

Water in Arizona



**Roosevelt
Lake
May 2002**

**March
2005**



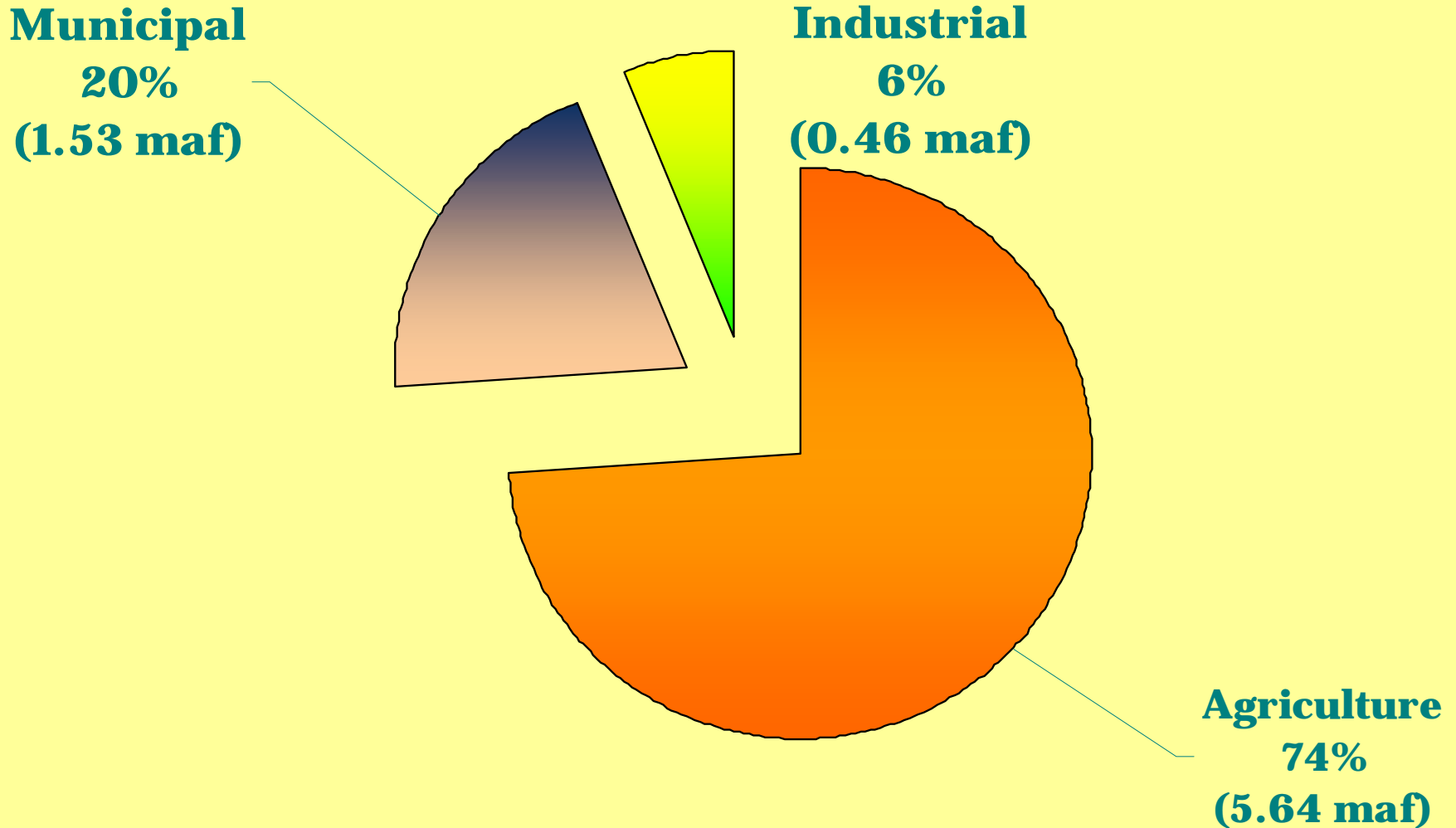
**ADWR
April 2005**

Arizona Water Supply

Annual Water Budget

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

