

Southern Nevada Water Authority Water Conservation

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EXHIBIT H – WESTERN WATER
Document consists of 38 pages.
Entire Exhibit provided.
Meeting Date: 3-31-08

SNWA Mission

Manage the region's water resources and develop solutions that will ensure adequate future water supplies for the Las Vegas Valley

SNWA Member Agencies

City of Las Vegas

City of Henderson

City of Boulder City

City of North Las Vegas

Big Bend Water District

Clark County Water Reclamation District

Las Vegas Valley Water District

SNWA Member Agencies

<u>Agency</u>	<u>Water</u>	<u>Wastewater</u>
City of Las Vegas		X
City of Henderson	X	X
City of Boulder City	X	X
City of North Las Vegas	X	
Big Bend Water District	X	
Clark County Water Reclamation District		X
Las Vegas Valley Water District	X	

Current Resources

COLORADO RIVER

- **Nevada Basic Apportionment**
- **Return-Flow Credits**
- **Surpluses / Interim Surpluses**
- **Unused Apportionment (AZ/NV)**
- **Arizona Water Bank**
- **California Water Bank**
- **Southern Nevada Water Bank**

VIRGIN AND MUDDY RIVERS (Partial)

LAS VEGAS VALLEY GROUNDWATER

Current Resources

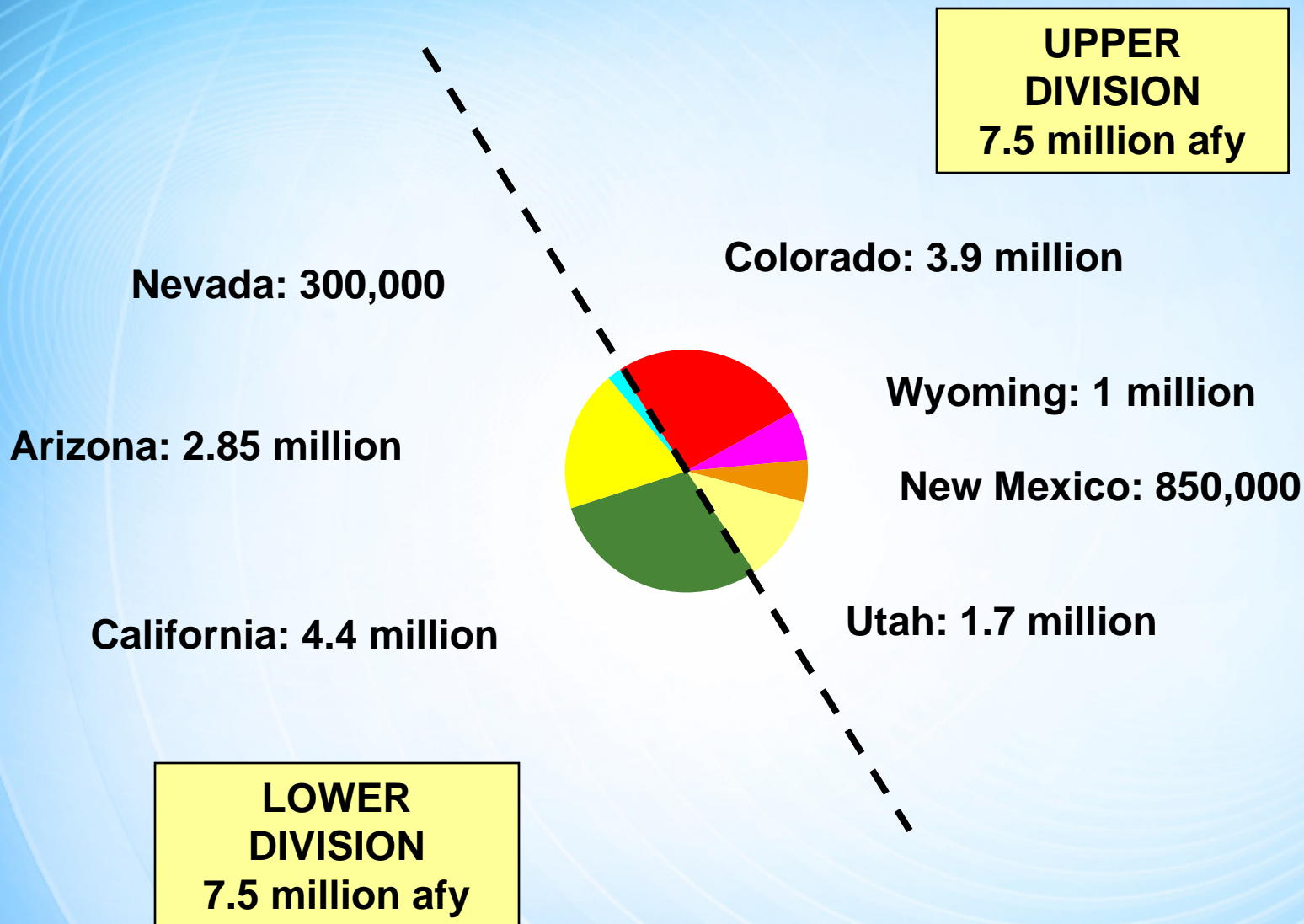


Colorado River Overview

- Sustains over 30 million people in 7 states and Mexico
- Upper & Lower Basins apportioned 7.5 mafy each
- 60 maf of storage
- 7 years of below normal runoff
- Current storage about 50% of capacity
- Provides 90% of Southern Nevada's Water

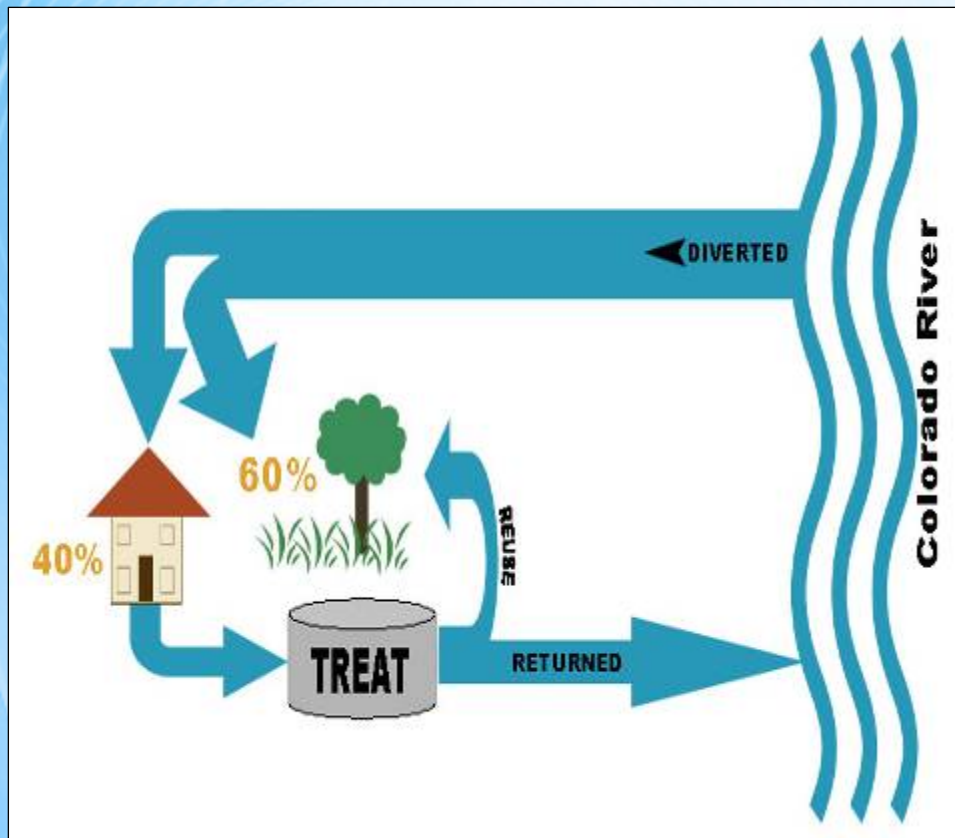


Colorado River Overview



Colorado River Overview

Return Flow Credits



- Colorado River water is consumed primarily by landscape and cooling
- Indoor water use has negligible impact
- Graywater and Reclaimed water do not extend the resource

