

# Statewide Water Issues



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**ADWR**

**October 2006**

# Water Supply of Arizona

**Colorado River**  
**2.8 MAF**

**Groundwater**  
**2.9 MAF**

**Salt River**  
**1 MAF**

**Gila River**  
**0.4 MAF**



# Arizona Water Supply Annual Water Budget

Water Source	Million Acre-Feet (maf)	% of Total
<b>SURFACE WATER</b>		
<b>Colorado River</b>	<b>2.8</b>	<b>35.6 %</b>
<i>CAP</i>	<b>1.6</b>	<b>21%</b>
<i>On-River</i>	<b>1.2</b>	<b>16%</b>
<b>In-State Rivers</b>	<b>1.4</b>	<b>17.8%</b>
<i>Salt-Verde</i>	<b>1.0</b>	<b>13%</b>
<i>Gila &amp; others</i>	<b>0.4</b>	<b>5%</b>
<b>GROUNDWATER</b>	<b>2.9</b>	<b>36.8%</b>
<b>RECLAIMED WATER</b>	<b>0.77</b>	<b>9.8%</b>
<b>Total</b>	<b>7.87 maf</b>	

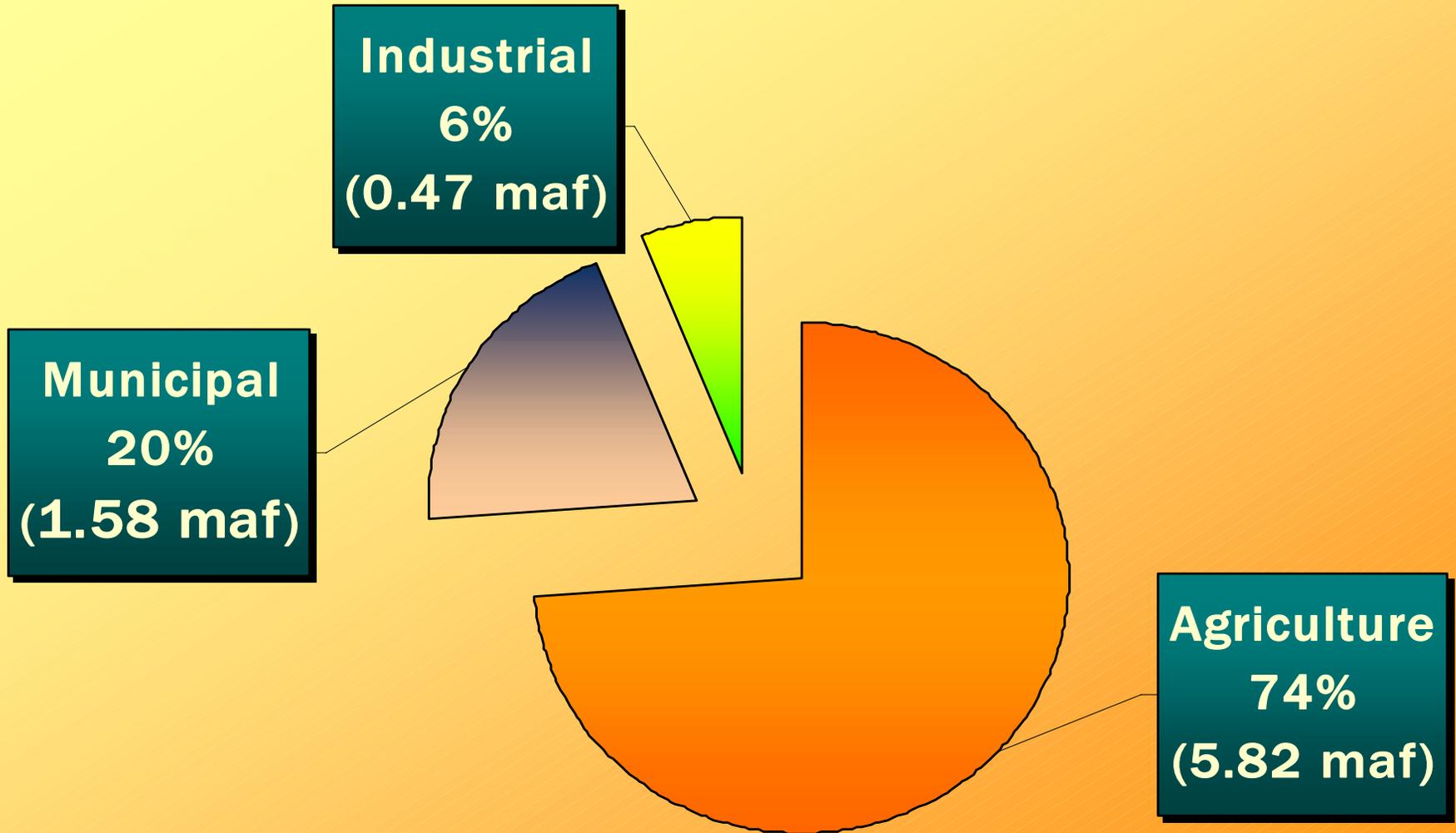
# Water supply – 2005 & 2006

- **Colorado River System**
  - **September 2006 – 57% full**
  - **September 2005 – 59% full**
- **Salt River System**
  - **September 2006 – 68% full**
  - **September 2005 – 82% full**