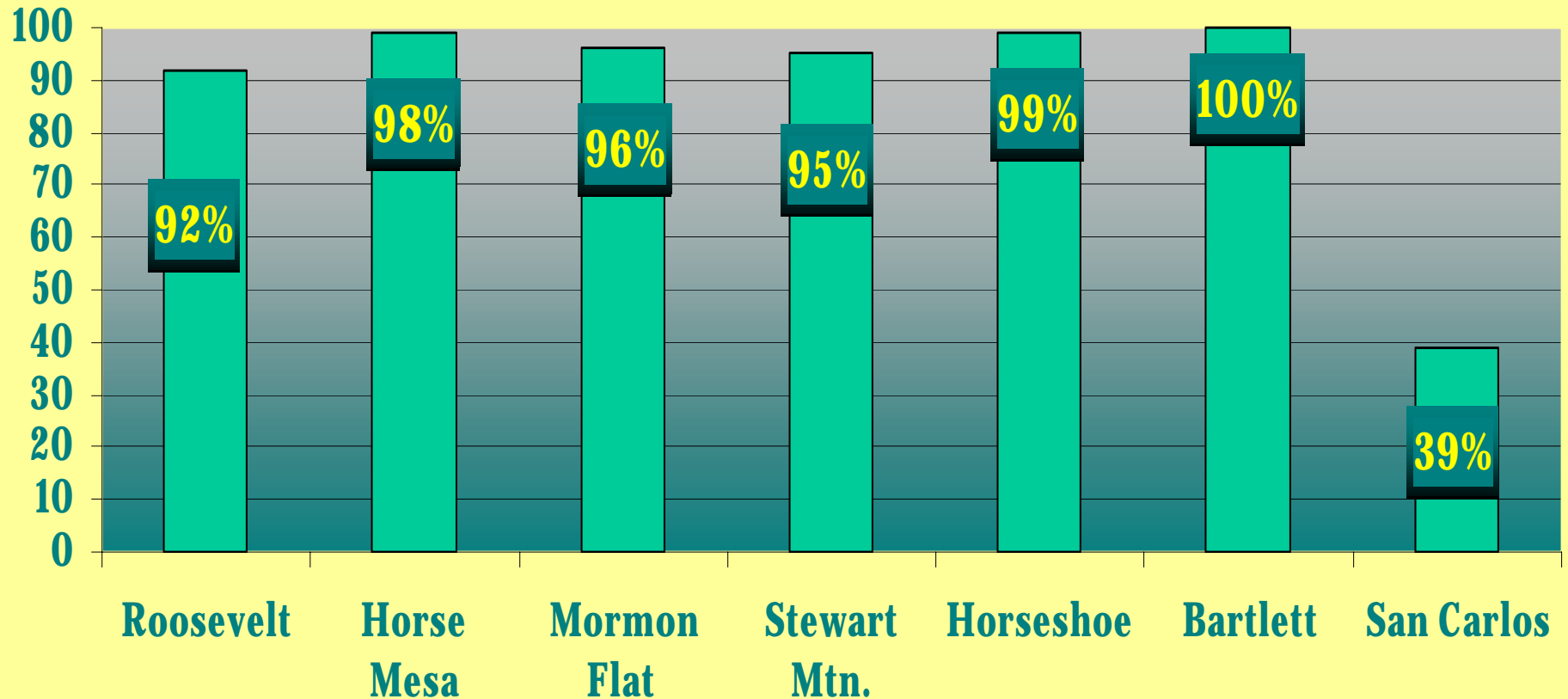
Consumption



Sources: ADWR, UofA, USGS

Central Arizona Reservoirs

April 2005



Colorado River Compact Allocations

Upper Basin (7.5 MAF)

