

# Current and Future Water Supplies

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## **Presentation Outline**

- Overview of SNWA
- SNWA's Water Resource Portfolio
- Challenges in projecting and meeting water resource needs
- Our current plan

A banner image showing a wide, flat landscape under a blue sky, with a large body of water in the distance. The text "Southern Nevada Water Authority" is overlaid in white.

# Southern Nevada Water Authority

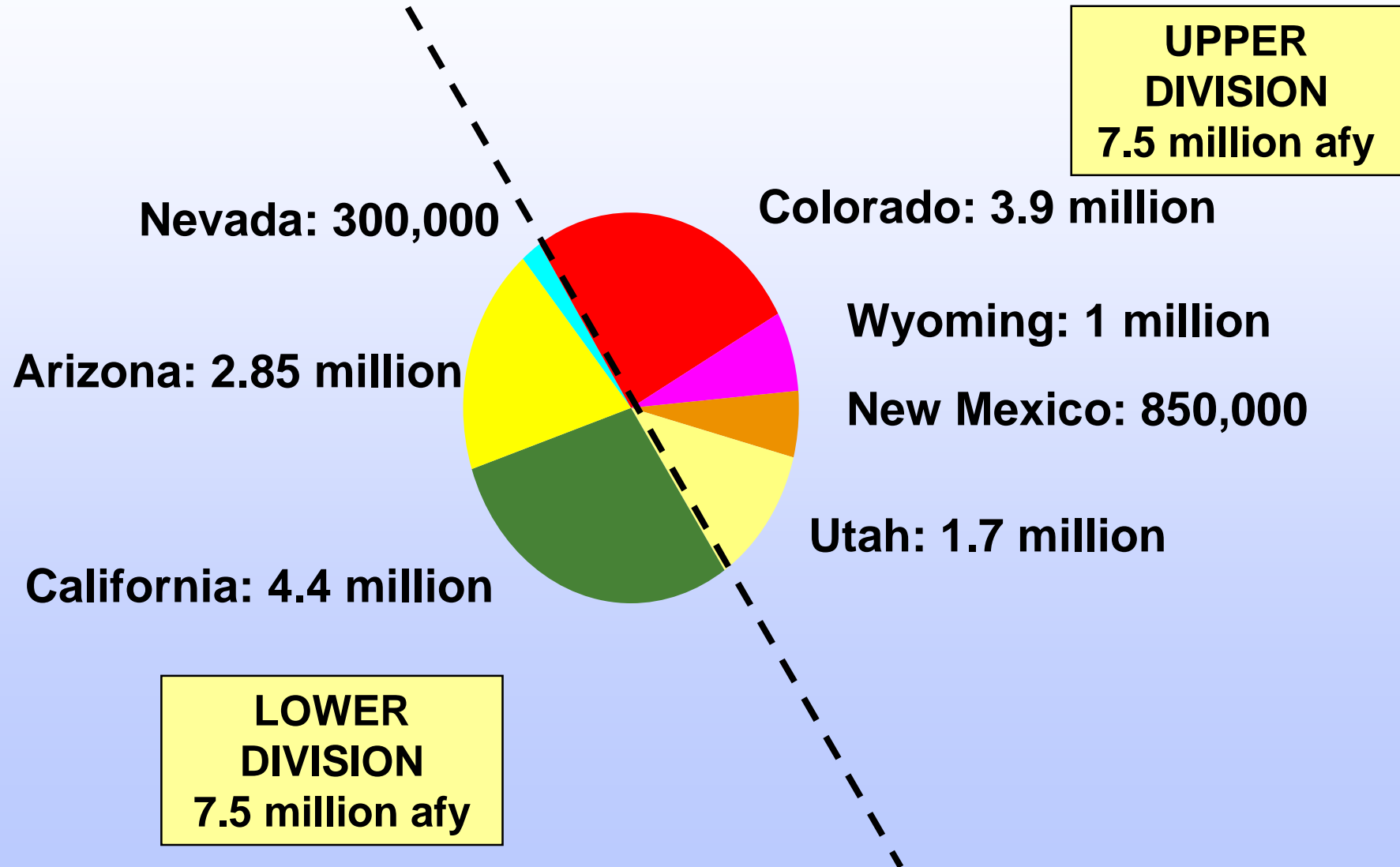
- SNWA formed in 1991
- Includes seven water and wastewater agencies in Southern Nevada
- Wholesale water provided to municipal water agencies in Southern Nevada
- Acquires and manages long-term water reserves for Southern Nevada

