


# To Kill a Shortage: Targeting Augmentation and Conservation

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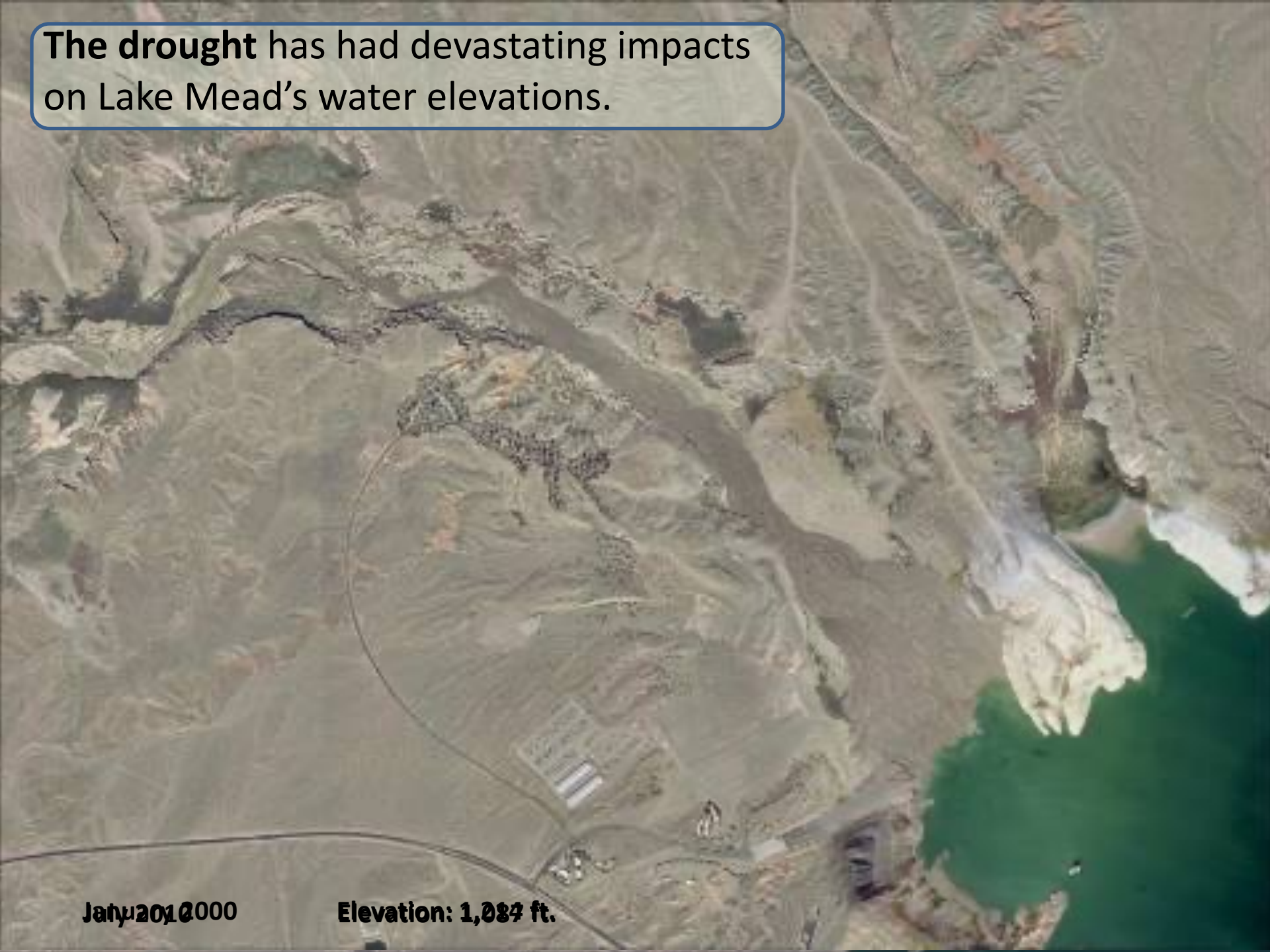


An aerial photograph of a city, likely Las Vegas, taken during the "golden hour" of sunset. The sky is a mix of soft pinks, oranges, and blues, with a few wispy clouds. In the background, a range of rugged mountains is silhouetted against the horizon. The city below is densely packed with residential and commercial buildings, with a grid-like street pattern visible. The overall scene conveys a sense of a large, arid urban environment.