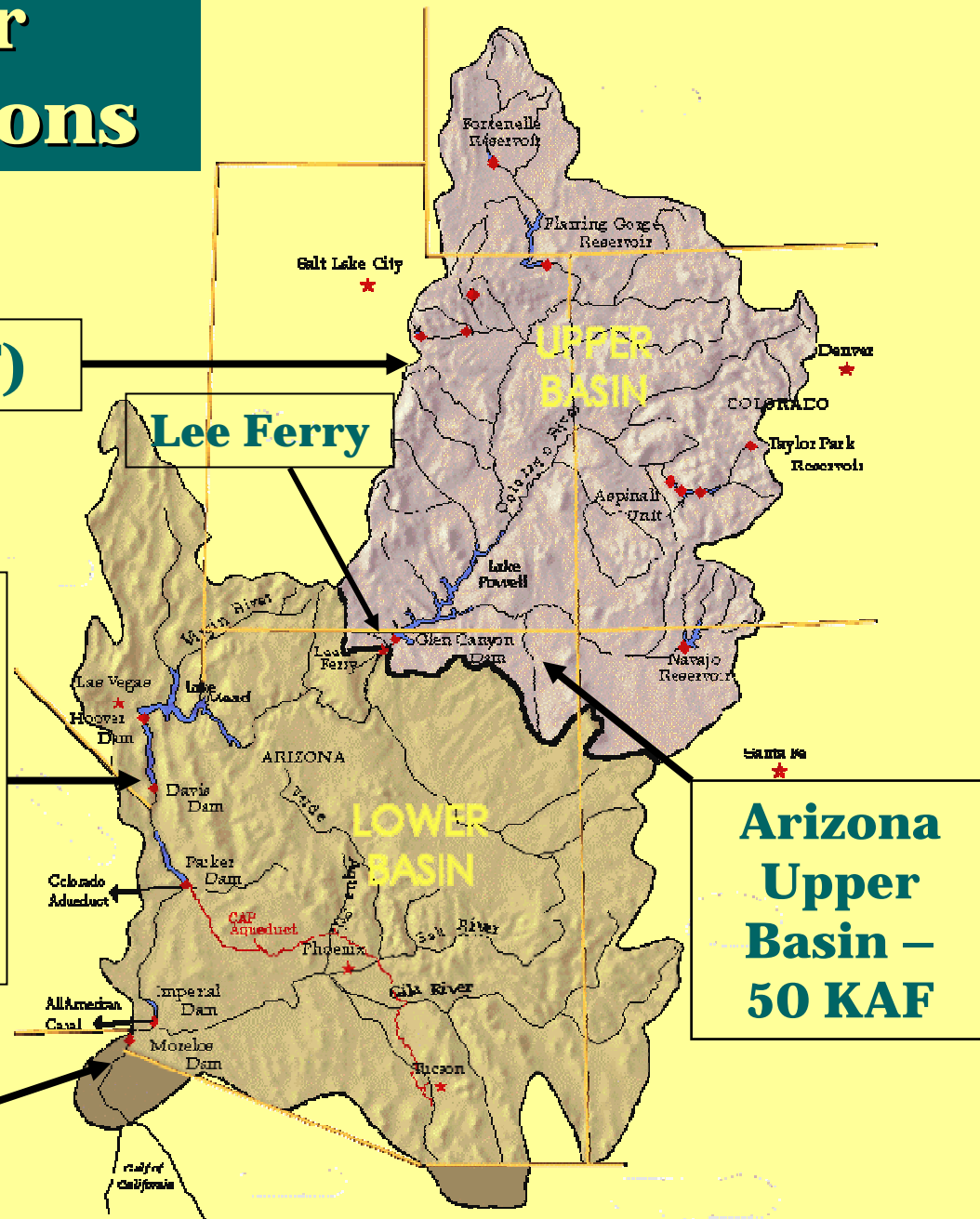
Lower Basin (7.5 MAF)

CA – 4.4 MAF

AZ – 2.8 MAF

NV – 0.3 MAF

Mexico 1.5 MAF



**Arizona
Upper
Basin –
50 KAF**

Lower Colorado Basin

Projected Inflow – April – July '05

8 MAF

101 % of Normal

CURRENT LEVELS:

Lake Powell: 27.00 MAF

• **33% full - 8.02 MAF**

• **Elevation: 3,556'**

Lake Mead: 28.5 MAF

• **63% full – 16.2 MAF**

• **Elevation: 1,148'**

Colo. River: 64.5 MAF

'05 – 53% - 31.2 MAF

'04 – 54% - 31.8 MAF



Source: USBR 03-31-05

Colorado River Compact 1922

Divided Colorado River into Upper and Lower Basins at Lee Ferry

- Upper Basin allocation – 7.5 MAF**
- Lower Basin allocation – 7.5.MAF**
 - Lower Basin – option for additional 1 MAF**
- Arizona only state to NOT ratify Compact (until 1944)**

Boulder Canyon Project Act 1928

- **Colorado River Compact became law with:**
 - **Ratification by six other Basin states, and**
 - **California Self Limitation Act – 4.4 MAF**
- **Authorized construction of:**
 - **All-American Canal and**
 - **Hoover Dam and power plant**

Other Colorado River highlights

- **Mexican Treaty – 1944**
 - Annual delivery – 1.5 MAF
- ***AZ v. California* – 1964 - U.S. Supreme Court apportions Lower Basin:**
 - California - 4.4 MAF + 50% of all surplus
 - Arizona - 2.8 MAF + 46% of surplus
 - Nevada - 300,000 AF + 4% of surplus
- **Colorado River Basin Project Act – 1968**
 - Authorized CAP construction

