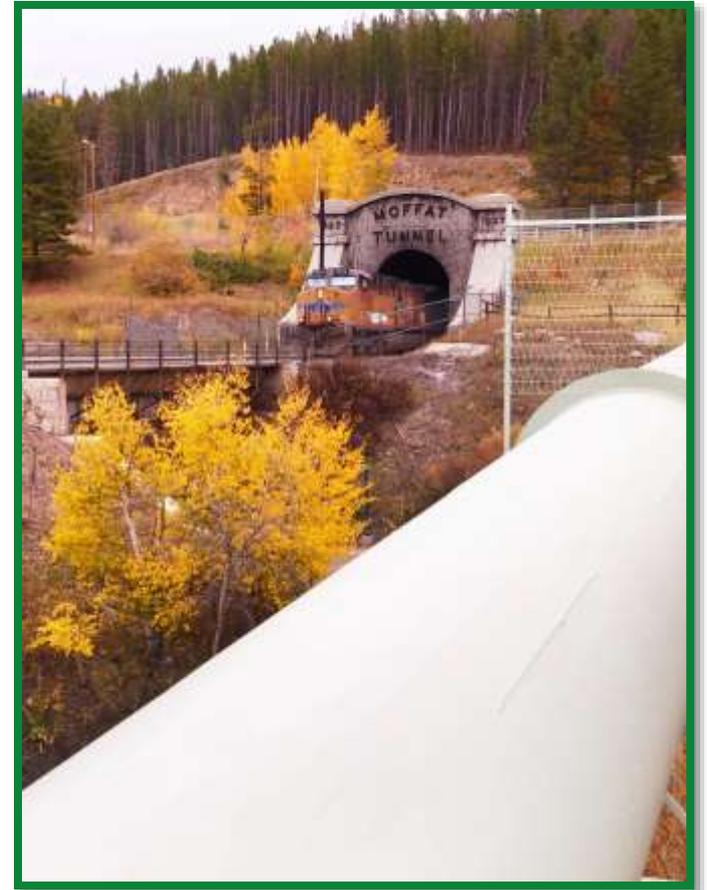


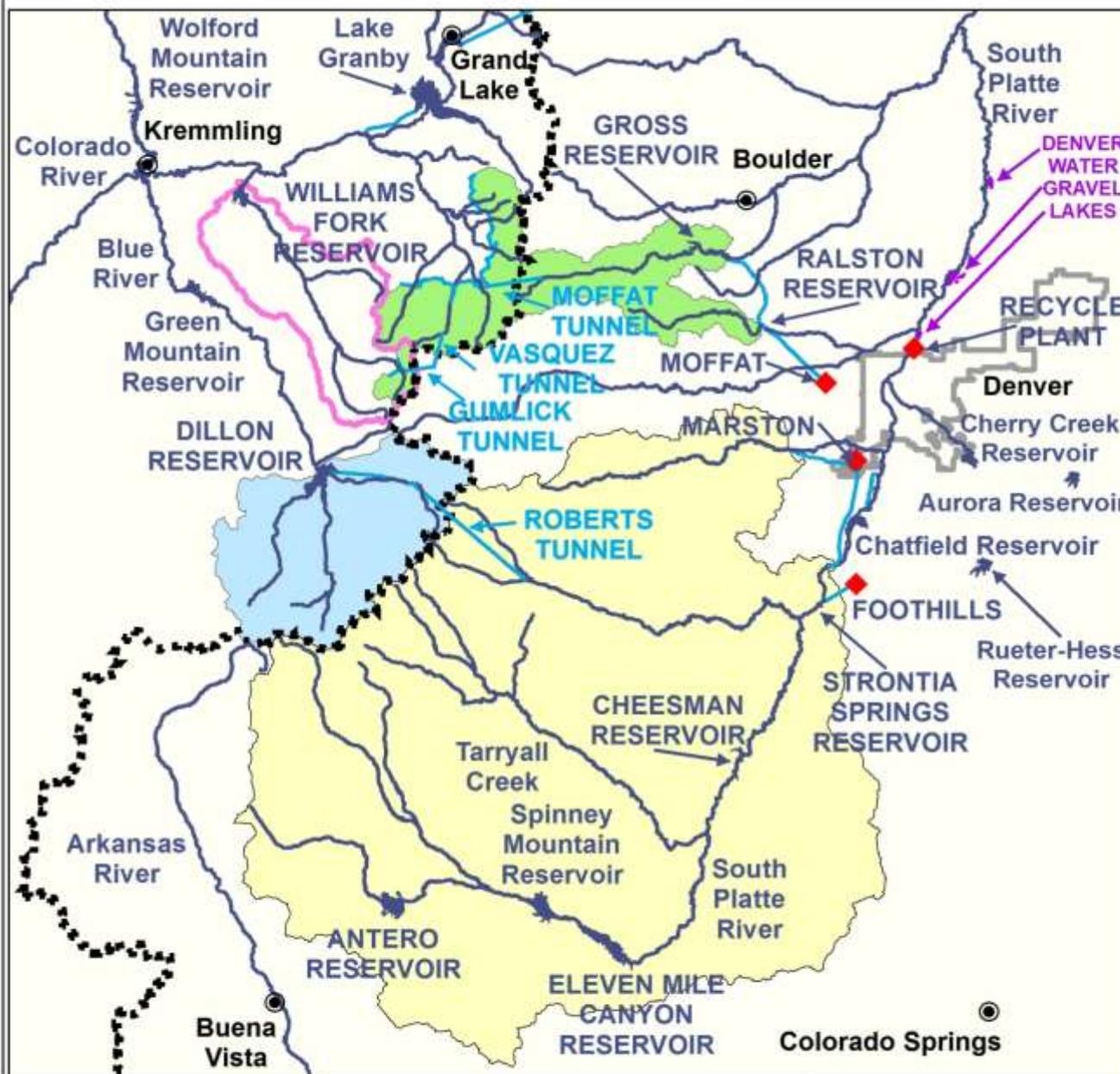
# The Denver Water System

- **Established in 1918**
- **Unique structure**
- **Serves 1.3 million people — 25% of Colorado's population**
- **System footprint - 4,000 square miles (2.5 million acres)**
- **19 raw water reservoirs**



City and County  
of Denver  
Board of  