**Southern Nevada** relies on Colorado River resources to meet 90 percent of its water demands.



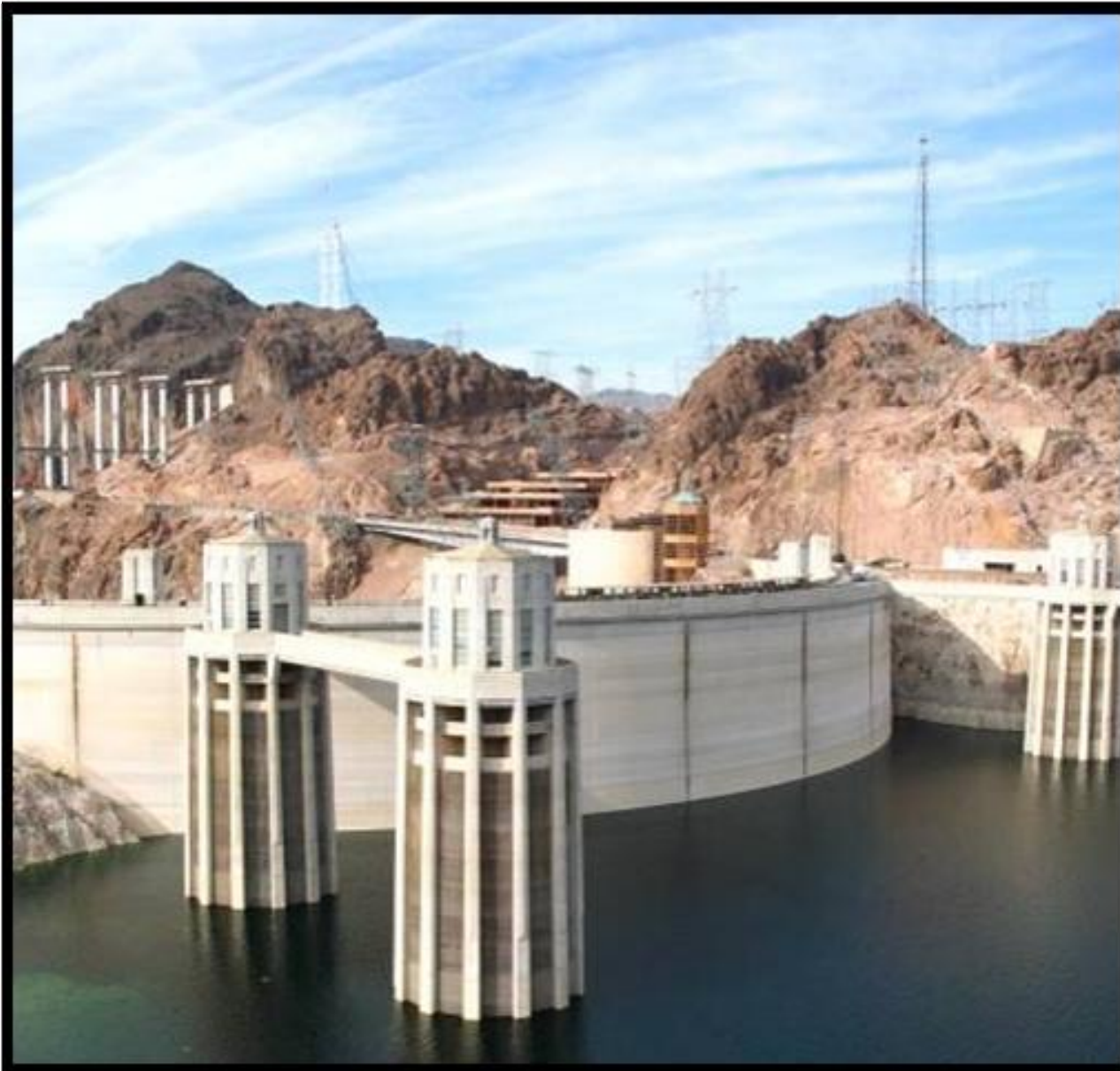
**The drought** has had devastating impacts on Lake Mead's water elevations.



July 2010

Elevation: 1,087 ft.