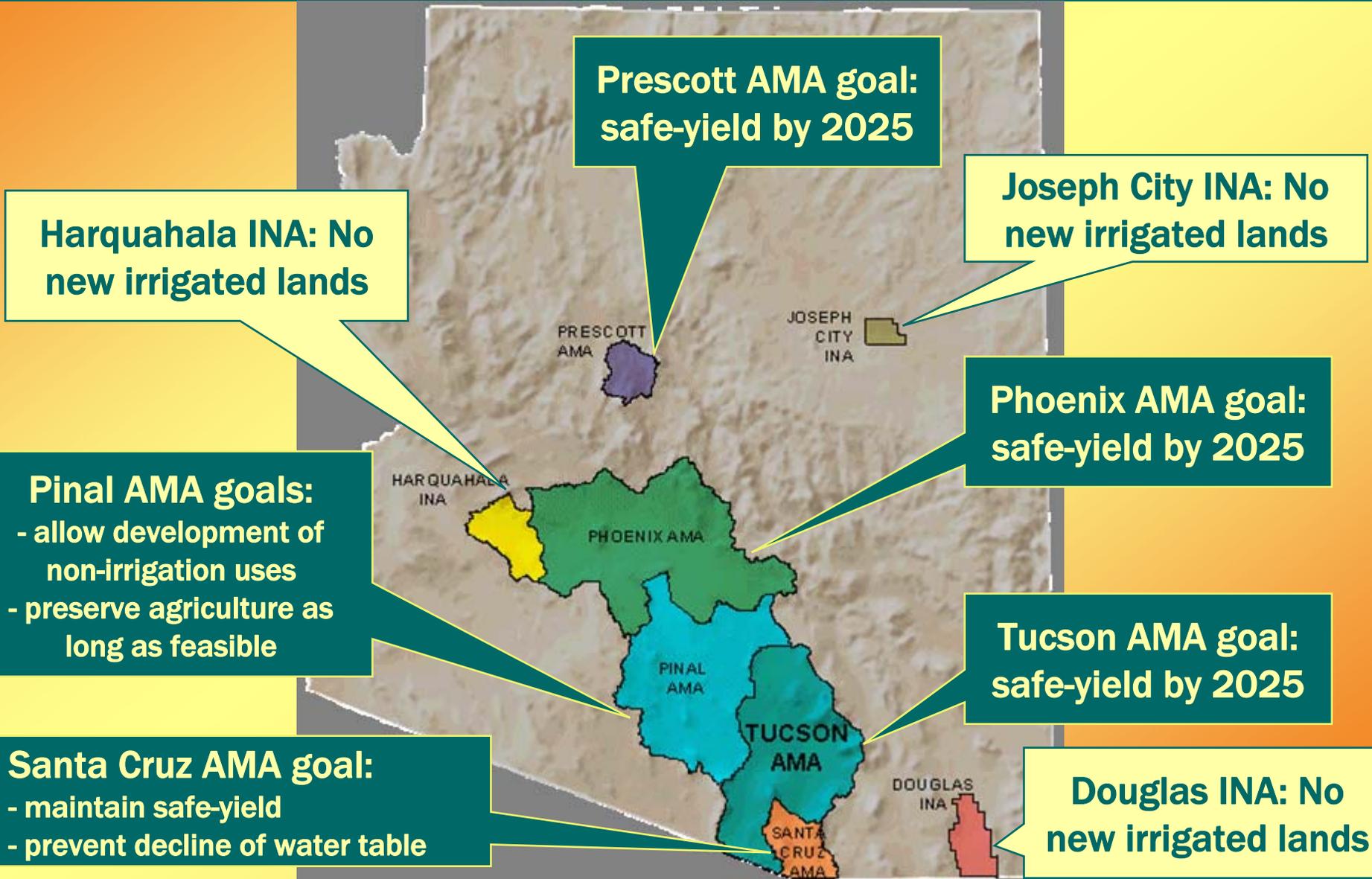
# Arizona Reservoirs & Capacity

<b>Reservoir</b>	<b>Capacity (Million AF)</b>	<b>Status – 9/06 (% full)</b>
<b>Lake Powell</b>	<b>24.5</b>	<b>49%</b>
<b>Lake Mead</b>	<b>25.9</b>	<b>54%</b>
<b>Lake Mohave</b>	<b>1.8</b>	<b>93%</b>
<b>Lake Havasu</b>	<b>0.65</b>	<b>93%</b>
<b>Lake Pleasant</b>	<b>0.81</b>	<b>59%</b>
<b>Horseshoe Lake</b>	<b>0.13</b>	<b>3%</b>
<b>Bartlett Lake</b>	<b>0.18</b>	<b>80%</b>
<b>Roosevelt Lake</b>	<b>1.6</b>	<b>63%</b>
<b>San Carlos Lake</b>	<b>1.3</b>	<b>16%</b>
<b>Apache Lake</b>	<b>0.25</b>	<b>83%</b>
<b>Canyon Lake</b>	<b>0.06</b>	<b>95%</b>
<b>Saguaro Lake</b>	<b>0.07</b>	<b>95%</b>
<b>Alamo Lake</b>	<b>1.05</b>	<b>13%</b>
<b>Reservoir Capacity</b>	<b>58.3 MAF</b>	<b>52.45% full</b>

# Consumption



# Water Management Areas



# **Water Requirement for Developers**

## **Must Demonstrate Water Supply**

### **Within Active Management Areas:**

- **Assured water supply**

### **Outside Active Management Areas:**

- **Adequate water supply**

# Assured Water Supply

## Assured Supply – within AMAs

- Developer must show **100 year supply** before recording plats or selling parcels
- **100 year supply must be physically, legally and continuously available**
- **Without a 100 year supply, no subdivision is authorized**
- **How to prove 100 year supply:**
  - **Obtain Certificate of Assured Water Supply**
  - **Commitment of service from Designated Provider**