Colorado River Overview

Consumptive Use

- Refers to the amount of Colorado River water that Southern Nevada can actually consume from the Colorado River (300,000 afy)
- Water that is not returned to Lake Mead for return-flow credits is considered consumed
 - Water used for landscape irrigation
 - Water lost to runoff and evaporation

Water Banks

Arizona Water Bank

- **Guarantees 1.25 million acre-feet of long-term storage credits in SNWA's account**

California Water Bank

- **SNWA has banked about 20,000 acre-feet of water under this agreement**

Southern Nevada Water Bank

- **Since 1987, Southern Nevada has stored about 320,000 acre-feet of water for future use**

Southern Nevada



Desert Environment

- Average rainfall of 4.5"
- Peak temps of 110+
- 13 rain events annually
- 250 new residents daily
- 40 million visitors yearly

Drought



1983



2006

Lake Mead in 2000



- Photo Elevation – 1214 ft

Lake Mead in 2004



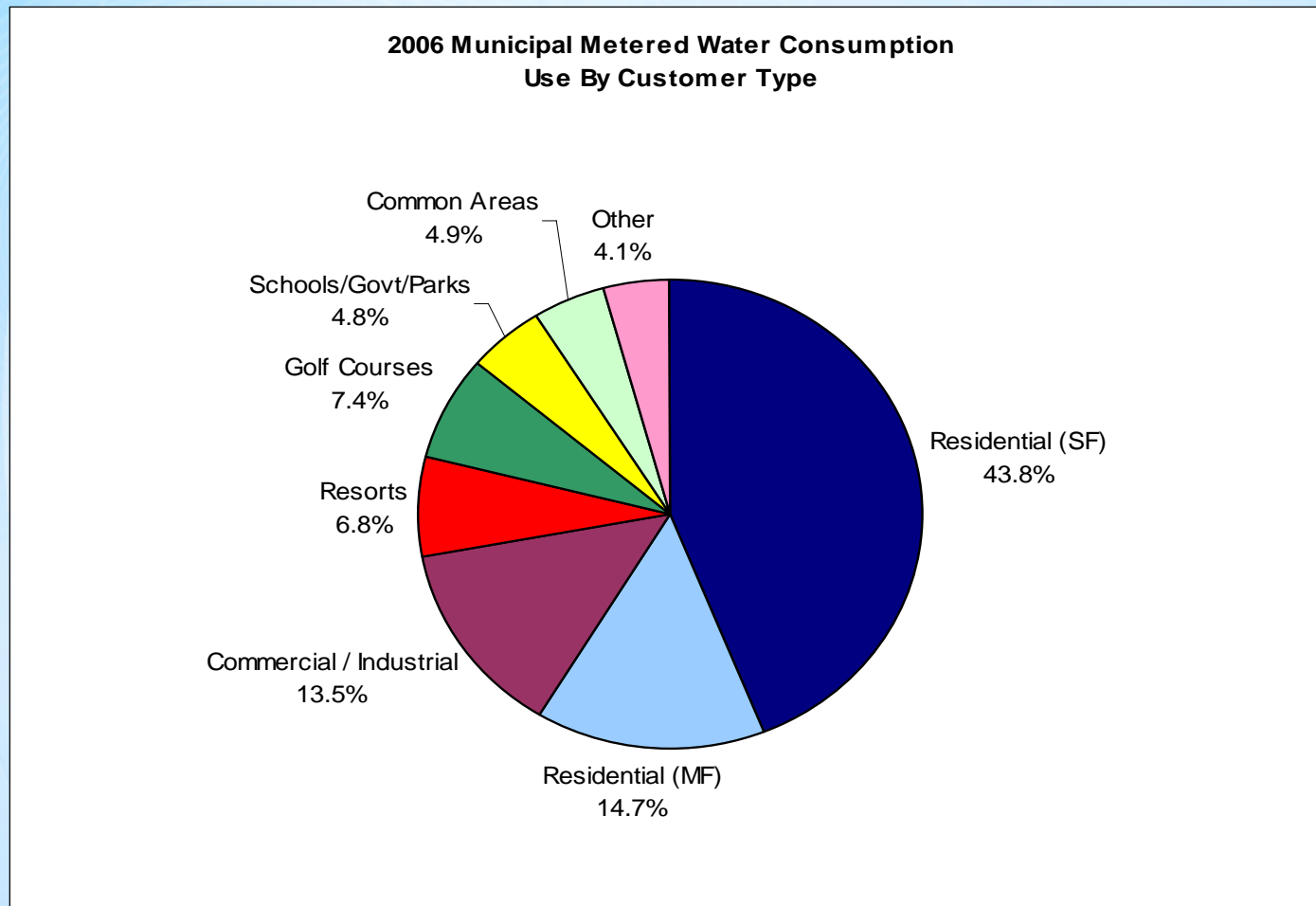
- Photo Elevation – 1132 ft
- Current Elevation – 1115 ft

