

# Central Arizona Project

Annual Report - 2048



**CAP** Celebrating 80 Years  
CENTRAL ARIZONA PROJECT

# About CAP

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- **3 county service area**
- **Population 11.5+ million**
- **18 member Board of Directors**
  - **10 - Maricopa County**
  - **4 - Pinal County**
  - **4 - Pima County**
- **Board member votes are weighted**
  - **1.8 for Maricopa, 1.0 for Pinal and Pima**

# Groundwater Management

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- **Phase-out of grandfathered groundwater use in AMAs almost complete**
  - **Required by 5<sup>th</sup> Management Plan**
  - **Groundwater mining down to about 50,000 acre-feet annually**
- **Corresponding increase in CAP use, particularly for annual storage and recovery**

# Conjunctive Management

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- **Conjunctive management of SRP/CAP systems optimizes combined yield**
- **SRP now able to provide 750,000 AF of assured water supply due to:**
  - **Long-standing weather modification programs on Salt River watershed**
  - **SRP service area fully urbanized, except for restricted Ag lands**

# Conservation & Reuse

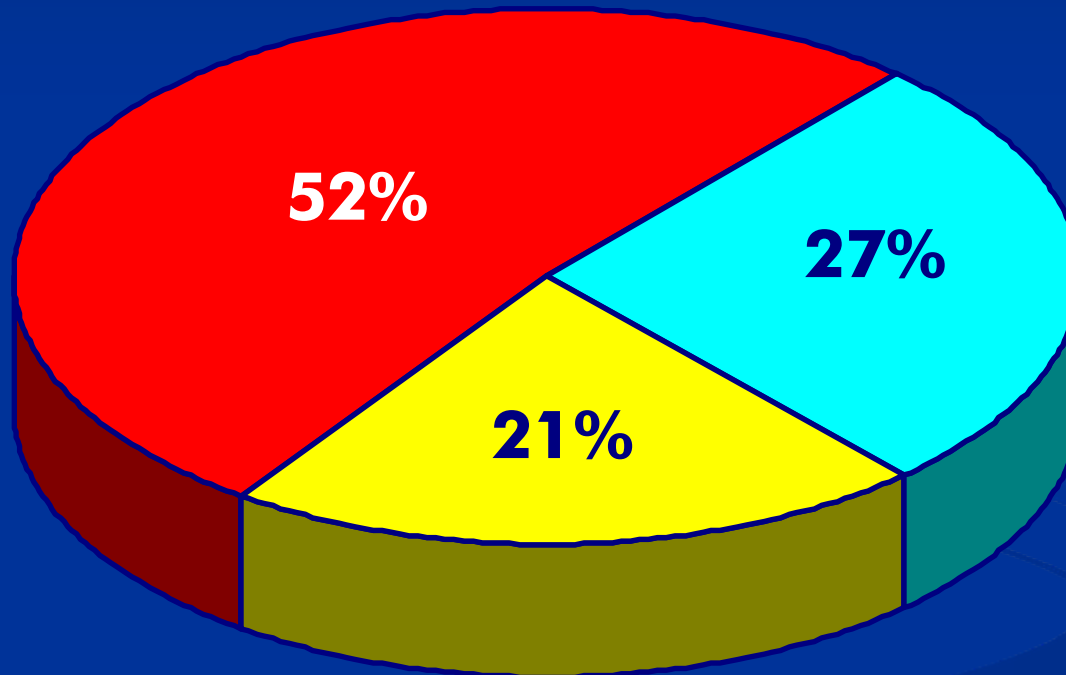
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- Consolidated GPCD rate dropped 5% over the past 40 years
- Recapture rate up to 35%
- 40% of reclaimed water is reused

# 2048 CAP Deliveries

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Total = 1.8 million acre-feet



■ CAP M&I    ■ CAP Indian    ■ ADD Water

# CAP Customers

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- **1.415 MAF delivered under long-term CAP contracts and subcontracts**
  - **483,000 AF used on-reservation**
  - **932,000 AF used by M&I**
- **385,000 AF delivered to ADD Water contractors**
  - **CAP now has more than 80 ADD Water contractors, including almost all CAP M&I subcontractors**

# CAP Operations

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- Full 3000 cfs CAP design capacity needed to deliver 1.8 MAF
- Because CAP deliveries must be flat across the year, customers are using more annual storage and recovery
  - CAP is base load resource
  - Groundwater used for summer peaking
  - Recharge in shoulder months



# CAP Capacity Issues

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- **Work has begun to expand aqueduct capacity to 3600 cfs, which will enable delivery of up to 2.2 MAF**
- **Much of the work completed earlier to allow CAP to divert and store additional water during surpluses**
- **Anticipate full 3600 cfs needed by 2060 to meet demands**

