



SOUTHERN NEVADA WATER AUTHORITY®

H2O 4 Texas

November 17, 2009

**The Southern Nevada Water Authority (SNWA)
was formed in 1991 to acquire and manage
water resources, build and operate facilities,
and promote conservation on a regional level.**



PACIFIC OCEAN

PACIFIC OCEAN



ATLANTIC OCEAN



Southern Nevada

- **1,900,000 residents**
- **Median household income = \$57,400**
- **39,000,000 annual visitors**
- **140,000 hotel rooms**
- **Largest industries: hotel, gaming, conventions, retail, dining**
- **28th most populous city in United States**

**City of
North Las Vegas**

City of Henderson

**City of
Boulder City**

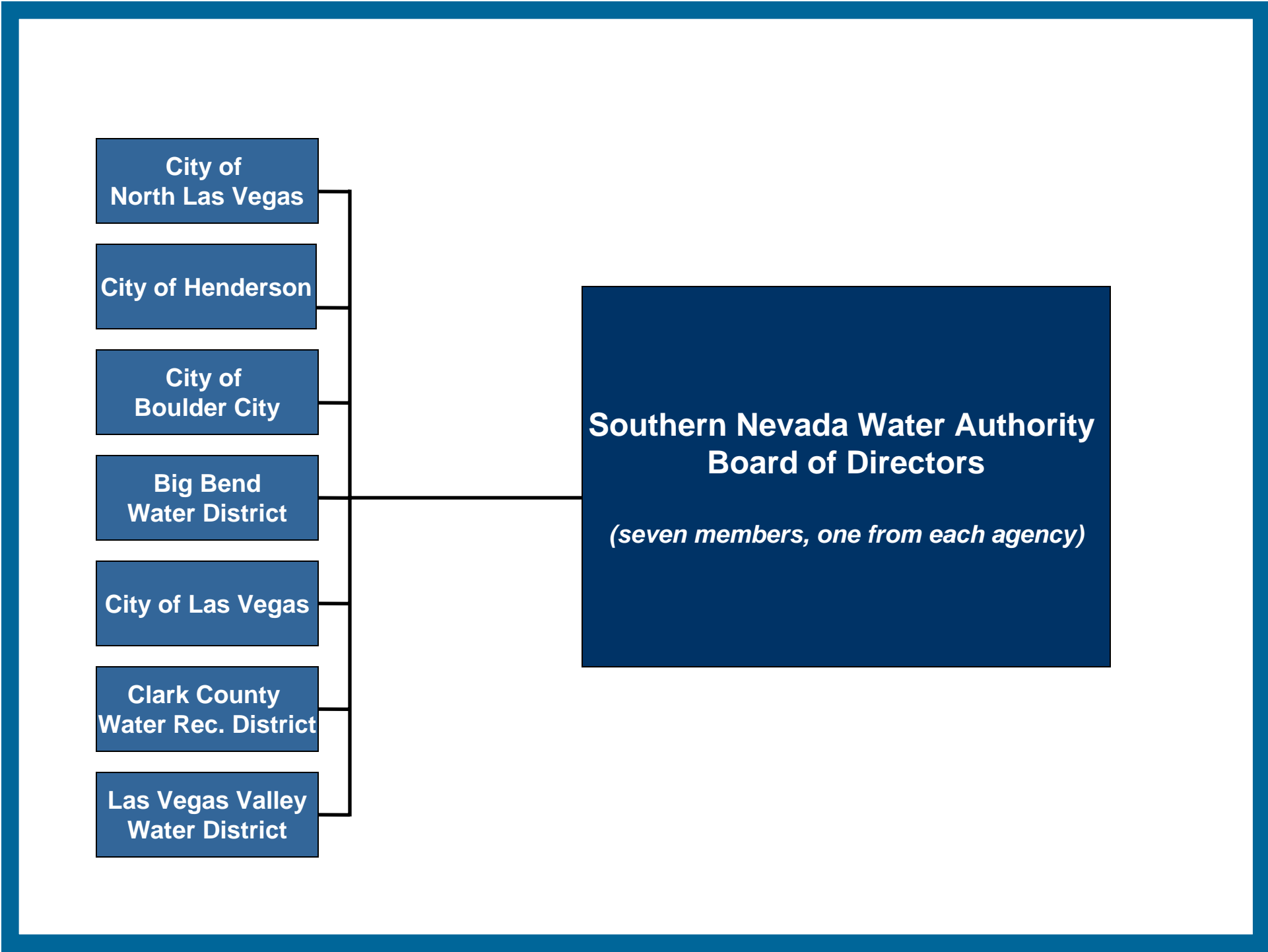
**Big Bend
Water District**

City of Las Vegas

**Clark County
Water Rec. District**

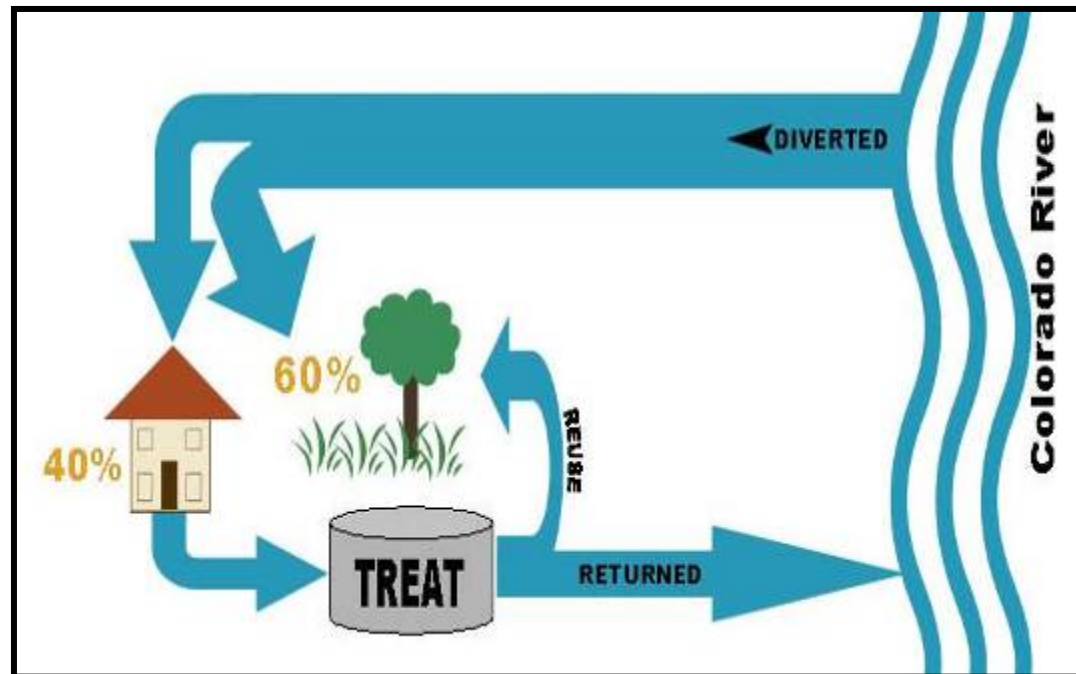
**Las Vegas Valley
Water District**

**Southern Nevada Water Authority
Board of Directors**
(seven members, one from each agency)



Colorado River Resources

Nevada receives return-flow credits for all water that is used indoors; this water is treated and then returned to Lake Mead, stretching the state's Colorado River allocation.



The SNWA Resource Plan, first adopted in 1996, reflects changing developments in Southern Nevada's water resource picture.

The plan includes a projection of current and future demands, and anticipated supplies available to meet those demands over time.

The SNWA Resource Plan has always included a portfolio of resource options. Options are assessed and prioritized based on need, accessibility, availability and cost.

2009 Resource Portfolio

Colorado River Resources

- Basin Apportionment
- Return-Flow Credits
- Unused Apportionment
- Flood Control Surplus
- Domestic Surplus
- Intentionally Created Surplus
- Banked Resources
- Augmentation
- Transfers/Exchanges

