

This presentation premiered at WaterSmart Innovations

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Using GPCD to account for conservation: SNWA's measured progress

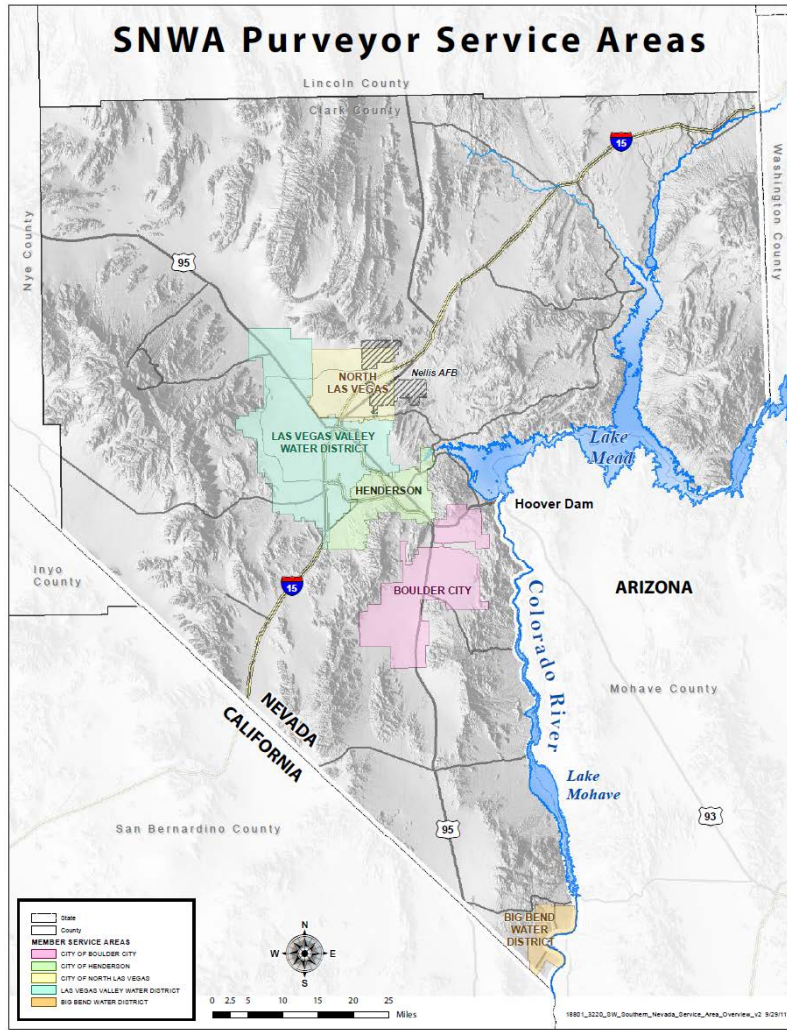
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Water Smart Innovations 2011

Discussion Topics

- Southern Nevada Water Authority (SNWA)
- SNWA Conservation Program
- GPCD Considerations
- Role of SNWA Total GPCD

Southern Nevada Water Authority (SNWA)



Member Agencies

- Big Bend Water District
- City of Boulder City
- City of Henderson
- City of Las Vegas
- City of North Las Vegas
- Clark County Water Reclamation District
- Las Vegas Valley Water District