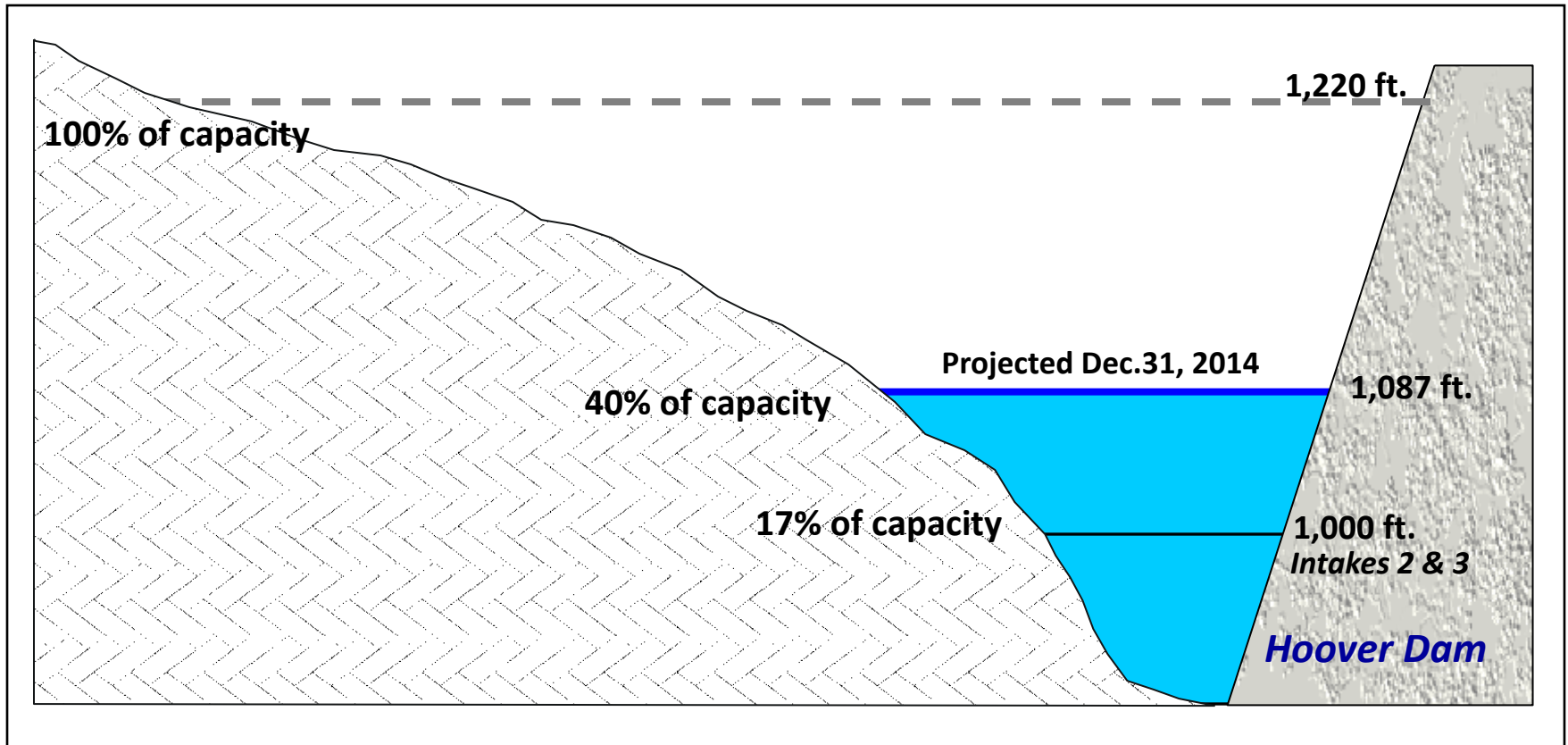
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Hoover Dam, 2000

# Drought Update

## Lake Mead Capacity – Projected (Dec. 31, 2014)





## How do low Lake Mead elevations impact Southern Nevada?



- Limited access to water supplies
- Compromised water quality
- Additional treatment and power costs
- New facility or facility upgrade costs
- Supplemental resource costs



