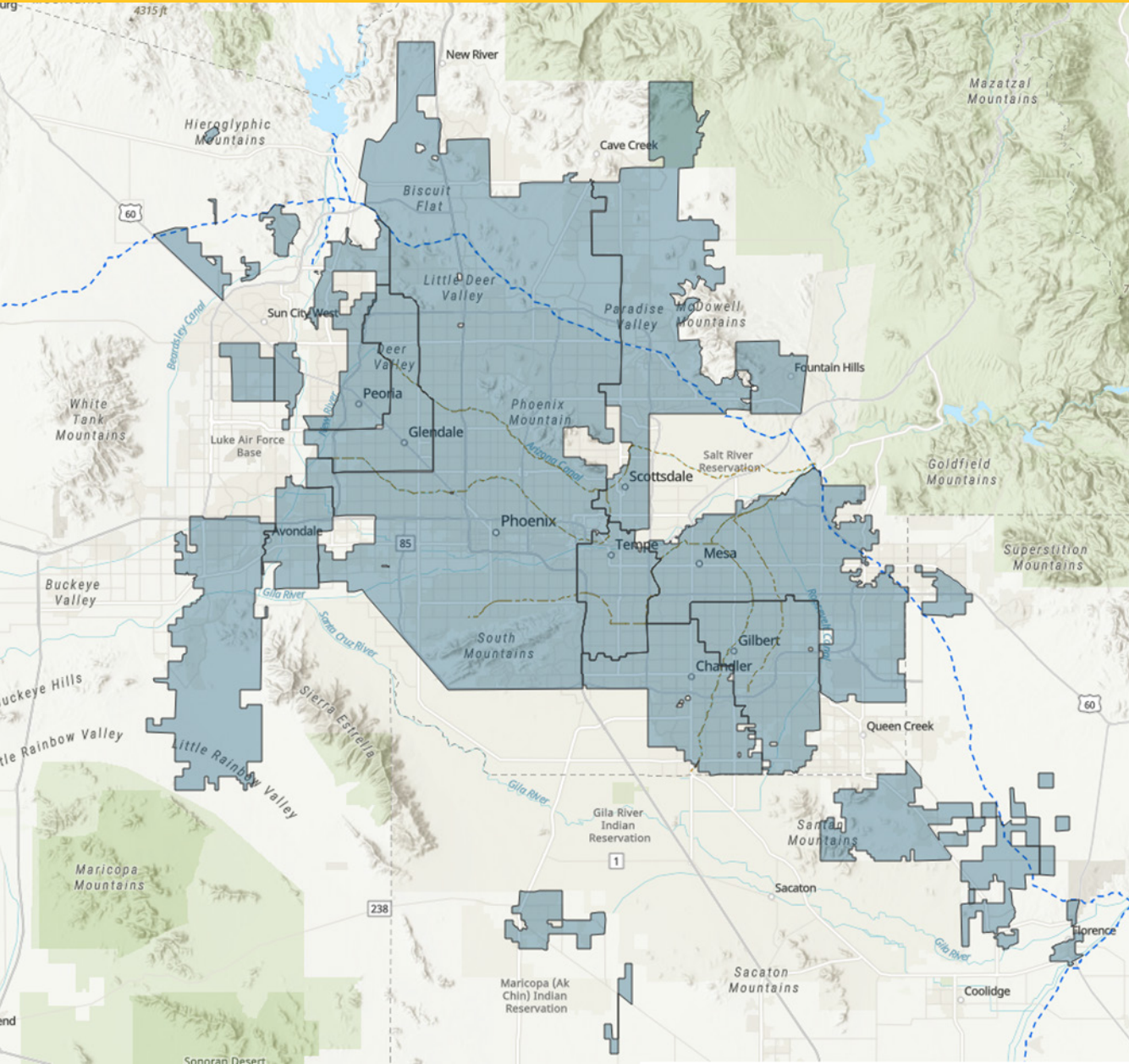
**2) Certificate of Assured
Water Supply from
ADWR**

What does an AWS Designation mean?