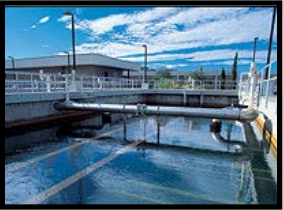
What We Do



Wholesale water treatment and delivery



Manage existing and future water resources

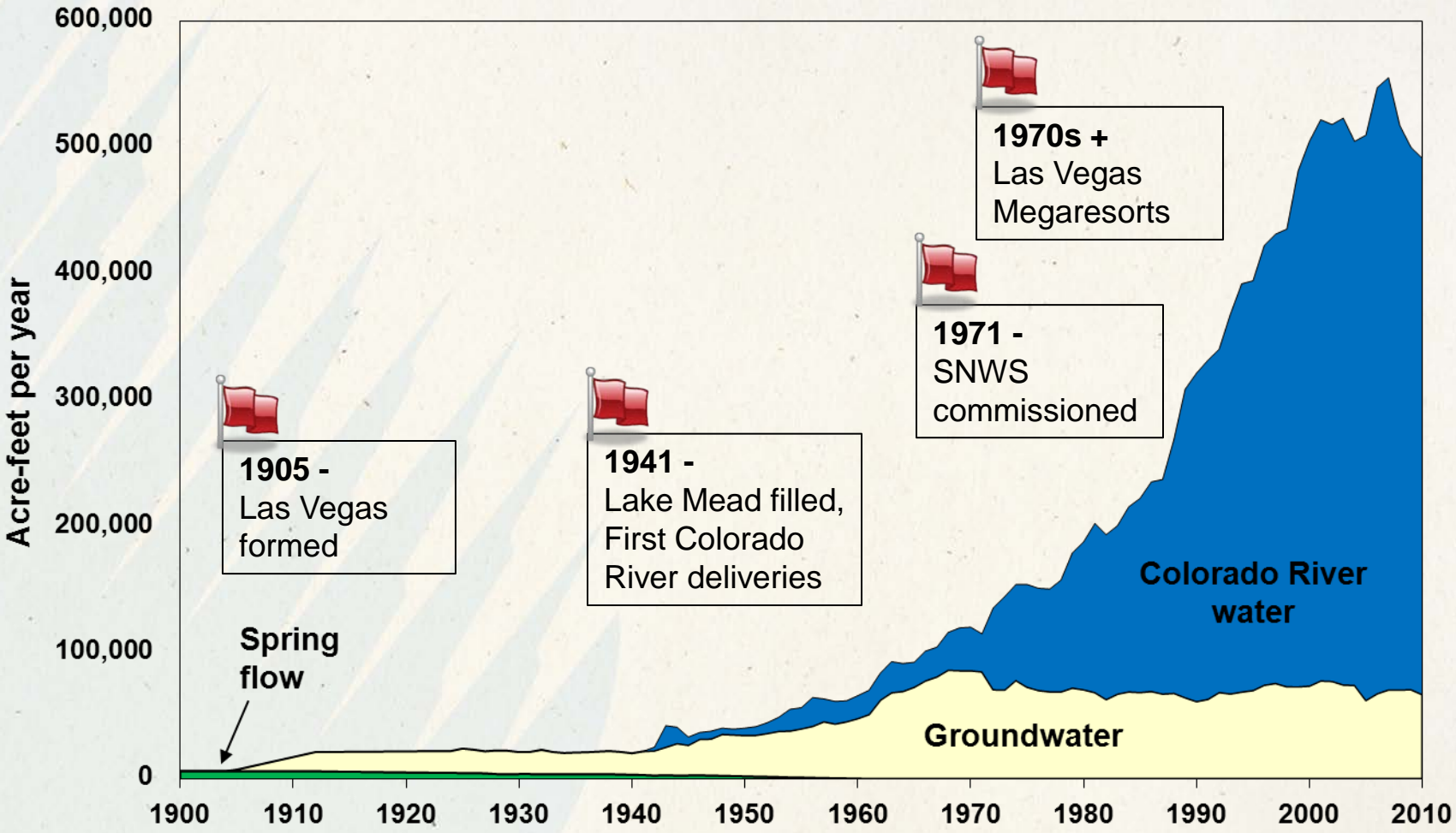


Construct and operate facilities

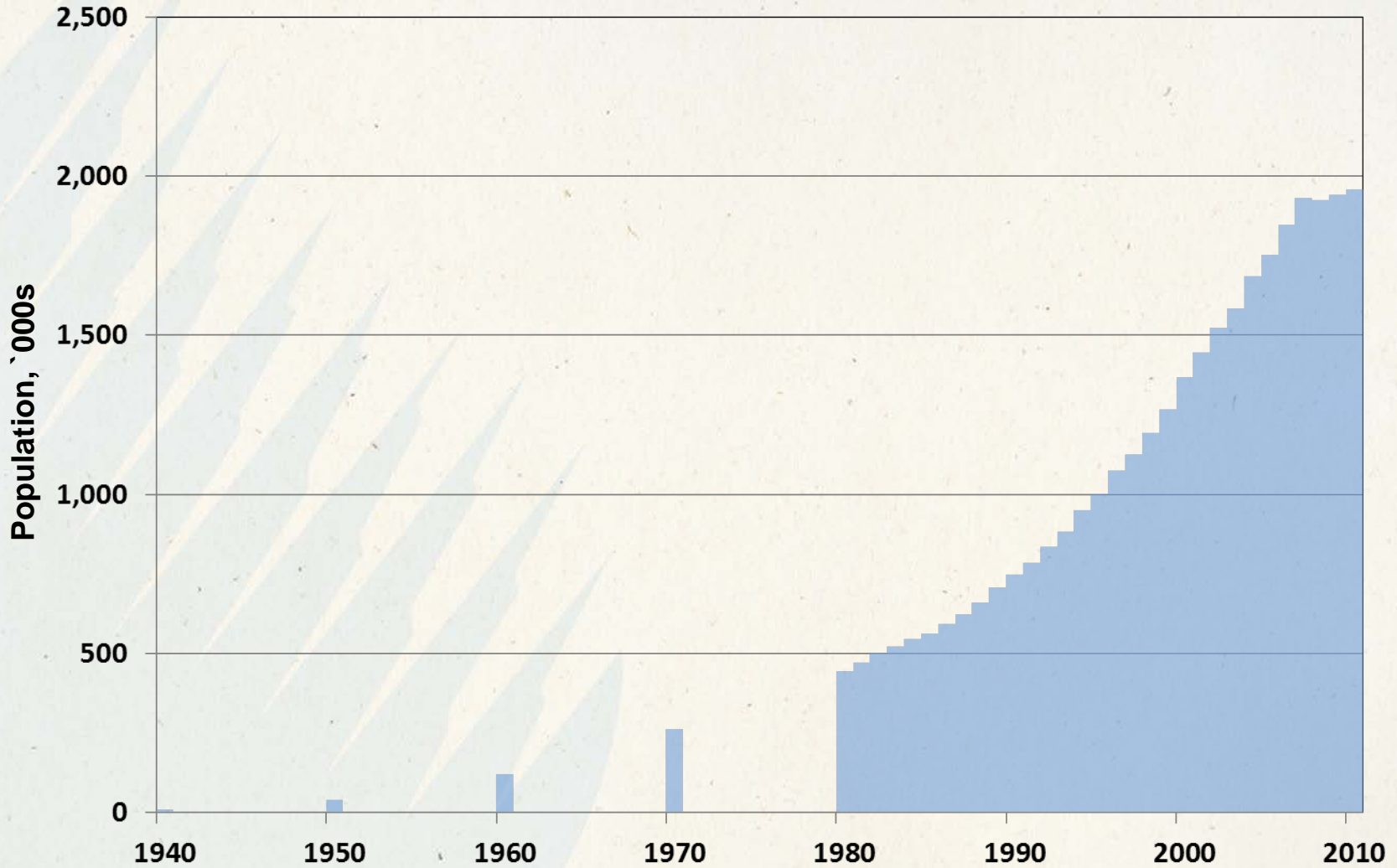


Promote conservation

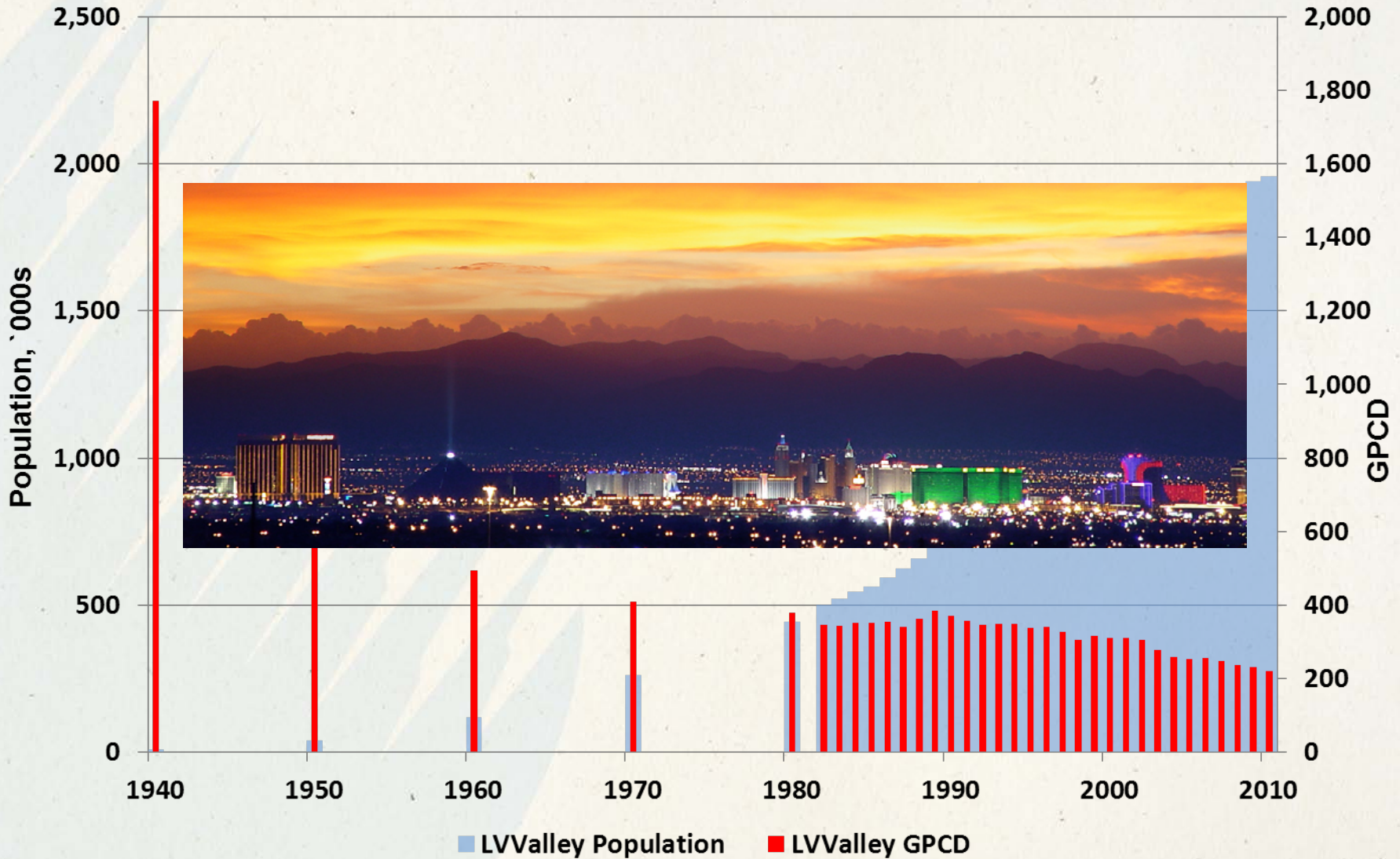
Las Vegas Valley Water Use



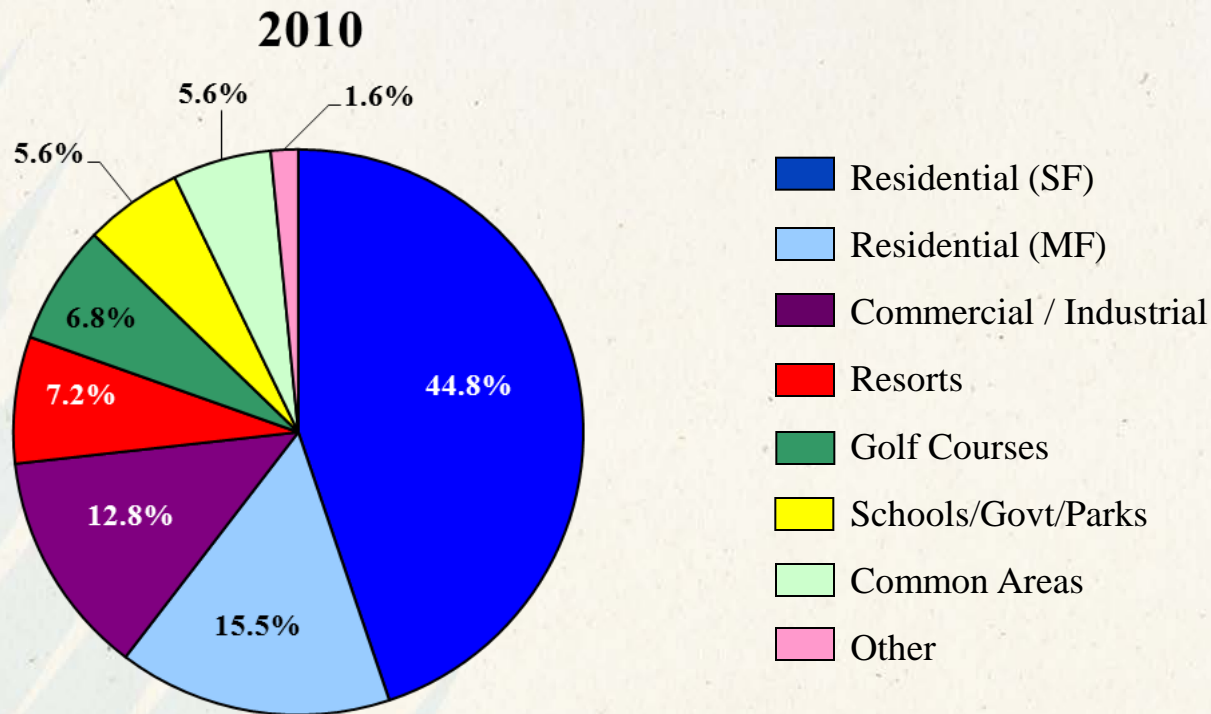
Las Vegas Valley Population



Las Vegas Valley Population and GPCD



SNWA Municipal Metered Water Consumption



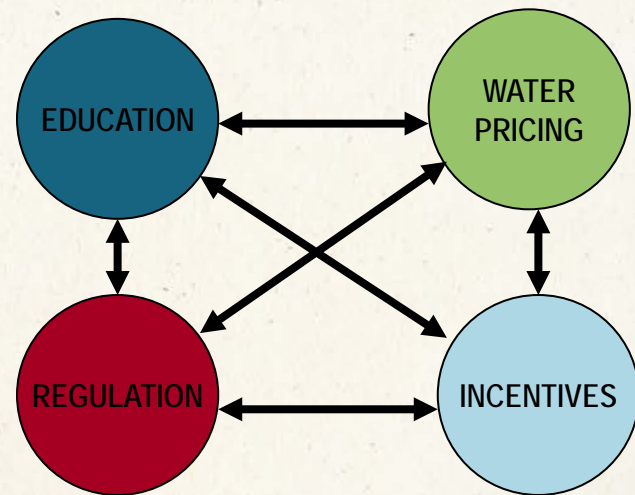
Total: ~454,000 AF

Notes:

- (a) Municipal metered water consumption billed to customers from all sources (potable and non-potable)
- (b) Potable includes ground water and Colorado River water
- (c) Non-Potable includes raw Colorado River water, reclaimed and reused water