# Adequate Water Supply

## Adequate Water Supply – outside AMAs

- Started 1973 as a consumer advisory program
- Before Dept of Real Estate authorizes lot sales:
  - ADWR must receive a hydrology report describing availability
  - Water must be of adequate quantity and quality that is:
    - physically, legally, and continuously available for 100 years
- Proving adequacy:
  - Water availability concurrence from ADWR, or
  - Commitment of service by a Designated Provider
- If NOT adequate:
  - Developer must disclose inadequacy to initial buyers

# Water adequacy determinations

*(outside of AMAs as of 5/05)*

Planning area/basin	Number of lots	% inadequate
Central Highlands	33,255	24%
Eastern Plateau	15,374	33%
Lower Colorado River	31,249	4%
Southeastern Arizona	27,903	22%
Upper Colorado River	60,193	25%
Western Plateau	3,191	43%
<b>TOTAL</b>	<b>171,525</b>	<b>22%</b>

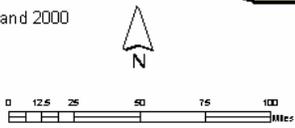
# Concerns

- **Developer with a determination of inadequate water can still develop**
- **An inadequate developer can pump the adequate water from under an adequate developer**
- **Both adequate and inadequate developers can mine groundwater**
- **What happens after 100 years when the groundwater is gone ?**



- Community With 2 - 5% Growth Between 1990 and 2000
- Community With > 5% Growth Between 1990 and 2000

- ▭ Arizona Boundary
- ▭ Groundwater Basin
- ▭ Active Management Areas
- ▭ Central Highlands
- ▭ Eastern Plateau
- ▭ Lower Colorado
- ▭ Southeastern
- ▭ Upper Colorado
- ▭ Western Plateau