- **Provider demonstrates 100 year AWS.**
- **Designation applies to all current, committed and future uses of water served by the provider.**
- **Reviewed every 15 years (or more frequently).**

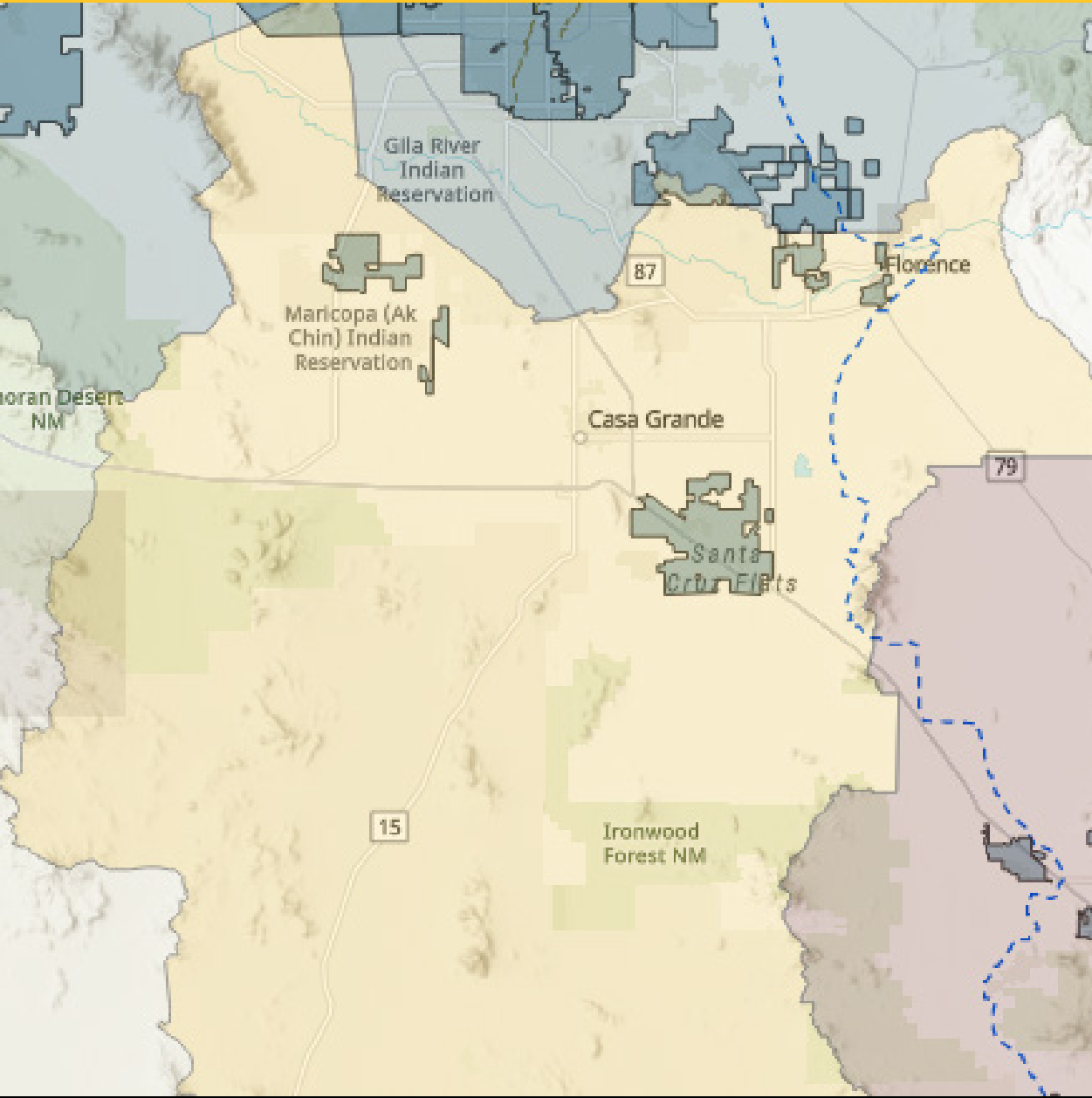
Phoenix AMA AWS Designated Providers



Designated Providers in Phoenix AMA

Phoenix
Avondale
Chandler
El Mirage
Gilbert
Glendale
Goodyear
Mesa
Peoria
Scottsdale
Surprise
Tempe
EPCOR Fountain Hills
EPCOR San Tan
Apache Junction Water Co.