Components of the SNWA Water Resources Portfolio



# Southern Nevada Water Authority

## Colorado River Supply

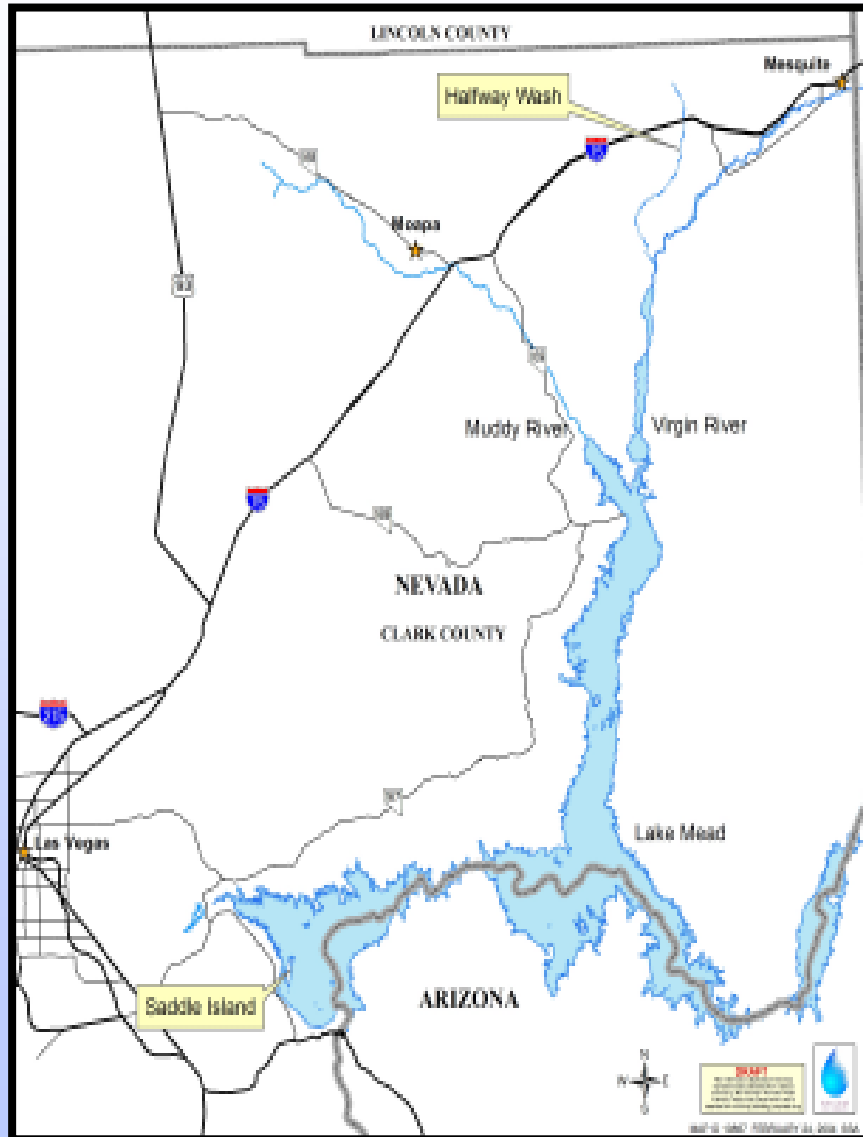


# Southern Nevada Water Authority

## Intentionally Created Surplus Project System Efficiency



# Southern Nevada Water Authority



## Intentionally Created Surplus Project

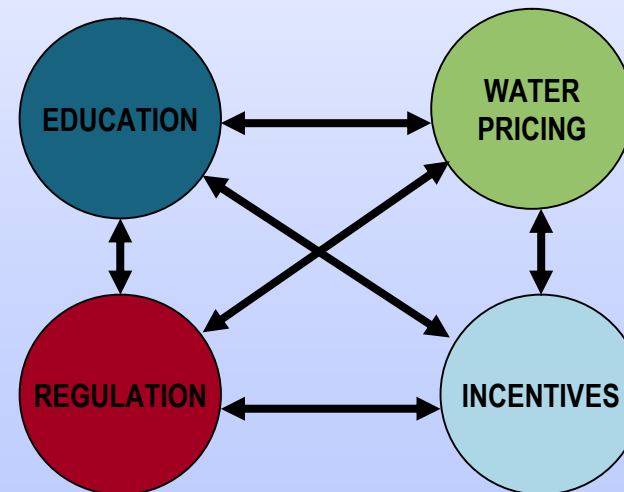
### Tributary Conservation

Virgin and Muddy Rivers

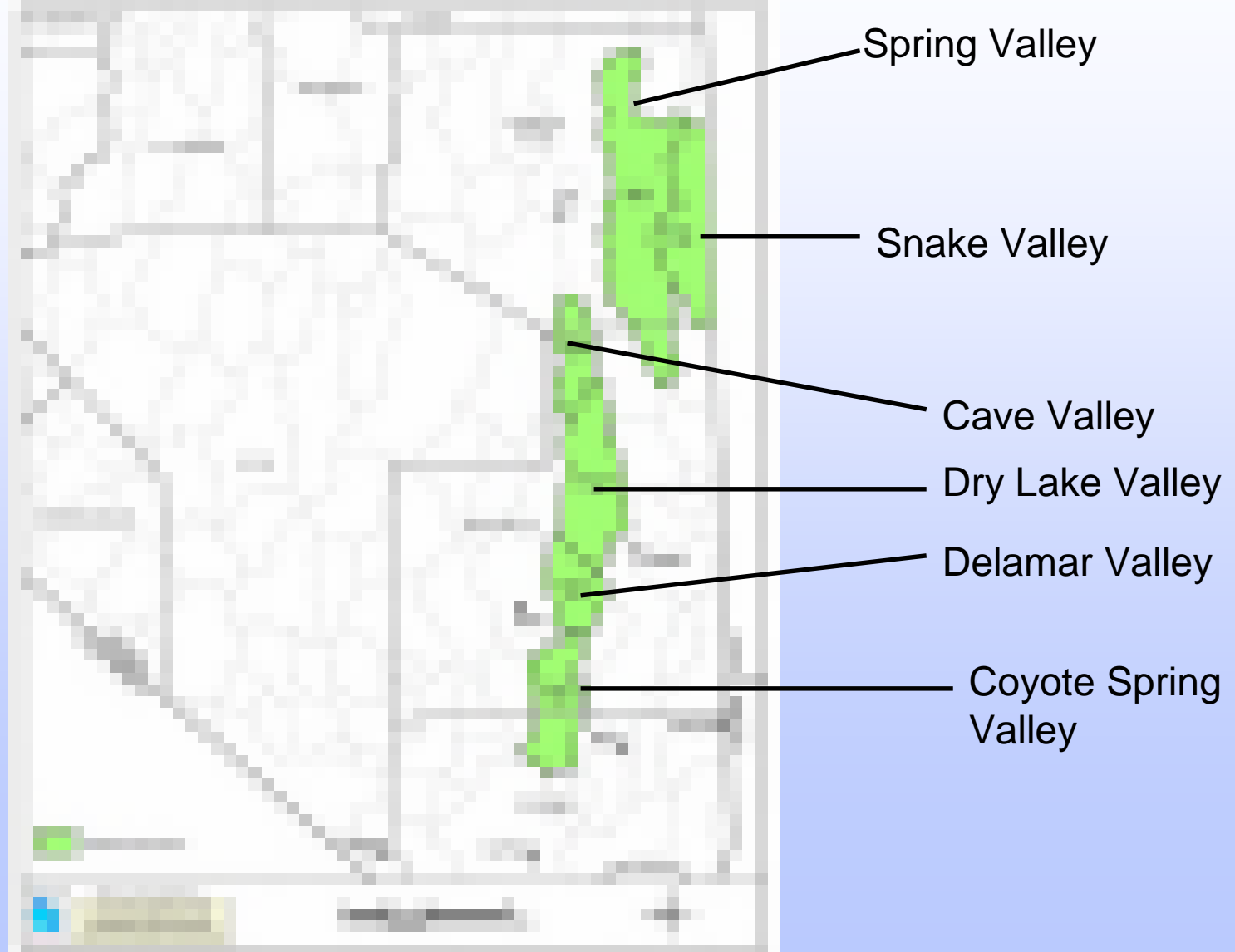
## Conservation

- Southern Nevada has a very comprehensive and aggressive conservation program
- Program elements include:

- Regulation
- Incentives