## RURAL PLANNING AREAS AND GROUNDWATER BASINS WITH HIGH GROWTH RATE COMMUNITIES

# **Rural Water Management Areas - Concept**

- **Special management areas designed by local partnerships**
- **Local partnerships establish goals and select from an array of tools to accomplish goals**
- **Implemented by special districts locally created and administered**
- **Water supply management and augmentation funded by combination of local taxes, bonds and low interest loans or grants**
- **ADWR provides technical support and oversight**

# **Rural Water Management Areas - Concept**

- Rump group of inclusive stakeholders and water interests design the process and possible legislation.**
- Input from rural stakeholders and rural citizens on draft proposals**
- All findings will be shared with the legislatively established Rural Water Study Committee for their input.**

# Statewide Water Advisory Group - SWAG

- **Purpose**

- **Define rural water issues**

- **Gather input from stakeholders**

- **Cities, towns, counties, large industries, advocacy groups, legislators & the public**

- **Propose solutions**

- **Process**

- **More than 50 representatives have met regularly since May 2006**

- **Take straw proposal to statewide public meetings for public input**

- **Bring public input back to SWAG**

- **Product**

- **List of issues**

- **Straw proposal**

- **Potential legislation**

# List of Issues

- **Representatives from all over Arizona made presentations on local water resource & growth issues**
- **Group agreed to focus on:**
  - **Rural Arizona water issues**
  - **Outcome – develop potential legislation**
  - **Two major topics, to connect:**
    - **Land-use & water planning**
    - **Water-supply development & management**

# Critical Areas of Concern

- **Mohave County** – extensive development planned - limited capacity GW basins with little recharge – need imported water
- **Verde Valley** – continued growth – limited water availability – significant environmental resources – competing interests – senior surface water rights out of area – need imported water
- **Upper San Pedro** – significant environmental resources – sustainable yield goal – continued growth – Arizona's largest military installation – need imported water
- **Mogollon Rim and Coconino Plateau** – limited groundwater – significant growth – need imported water – very expensive alternatives

# Upper San Pedro issues

- Fort Huachuca (#1 economic driver)
- San Pedro Riparian National Conservation Area (SPRNCA)
- Growing population
- 3,500 – 4,000 acre-foot water deficit (*federal law requires sustainability by 2011*)



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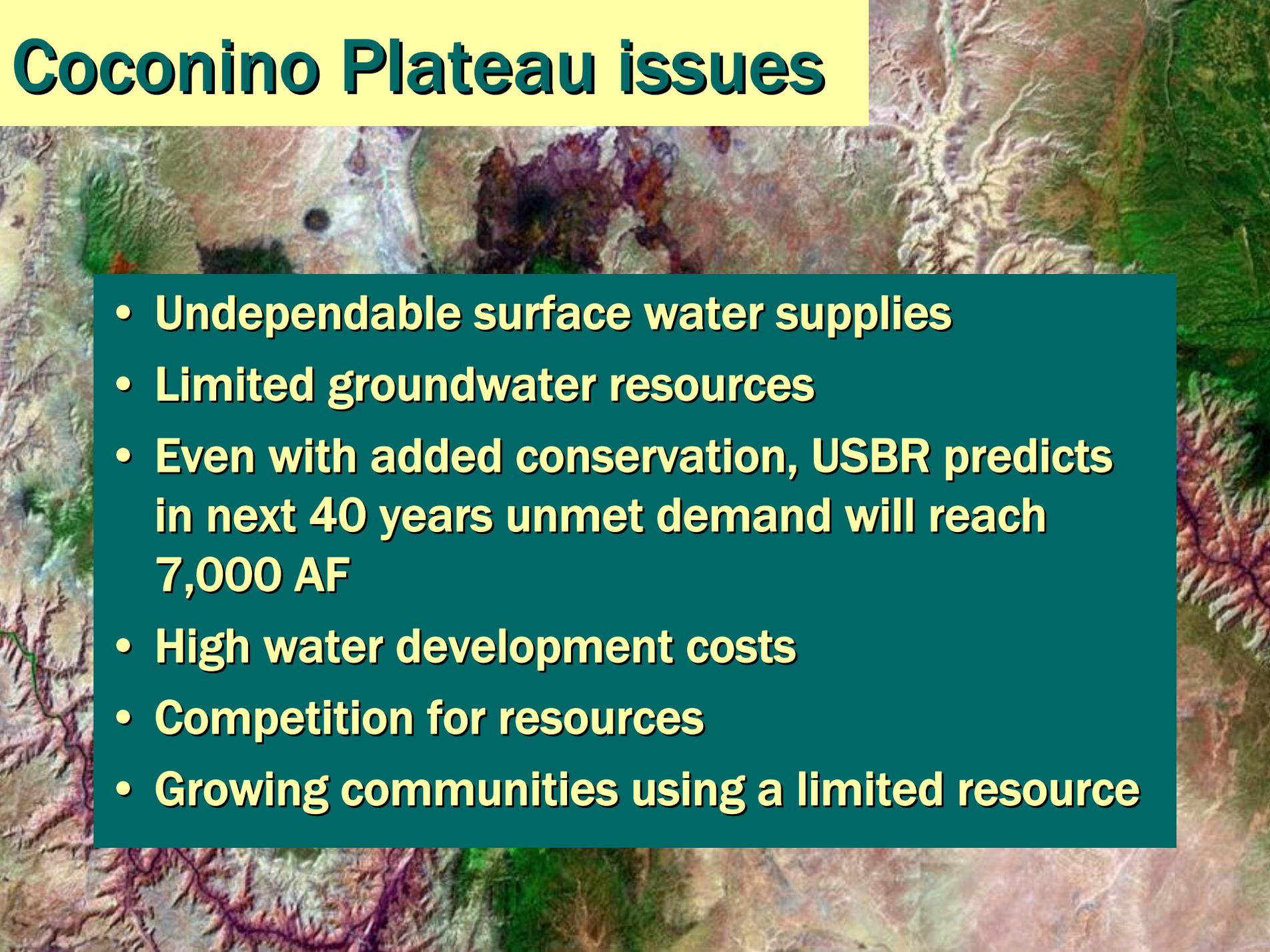
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# Coconino Plateau issues