- (d) SNWA Service Area reflects the following municipal service areas: Big Bend Water District, City of Boulder City, City of Henderson, City of Las Vegas, City of North Las Vegas, Clark County Water Reclamation District, and Las Vegas Valley Water District
- (e) Percentages may not total to 100% due to rounding

SNWA Conservation

- Southern Nevada has a comprehensive and effective conservation program
- Program elements include:
 - Regulation
 - Incentives
 - Pricing
 - Education



SNWA Conservation Efforts

- Conservation program established in 1991
- Best management practices defined in the SNWA Memorandum of Understanding, collaborative SNWA conservation goals developed in the mid-1990s
- Comprehensive conservation plans have been produced at five-year intervals since 1999

GPCD Considerations

Gallons per capita per day

GPCD = Average Daily Local Water Use / Local Population

Common metrics

- Total GPCD (system-wide)
- Billed
- Residential
- Commercial
- Potable
- Municipal
- Non-Revenue

Considerations – Standards for Water Utilities

“Standards are minimum best practices representing a consensus of the water supply industry that a product described in a standard will provide satisfactory service when used in North America.” AWWA

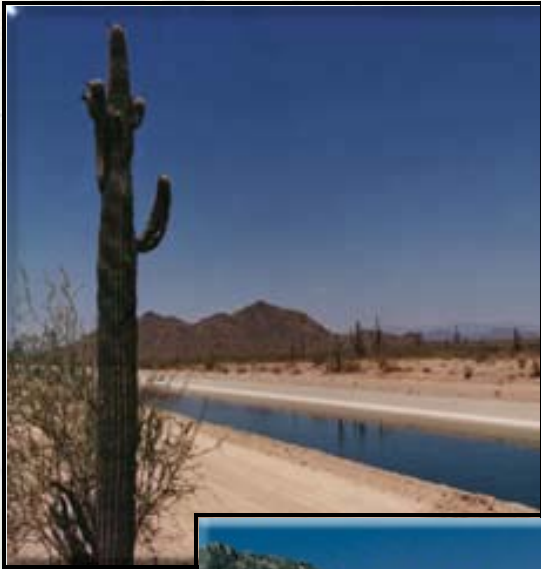
Common standard categories:



Considerations – No GPCD Standard

Variability may be associated with a variety of factors, including:

- Climate differences
- Demographic factors
- Economic conditions
- Water accounting practices



SNWA Total GPCD

$$\text{Total GPCD} = \frac{\text{Total Average Daily Water Use}}{\text{Permanent Residents Served}}$$