Water Commissioners

# Water Collection System



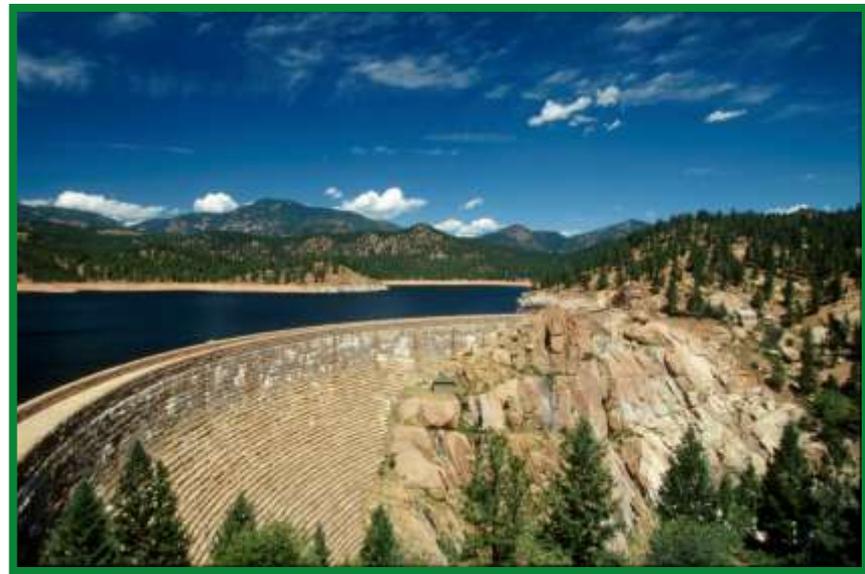
## LEGEND

- Town
- ◆ Denver Water Treatment Plant
- ⋯ Continental Divide
- Major Canal or Tunnel
- Major Stream or River
- Major Lake or Reservoir
- Williams Fork Reservoir Watershed
- South Platte Collection System
- Roberts Tunnel Collection System
- Moffat Collection System