## **Our Response? CONSERVE**

Development codes

Landscape rebates

Watering restrictions

Fixture retrofit kits

Water audits

Car wash coupons

Efficient irrigation programs

Water Efficient Technologies

Pool cover rebates

Water Smart Contractor program

Water Smart Home program

Water Upon Request program

Water Conservation Coalition

Water Smart Innovations Conference

Conservation Helpline

Demonstration Gardens

H2O University

Water waste investigations





## Since Water Smart Landscapes Program inception:

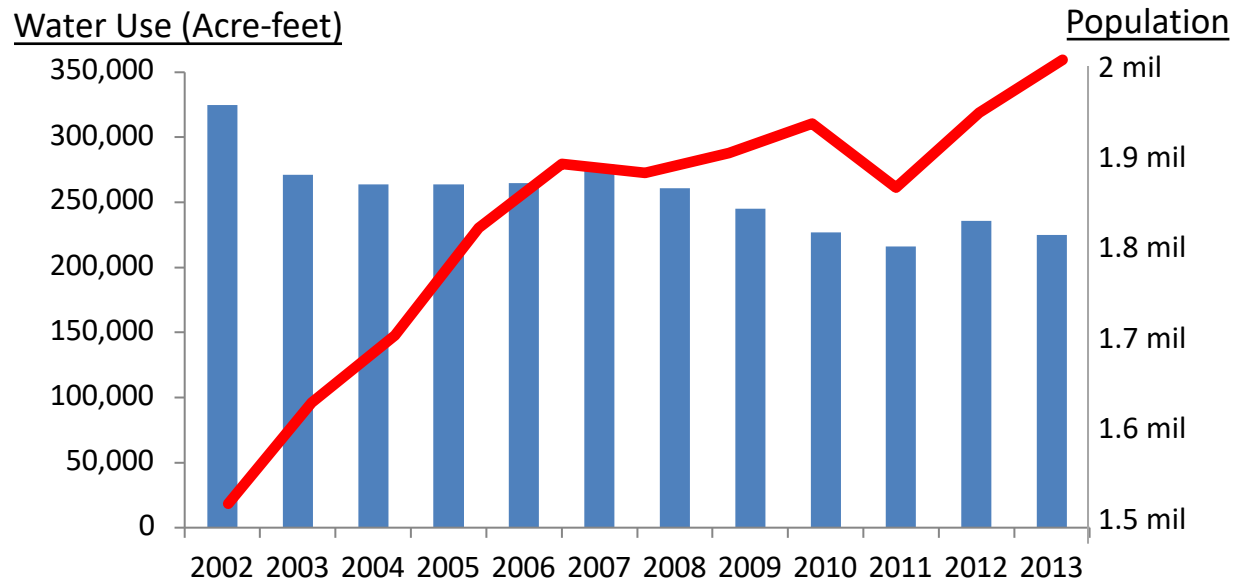
- \$205 million invested to date
- 78 billion gallons saved
- 170 million square feet of turf converted\*

\*Southern Nevada has removed enough grass for a roll of sod to extend 86 percent of earth's circumference.  
(Approximately 25,000 miles)





**Southern Nevada consumptively used about  
32 billion gallons less water in 2013  
than in 2002, despite annual population  
increases and millions of annual visitors.**