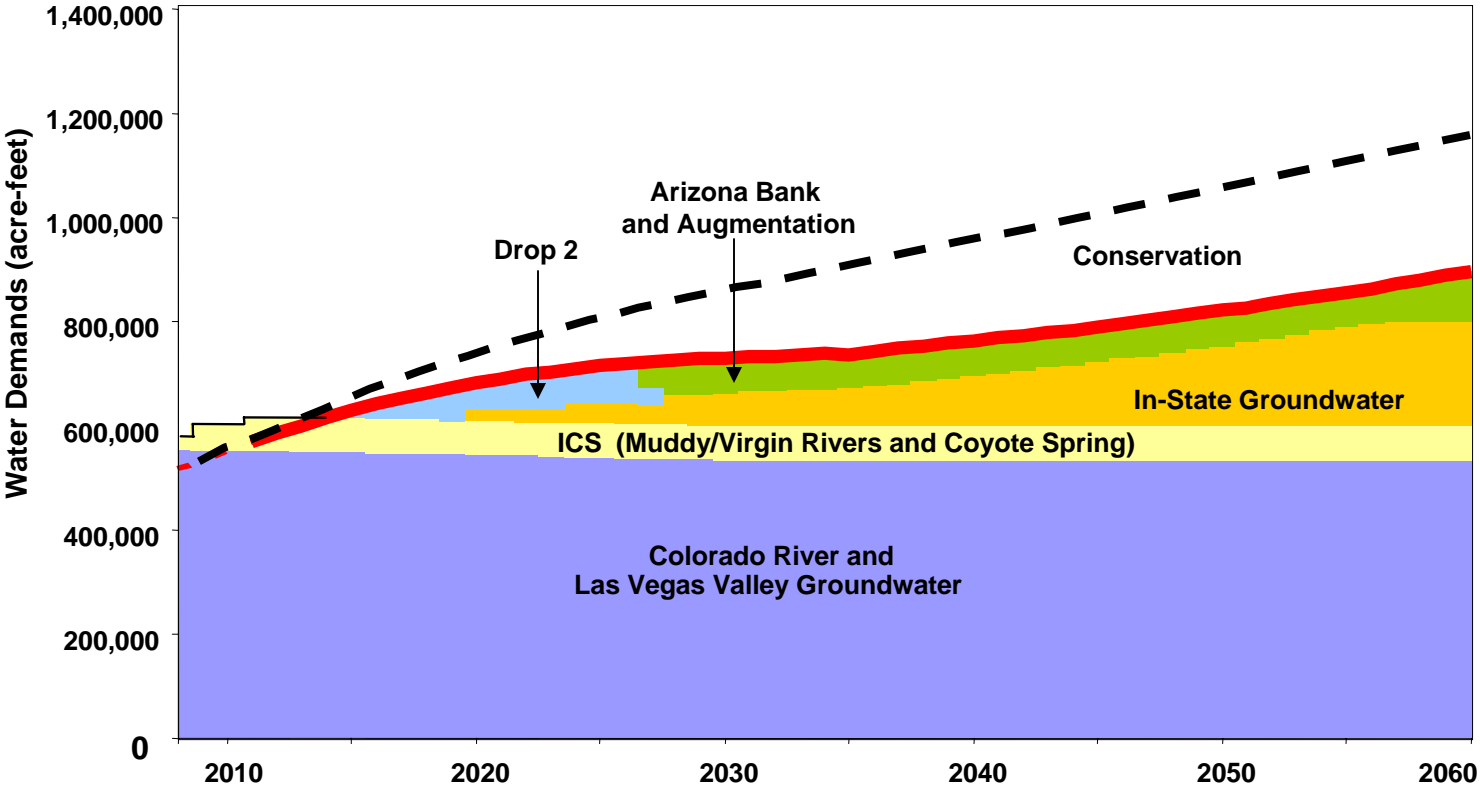
Conservation

Reclaimed Water Resources

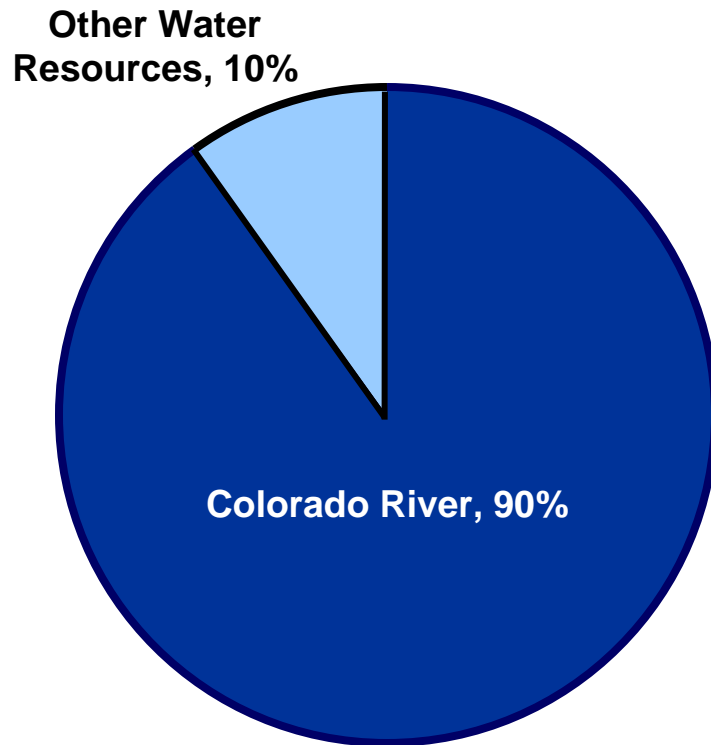
Groundwater

- Las Vegas Valley Groundwater
- In-State Groundwater Resources