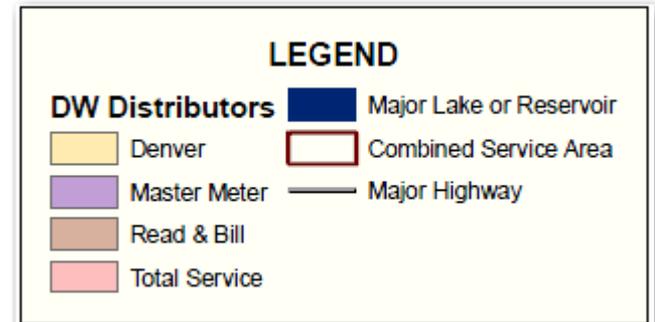
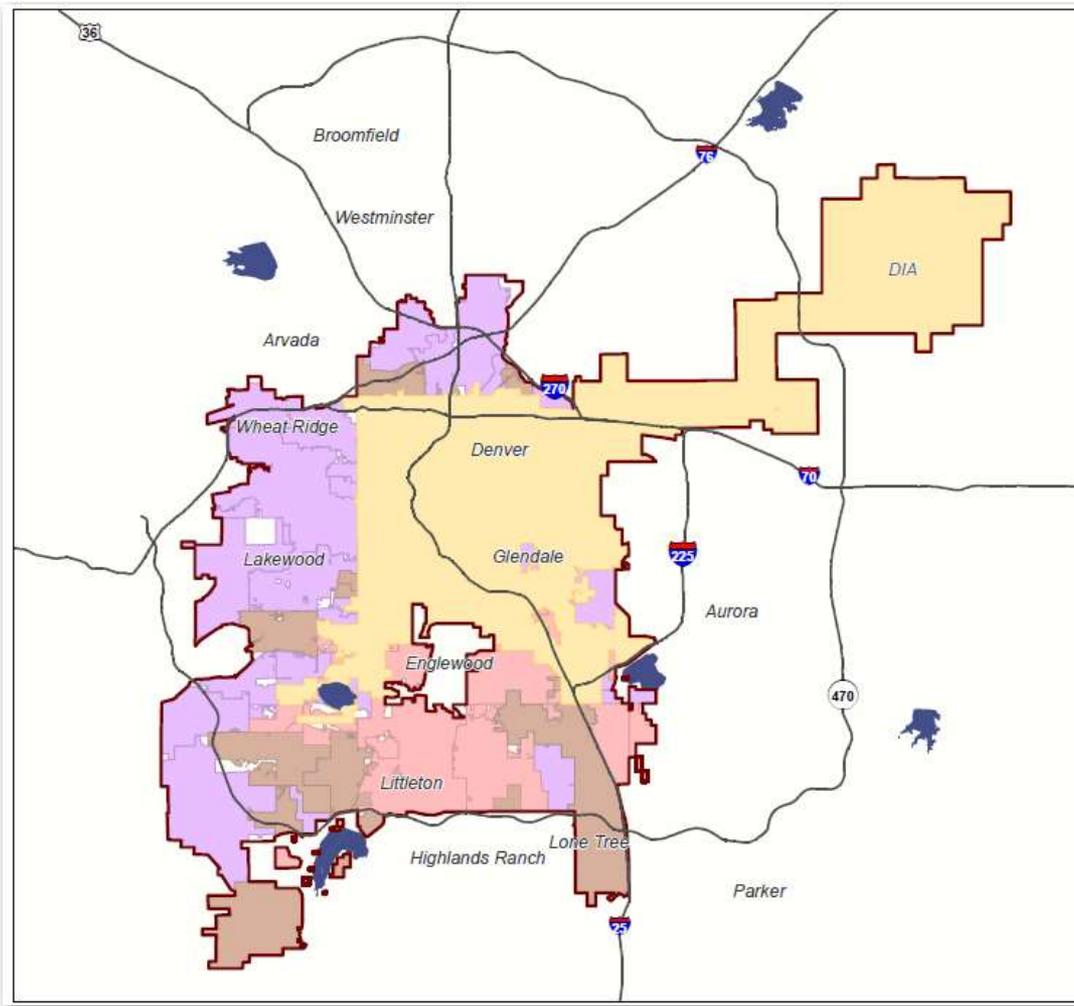


# Critical Milestones

- Cheesman/Kassler
- Moffat Tunnel
- Gross Reservoir
- Dillon/Roberts Tunnel
- Foothills Treatment Plant
- Two Forks Permit Veto
- Reuse System