SNWA Service Area permanent resident population estimate

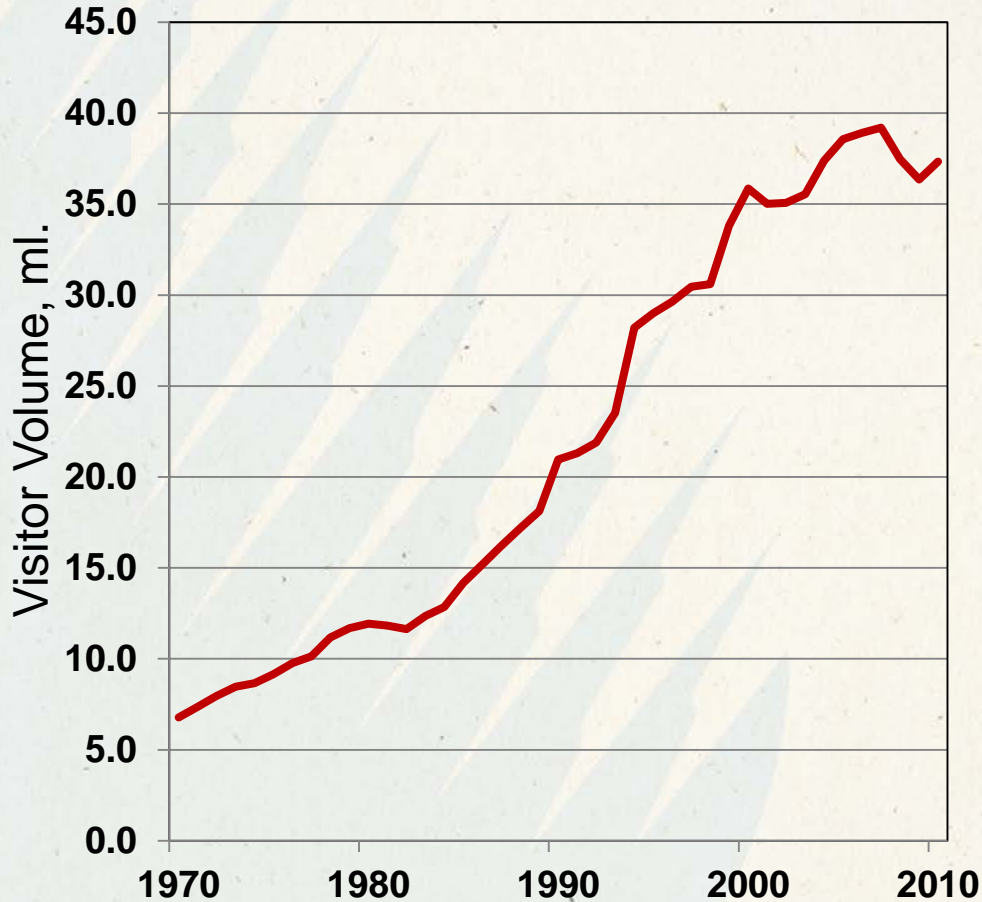
- based on the data from Clark County Comprehensive Planning Division

SNWA member total water use includes

- Colorado River water deliveries excluding Las Vegas Valley Water Banking
- Groundwater production
- Direct and Indirect recycling
- Water Bank recovery