Water Use in Las Vegas

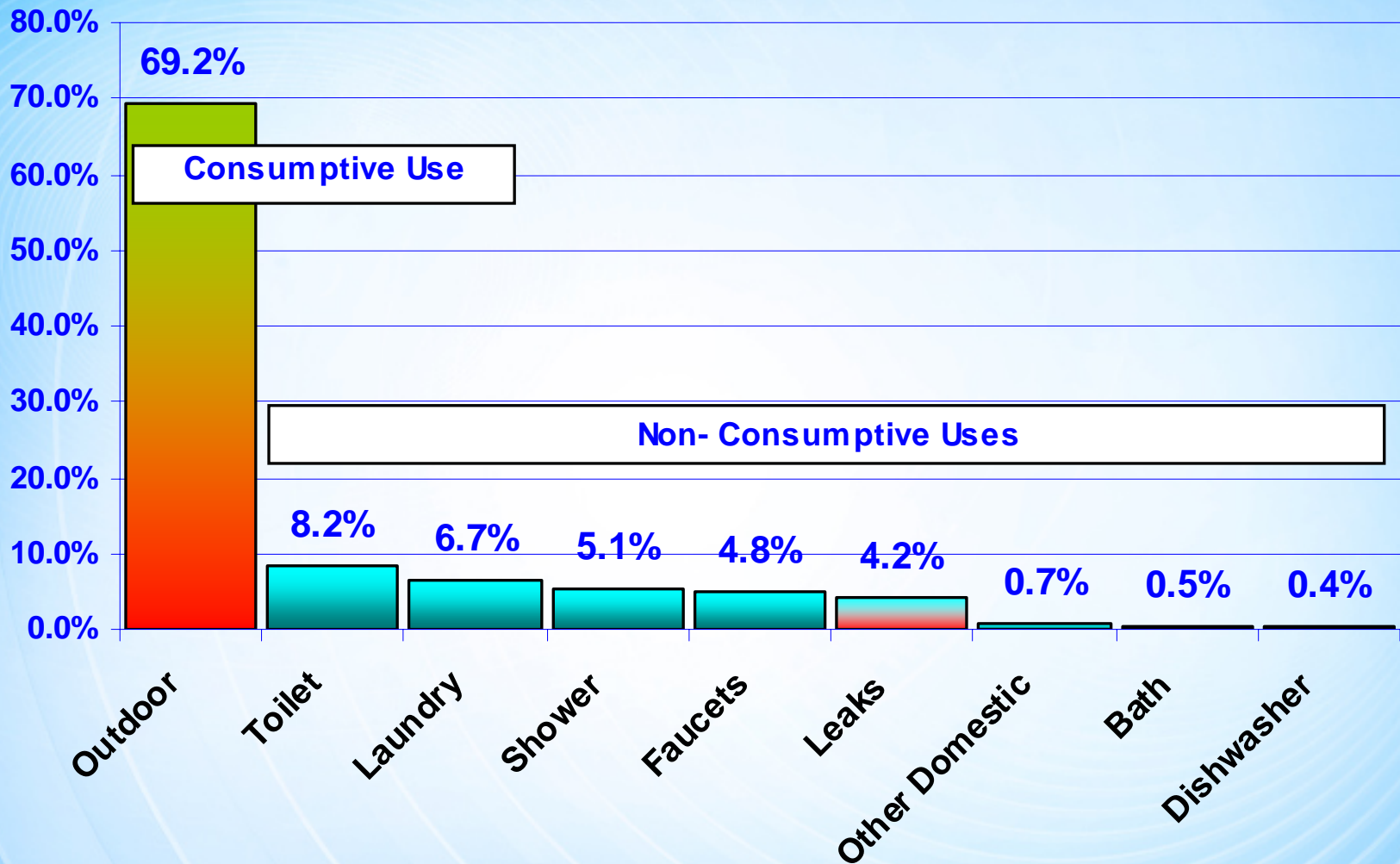


Metered Water Consumption

2006 SNWA Service Area Municipal Metered Water Consumption



Single Family Household Water Use



Conservation



**A Cultural Shift in
Southern Nevada**

Conservation

Regional Approach

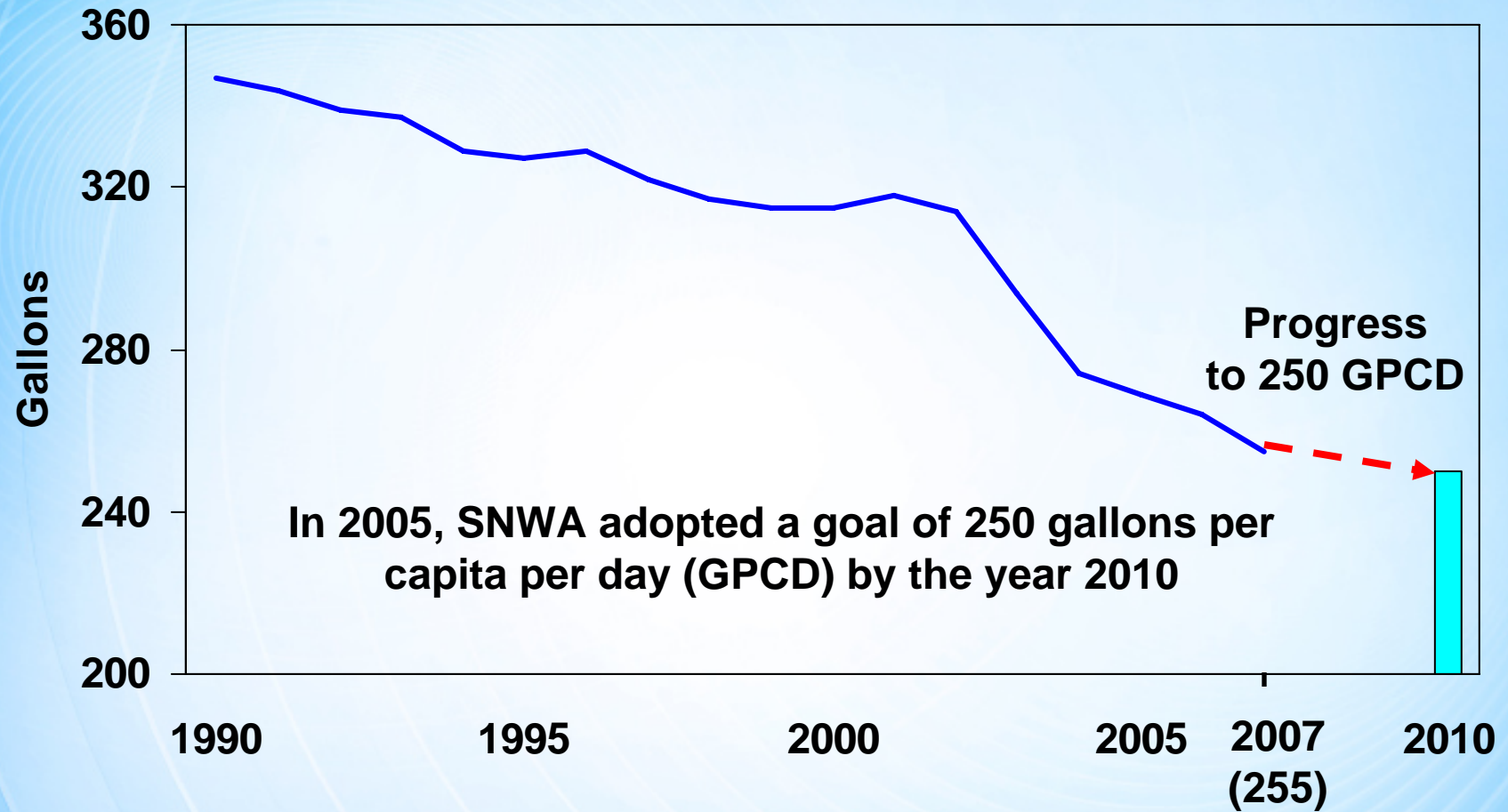
- Southern Nevada recycles nearly every drop of water that is used indoors. That's why SNWA conservation programs focus on outdoor water use
- Conservation in Southern Nevada is designed around the harsh environment of the Mojave Desert tailoring programs to focus on sustainable practices
- Dealing with a population of over 2 million
- Southern Nevada's consumptive water use declined about 15 billion gallons between 2002 and 2007, despite the fact that there were nearly 400,000 new residents and nearly 40 million annual visitors