- Pricing
- Education



## Groundwater Development Project



## Potential Augmentation Options

### Add to Rainfall

- Weather modifications, e.g. cloud seeding

### Add to Inflow

- Water from coal bed methane production
- Importation alternatives

### Reduce Outflow from System

### Add to Groundwater

- Aquifer storage and recovery
- Conjunctive use

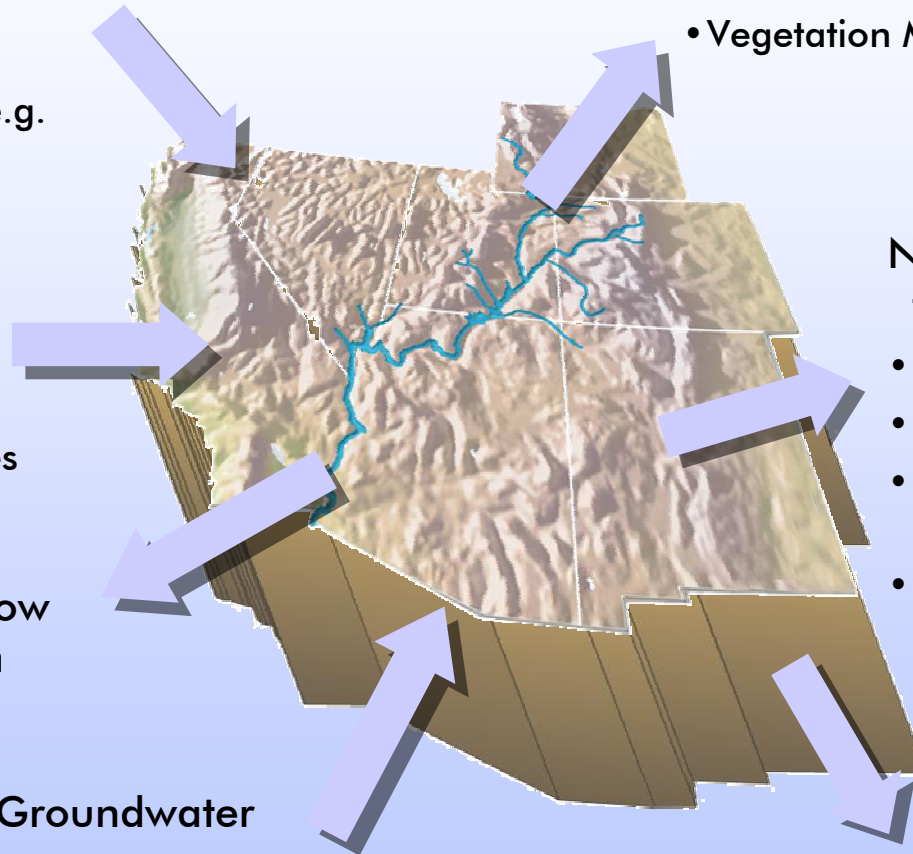
### Reduce Evapotranspiration

- Vegetation Management

### New Water/Reuse from the System

- Use wasted brackish water
- Use wasted wastewater
- Use desalted ocean or inland water
- Reduction of consumptive use