2009 Water Resource Plan



Key Considerations



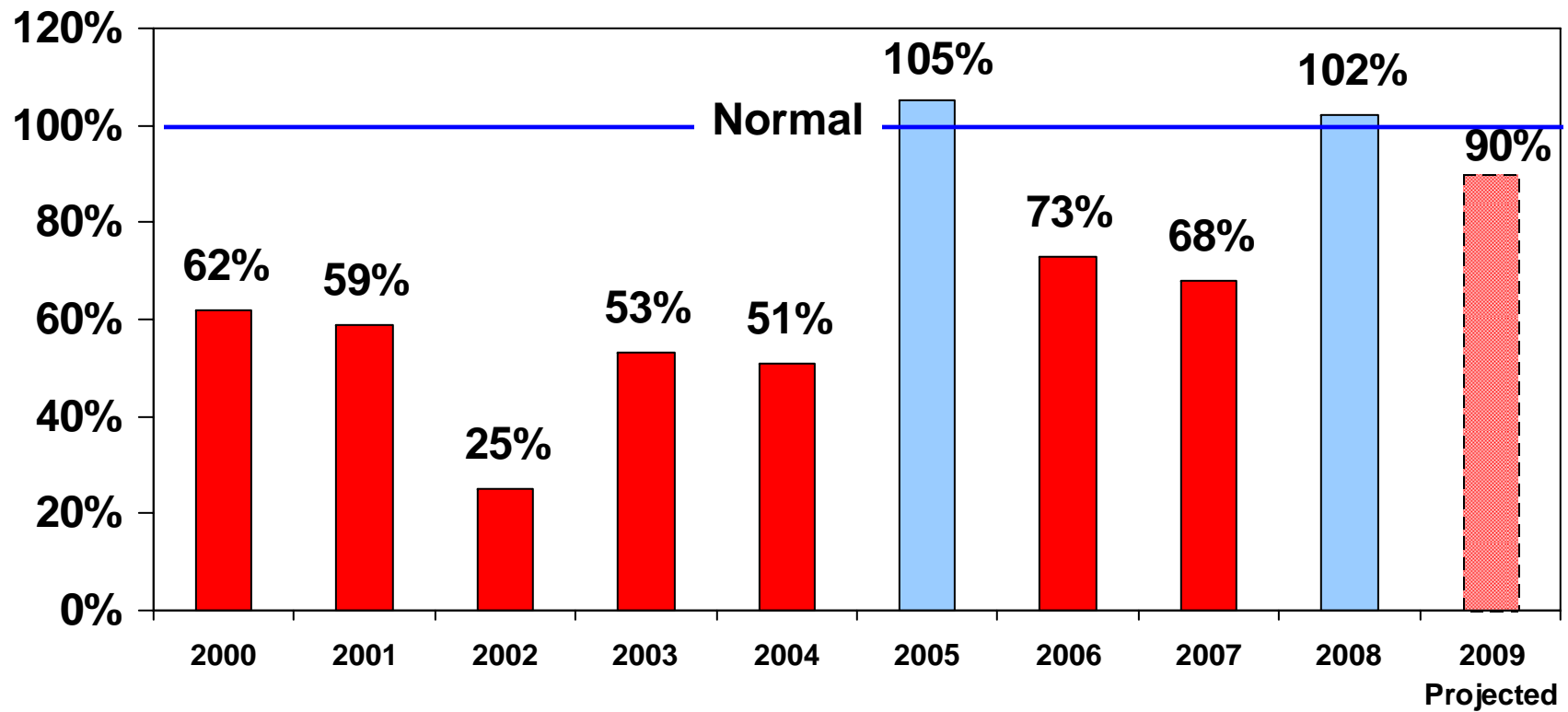
Southern Nevada depends on the Colorado River to meet 90% of its water resource needs.