- **Undependable surface water supplies**
- **Limited groundwater resources**
- **Even with added conservation, USBR predicts in next 40 years unmet demand will reach 7,000 AF**
- **High water development costs**
- **Competition for resources**
- **Growing communities using a limited resource**

# Upper Gila water issues

- **Supply issues:**
  - **Drought**
  - **Undependable surface water supplies**
  - **Quality problems – arsenic, fluoride, turbidity, salinity**
  - **Declining higher elevation water sources**
  - **Invasive non-native trees (tamarisk)**
  - **Growing population and new industry**  
**(new copper mine)**

Safford, AZ



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Streaming ||||| 100%

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# SWAG - Major Topics

- **Growth & Water**
  - **Subdivision adequacy requirements**
  - **County & city authority to approve/deny development based on water supply adequacy**
  - **Exempt wells**
    - **Sustainable water supplies**
    - **Lot splits**
  - **Planning assistance**
    - **Data collection – models**
    - **Water conservation & drought planning**
    - **Future water supplies**

# SWAG - Major Topics

- **Water Supply Development & Management**
  - **Water Resources Development Fund**
    - **Who has access to fund?**
    - **Uses of the funds – (loans, grants, projects)**
    - **Create district to build & manage projects**
    - **Create authority to manage water**
      - **Local district role**
      - **ADWR role**

# Straw Proposal

- 1. Jurisdictions outside AMAs need authority to require adequacy showing prior to development approval**
- 2. Water resources development fund needed**
  - How will it be funded?**
  - All cities, private water companies & other providers may apply for grants**

# Straw Proposal

## **3. A 'pilot' water resource management district is proposed**

- Sierra Vista Subwatershed has volunteered**
- The district may:**
  - Build & manage water projects**
  - Set water management requirements**

# Straw Proposal

## **4. Powers & duties (proposed)**

### **A. Water project**

- 1. Acquire water**
- 2. Construct projects**
- 3. Wholesale water**
- 4. Own & operate facilities**
- 5. Adopt water management goals**
- 6. Collect fees**
- 7. Repay bonds / debt**

# Straw Proposal

## **4. Powers & duties (proposed)**

### **B. Water management**

- 1. Meter wells**
- 2. Annual reports**
- 3. Adequacy standards**
- 4. Permit standards - Well spacing, conservation, new wells, etc.**
- 5. Replenishment**