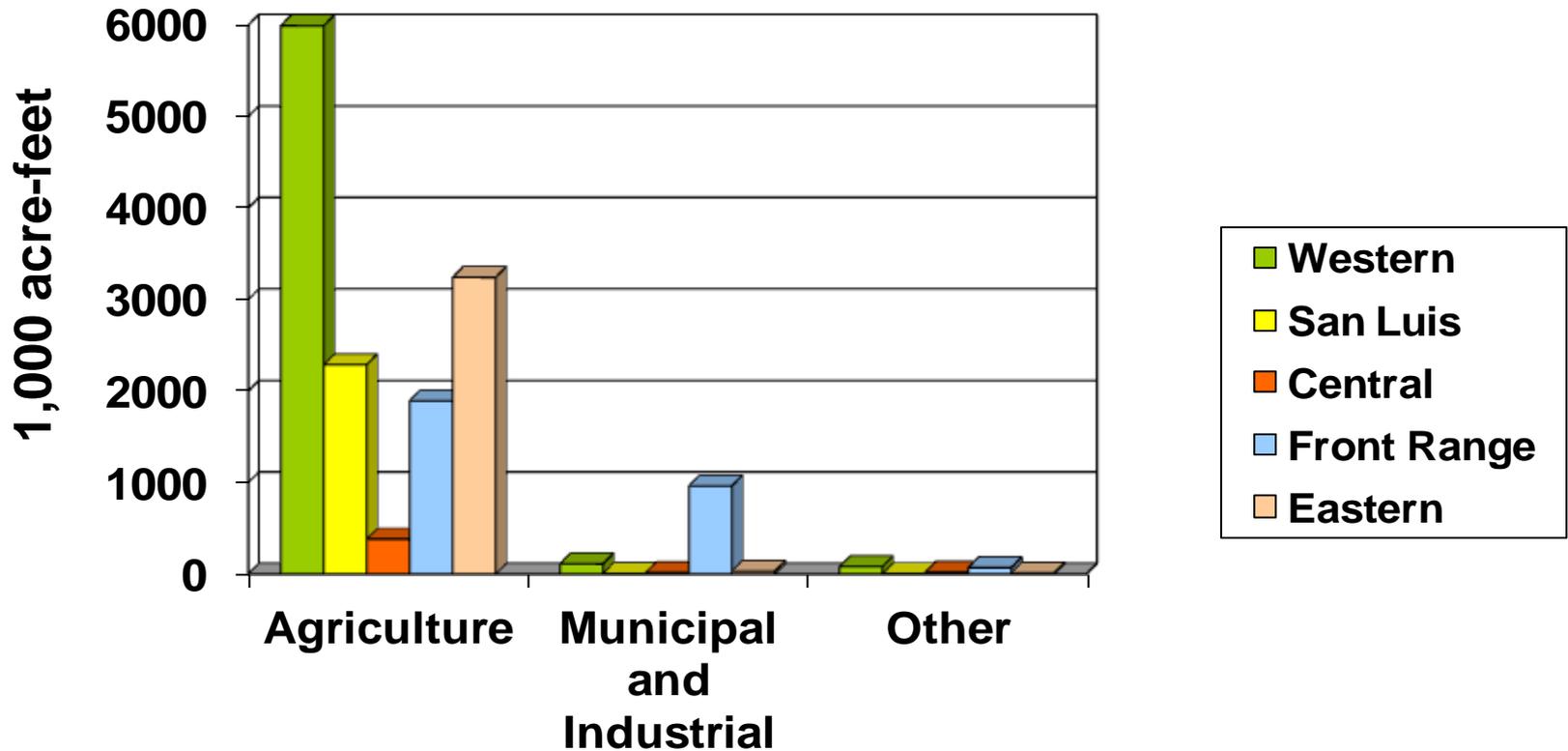
# Denver Water's Service Area



# Denver System Characteristics

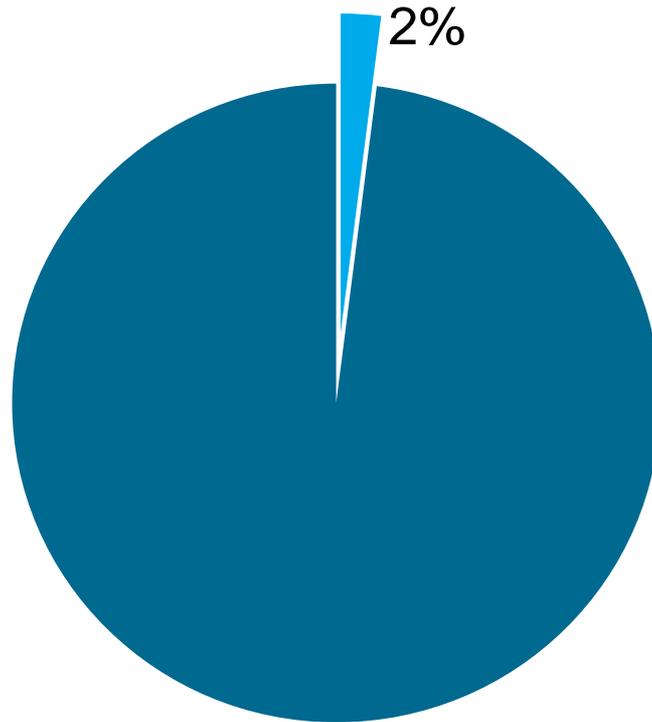
- **Reliable and robust system**
- **Financially strong**
- **High-quality water at a reasonable, but rising, cost**
- **Maintaining infrastructure with aggressive replacement and rehabilitation plan**
- **Simultaneous investment in aging system and new supplies**
- **\$1.6 billion in capital projects over the next 10 years**