Guiding Principles

- **Collaborate on model ordinances**
- **Assure consistency and equity**
- **Adopt and enforce ordinances**
- **Encourage public and industry input**
- **Ensure equity among all entities**
- **Utilize education, regulation and incentives**
- **Sustain economic vitality**
- **Focus on efficiency opportunities**
- **Provide leadership from government-sector**

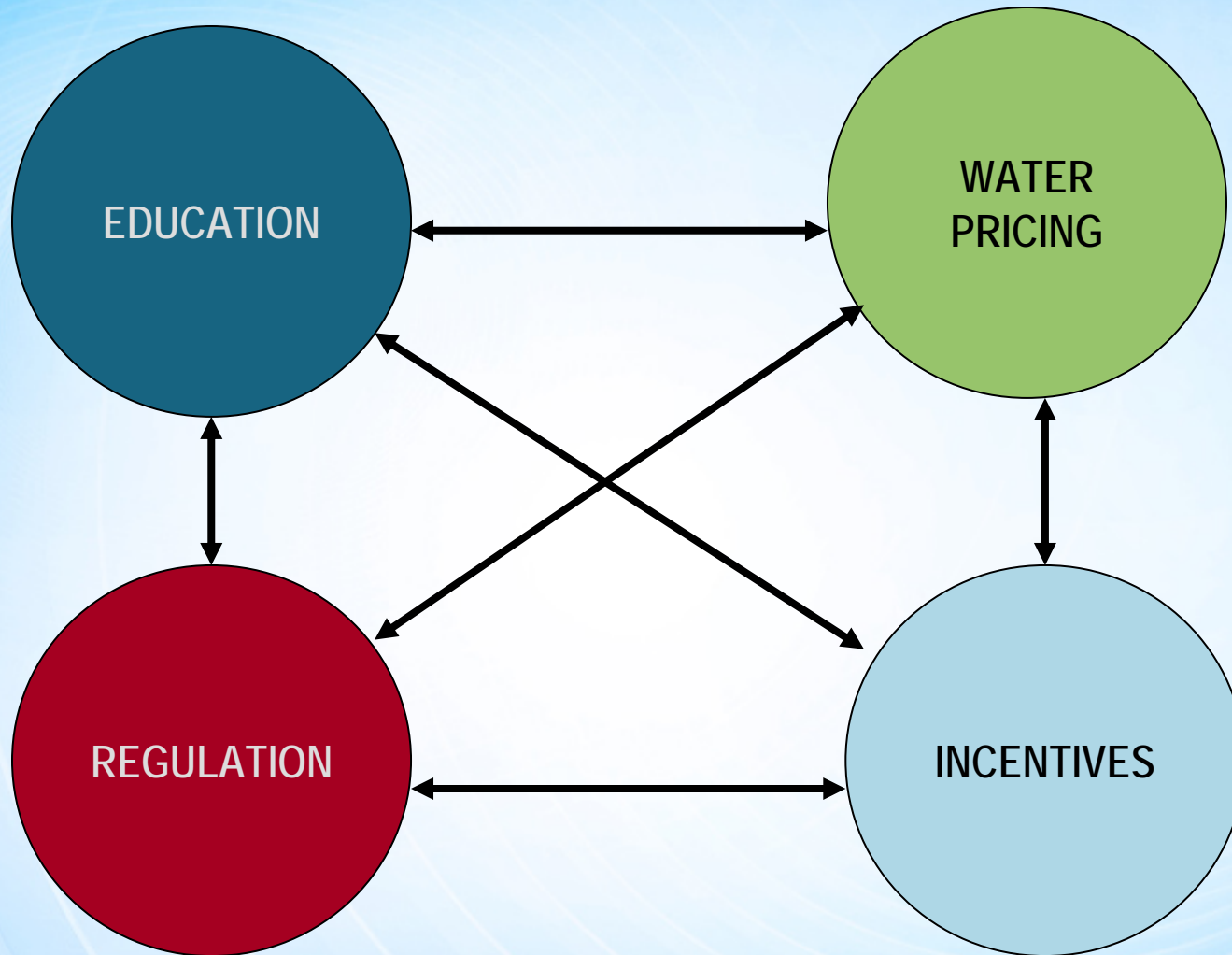
Conservation Gains

SNWA Total Water Use in GPCD



* Water use includes reuse

Conservation Ethic



Conservation Incentives



Water Smart Landscape

- Implemented in 1999
- Provides rebates to customers that replace turf with water-efficient landscaping
- SNWA has rebated over 100 million square feet of lawn conversion, saving over 5.6 billion gallons annually
- Up to 1,000 property owners per month apply to the Water Smart Landscape program

Conservation Incentives

Water Smart Landscapes

Before



- Lawns use 73 gallons per square foot annually

- Water Smart Landscaping uses 17 gallons per square foot annually

After



Conservation Incentives

- **Golf Courses are required to stay within strict water budgets**



Before



After

- **Golf Courses have converted over 20 million square feet: One fifth of all conversions**

Conservation Incentives

Efficient Irrigation Technologies



- Up to 50% off the cost of a “smart” controller

- Up to 50% off the cost of a rain sensor



Conservation Incentives

Water Efficient Technologies (WET)



- Rebates for large-scale capital projects produce saving of over 500,000 gallons per year
- Customers may choose from a menu, or propose their own, unique projects
- Paid on the basis of how much water is saved
- Can be new construction or retrofit

Conservation Incentives

Pool Cover Instant Rebate

- Estimated to reduce evaporation by 50 percent when used appropriately
- More than 11,000 covers distributed
- Estimated savings of 450 Million gallons to date