Lake Mead, 1999

96%

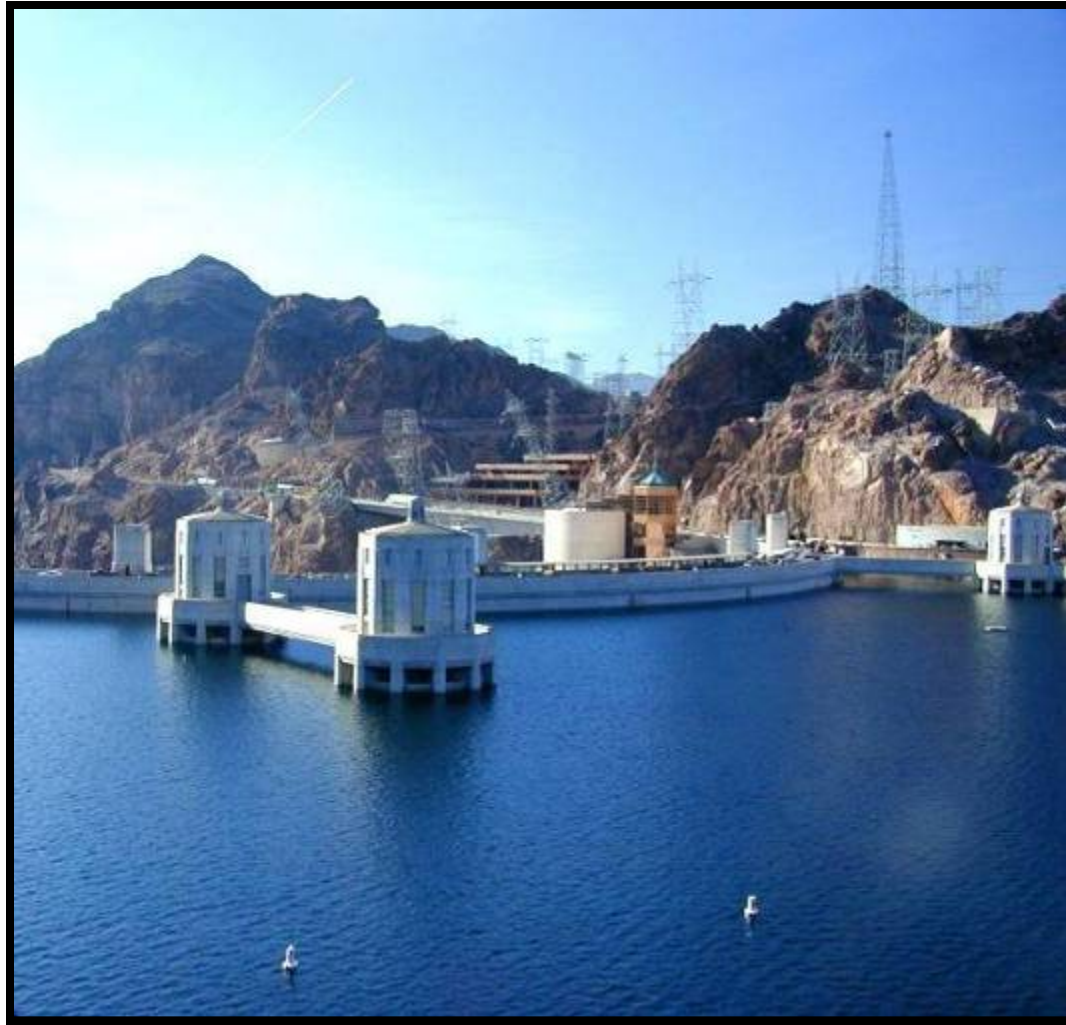


Since 2000, average inflows have been only 68% of normal.