GPCD Considerations – Population Served

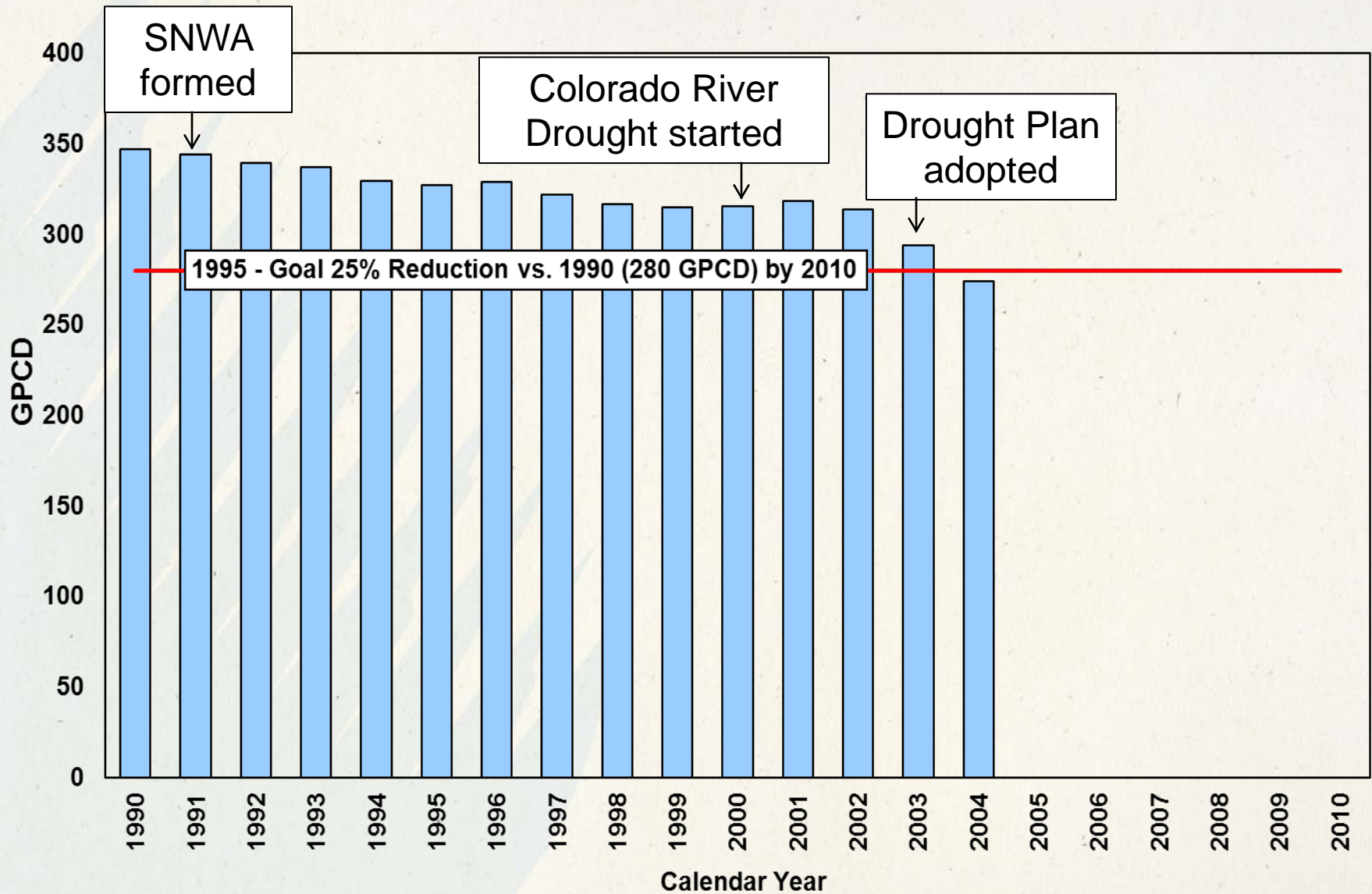
Las Vegas Visitor Volume



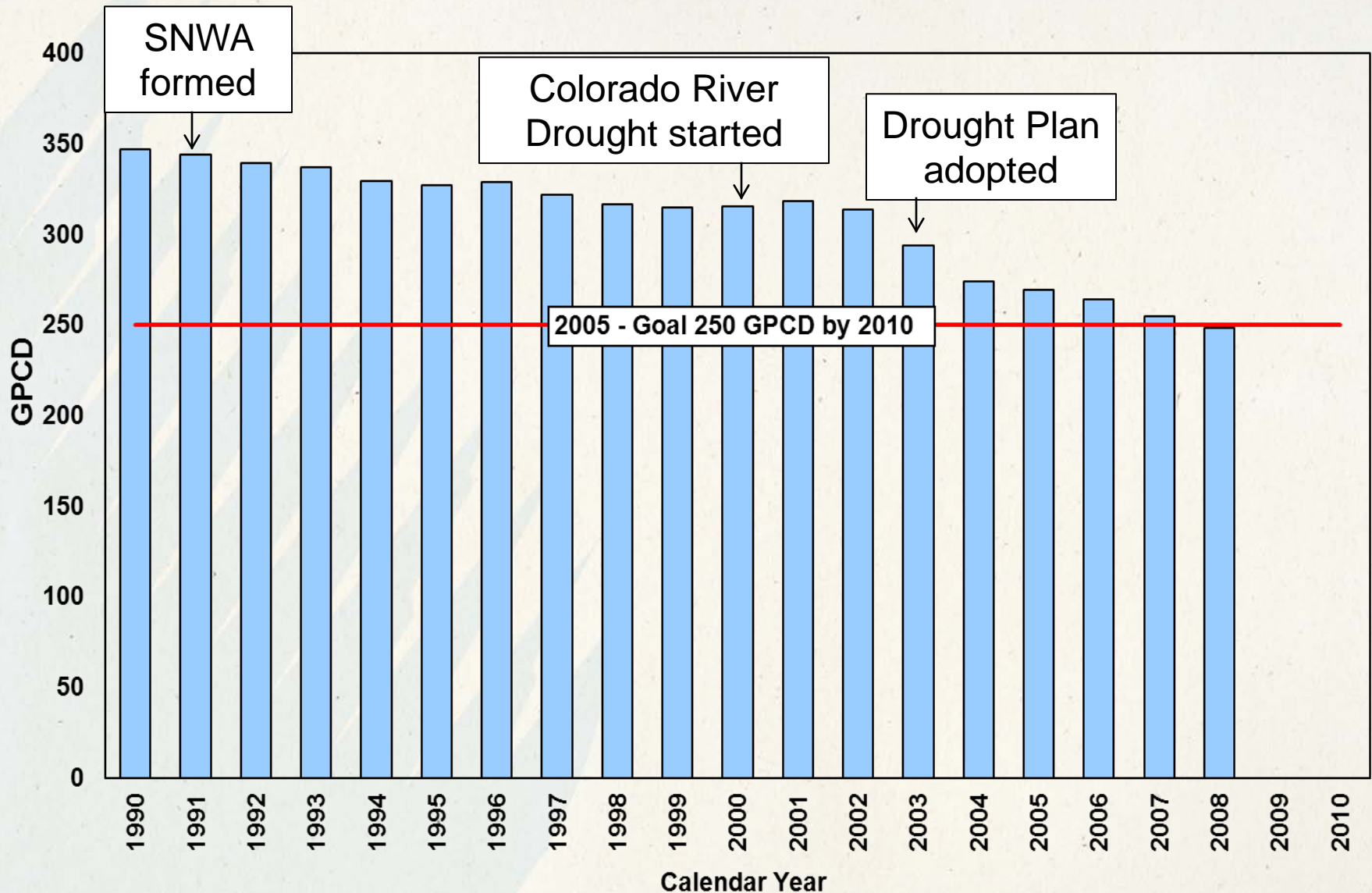
With average stay of 4.6 days and 3.6 nights, ~37.3 ml. Las Vegas visitors represented Hotel Population of approximately 400,000 people in 2010. SNWA does not account for Hotel Population in denominator of GPCD calculations.