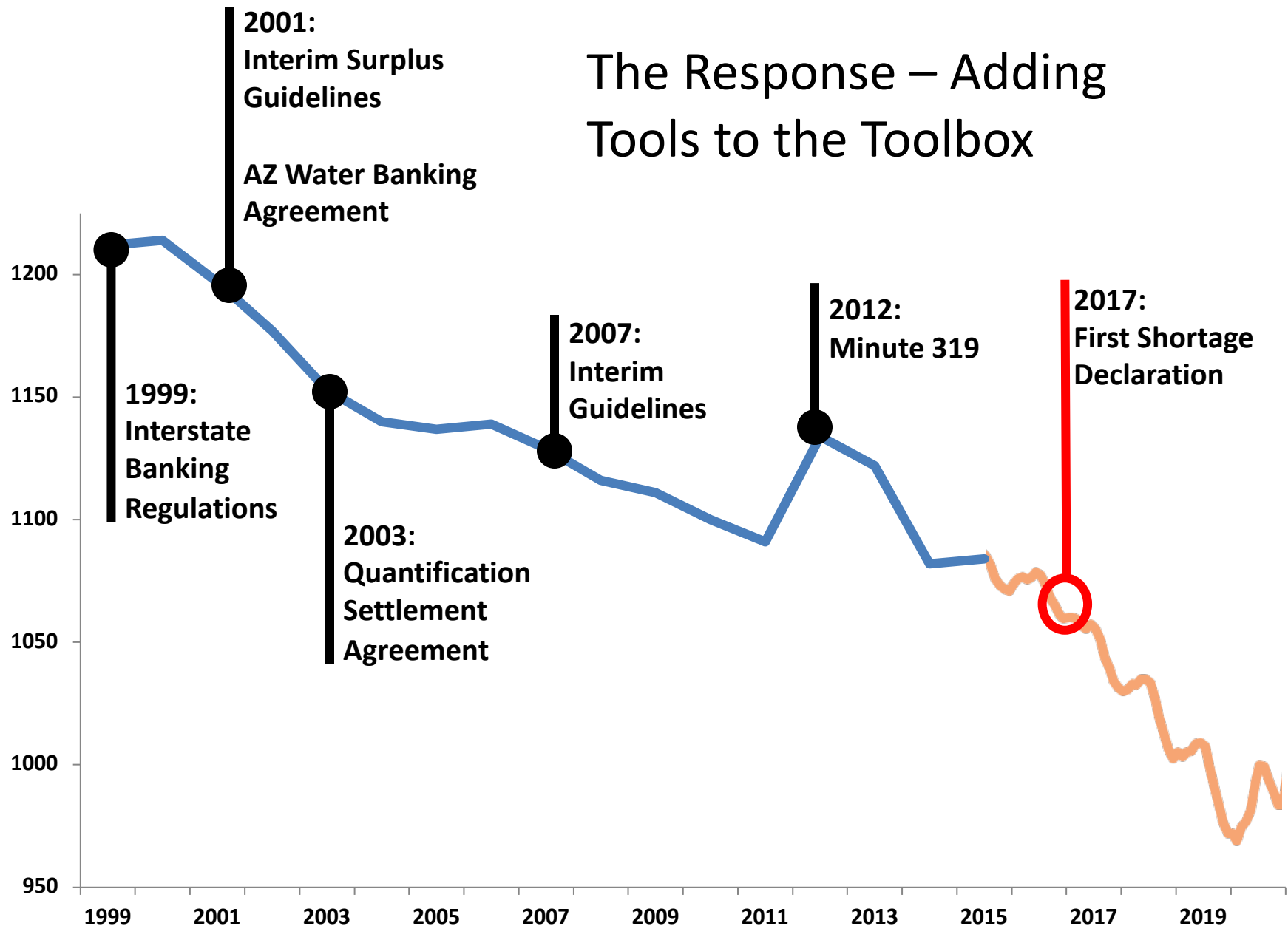
# In Good Company...

- **Phoenix** reduced use by 35% since 1980
- All of **Scottsdale's** reclaimed water is reused for turf irrigation or recharge
- Ag and urban conservation efforts by water agencies in **MWD's** service territory have reduced CO River water use by 20% since 2002
- **Southern California** imports less water today than it did 20 years ago despite significant increases in population
- **Denver Water** has reduced overall use by 20 percent and saved more than 1 million acre-feet of water since 2002, while serving an ever-increasing population