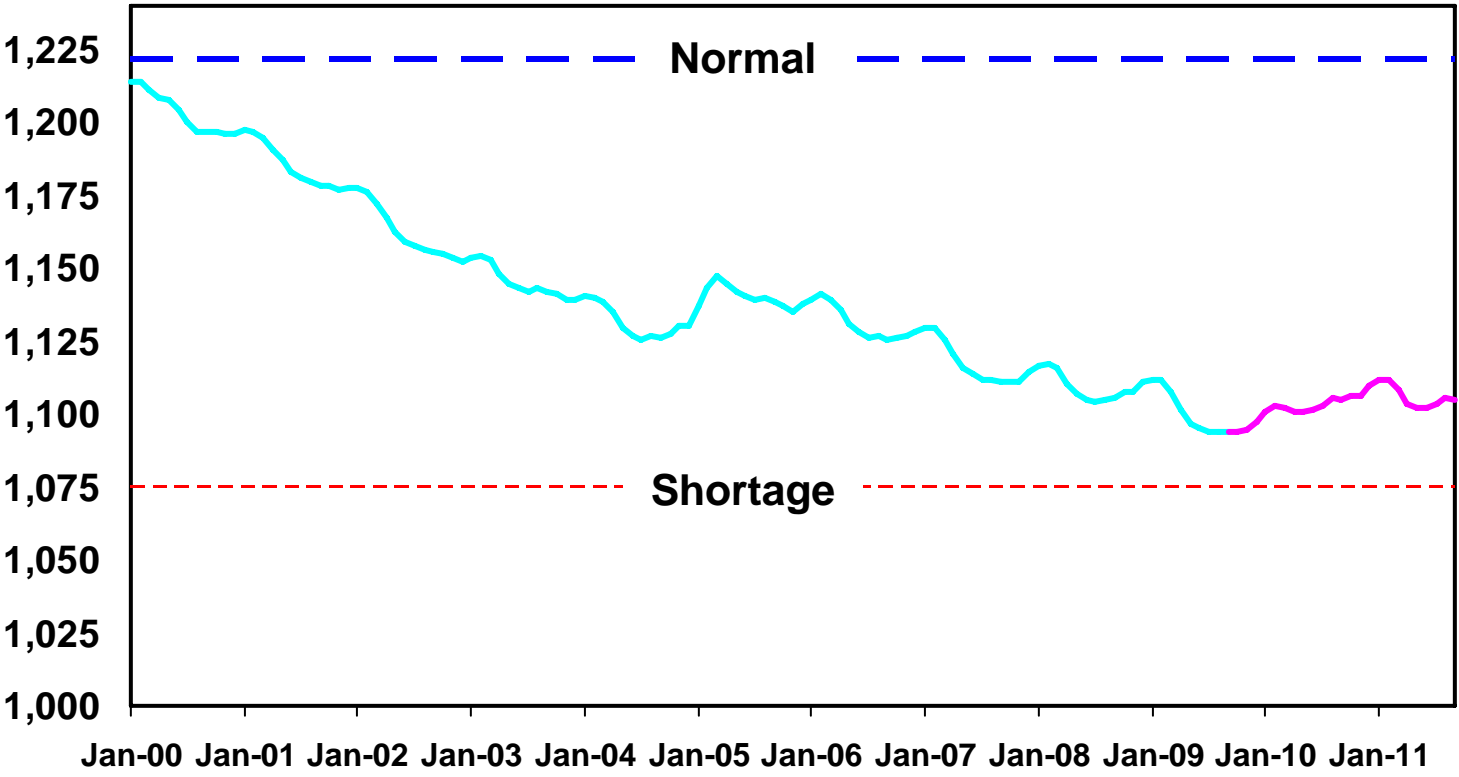


Lake Mead, 2000

96%



Lake Mead water levels have dropped to record lows.



Conservation was Southern Nevada's first response to drought.

- **Conservation response:**

2003: Implemented drought plan

2004: Realized goal of 25% conservation

2005: Adopted a new conservation goal

2008: Realized conservation goal of 250 GPCD

2009: Adopted a new conservation goal (199 GPCD by 2035)
Permanently implementing major demand reduction tools

**In Southern Nevada,
the greatest opportunity for
water conservation lies in
curbing outdoor water use.**





Approximately 70 percent of all residential water used is for outdoor landscaping.

Regulations

Development Restrictions

- No ornamental lawns in commercial landscapes.
- No living turf in front yards of new homes.
- Backyard lawns limited to 50 percent of yard space.

Irrigation Restrictions

- Time-of-day and day-of-use restrictions.





The Water Smart Landscapes Program provides a financial incentive to convert unused grass to water efficient landscaping.



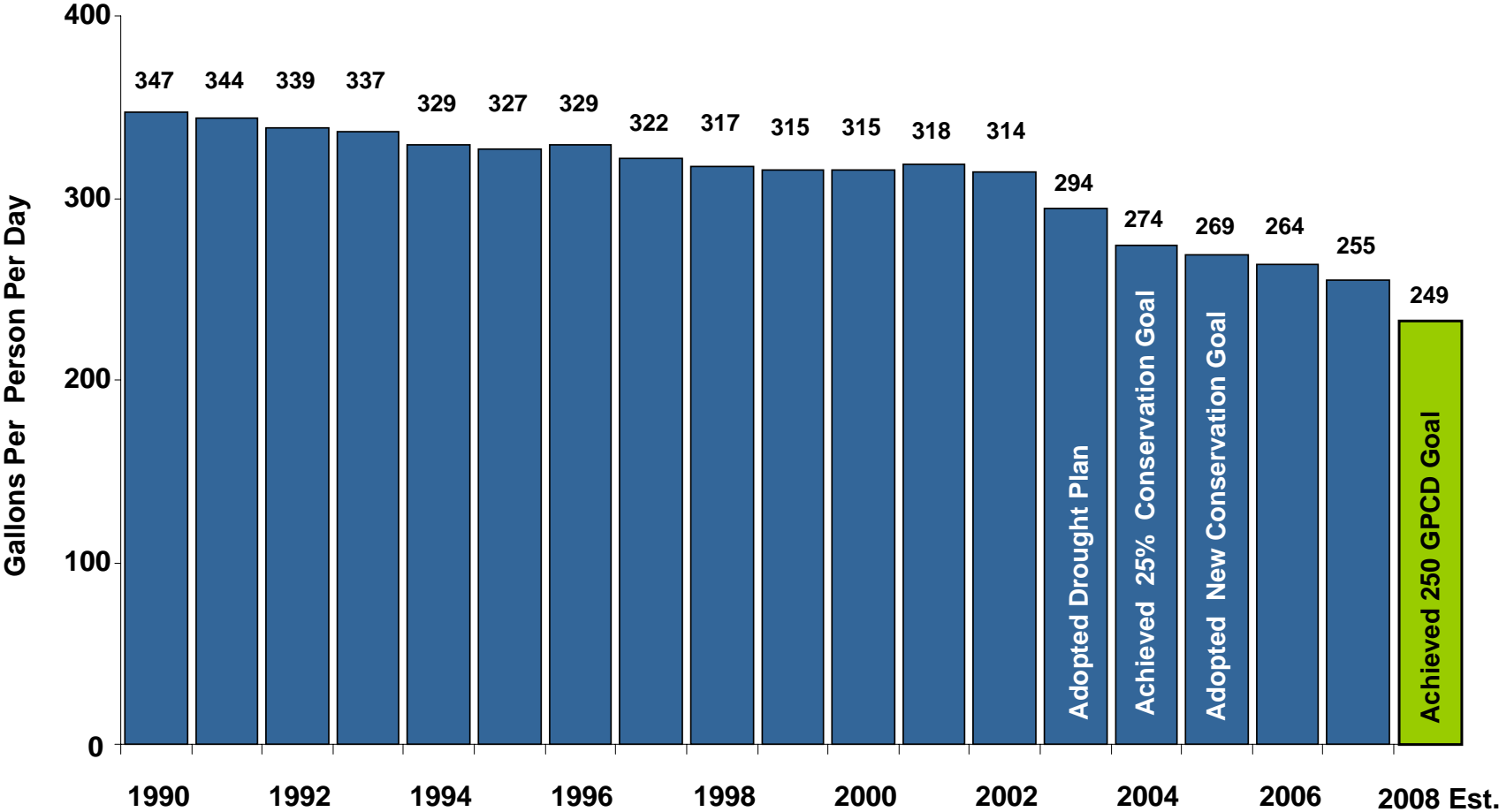
To date, more than **136 million square feet** of turf has been converted, saving Southern Nevada more than **7.5 billion gallons** of water each year.