# CAP Water Supply

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- **CAP water deliveries by source:**
  - **1.46 MAF of Colorado River water under CAP master contract**
  - **40,000 AF produced by Buckeye desalination facility**
  - **60,000 AF produced by Gila Bend desalination facility**
  - **200,000 AF produced by international desalination facility**
  - **40,000 AF from LTSC recovered for Nevada**

# Buckeye Desalting Plant



- Treats brackish groundwater
- Sustainable supply
- Operating since 2020
- Water delivered to CAP and CAGR customers in west valley

# Gila Bend Desalting Plant

- Treats brackish groundwater
- Sustainable supply
- Operating since 2040
- Water delivered via pipeline to Rainbow Valley and Maricopa





# International Desalting Plant



- Located on Gulf of California in Sonora
- Aqueduct transports water to Imperial Dam
- Modular design—80,000 AF per module
  - California/Nevada now using 5 modules
  - CAP currently has 3 modules
  - 1 module supplies water for rural Arizona

# Other Water Supplies

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- Under arrangements with State Land, Phoenix and other landowners CAP can import 150,000 AF of groundwater from Butler, McMullen and Harquahala Valley annually
- CAP has elected to use this solely as a reserve supply

# Shortage History

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- Colorado River yield increased to 15.5 MAF by weather modification
- Only 3 shortage declarations so far, only 1 lasting more than 2 years
  - Shortages of 2018-2019 and 2025 did not impact CAP M&I users
  - Extended drought of 2030's, which also hit Salt River system, led to 5 consecutive years of shortage

# Drought Response

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- **CAP customers reduced demand through improved conservation**
- **CAP made up shortfall using:**
  - **Dry-year options with on-river Ag users**
  - **CAP-operated recovery wells**
  - **Recovery partnerships with CAP customers**
  - **Imported groundwater**



# AZ-CA-MEX Power Plant

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- **CAP owns 600 MW of nuclear power plant**
- **Co-located with int'l desalting facility on Gulf of California**
- **Provides energy for CAP pumps and desalting plants**
- **Sales of surplus energy help repay CAP capital investments**

# Water Prices

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- **Basic CAP delivery charge (fixed OM&R + energy) topped \$500/AF for the first time in 2048**
- **ADD Water rate is up to \$1500/AF**
  - **Still just \$4.60 per 1000 gallons**

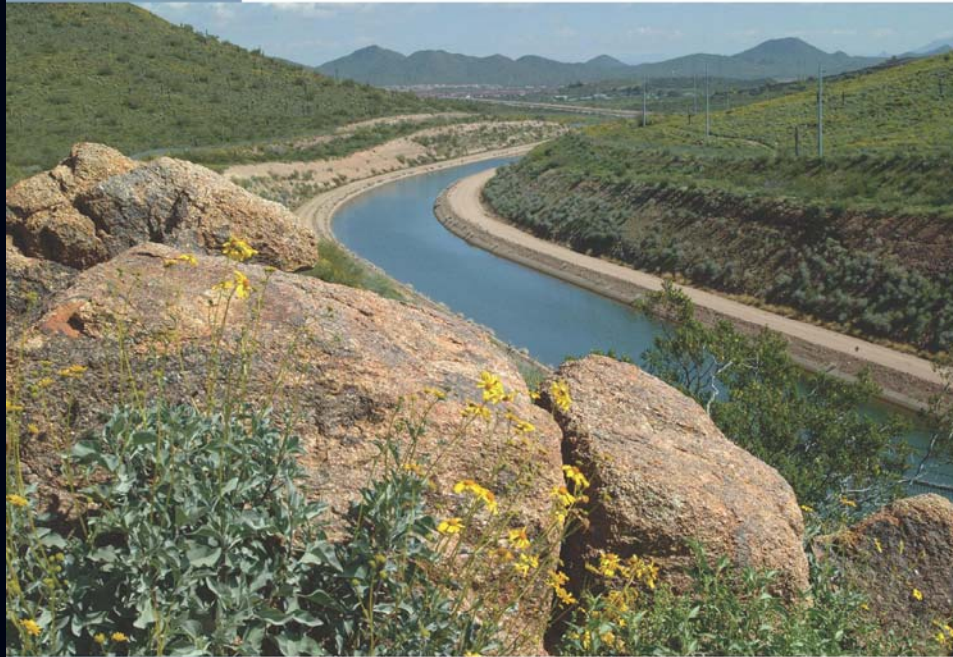
# Environmental Issues

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- **MSCP nearing completion**
  - **Almost 6000 acres of new cottonwood-willow habitat created along lower river**
  - **Native fish making comeback**
    - **Introduction of aggressive strain of Colorado River pikeminnow controlling non-natives**
    - **USFWS & AGFD now prohibited from stocking non-natives**

THE UNIVERSITY OF ARIZONA.

Water Resources Research Center  
College of Agriculture and Life Sciences



The University of Arizona



## The Importance of the Colorado River to Arizona's Future

June 24, 2008  
Phoenix, Arizona

