

Glen Canyon Dam Adaptive Management Work Group

August 20, 2020



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Arizona Department of Water Resources



Arizona's Water Future

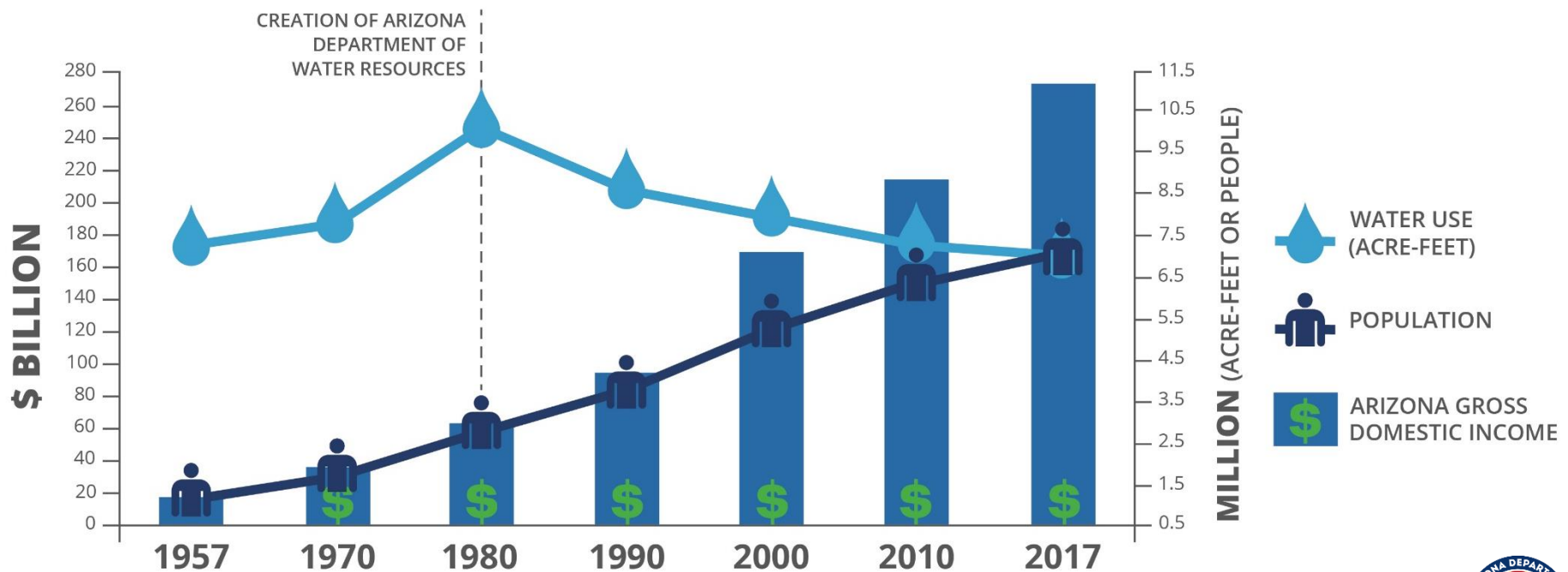
If there's one thing
Arizona is the best in the
nation at – it's water.

GOVERNOR DOUG DUCEY
THE STATE OF THE STATE ADDRESS (1.11.16)

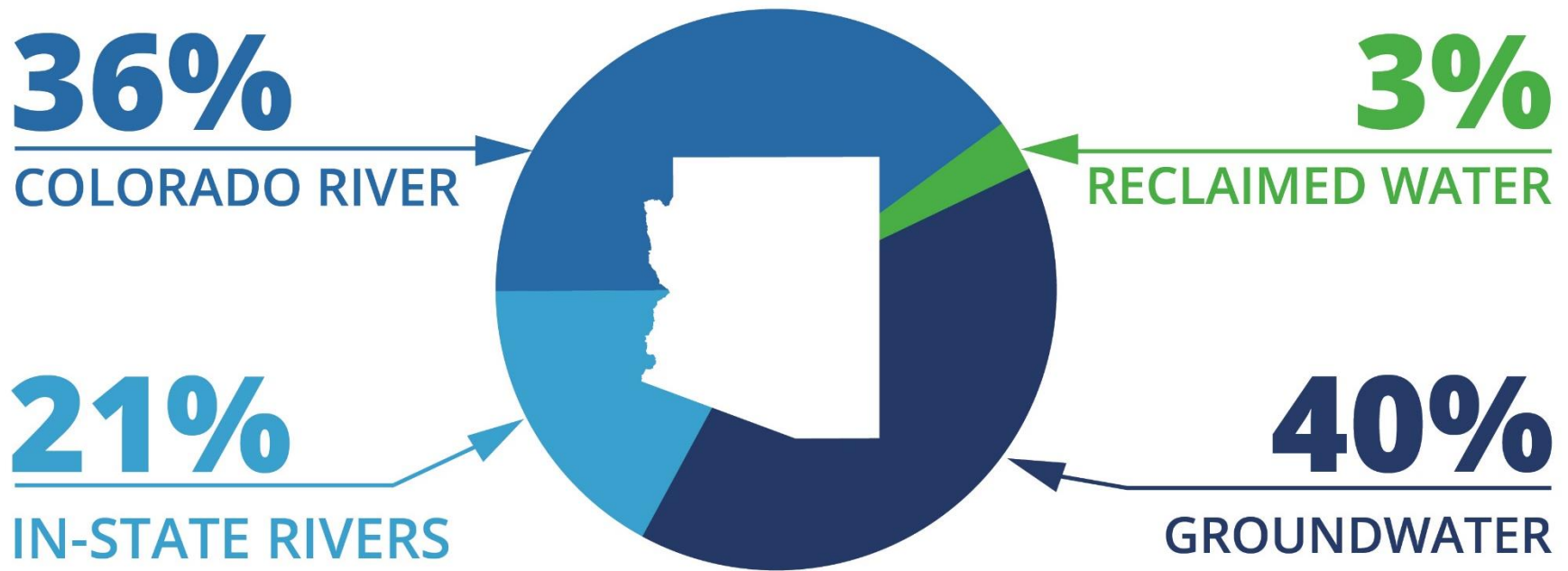
Arizona's Water Management Success

- Population **increased** 6-fold
- Gross domestic income **increased** 19-fold
- Water consumption **reduced** 100,000 acre-feet

ARIZONA WATER USE, POPULATION, AND ECONOMIC GROWTH (1957 - 2017)