Southern Nevada has one of the most comprehensive conservation programs in the nation.

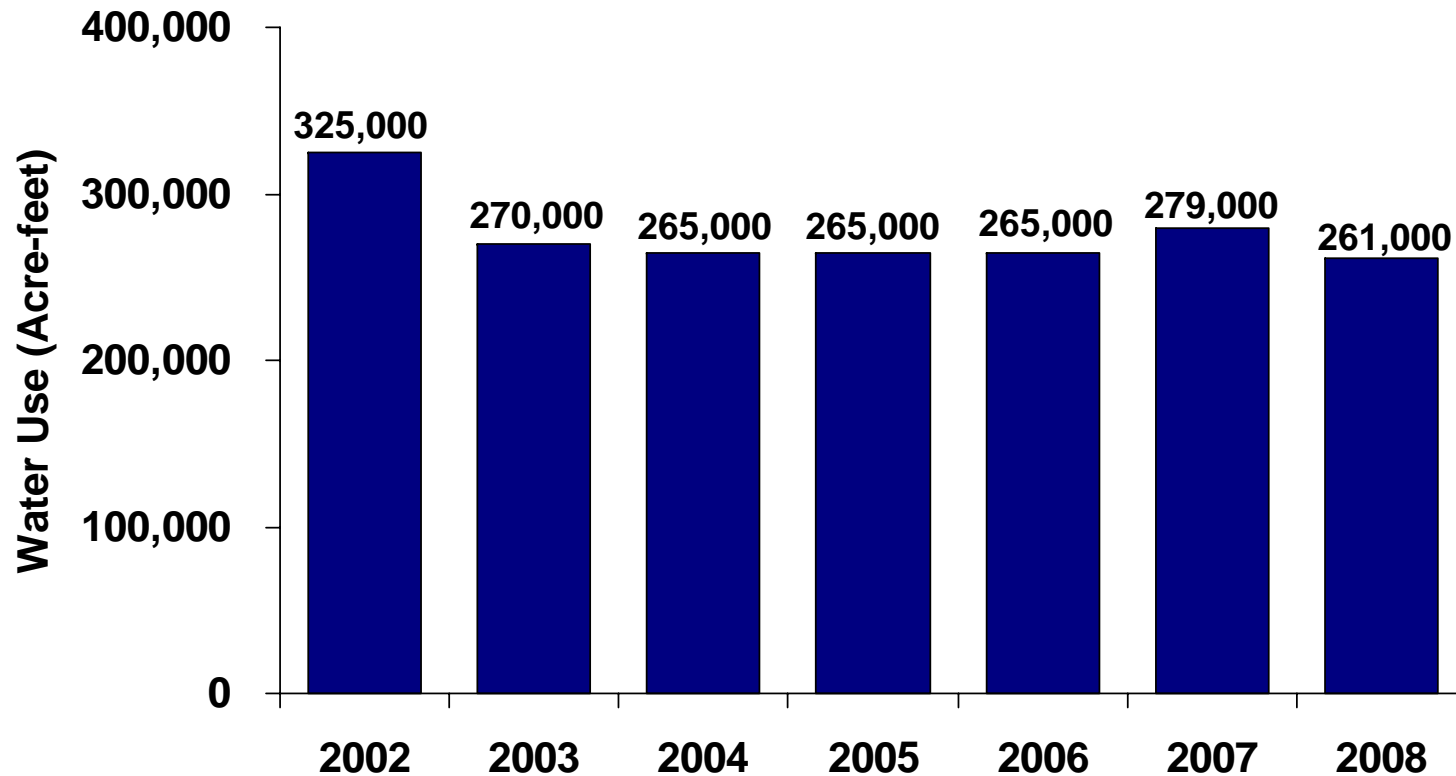


- Time of day and day of week watering restrictions
- Landscape development codes
- Golf course water budgets
- Water waste restrictions & penalties
- Water Smart Landscapes Program
- Water Efficient Technologies Program
- Pool Cover Rebate program
- Water Smart Home Program
- Irrigation Clock Rebate program
- Water Smart Car Wash Program
- Water Smart Contractor Program
- H2O University
- Demonstration Gardens

Southern Nevada has made significant conservation gains.