Source: Las Vegas Convention and Visitors Authority, GLS Research, 2010

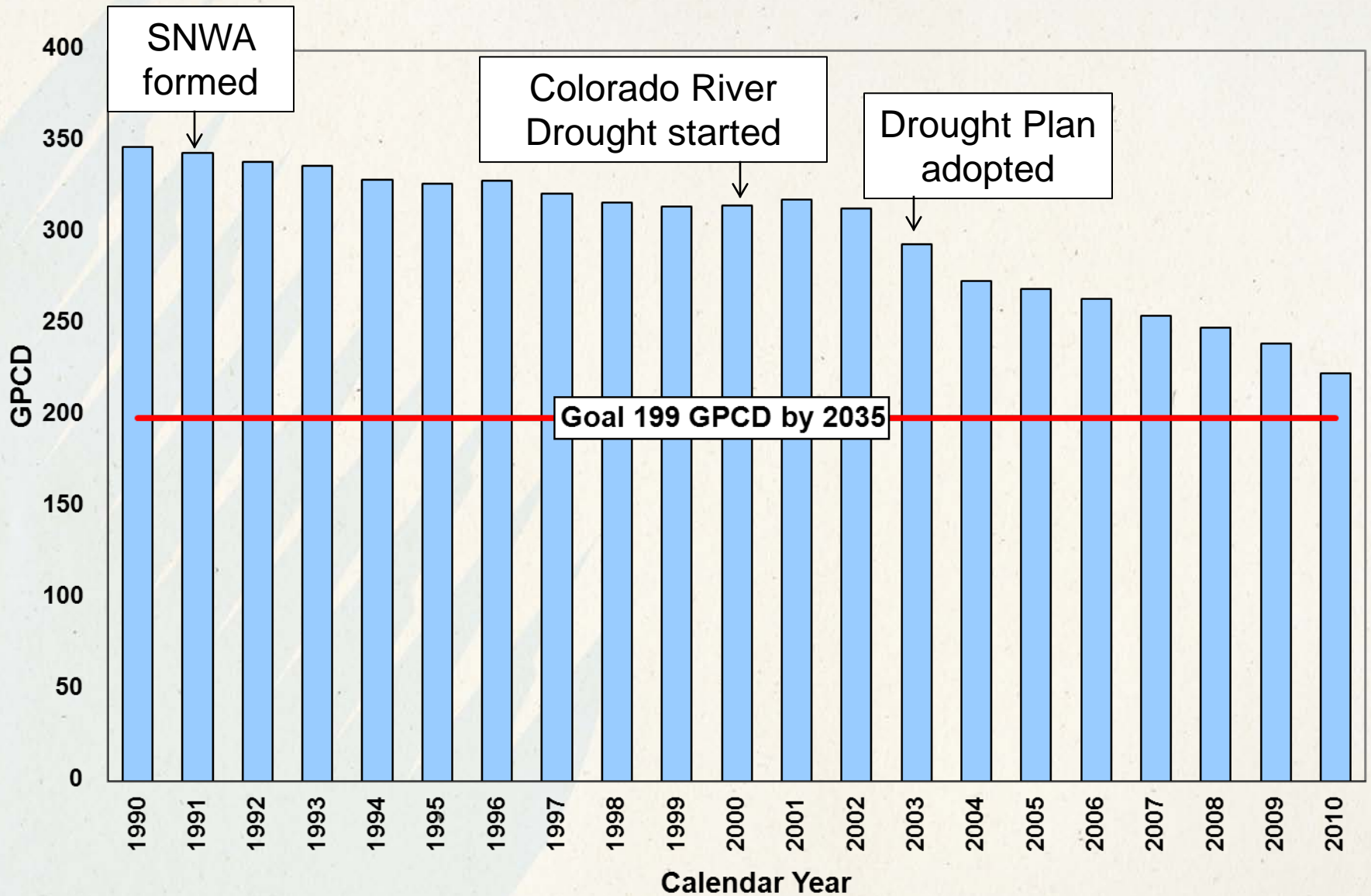
Total GPCD - Metric of Conservation Progress



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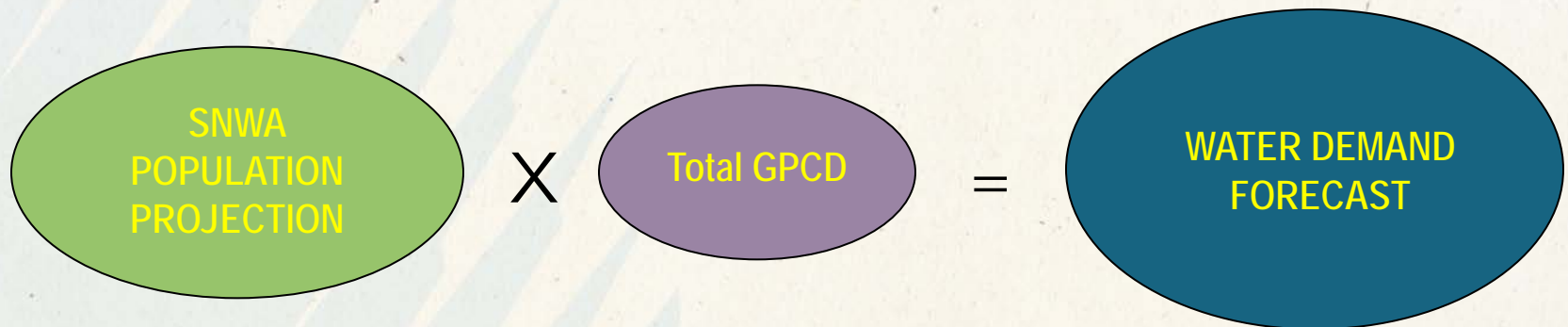
SNWA Conservation Goals - Summary