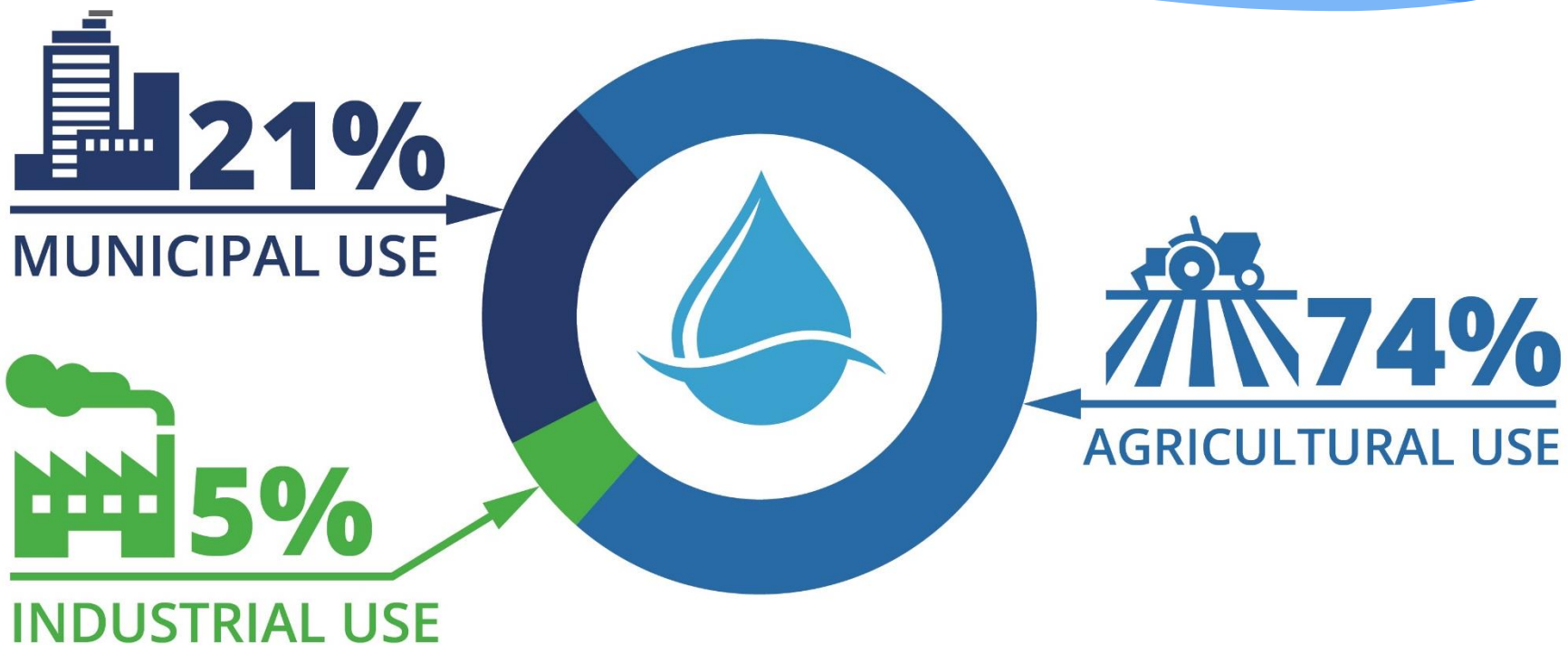


Arizona's Water Budget



Source: ADWR, 2018

Arizona's Water Use By Sector



1980 Groundwater Management Code

Issue: Severe groundwater depletion

Approach: Collaborate among different sectors and stakeholders

Goals:

- Control severe groundwater depletion
- Improve groundwater supplies through conservation and development of additional water supplies
- Provide the means for allocating Arizona's limited groundwater resources

Solution: Groundwater Management Code



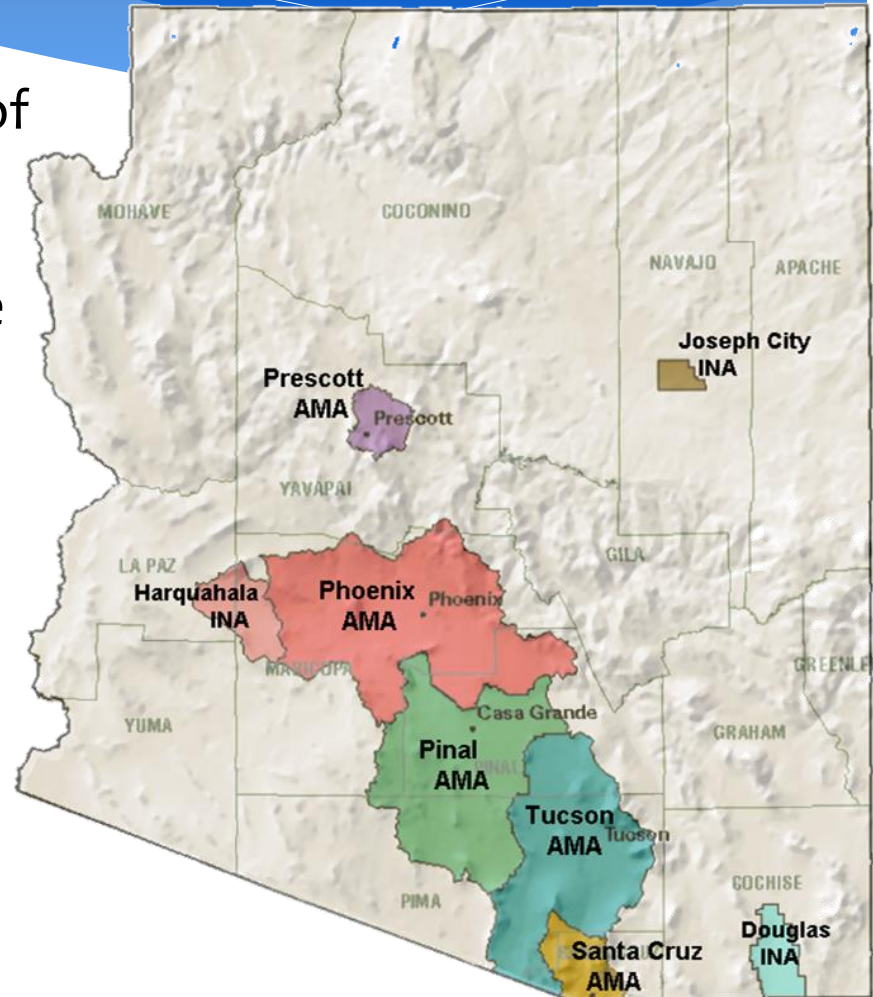
Former Arizona Governor and Interior Secretary Bruce Babbitt signing the GMA