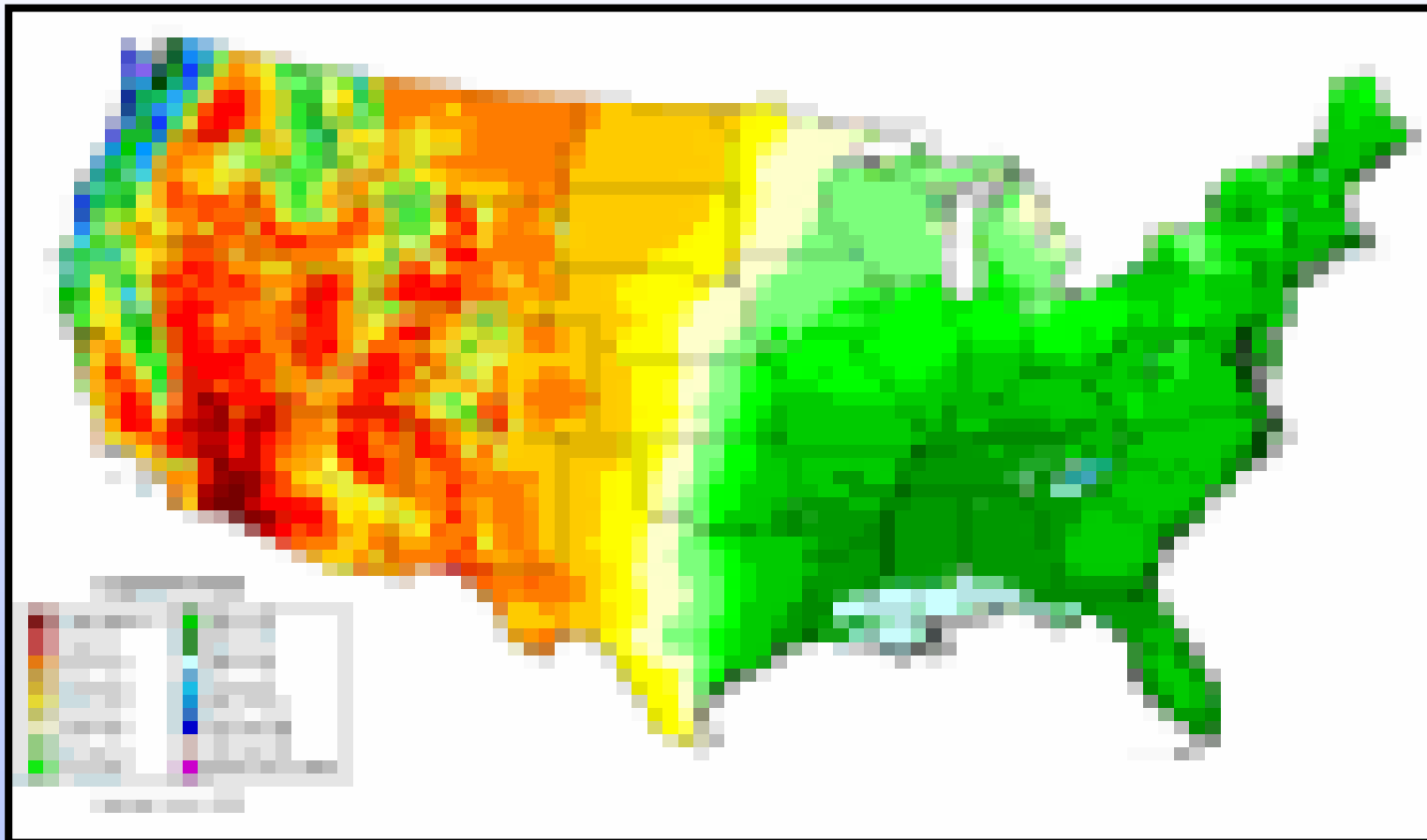
### Reduce Loss to Groundwater



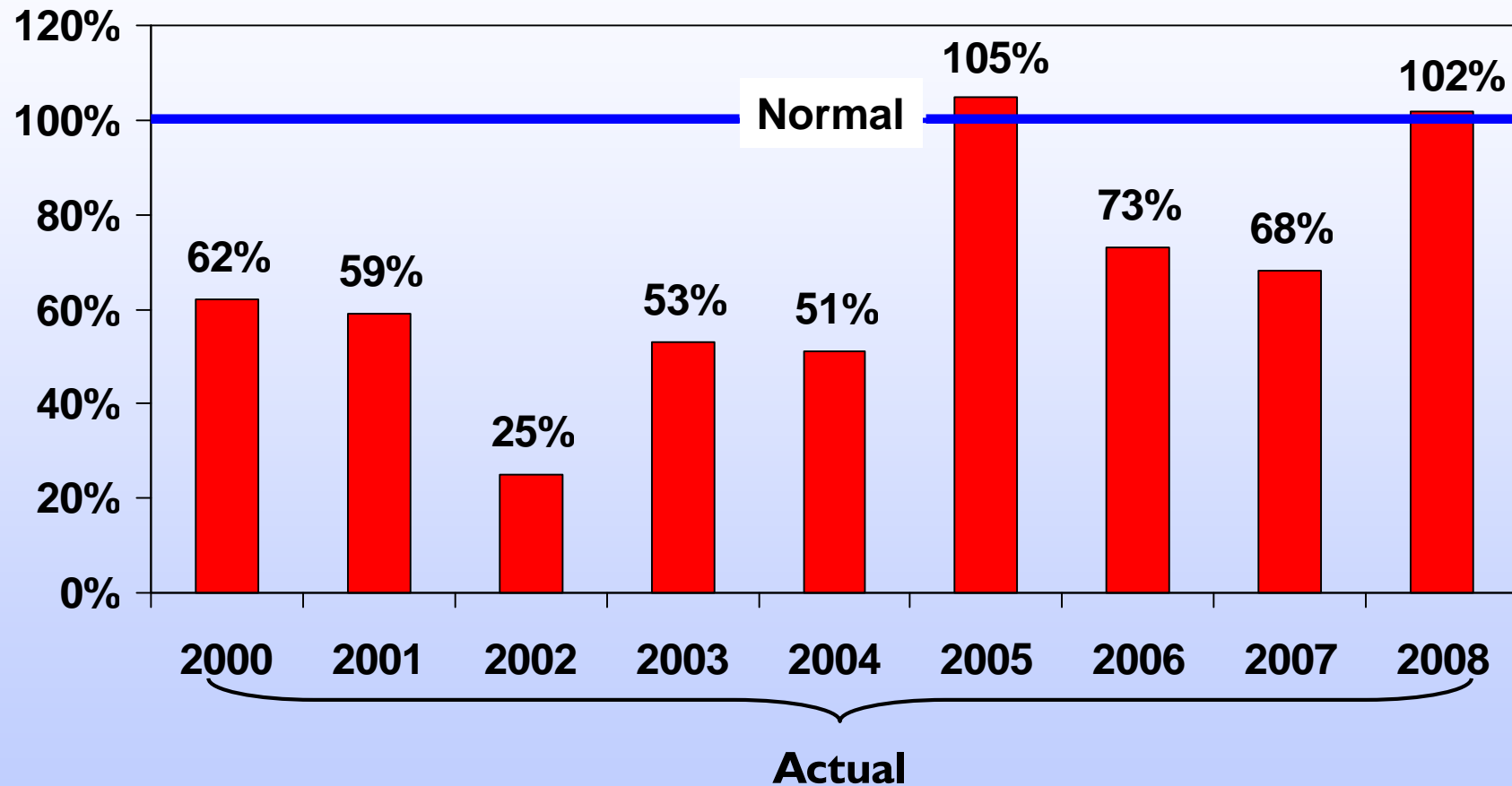
## Population and Precipitation

- From 1900-1990 population in the Western Region increased nearly 7 times the nation's average rate
- The Southwest is ranked as the fastest growing region in the United States
- Nevada, Arizona, Utah, New Mexico and Wyoming rank 1 through 5 as the driest states in the nation. Average annual rainfall for Las Vegas 4 inches