# Straw Proposal

- 5. Boundaries – hydrologic boundaries**
- 6. Formation – Legislature**
- 7. Governance – several options**
- 8. Funding –**
  - 1. Water sale**
  - 2. User fees**
  - 3. Withdrawal fees**
  - 4. Bonds / debt repayment**
  - 5. State loans & grants**
  - 6. Impact fees**
  - 7. Water replacement fees**

# Straw Proposal

## 9. ADWR role & responsibility

- A. Establish simplified groundwater withdrawal rights within district boundaries
  - 1. Existing rights based on highest use in 5-year period
  - 2. Existing rights may be transferred to new location within pilot district
- B. ADWR receives annual reports & portion of fees for admin purposes

# Straw Proposal

- C. ADWR establishes standards for:**
  - 1. Well permits & withdrawal permits**
  - 2. Groundwater recharge & recovery**
  - 3. Exchange permits**
- D. Transportation of water rights outside of basins subject to existing rules & laws**
- E. ADWR collects hydrologic data and develops groundwater models**

# Straw Proposal

## **10. Straw proposal for water development fund**

- A. State Rural Water Development fund is established and administered by a new agency for projects that cannot be funded by existing sources, such as WIFA**
- B. Primarily a revolving loan fund**
- C. Source: annual general fund appropriation**
- D. Widespread eligibility for funds**

# Related Issues

# Exempt Wells

- **Pumping less than 35 gallons per minute**  
**very limited data on actual water use**
- **Exceptionally large number of exempt wells in Yavapai County – approx. 20,000**
- **Concerns:**
  - **Loophole limiting effectiveness of local control of development**
  - **Promotes development by lot splits, not master planning**
  - **How to include in water budgets and hydrologic models**

# Lot Splits

**Counties, cities & water companies report:**

**Lot splits encourage:**

- **Proliferation of exempt wells and/or**
- **Water hauling, which causes supply & delivery problems**

**Long standing controversial issue**

**SWAG created two subcommittees to further explore:**

- **Lot splits**
- **Exempt wells**

**Meanwhile.....**  
**Protect Existing Water Resources**

# Arizona Navy Lake Havasu Command

LONDON BRIDGE





# Arizona Navy Lake Mead Command

‘Securing Arizona’s  
Water Future’

*ADWR mission*



# Arizona Navy v. California - 1934

## Stop Parker Dam!

### ISSUE:

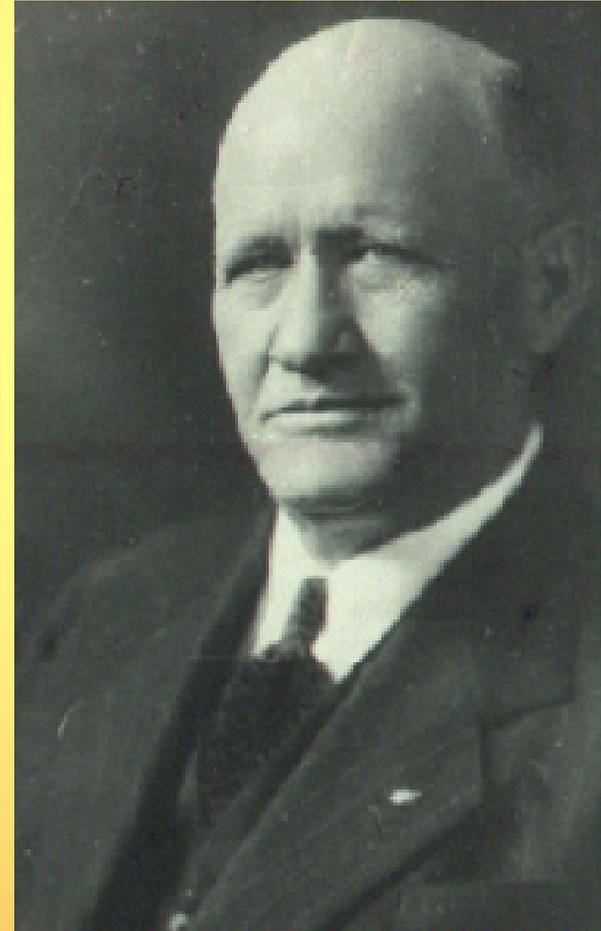
- California had wealth to build huge water delivery systems to farmers and Los Angeles
- Arizona feared it would never get its full Colorado River entitlement