1980 Groundwater Management Code

(cont'd)

- Formed the Arizona Department of Water Resources
- Developed goals to control severe groundwater depletion
- Established Active Management Areas (AMAs) & Irrigation Non-Expansion Areas (INAs)
- Established water conservation regulations for water users & providers



Groundwater Regulatory Structure

- Registration of all wells
- Adequate Water Supply
- Community Water Systems Documentation

+

- Expansion of irrigated acres is prohibited
- Monitoring and Reporting

+

- Assured Water Supply
- Groundwater Withdrawal Fees
- Management Goals, Plans, & Conservation Programs

Statewide

INA

AMA



AMA Management Plans & Goals

5 Management Periods through 2025

5 Management Plans

- Contain the details for the implementation of the Groundwater Management Act in each AMA
- Conservation Programs for each sector (Ag., Muni., Ind.)
- Increasing conservation measures in each subsequent Plan
- Progressing toward the AMA's Management Goal

5 Management Goals

Phoenix, Prescott & Tucson AMAs:

To achieve safe-yield by the year 2025

Pinal AMA:

To preserve Agriculture economy for as long as feasible, while considering the need to preserve groundwater for future non-irrigation uses

Santa Cruz AMA

To maintain a safe-yield condition in the AMA and to prevent local water tables from experiencing long term declines



ADEQUATE Water Supply

- Established in 1973 as a **Consumer advisory program**
 - Plats can be approved with inadequate determination
 - Disclosure of inadequate water supply required to first buyer
- **100- year Adequate Water Supply demonstration:**
 - Water Adequacy Reports, or
 - Serviced by water provider with Designation of Adequate Supply
- **Local governments can require adequacy**
 - Yuma County, Cochise County, Patagonia, Clarkdale

ASSURED Water Supply

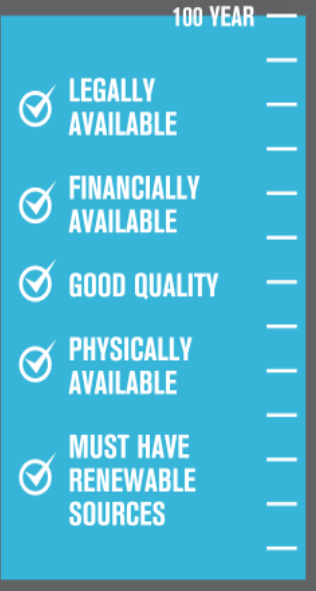
- *Inside AMAs*
- Established 1980; adopted 1995
- **100-year AWS Demonstration:**
 - Certificate of Assured Supply, or
 - Commitment of Service by a water provider with Designation of Assured Supply
- **AWS is required for ADRE to issue Subdivision Public Report**

100 YEAR WATER SUPPLY REQUIREMENT:

Within most urban areas of the state a 100-year water supply must be proven before land can be developed.

100 YEAR WATER SUPPLY REQUIREMENTS

MUST BE:



Colorado River Allocations

1922 Colorado River Compact established Upper and Lower Basin States' allocations

UPPER DIVISION STATES - 7.5 MAF

1948 Upper Colorado Basin Compact established the Upper Basin States' apportionment

LOWER DIVISION STATES - 7.5 MAF

California – 4.4 MAF

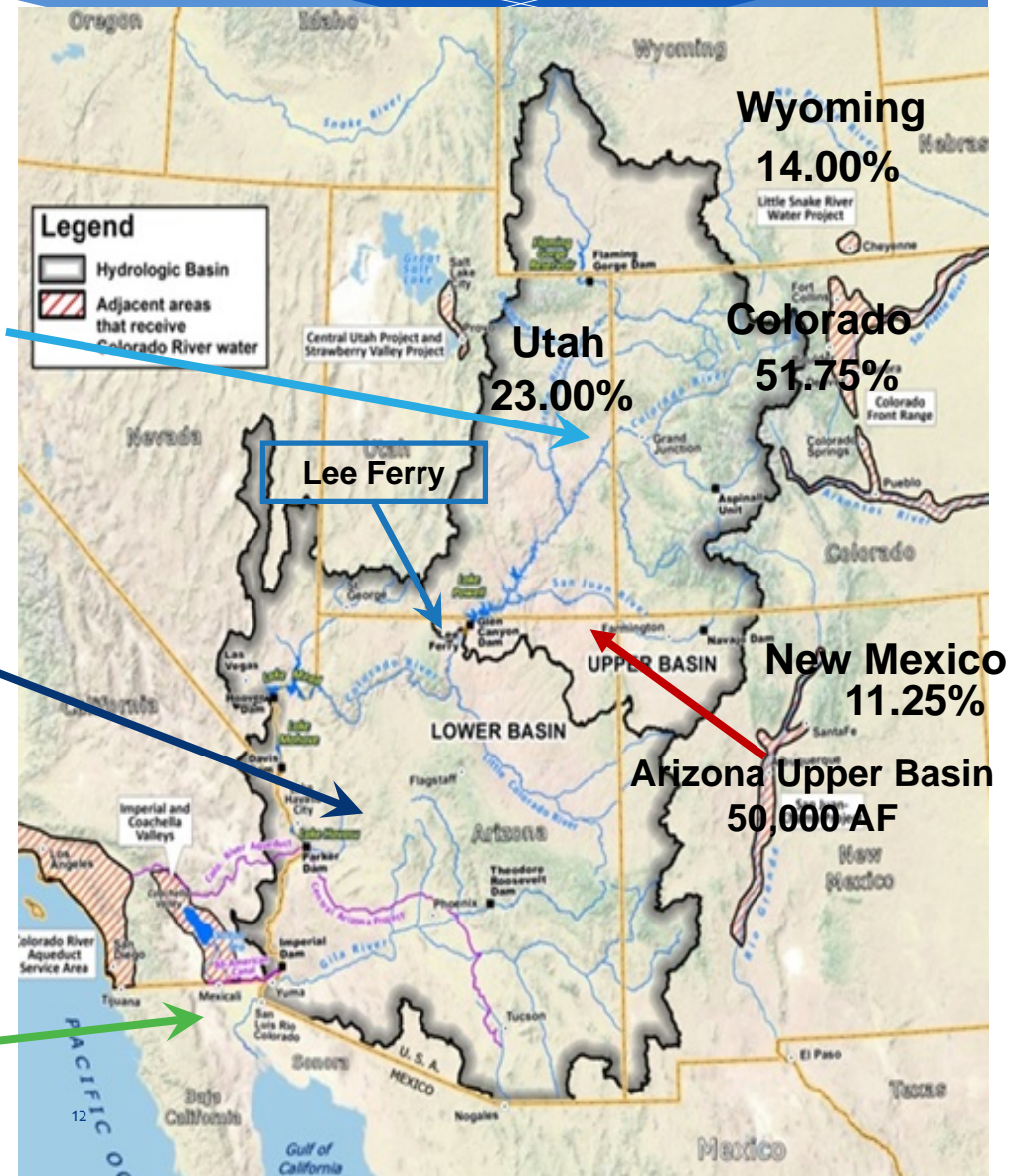
Arizona – 2.8 MAF

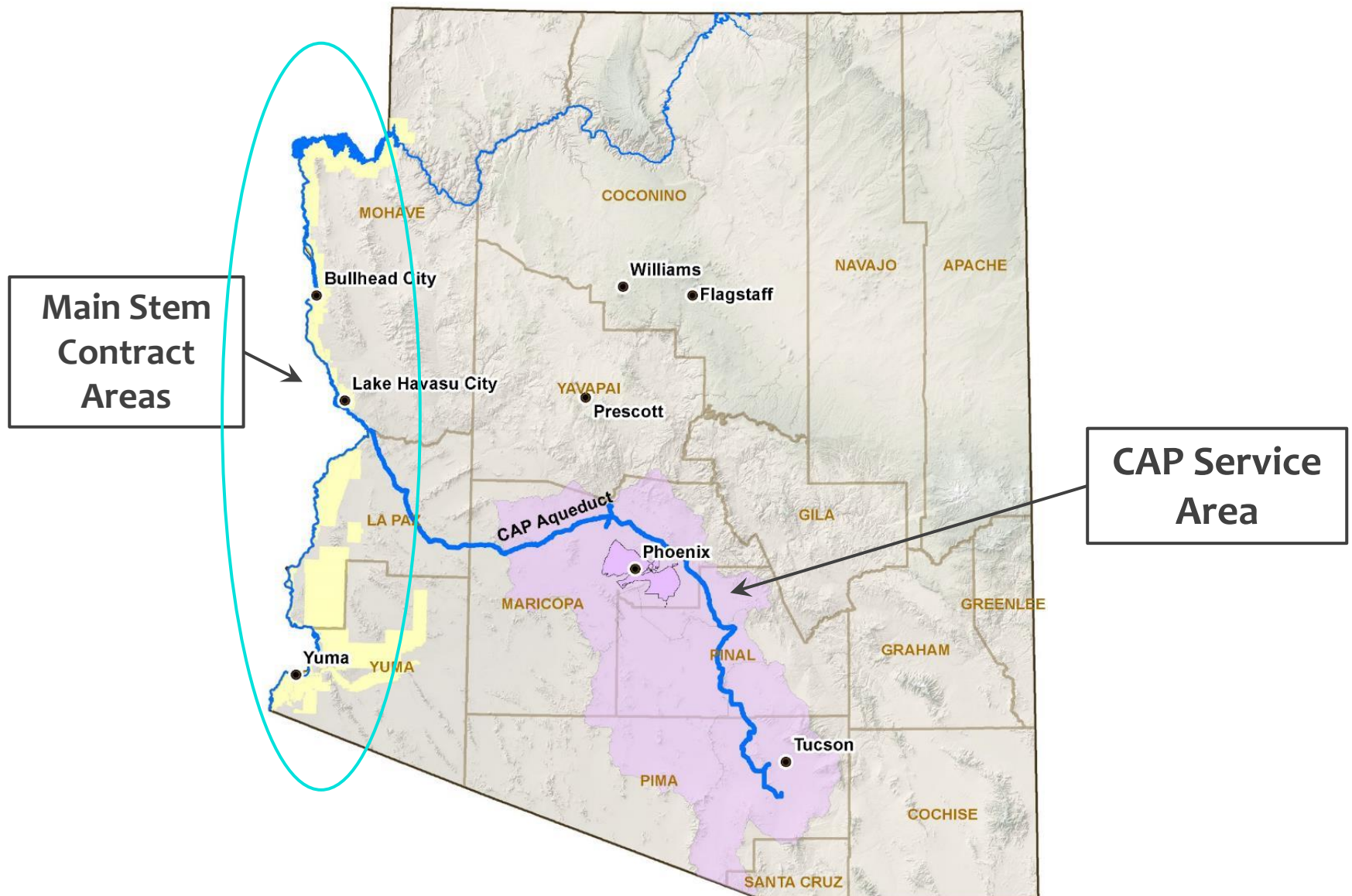
Nevada – 0.3 MAF

1928 Boulder Canyon Project Act established the Lower Basin States' apportionment

MEXICO - 1.5 MAF

1944 Treaty with Mexico established Mexico's treaty deliveries

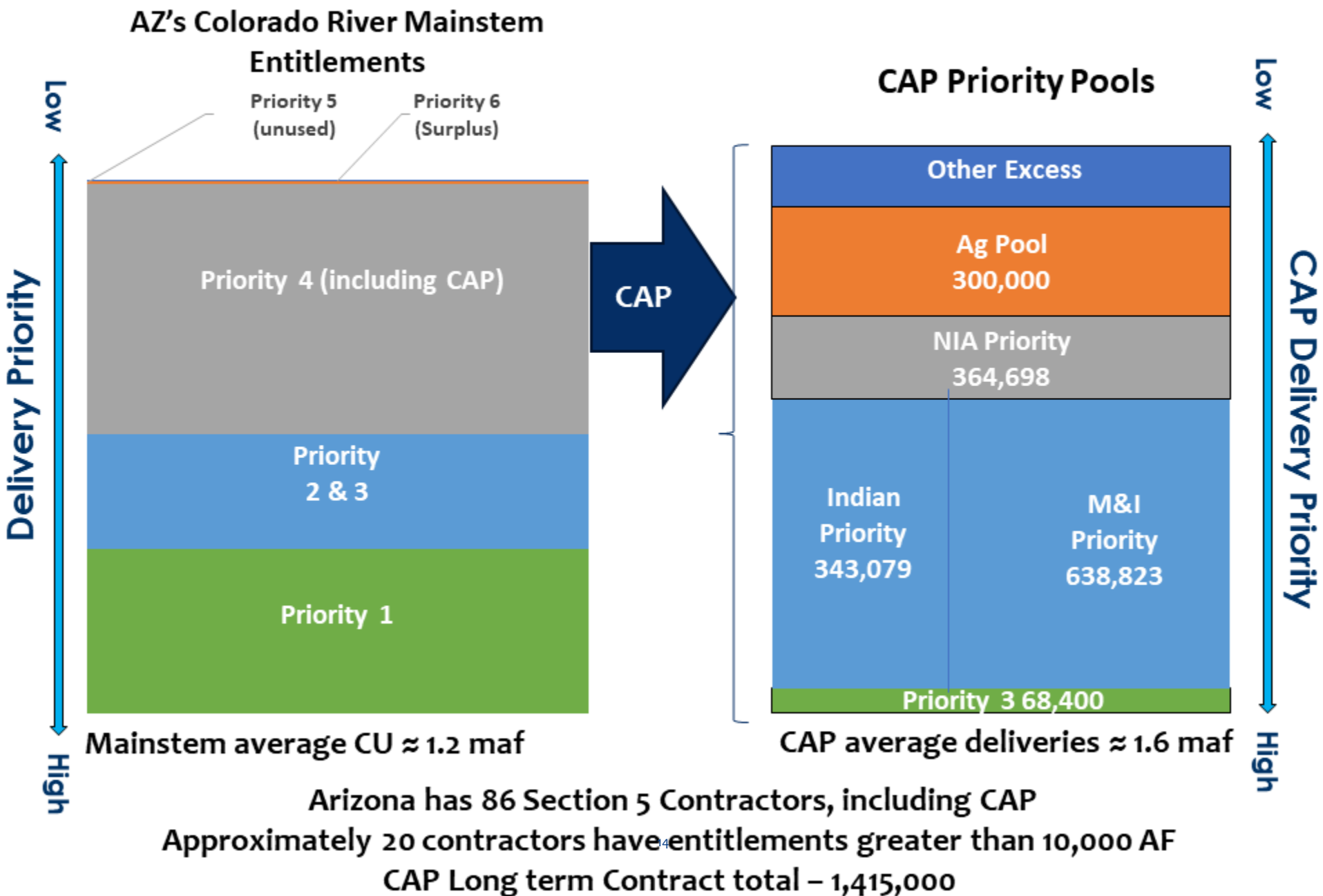




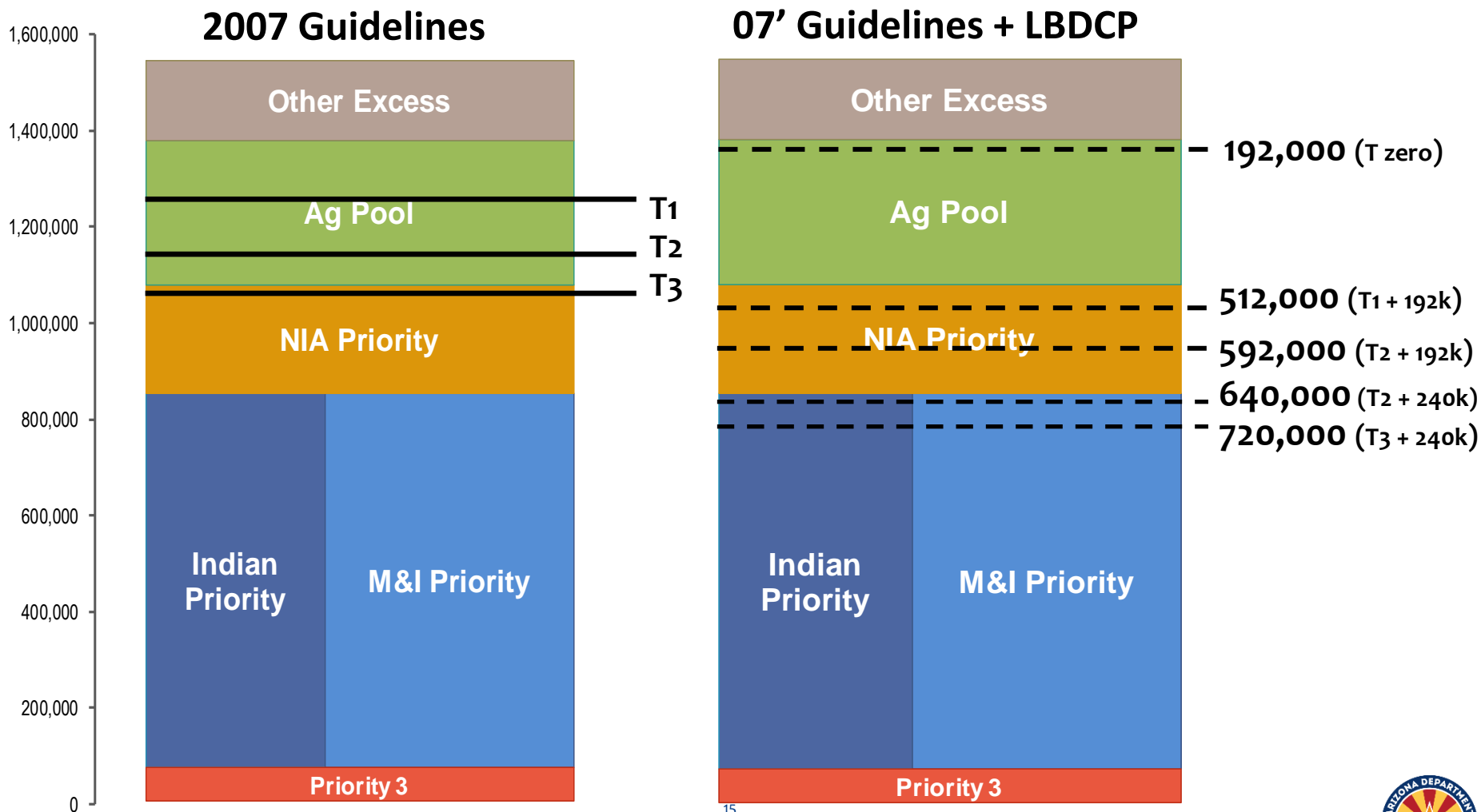
Arizona's annual apportionment of 2.8 million acre-feet:

- Mainstem Consumptive use – 1.2MAF
- CAP average annual delivery – 1.6MAF

AZ's Colorado River Priority System



CAP Priority Pools & Shortage



Drought Contingency Plan Recap

Drought Contingency Plan Implementation in Arizona

- ADWR & CAWCD jointly hosted 9 public Steering Committee meetings to discuss & recommend how to adopt and implement the LBDCP in a way that is acceptable to Arizona water users
- **January 31** – Arizona Legislature passed & Gov. Ducey signed SB 1227
 - The legislation authorized ADWR Director to sign the Interstate DCP Agreements on behalf of Arizona