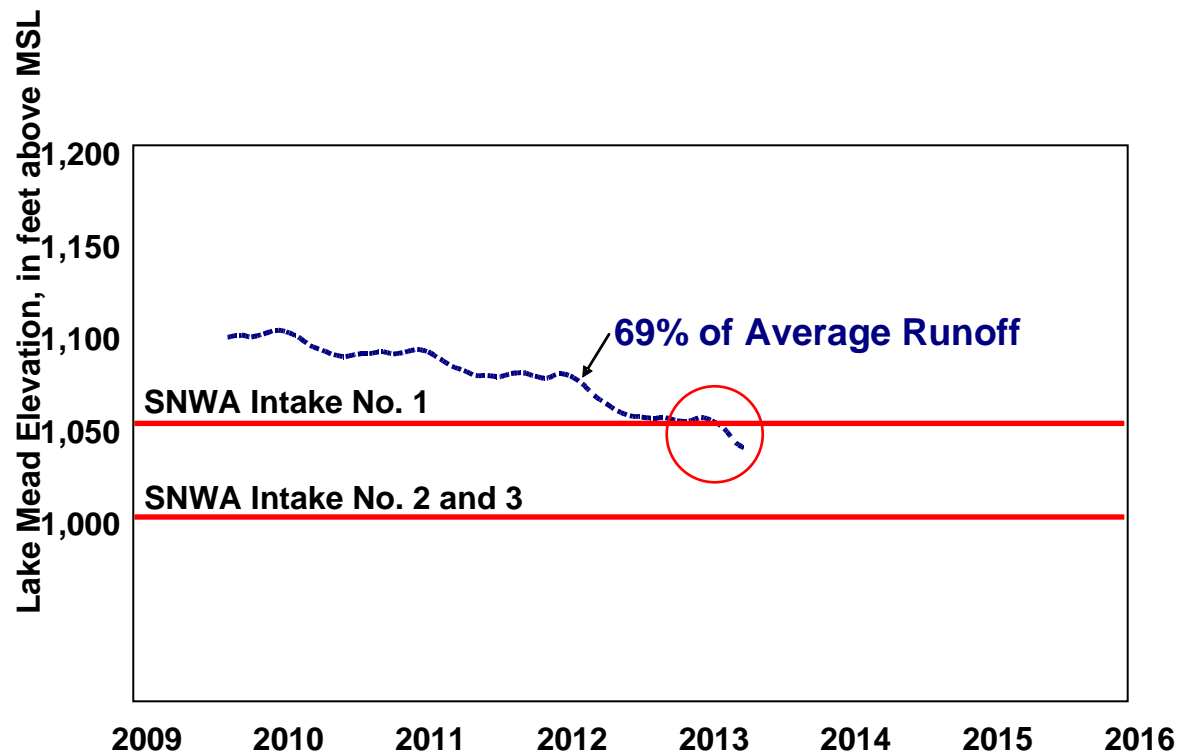


Nevada Consumptive Use without Recharge



Southern Nevada's consumptive water use declined about 21 billion gallons between 2002 and 2008, despite the fact that there were nearly 400,000 new residents.

The SNWA could lose facility access if drought conditions continue.



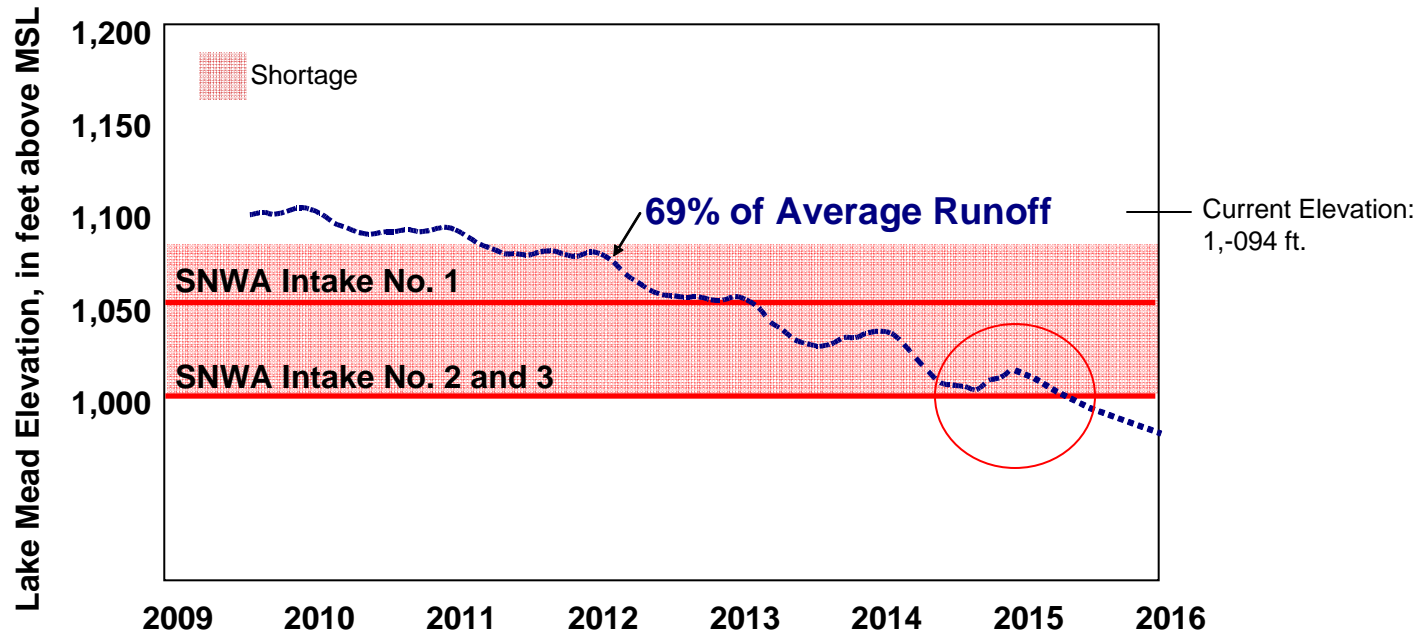
The SNWA is constructing a new Lake Mead Intake.