Pinal AMA AWS Designated Providers



Designated Providers in Pinal AMA

Florence

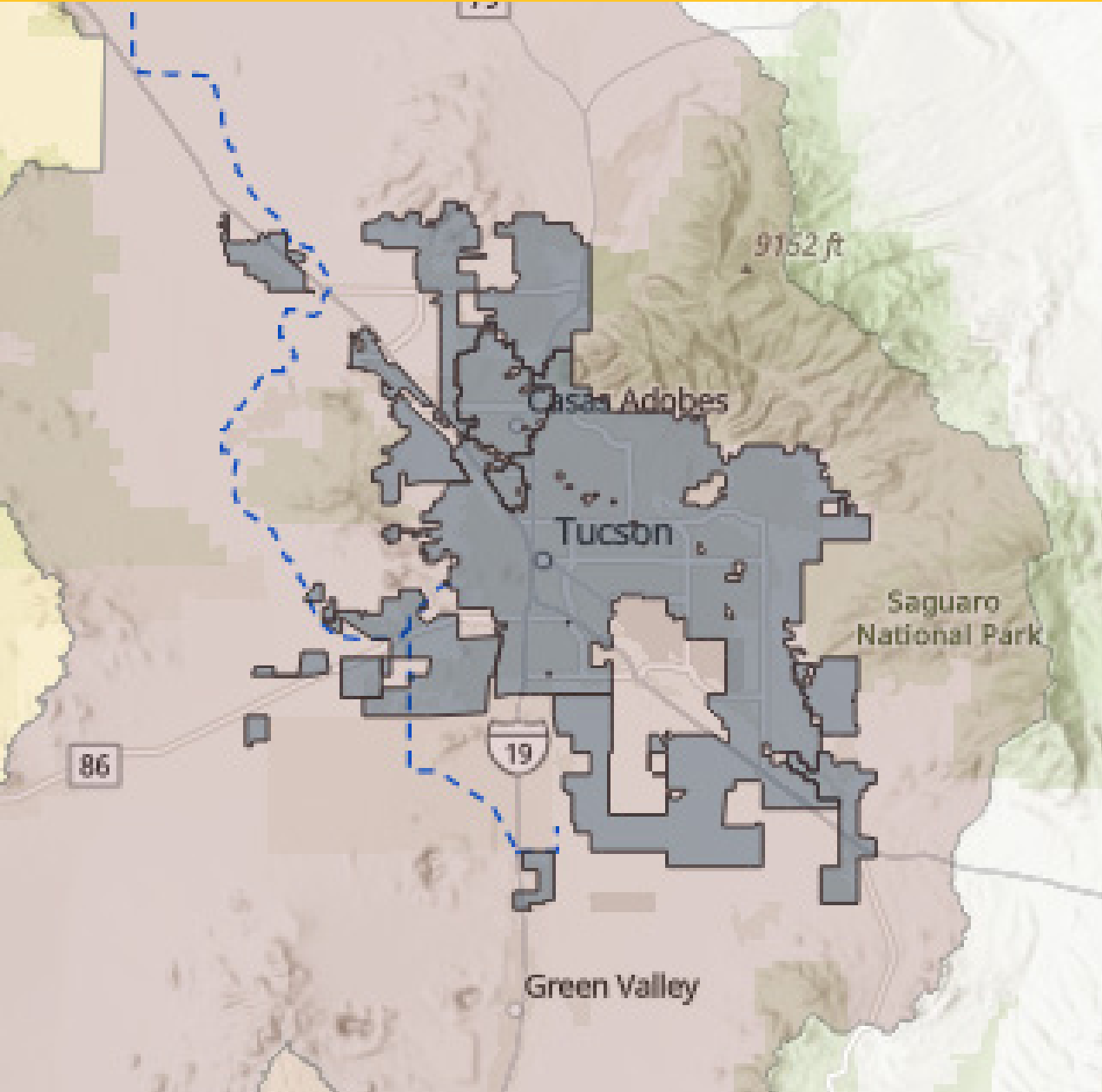
Eloy

Global Water Co. Santa Cruz

Casa Grande

EPCOR San Tan

Tucson AMA AWS Designated Providers



Designated Providers in Tucson AMA

Tucson

Marana

Oro Valley

Flowing Wells ID

Metropolitan DWID – Main

Metropolitan DWID – West

Metropolitan DWID – Diablo Village

Sahuarita Water Co.

Spanish Trail Water Co.

Vail Water Co.