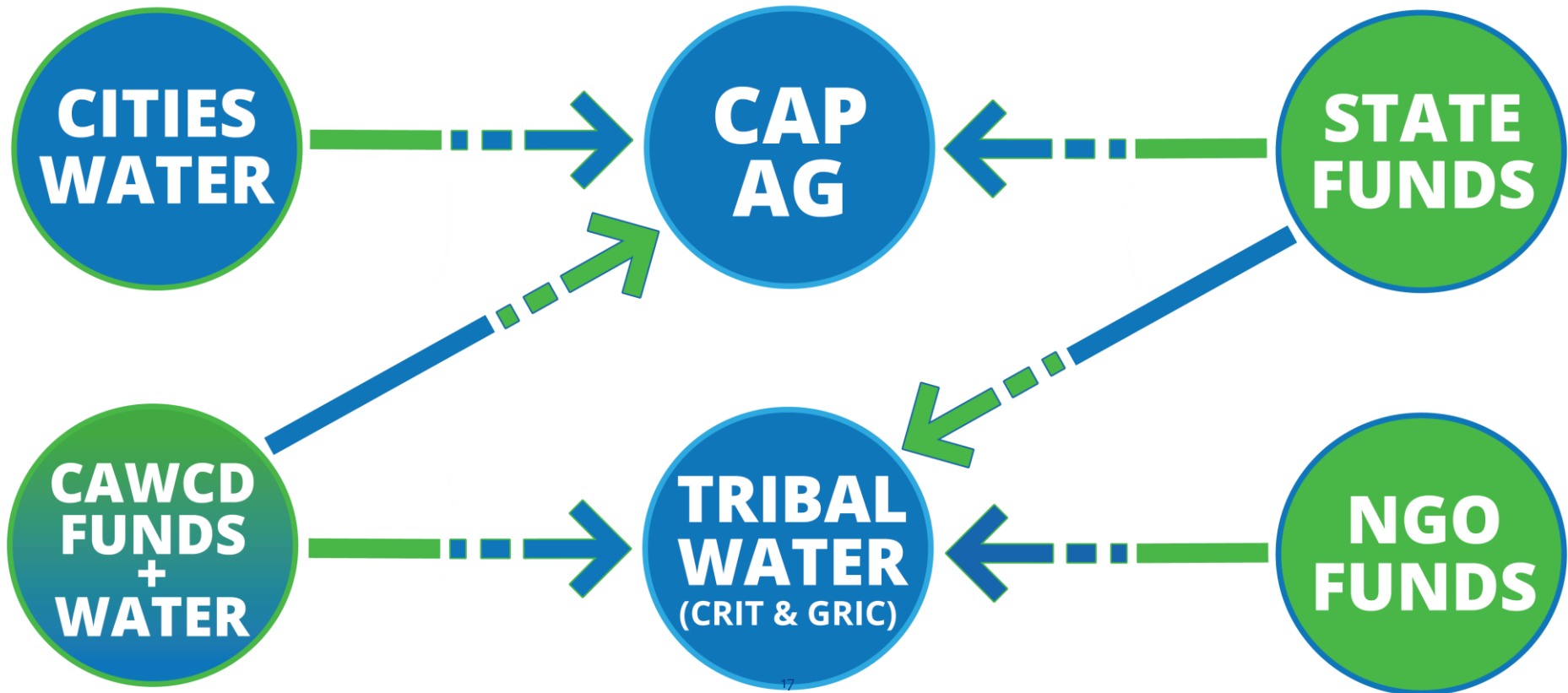


Colorado River Drought Contingency Plan

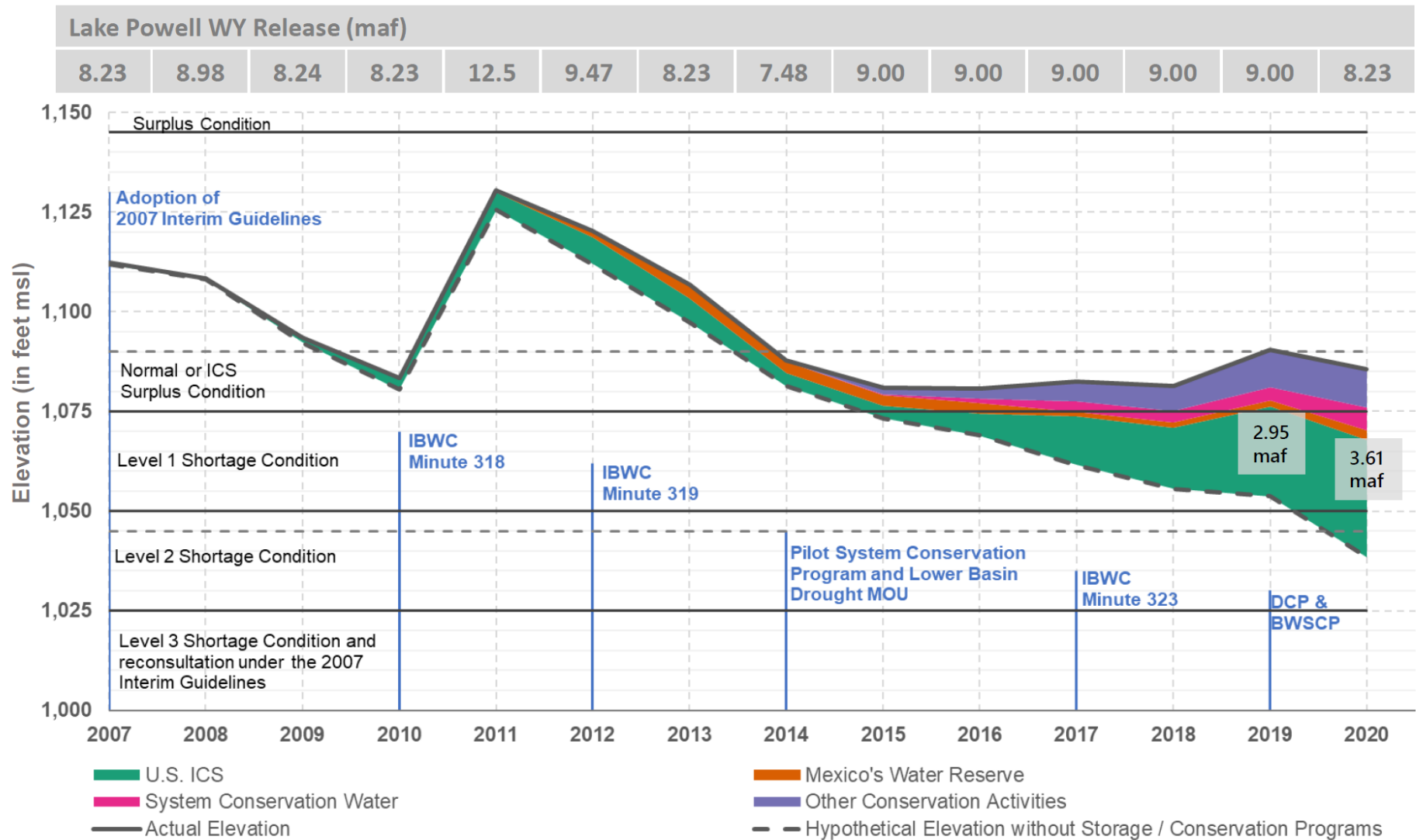
- **March 27 & 28** – Reclamation & Colorado River Basin representatives testified at U.S. subcommittee hearings at the Senate (subcommittee chaired by AZ Sen. McSally) & the House (subcommittee chaired by Rep. Huffman; full committee chaired by AZ Rep. Grijalva)
- **April 8** – Bill passed after announced by Sen. McSally & Rep. Grijalva
- **April 16** – Signed by President Trump
- **May 20** – Signed & finalized by Lower Basin States, Reclamation & Interior