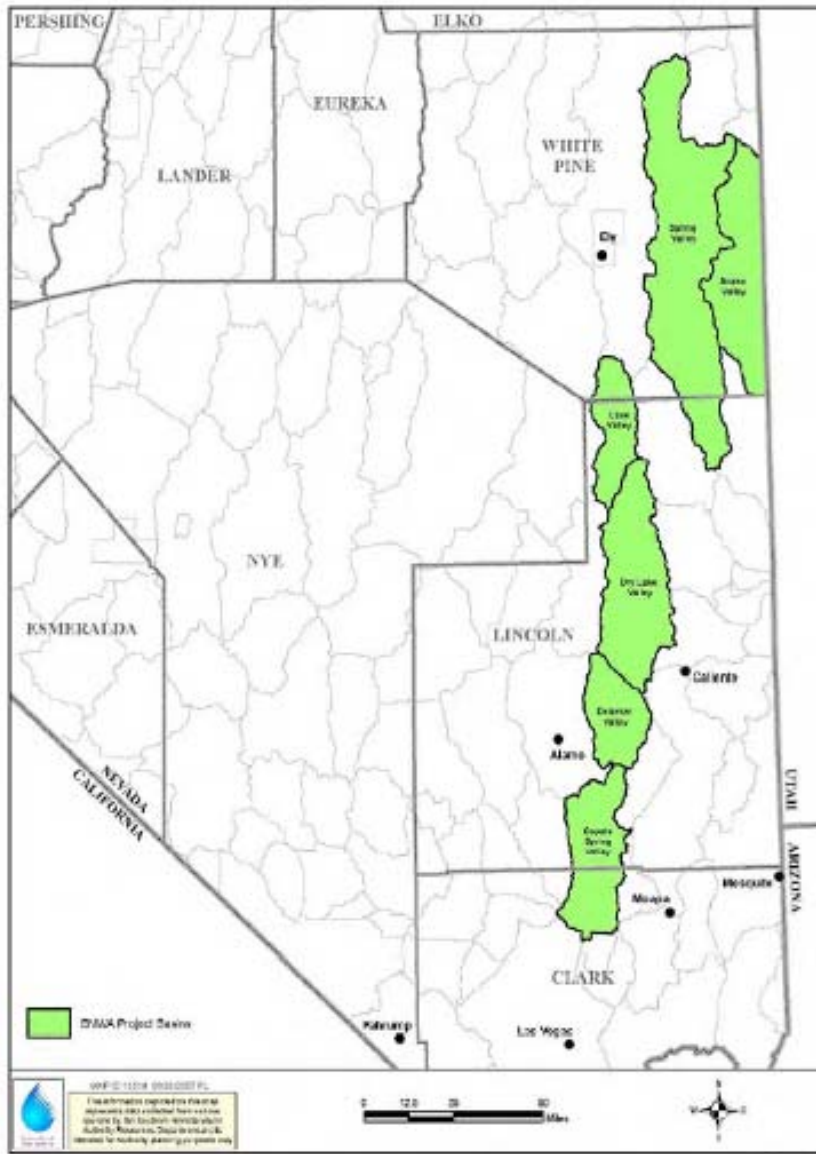
- Increase pumping capacity of Intake No. 2 (600 mgd to 730 mgd)
- Lake Mead Intake No. 3 will:
 - Preserve existing capacity.
 - Provide access to cooler water elevation 860 ft.
 - Help maintain water quality.
- Estimated completion in 2013.
- Estimated cost, \$817 million.



Access Shaft for Intake No. 3

The SNWA could lose supply access if drought conditions continue.





Non-Colorado River water supplies are necessary for Southern Nevada to diversify resources.

The SNWA is working to develop non-Colorado River Resources.

- **Clark, Lincoln and White Pine Counties Groundwater Development Project will:**
 - Diversify available water resources to meet near and long-term demands (reduce dependence on Colorado River from 90% today).
 - Ensure resources are available if Colorado River shortages are instituted or resources become inaccessible due to low lake levels.

Amount Permitted	
Spring Valley	60,000 AFY permitted, subject to staged pumping restrictions.
Delamar, Dry Lake & Cave Valleys	18,755 AFY permitted.
Snake Valley	Hearing postponed until 2019.

The SNWA is engaged in a number of related environmental protection activities.

- **Activities include:**
 - Acquisition and management of land and water resources to support environmental protection activities associated with groundwater development.
 - Development of an advanced water monitoring network that will alert SNWA to potential adverse impacts before they occur.
 - 20 years of study and monitoring before any water comes to Southern Nevada.



Surface Water Monitoring Location

The Colorado River Basin States continue to study options for augmenting Colorado River supplies.

- **Augmentation Study Options:**
 - Brackish and Ocean Water Desalination
 - Coalbed Methane Produced Water
 - Conjunctive Use
 - Power Plants – Reduce Consumptive Use
 - Reservoir Evaporation Control
 - Stormwater Storage
 - Vegetation Management
 - Water Imports Using Ocean Routes
 - Water Reuse
 - Weather Modification
 - River Basin Imports



Colorado River at Lake Mead