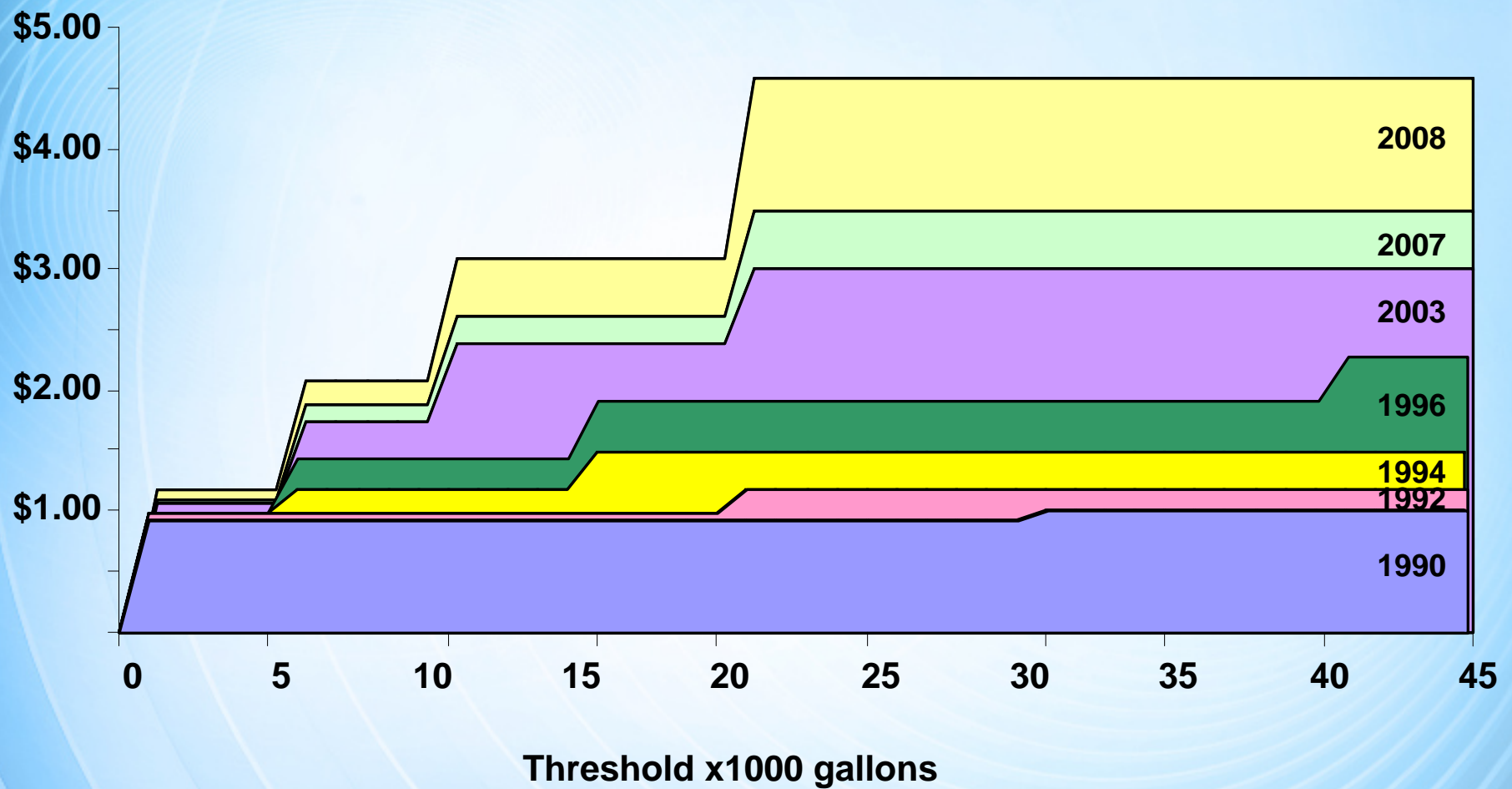


Regulatory Development Standards

- **No ornamental lawns in commercial landscapes & HOA common areas**
- **No lawns in front yards of new homes. Backyard lawns limited**
- **Lawn allowances for apartments and golf courses reduced by half**



Las Vegas Valley Water District 1990 - 2008 Rate History



Water Waste Investigations

- All jurisdictions use the same policy
- About 30,000 inspections per year
- Nearly 10,000 notices per year
- About 2,000 fee violations per year
- Over \$400,000 assessed annually



Education and Outreach

- **Advertising and media**
- **Speaker's Bureau**
- **Bill Inserts**
- **Conservation Helpline (258-SAVE)**
- **www.snwa.com, www.lvvwd.com**
- **Public and private partnerships (Water Smart Home, Water Smart Car Wash)**
- **School programs**

Partnership Programs

- **Program for licensed landscape contractors**
- **Half of company supervisors must complete training and exam**
- **Contractors abide by eleven water efficiency requirements on all projects**



Partnership Programs

- SNWA developed and operates the nation's largest program for new home water efficiency
- More than 6,600 WaterSmart Homes
- Model for the EPA WaterSense new home program
- Efficiency exceeds current plumbing, appliance and landscape codes



Conservation By The Numbers

- **Water Smart Landscape Program**
 - \$97 million rebated
 - 101 million sq. feet converted
 - 18 billion gallons saved
- **Irrigation Clock Rebate**
 - \$136,804 rebated
 - 1,991 complete installations
 - 134 million gallons saved
- **Pool Coupon**
 - \$647,778 rebated
 - 11,293 coupons received
 - 436 million gallons saved
- **Water Efficient Technology**
 - \$928,593 rebated
 - 29 projects completed
 - 1.6 billion gallons saved
- **Sensible Suds**
 - \$460,575 rebated
 - 5,747 applications completed
 - 276 million gallons saved

Successful Implementation

- **Identify and understand the water supplies, policies and regulations governing the supplies**
- **Be familiar with how the community uses water and provide information to accelerate and expand results**
- **Establish key values before you develop the strategies**
- **Involve and inform key stakeholders in programming and strategies**
- **Provide incentives to play a supporting role in demand reductions and understand they are vital to sustain community support**
- **Assure equity in regulatory programs which allows everyone to contribute**
- **Enforce what you adopt**

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Questions?