Arizona DCP Implementation Plan



Lake Mead Storage and Conservation

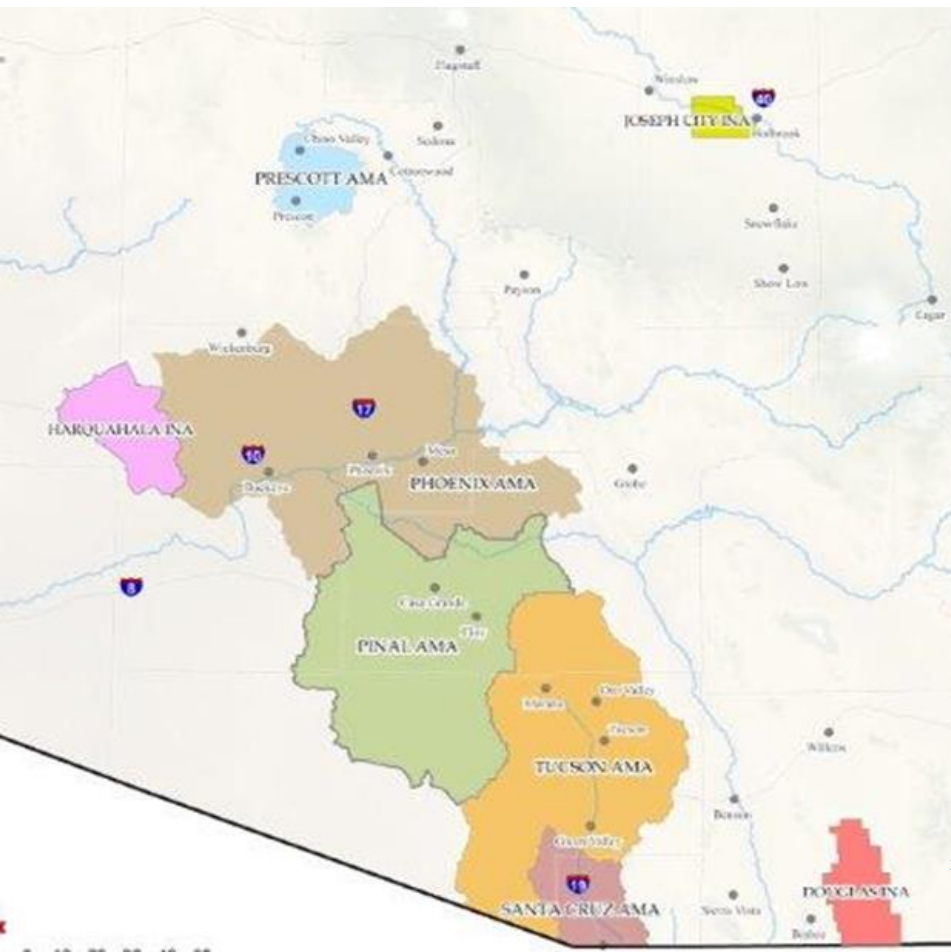


End of calendar year 2020 balances of U.S. ICS and Mexico's Water Reserve, system conservation water, and other conservation left in Lake Mead are provisional and subject to change. The projected end of calendar year 2020 Lake Mead elevation is based on the July 2020 24-Month Study.

Arizona Water Banking Authority

- * Fully utilize Arizona's excess Colorado River water supply
- * Store water in central Arizona to protect municipal Colorado River contractors and subcontractors
- * Assist in fulfilling water management objectives
- * Provide a mechanism for interstate water banking
- * Support Indian water rights settlements
- * Loan credits and provide water banking services for others

Recharge Projects and Storage



- * 111 recharge projects in Arizona
 - 94 USFs and 17 GSFs
 - ~ 13 MAF stored for future use
- * AWBA has used 25 projects
 - 10 USFs and 15 GSFs
 - **4.28 MAF stored for future use (.6 MAF for interstate)**

Arizona's Water Resource Challenges

Driving Forces

- Arizona has been experiencing long-term drought since the mid-90s
- Population & economic growth will increase demand for water

Short-term Challenges

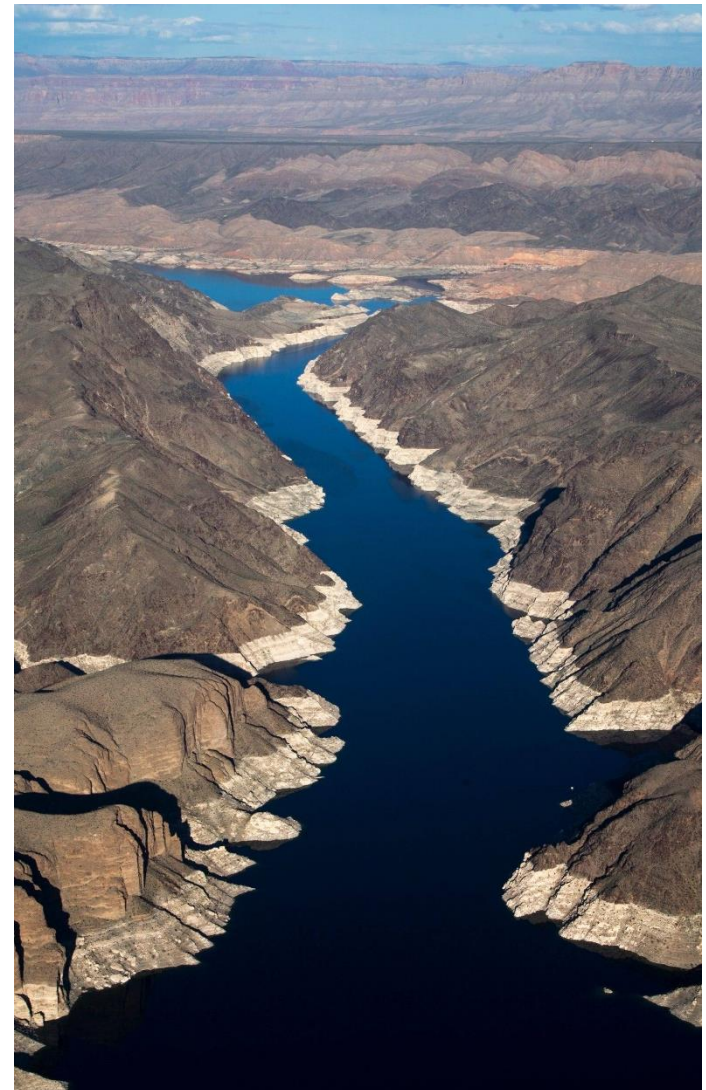
- Risks to Colorado River Supply
 - Shortage on the Colorado River System is likely at some point
 - Recurring Lower Basin Annual Deficit