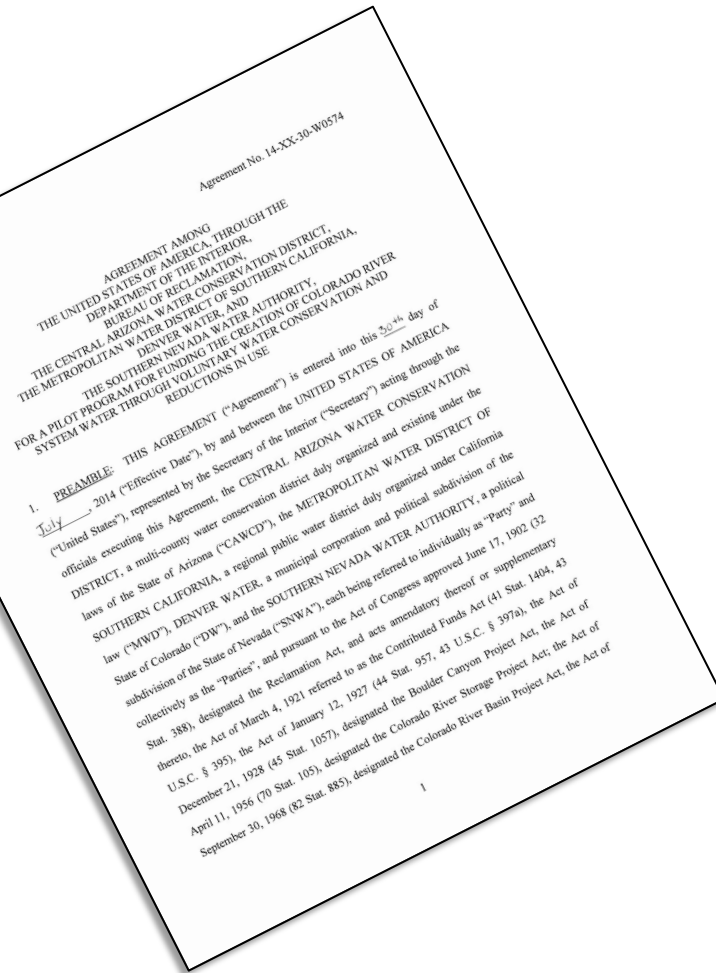




# The Response – Adding Tools to the Toolbox



# July 2014 Pilot System Conservation Agreement



- Two year pilot funded by BOR, Denver, MWD, CAP, and SNWA
- \$11 million (\$2.75 million in Upper Basin) – real money, but baby steps
- Evaluate feasibility of mitigating drought impacts through compensated voluntary reductions in use or loss
- Protection of critical elevations in both Powell and Mead
- Benefits of reductions inure to system as a whole and NOT to any one entitlement holder



## Selection Criteria – Program Goals



- Sector diversity
- Geographic diversity
- Cost/acre-foot of conserved water
- Relative size of project
- Comparative ease of administering contract with user and confirming reduction in use
- Project timing
- Required compliance
- Third party impacts
- Downstream “juniors” or need for forbearance
- Relative measurability of benefits to system
- Ability to leverage other money
- WaterSMART program evaluation criteria

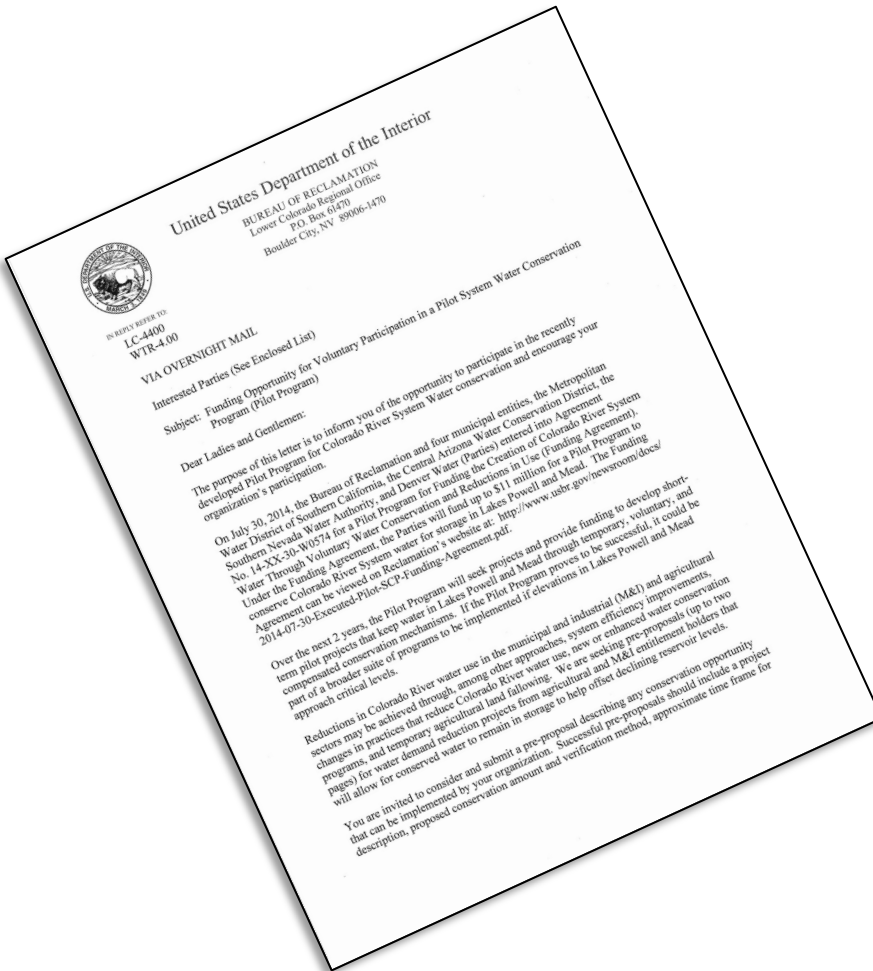
# System Conservation Status: Upper Basin