## The Landscape – Annual Precipitation

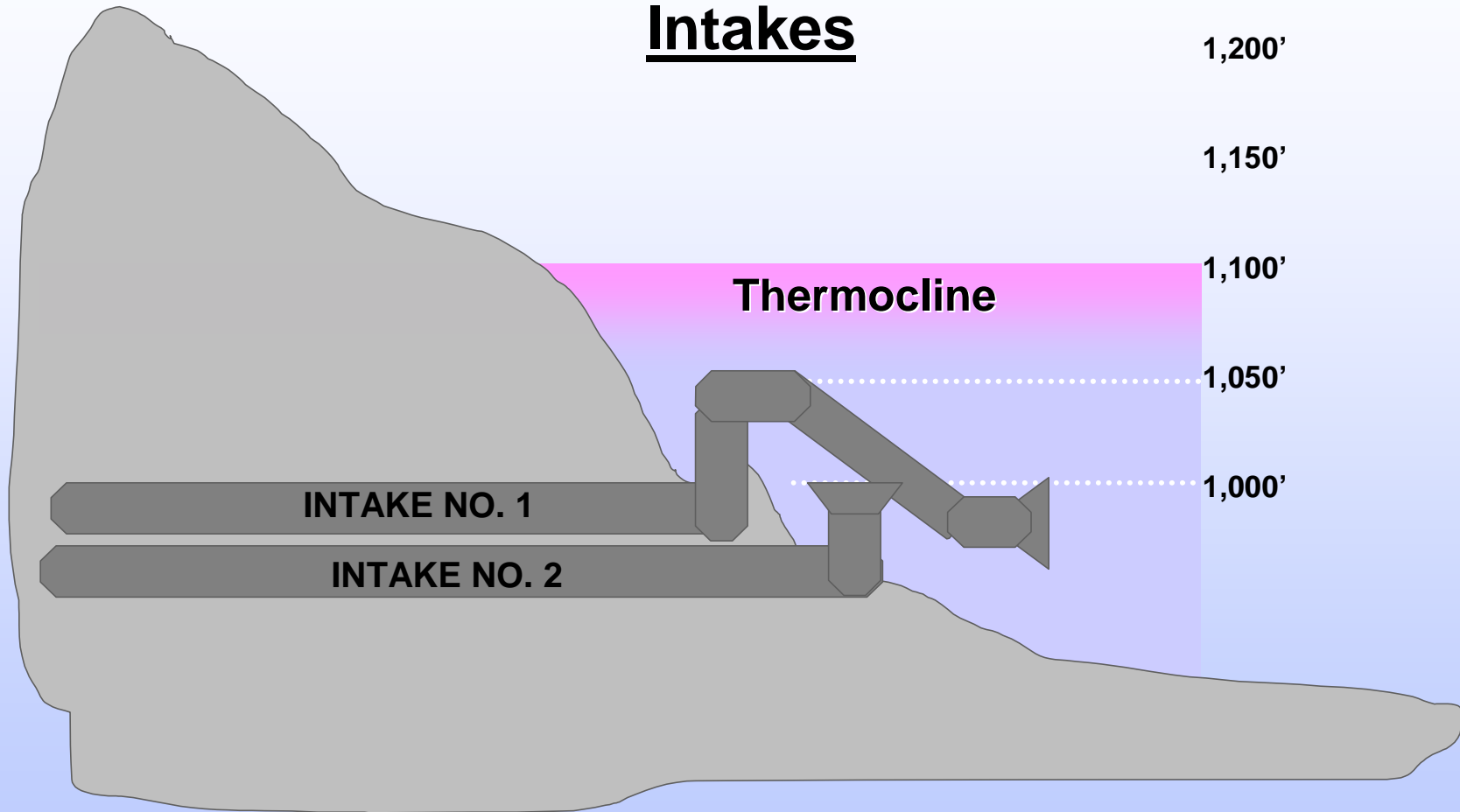


## Lake Powell Annual Inflows



**Historical 9-Year Average Inflow: 66% of normal**

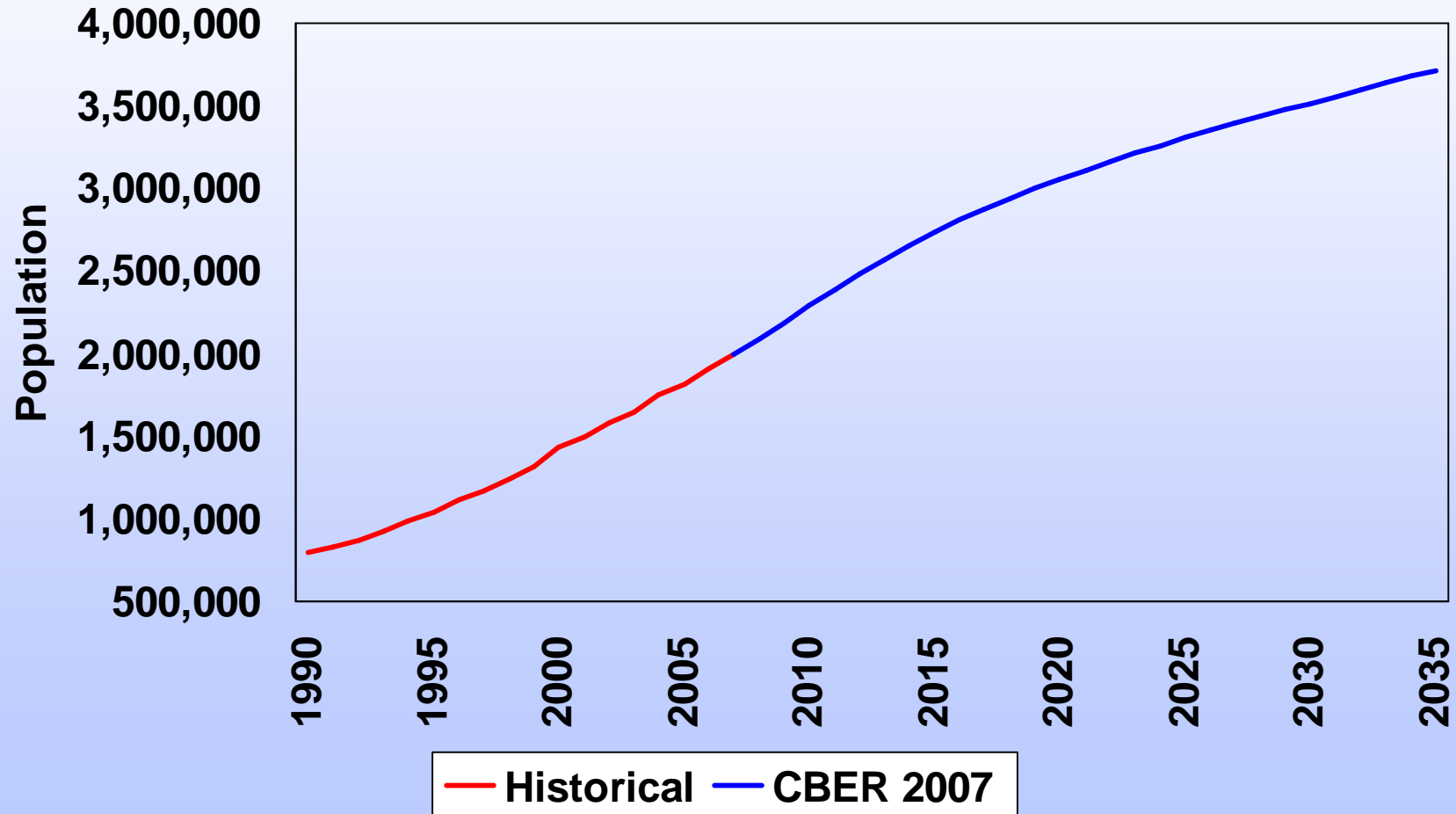
**Potential Drought Impacts on SNWA's Lake Mead Intakes**