### ACTION:

- Moeur dispatched 60 fully armed Arizona National Guardsmen
- Guardsmen commandeered the “Julia B” paddle wheeler from Parker

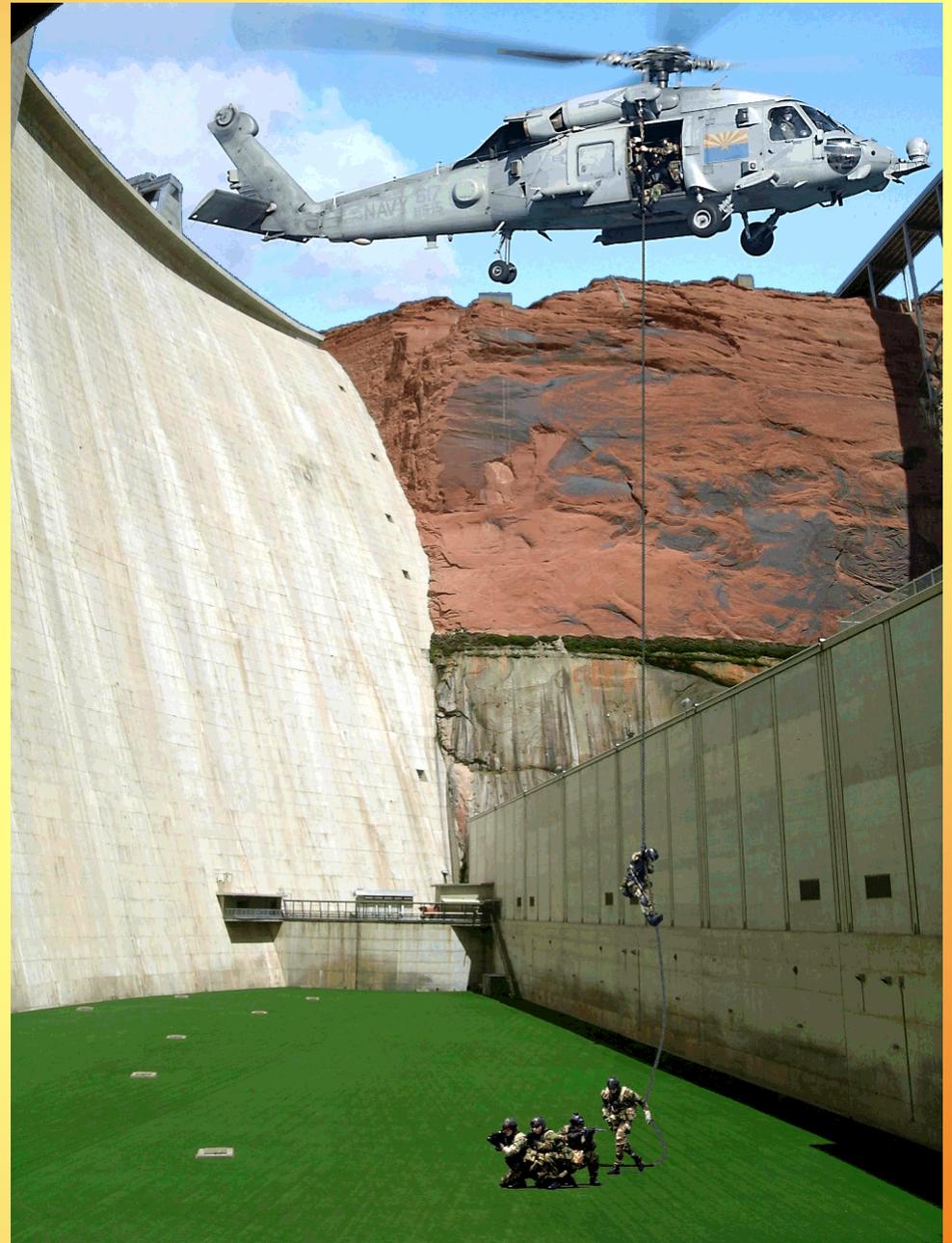
### RESULT:

- Work on Parker Dam was halted until the issue was settled



Arizona Governor  
B. B. Moeur

# Arizona Navy Glen Canyon Dam Special OPS Training





**Lower Basin No-Fly Zone**

