The Arizona Water Banking Authority
Preparing for Shortages on the Colorado River

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Water Resources Research Center
Seminar Series
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Outline

• Introduction
  ▪ The Colorado River
  ▪ Terminology
  ▪ Commission and inter-agency support
• Water storage and long-term storage credit location
• Long-term storage credit purchase
• Water by recipient and fund
  ▪ Central Arizona Project municipal and industrial subcontractors
  ▪ Fourth priority on-River users
  ▪ Tribal
  ▪ Nevada
• Conclusion
• ADWR career opportunities
THE COLORADO RIVER

Introduction

Priority 1
Priority 2
Priority 3

Priority 4: on-River

Priority 4: CAP

Indian priority

M&I subcontractors
NIA water
Ag pool
Excess water

Photo 1. Lake Mead | 2023

Photo 2. Central Arizona Project Canal | Somewhere in Arizona 2022 | Credits: Brian F. O’Neill

Not a full complete legal analysis
managed aquifer recharge
replenishment
artificial aquifer recharge
anthropogenic aquifer recharge
recharge
aquifer recharge
aquifer storage and recovery
recharge and recovery
aquifer storage
water banking
Established in 1996 to store unused portion of Arizona’s Colorado River entitlement

Provides backup supplies (firming) in times of shortage for certain Fourth Priority Colorado River users and Nevada

Inter-agency support
- Arizona Department of Water Resources
- Central Arizona Water Conservation District (CAWCD/CAP)
Introduction

Figure 1. Managed Aquifer Recharge in Arizona (Bernat, 2020)

Bernat, 2020 | Global Change in the Sun Corridor Megaregion: Managed Aquifer Recharge Planning Tools in the Central Arizona Desert, USA | 2021 UNESCO Conference
Figure 2. Locations of facilities with AWBA long-term storage credits
Figure 3. AWBA LTSC Interactive Map
Long-Term Storage Credits Purchases by the Arizona Water Banking Authority

- Indian Communities AK-CHIN INDIAN COMMUNITY (Phoenix AMA)
- Indian Communities AK-CHIN INDIAN COMMUNITY (TUCSON AMA)
- Indian Communities TOHONO O’ODHAM NATION
- Investment Firm ACTIVE RESOURCE MANAGEMENT, L.L.C.
- Municipalities CITY OF PEORIA
- Municipalities CITY OF SURPRISE
- Municipalities CITY OF TUCSON

Figure 4. Volume of long-term storage credits purchased by the AWBA from 2014 to 2023 in acre-feet (AF)
Figure 5. Direction of sales and purchases, and amount of long-term storage credits traded between governmental entities, municipal water providers, and investment firms, from 1994 to 2016 in the Phoenix AMA (Bernat et al. 2020)


Figure 6. Water credits by recipient and fund in acre-feet (AF)
Water by Recipient and Fund

52 subcontractors in the Phoenix, Pinal and Tucson active management areas

Two recovery methods
- Independent recovery (77%)
- CAWCD recovery (23%)

Stakeholder process to discuss the distribution of long-term storage credits

See April 11 and May 2, 2023 meeting recordings:
https://waterbank.az.gov/meetings

Central Arizona Project Municipal & Industrial Subcontractors
2,329,457 acre-feet Ad Valorem Taxes

Figure 7. Long-term storage credits for CAP M&I subcontractors
Water by Recipient and Fund

Figure 8. Long-term storage credits for fourth priority M&I mainstem contractors

Priority 4
Municipal & Industrial Mainstem Contractors 403,830 acre-feet General Fund Appropriations

• AWBA/Mohave County Water Authority
  
  2010 Amended Agreement to Firm Future Supplies

• Exchange and Recovery: CAWCD/ Mohave County Water Authority
  
  2005 Amended Exchange Agreement

• Enter into agreements with other fourth priority M&I mainstem contractors
  
  2010 Resolution
Many Tribal Firming Agreements

Credits for the Gila River Indian Community:

- Long-term storage credits
- Firming credits
- Intentionally Created Surplus firming credits

AWBA obligation to the Gila River Indian Community during shortages:

- 2022: AWBA extinguished 6,680 AF of firming credits
- 2023: AWBA will extinguish 14,575 AF of firming credits
Water by Recipient and Fund

Figure 10. Long-term storage credits for Nevada

- AWBA stored CAP water on behalf of Nevada
  
  2013 Third Amended Water Banking Agreement
  Storage & Interstate Release Agreement

- Exchange, and recovery by CAWCD:
  
  2010 Recovery Agreement Among AWBA, CAWCD, Southern Nevada Water Authority and Colorado River Commission of Nevada
  
  Agreement for the Development of Intentionally Created Unused Apportionment

Nevada 613,846 acre-feet

Southern Nevada Water Authority
Conclusion

- The AWBA has accrued over 3.7 million AF of water credits to help safeguard Arizona against shortages

- With shortages on the Colorado River, the AWBA has been preparing to distribute water credits
  - Began providing water credits to the Gila River Indian Community (2022, 2023)
  - Started a stakeholder process to discuss water credit distribution for Central Arizona Project municipal and industrial users

Learn more:
- Read the AWBA 2023 Plan of Operation
- Go to the AWBA website and sign up to receive updates from the AWBA
ADWR Career Opportunities

- **Master’s degree:**
  - Hydrogeologist 2  
    Hydrology Division/Groundwater Modeling Section
  - Hydrogeologist 2  
    Hydrology Division/Field Services Section
  - Water Resources Specialist 2  
    Compliance Enforcement
  - Water Resources Specialist 2  
    Groundwater Users Advisory Group Coordinator
  - Water Resources Specialist 2  
    Water Planning Division/Surface Water Section

- **Bachelor’s degree:**
  - Hydrogeologist 1  
    Field Services
  - Application Developer

Apply here
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