Conservation Goal	Established	Achieved
1) 25% Conservation vs. 1990, equivalent to ~280 Total GPCD by 2010	1995	2004
2) Total GPCD of 250 by 2010 and 245 by 2035	2005	2008
3) Total GPCD of 199 by 2035	2009	

Total GPCD in SNWA Water Demand Forecasting

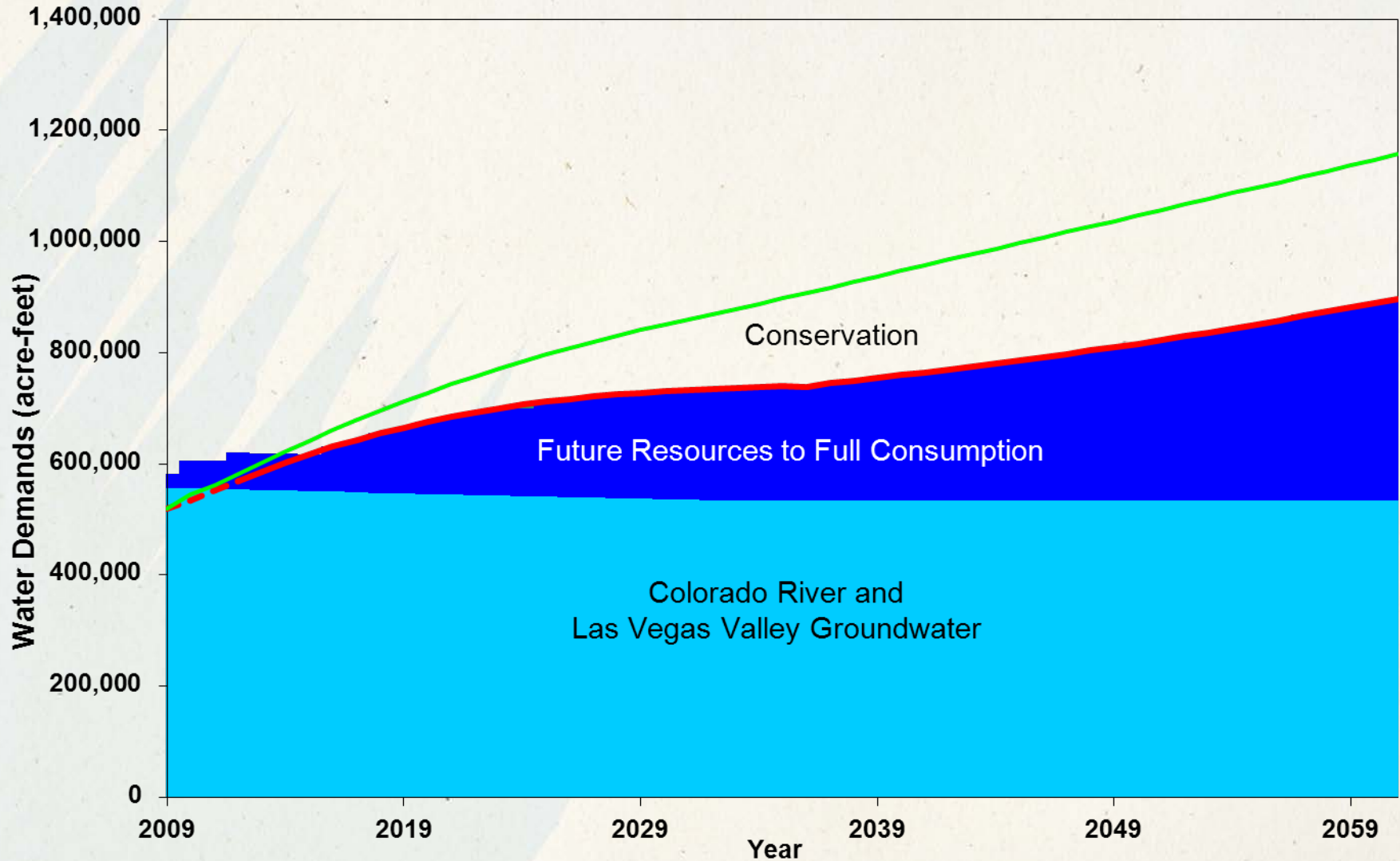
Water Demand Forecast is based on:

- Clark County population projections*
- Per Capita water use representative of SNWA Conservation Goal



Note*: SNWA Member Agencies service area population accounts for ~ 96% population of Clark County

Total GPCD in SNWA Water Demand Forecasting



Source: 2009 SNWA Resource Plan

Summary

- Comparisons of GPCD among agencies have significant limitations, GPCD is best used for measuring individual achievements
- SNWA Metered Consumption
 - Demonstrates conservation across customer classes
- SNWA Total GPCD
 - Provides long-term measure for conservation achievement
 - Serves as a basis for forecasting demands
 - Demonstrates strong record of achievement

Questions?

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