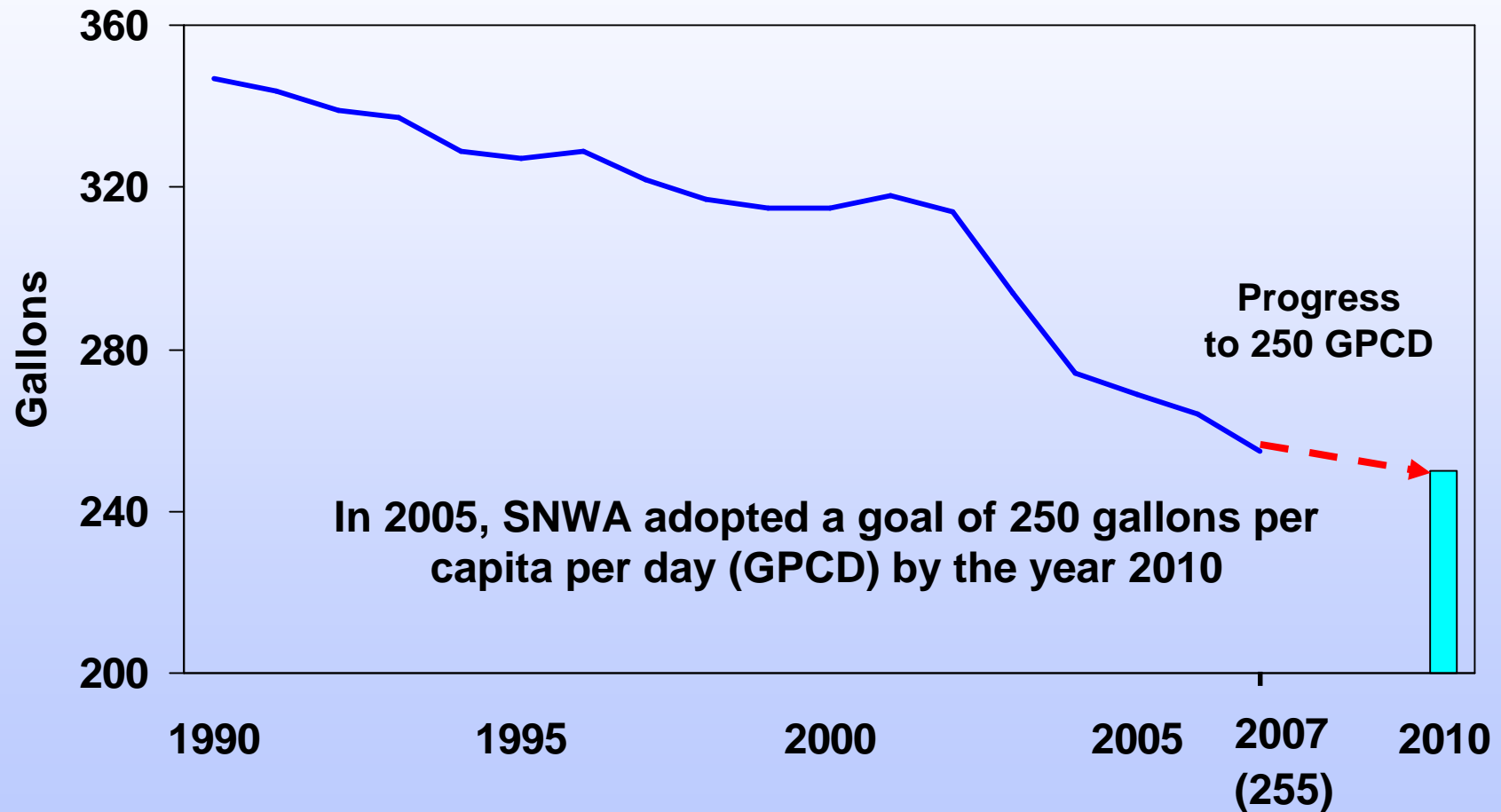
**Upper intake modification enhances water quality,  
but does not protect the intake from lake levels below 1,050 ft.**

## Clark County Population

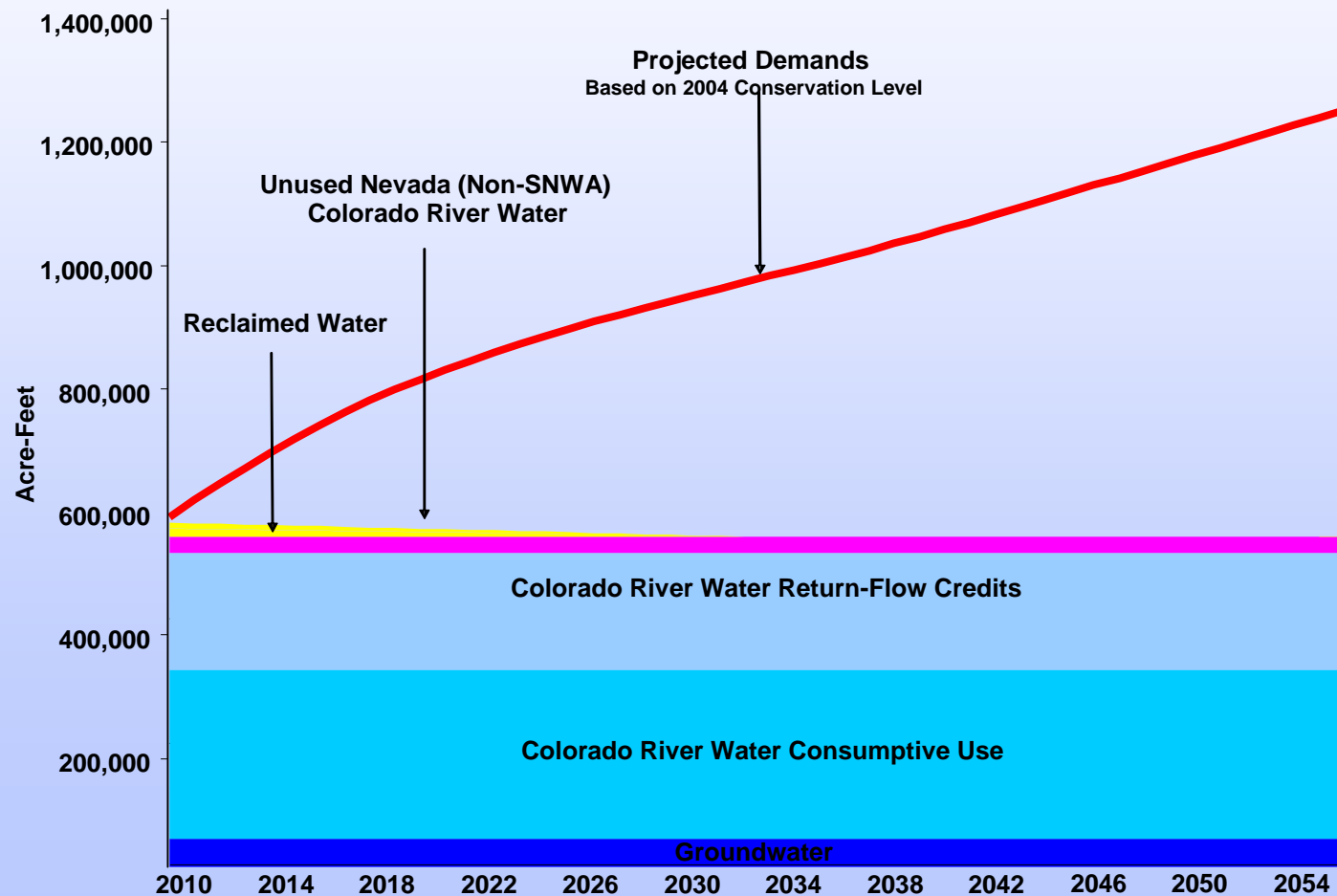
*Forecast Prepared by University of Nevada Las Vegas,  
Center for Business and Economic Research*