- Concerns/Outreach
  - Movement of water into Powell, below upper basin agriculture
  - Sheparding water to Powell
  - (mis)perception that lower basin interests are buying up water in the upper basin to fix long term supply/demand imbalance
- Yesterday, Upper Colorado River Commission passed resolution to “Support pilot programs such as those contemplated under the July 30, 2014 System Conservation Agreement”
  - Can cast SCA as evaluation of demand management in UB
  - Ideally suited to do outreach relating to benefits of maintaining Powell elevations



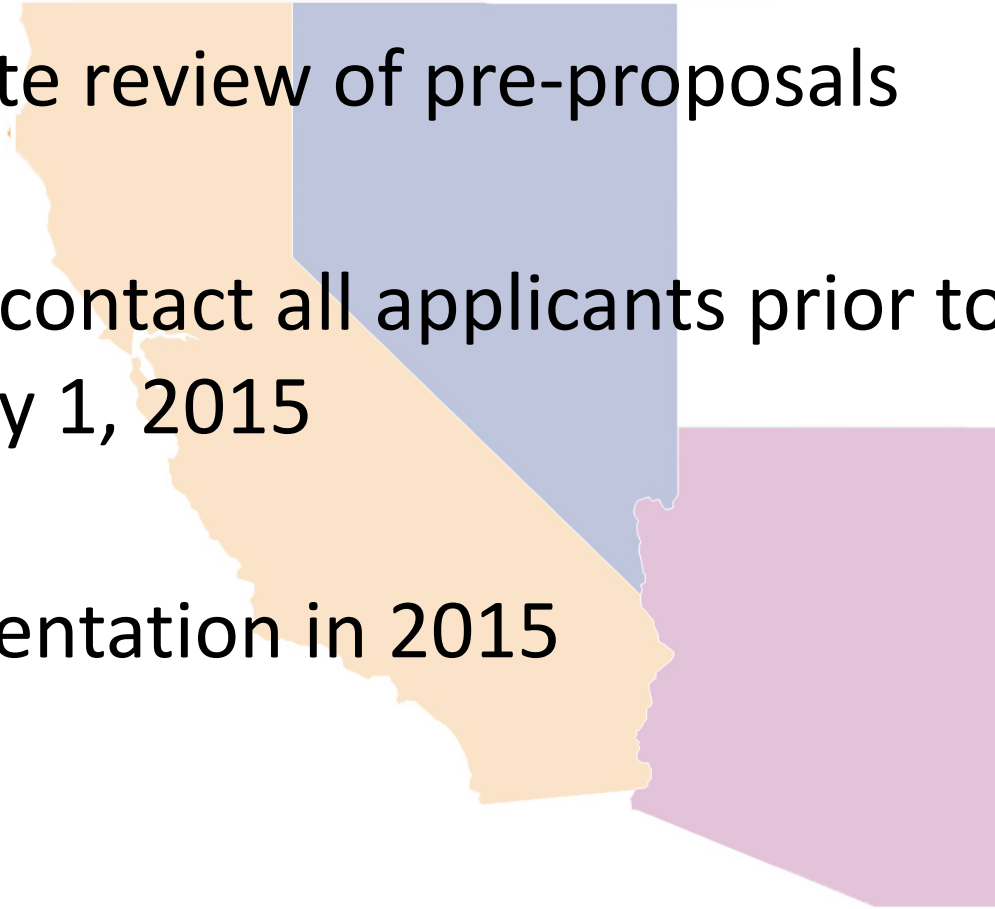
# System Conservation Status: Lower Basin

- BOR is administering the program in the lower basin
- Sent pre-proposal solicitation October 5
- Received 14 pre-proposals
- Geographically diverse
- Sector diverse – tribes, municipalities, irrigation districts
- Include efficiency, conveyance loss reduction, fallowing, reuse, and landscape conversions
- Price diverse (\$100 - \$1000/af)
- Don't have sufficient funds for all



# Lower Basin Next Steps

- Complete review of pre-proposals
- Goal to contact all applicants prior to February 1, 2015
- Implementation in 2015







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