Willow Springs Utilities

Outside of AWS Designated Providers



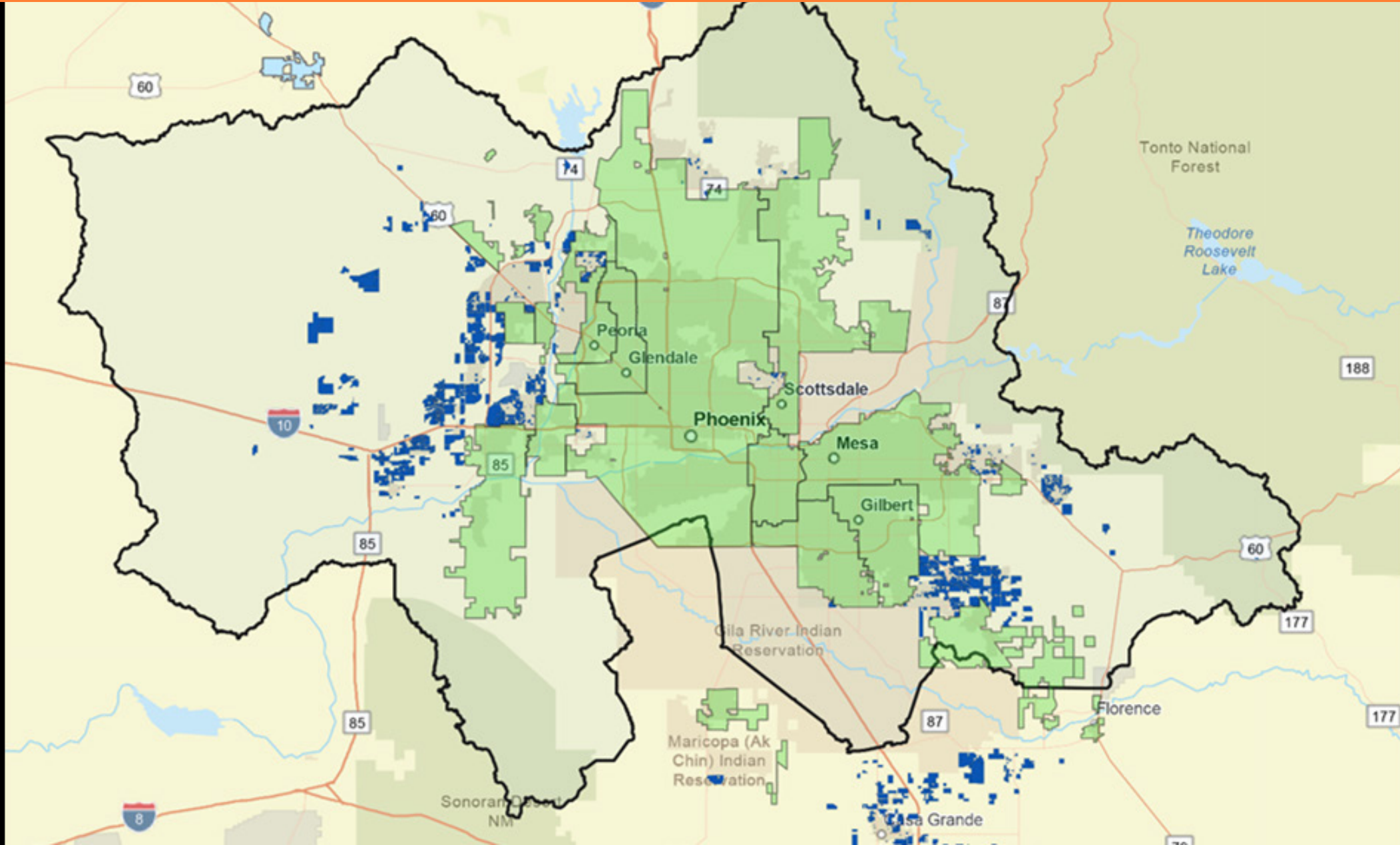
Certificates of Assured Water Supply

- Required for any subdivision within AMA of 6 or more lots for sale.
- Historically, developers have preferred local groundwater to meet AWS requirements.
- No periodic review of Certificate (once and done).

Phoenix AMA Groundwater Model – June 2023