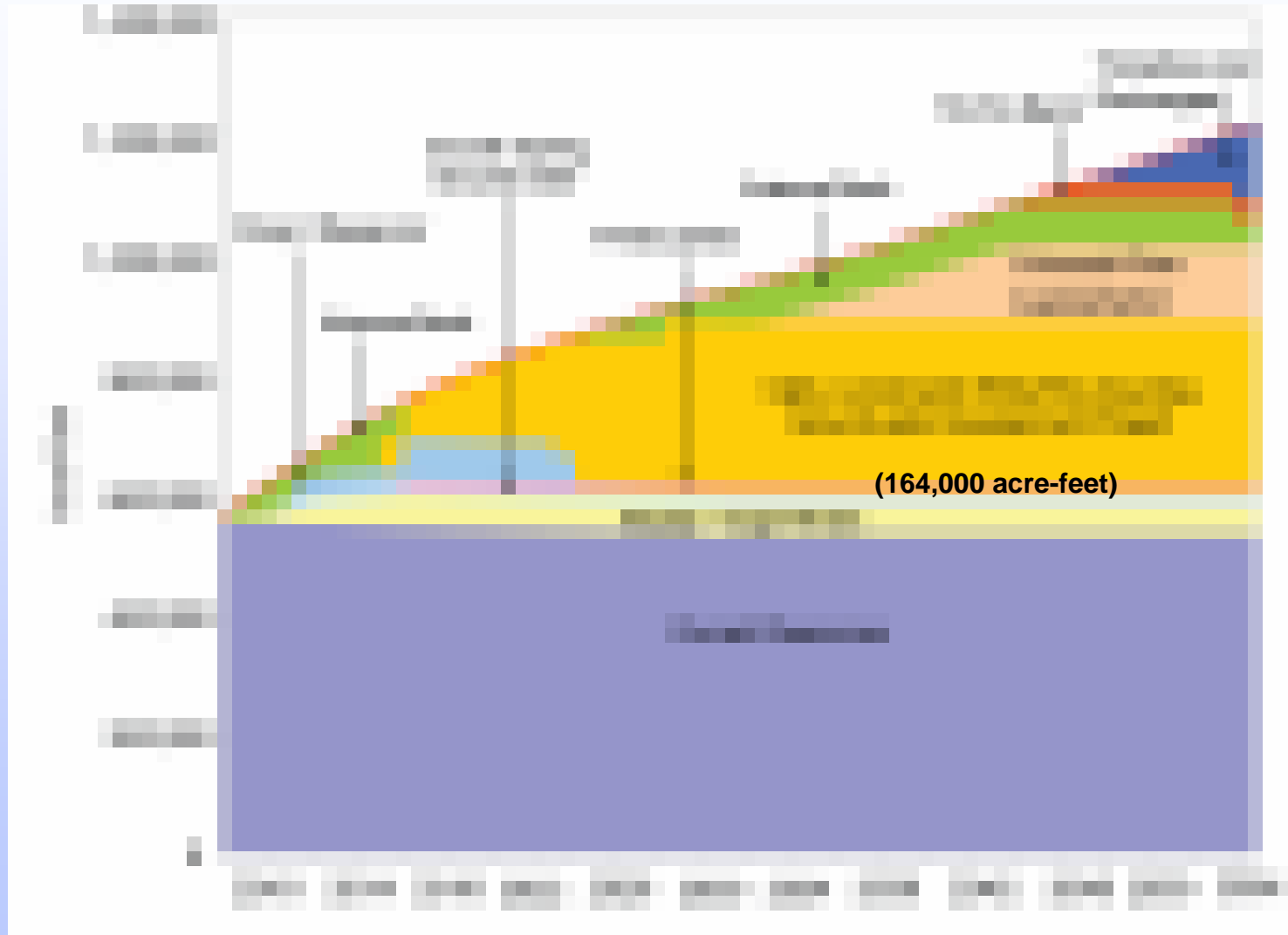
## SNWA Total Water Use in GPCD



## Future Water Demands and Resources



## Future Water Demands and Resources



\*Includes conservation (100,000 acre-feet by 2035, with gradual savings increases in preceding years)

## Final Thoughts

- Even with aggressive conservation and development of In-State projects, additional water supplies will be needed in the future.
- Augmentation is an essential part of the solution.
  - Continued ongoing actions within states.
  - Develop near term policy to provide “New Water” during next 20-30 years.
  - Pursue long term “Legacy Projects” to augment Colorado River system.