Upper – Lower Basin Issues

A. 1944 Mexican Treaty requires U.S. to deliver 1.5 MAF to Mexico annually

- **Arizona perspective:**

- 1922 Compact requires Upper Basin to deliver one-half of 1.5 maf Treaty obligation
- Why? Deficiency in Article III (c) of Compact

- **Upper Basin perspective:**

- UB has NO obligation to deliver one-half of Treaty obligation
- Why? No deficiency exists in Article III (c) of Compact

Upper – Lower Basin Issues

B. Minimum objective release from Lake Powell must be 8.23 MAF to comply with 1922 Compact and 1944 Treaty

- **Arizona perspective:**
 - **8.23 MAF * reflects Upper Basin's Compact obligation to:**
 - **Deliver 75 MAF (7.5 MAF / year) over 10 years, plus**
 - **One-half of Treaty obligation (0.75 MAF)**

** Reflects 20,000 AF from Paria River delivered below Lee Ferry*

- **Upper Basin perspective:**
 - **MOR should be 7.48 MAF ***
 - **Why? Upper Basin has no obligation to deliver one-half of Treaty obligation**

** Reflects 20,000 AF from Paria River delivered below Lee Ferry*

Upper – Lower Basin Issues

C. Should the Upper Basin share in Arizona's tributary surplus flows to reduce its obligation under the Compact and Treaty?

- **Arizona perspective:**
 - **NO**

- **Upper Basin perspective:**
 - **YES**

Colorado River Usage –

Forecast for Calendar 2005 *(March 2, '05)*

ARIZONA	2.43 MAF
CAP	1.3 MAF
Others	1.13 MAF
CALIFORNIA	4.25 MAF
MWD	577,000 AF
Agricultural Districts	3.65 MAF
Others	26,000 AF
NEVADA	293,000 AF
S. Nevada Water System	242,000 AF
Others	51,000 AF
<i>TOTAL LOWER BASIN</i>	<i>6.973 MAF (USBR)</i>

Colorado River

Critical Periods with Low Flows

Years	Duration	Avg. Flow
1930 – 1940	11 years	12.7 maf
1953 – 1964	12 years	11.6 maf
1974 – 1977	4 years	11.2 maf
1988 – 1992	5 years	10.2 maf
2000 – 2004*	5 years	10.2 maf

* 2004 projected

COLORADO FLOWS

(Source: University of Arizona)

Historic Data – *(University of Arizona research)*

Estimated past flow averages:

- **Legally Allocated** – 16.5 maf
- **Tree rings, Upper Basin, 1512-1961** – 13.5 maf
- **Isotopes, Delta clams, 1500-1950** – 12.5 maf
- **Lowest 20-year average, 1579-1598** – 10.95 maf

LOWER BASIN POPULATION

(Sources: US Bureau of Census, NV state govt.)

California	2005	2020
Total So. Cal.	21,264,500	25,909,900
<i>Total California</i>	<i>37,473,500</i>	<i>45,821,900</i>
Arizona	5,553,849	7,363,604
Nevada	2,403,097	3,046,846
Total	29,221,446	36,320,350

Colorado River Issues

- **Shortage Planning**
 - **5 In-State Workshops in 2005**
- **Negotiations with Other Basin States**
- **Multi-Species Conservation Program**
- **Groundwater & Wells**
 - **Accounting Surface**

Colorado River Reliability

- **Annual Operating Plan – Water use**
 - **Mid-year Review**
 - **Shortage Criteria**
- **Current Reservoir Status**

ADWR Budget – FY '06

	Governor's	Legislative	Difference from Governor
Base Operating	\$14.2 M	\$14.2 M	-\$0-
Restore GF Approps	\$1.76 M	\$1.55 M	(\$0.21 M)
Water Cons., Drought, Rural	\$1.5 M	\$0.7 M	(\$0.8 M)
Staff Restoration	\$0.88 M	-\$0-	(\$0.88 M)
Rural Water Studies	\$0.7 M	\$0.7 M	-\$0-
Rent/Risk Adj.	\$0.16 M	-\$0-	(\$0.16 M)
TOTALS	\$18.32 M	\$17.15 M	(\$1.17 M)

Recent ADWR Changes

- **Tom Carr, AD Statewide Conservation and Strategic Planning**
- **Mark Frank, from Phoenix AMA area director to acting AD, Water Management**
- **Jack McCormack – to acting Prescott AMA area manager**
- **ADWR moving to N. Central Ave. – Sept. '05**



Lake Mead Northern Command

**‘Securing
Arizona’s Water
Future’**

- ADWR mission



Glen Canyon SEALs