- **All physically available groundwater is assigned.**
- **New AWS Certificates will require an AWS that is not local groundwater.**
- **Development will not be impacted in service areas of Designated AWS providers.**
- **Development will not be impacted in subdivisions with AWS Certificates.**

What areas are impacted by the new limitation?



What are the future

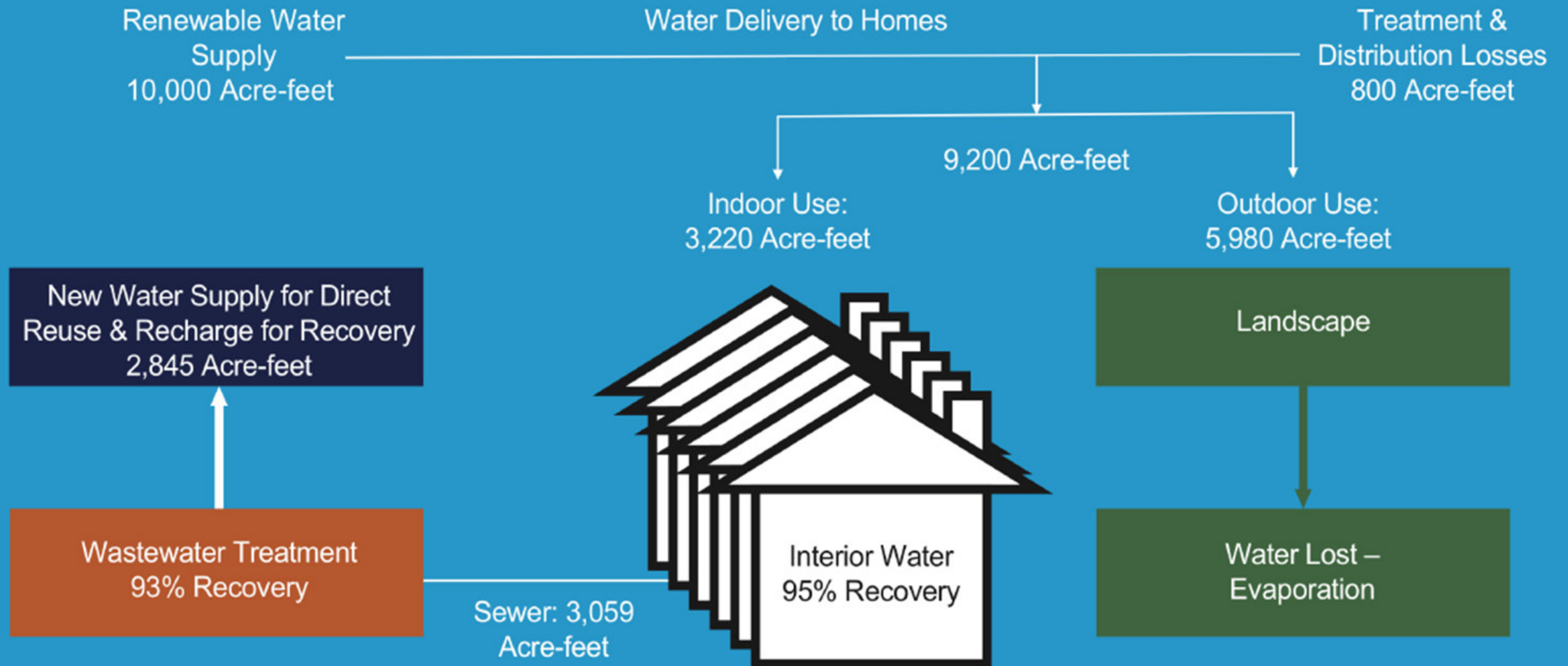
water supply options?