Medium-term Challenges

- Water resources in rural areas of the state are more stressed
 - Primary water source is groundwater
 - Lack of groundwater regulation
 - Lack of groundwater data
 - Lack the resources to address their issues

Long-term Challenges

- Growing statewide imbalance between existing water supplies and demand projected in the next 25 years and 50 years



Governor's Water Augmentation, Innovation & Conservation Council

GOVERNOR DOUGLAS A. DUCEY

STATE OF ARIZONA

EXECUTIVE ORDER

Executive Order 2015-02

Relating to the Creation of the Governor's Water Augmentation, Innovation, and Conservation Council (Supersedes and Rescinds Executive Order 2015-13)

Whereas, in January of 2014, the Arizona Department of Water Resources released "Arizona's Next Century: A Strategic Vision for Water Supply Sustainability" (Strategic Vision) that identified key priorities, timelines and action items to maintain sustainable water supplies for Arizona into its next century;

Whereas, the Strategic Vision divided the state into twenty-two planning areas and analyzed the water demands and supplies for each and identified strategies for meeting water demands into the future;

Whereas, Arizona Governor Janice K. Brewer established the Governor's Council on Water Supply Sustainability on November 4, 2014 that published an Initial Report on December 31, 2014;

Whereas, the Initial Report recommended that working groups be formed to develop, evaluate and prioritize recommendations and potential partnerships regarding water supply augmentation and water supply infrastructure needs;

Whereas, on October 5, 2015, I, Governor Douglas A. Ducey announced a Water Initiative to implement the Strategic Vision and address the recommendations of the Initial Report through two tracks to insure the certainty of Arizona's water supply into the future.

Whereas, sustainable water supplies are essential to the economic vitality and quality of life for Arizona and its citizens;

Whereas, the proactive measures taken by the State of Arizona have resulted in a current state of resiliency with respect to its water supplies;

Whereas, it is important for the work of the Governor's Water Initiative to be continued and expanded upon through the creation of a new Council with a long-term focus on water augmentation, innovation, and conservation; and

Whereas, given the importance of sustainable water supplies to Arizona and policy decisions that must be made, members of the Arizona Legislature should serve on the Council in addition to individuals appointed by the Governor.

NOW, THEREFORE, I, Douglas A. Ducey, Governor of the State of Arizona, by virtue of the authority vested in me by the Constitution and laws of the State of Arizona, hereby order as follows:

- recommend opportunities for water augmentation, innovation, and conservation.
- The Council shall continue the work of the Governor's Water Initiative to investigate long-term water augmentation strategies for the state. In addition, the Council shall investigate strategies for water innovation and conservation.
- The Council shall assess the long-term impacts of conservation projects funded with monies from the augmentation and conservation assistance fund established pursuant to A.R.S. § 45-615(1) and report on those impacts in its annual report required under paragraph 11 of this Executive Order.
- The Council shall meet quarterly.
- The Council shall consist of the Speaker of the House of Representatives, the President of the Senate, House Minority Leader and Senate Minority Leader or their legislative designees. The Council shall additionally consist of individuals appointed by the Governor who shall serve at the pleasure of the Governor. Organizations currently represented on the Governor's Water Augmentation Council shall continue to serve on the Council, and members representing those organizations may continue to serve without the need for new appointment.
- The director of the Arizona Department of Water Resources shall serve as the Chair of the Council.
- The Arizona Department of Water Resources shall provide staffing and technical support to the Council.
- The Council shall consider the need to create additional working groups and, if formed, Council members shall serve on working groups that may also include non-Council members.
- The Council shall consider a communication plan for the State to accurately convey the status of its water supply resiliency and its efforts to maintain that status moving forward.
- The Council shall prepare an annual report and submit it to the Speaker of the House of Representatives, the President of the Senate, House Minority Leader and Senate Minority Leader and the Governor by July 1, 2020 and by July 1 every year thereafter.
- The annual report shall describe the activities and the recommendations of the Council.
- Executive Order 2015-13 is hereby superseded by this Order and Executive Order 2015-13 is rescinded.

IN WITNESS WHEREOF, I have hereunto set my hand and caused to be affixed the Great Seal of the State of Arizona.

GOVERNOR

DONE at the Capitol in Phoenix on this 31st day of January in the year Two Thousand and Nineteen and of the Independence of the United States of America the Two Hundred and Forty-Third.

ATTEST:

Secretary of State



- Jan. 31, 2019 - Governor Ducey formed the Governor's Water Augmentation, Innovation and Conservation Council (GWAICC)
- Investigates long-term augmentation, and strategies for conservation and innovation in pursuit of more sustainable water supplies
- Chaired by ADWR Director, includes 38 members appointed by the Governor, plus 4 legislators
- The Council meets quarterly at ADWR, all meetings are open to the public.



Governor's Water Augmentation, Innovation & Conservation Council Committees

Post-2025 AMAs Committee: Identify water management challenges facing the AMAs and propose strategies to address them

Non-AMA Groundwater Committee: Better understand Arizona groundwater challenges in rural non-AMA areas; Identify and develop alternatives to address groundwater issues

Desalination Committee: Investigate desalination opportunities within the state to augment the state's water supplies

Long-term Augmentation Committee: Investigate weather modification, watershed management, recharge, storage, and other types of augmentation

Questions?

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