Glen Canyon Dam
Adaptive Management Work Group
August 20, 2020

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Arizona Department of Water Resources
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

36% Colorado River

21% In-State Rivers

40% Groundwater

3% Reclaimed Water

Source: ADWR, 2018
Arizona’s Water Use By Sector

- **Municipal Use**: 21%
- **Agricultural Use**: 74%
- **Industrial Use**: 5%

Source: ADWR, 2018
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
• 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
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
• 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
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.

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Wyoming
14.00%

Colorado
51.75%

Utah
23.00%

New Mexico
11.25%

Arizona Upper Basin
50,000 AF

Lee Ferry
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

AZ’s Colorado River Mainstem Entitlements

- Priority 4 (including CAP)
- Priority 2 & 3
- Priority 1

Mainstem average CU ≈ 1.2 maf

CAP Delivery Priority

CAP Priority Pools

- Other Excess
- Ag Pool 300,000
- NIA Priority 364,698
- Indian Priority 343,079
- M&I Priority 638,823
- Priority 3 68,400

CAP average deliveries ≈ 1.6 maf

Arizona has 86 Section 5 Contractors, including CAP
Approximately 20 contractors have entitlements greater than 10,000 AF
CAP Long term Contract total – 1,415,000
### 2007 Guidelines

- **Indian Priority**
- **M&I Priority**
- **Priority 3**
- **NIA Priority**
- **Ag Pool**
- **Other Excess**

### 07’ Guidelines + LBDCP

- **Indian Priority**
- **M&I Priority**
- **Priority 3**
- **NIA Priority**
- **Ag Pool**
- **Other Excess**

**Acre Feet**

- 0
- 200,000
- 400,000
- 600,000
- 800,000
- 1,000,000
- 1,200,000
- 1,400,000
- 1,600,000

- **192,000 (T zero)**
- **512,000 (T1 + 192k)**
- **592,000 (T2 + 192k)**
- **640,000 (T2 + 240k)**
- **720,000 (T3 + 240k)**

**Legend**

- T1
- T2
- T3
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

- **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
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
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

- 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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