Demand Management



Re-Use

(What happens when 10,000 Acre-feet of renewable water is used to serve homes)
Gain to Overall Supply for the Municipality – 2,845 Acre-feet





Water Development Fund

- **Long-Term Water Augmentation Fund - \$ 876 million over 3 years**
 - 75% of initial deposits for projects that import water into the state
 - Acquiring/constructing water-related facilities in the state for importation purposes
 - Financial assistance
- **Water Supply Development Revolving Fund - \$200 million**
 - Loans and grants to eligible entities
 - Purchasing/refinancing debt, conducting water supply studies and other purposes
- **Water Conservation Grant Fund - \$200 million**
 - Improve water reliability, efficiency
 - Groundwater recharge & aquifer health
 - Education, turf removal, drought-resistant landscape

Water Development Fund

- **Long-Term Water Augmentation Fund - \$ 876 million over 3 years**

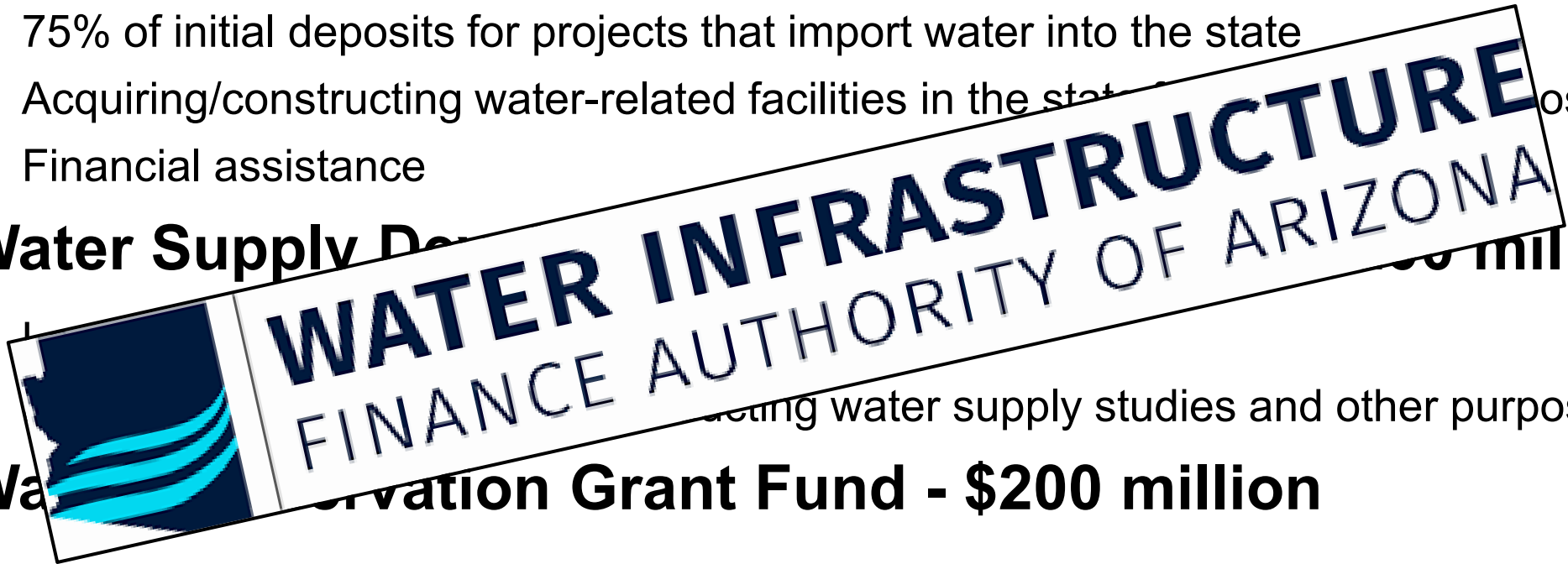
- 75% of initial deposits for projects that import water into the state
- Acquiring/constructing water-related facilities in the state
- Financial assistance

- **Water Supply Development Fund - \$ 500 million**

- Conducting water supply studies and other purposes

- **Water Conservation Grant Fund - \$200 million**

- Improve water reliability, efficiency
- Groundwater recharge & aquifer health
- Education, turf removal, drought-resistant landscape





Augmentation Concepts in Development

- 1) CRIT lease**
- 2) Roosevelt Dam Storage Modification**
- 3) Bartlett Dam Enlargement**
- 4) Harquahala Groundwater**
- 5) So Cal Re-Use Exchange**
- 6) Ocean Desalination (Exchange or Pipeline)**

Infrastructure Advantages

CAP Canal



CAP ↔ SRP Interconnections



Big Conclusions



Arizona cities will continue to adapt.

Deeper cuts in Colorado River supply are expected, and the impacts of these cuts will vary from city to city.

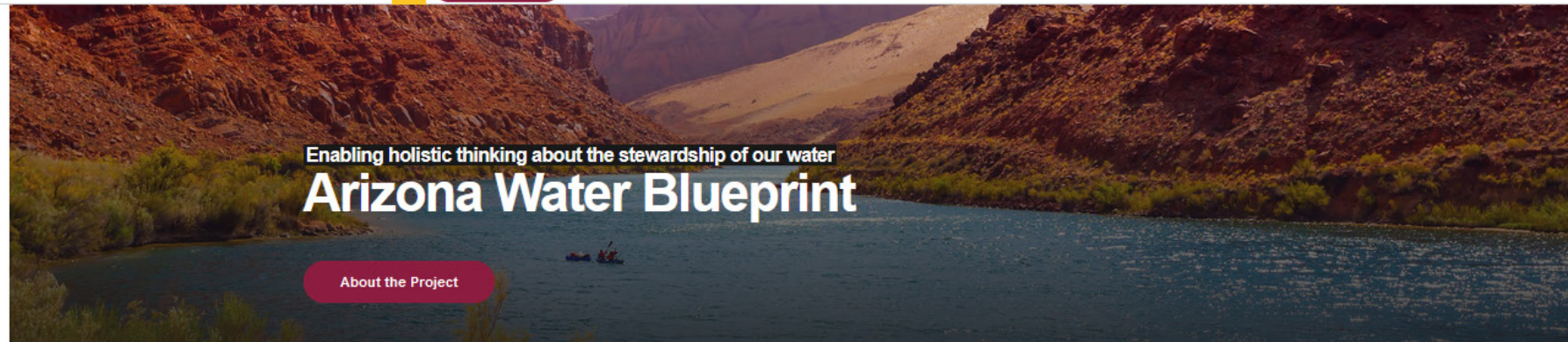
Groundwater dependent rural areas in Arizona are vulnerable; however, this is not the case state's most populous areas.

Work is underway to develop additional water supplies to support Central Arizona cities.



Arizona
Water
Blueprint

azwaterblueprint.asu.edu



Tools for exploring Arizona's water resources



[The Water Blueprint Map](#)

A comprehensive tool featuring 50+ data layers to explore Arizona's water resources and infrastructure



[Groundwater Level Changes](#)

An interactive map that shows groundwater level changes across Arizona's sub-basins




[Colorado River Shortage](#)

An information hub about the Colorado River shortage



[Water Issues in Depth](#)

Introductions to critical Arizona water issues like the use of water in rural areas and the function of watersheds



Sign up for updates

Want to keep learning about water in Arizona? Sign up to receive emails from the Kyl Center for Water Policy at Morrison Institute.

[Sign me up](#)

Sarah Porter
s.porter@asu.edu
602-496-0586

azwaterblueprint.asu.edu



**Kyl Center
for Water Policy
at Morrison
Institute**

**Arizona State
University**