# Colorado Water Use



Source: 2005 United States Geological Survey Data, Summit/Adams

# Denver Water Use



**Denver Water serves  
25% of Colorado's  
population with only  
2% of the state's water.**

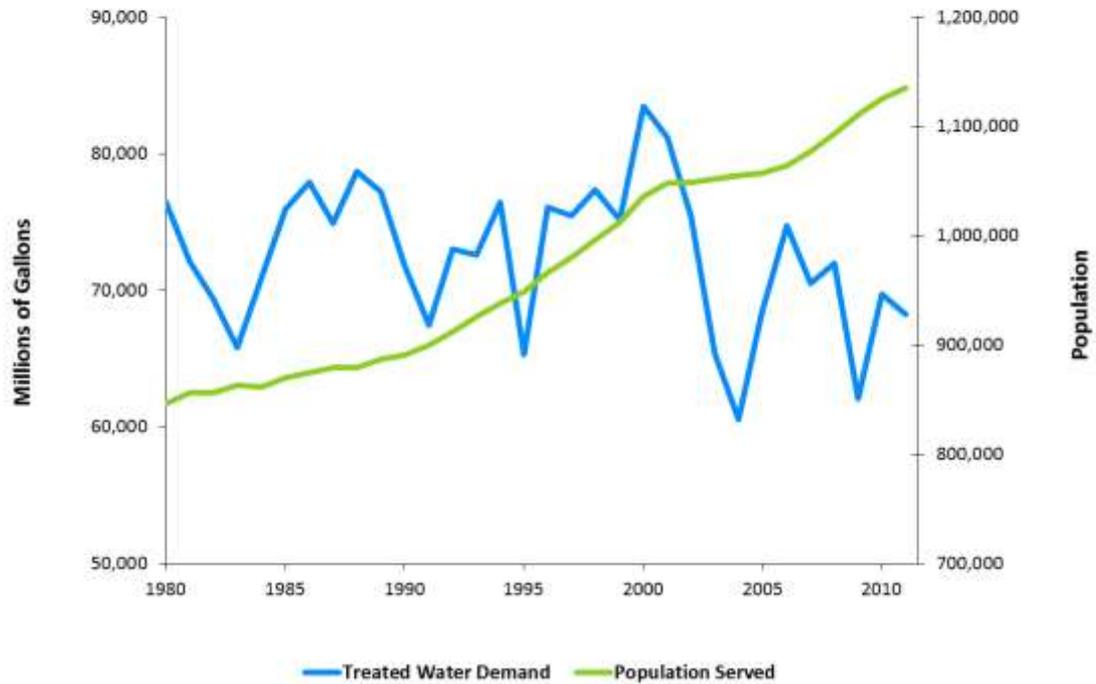
# Supply and Demand

- **Historic notions re supply, demand and “firm yield”**
- **Projections of future needs**
- **Role of conservation/demand management and reuse**
- **System challenges and vulnerabilities going forward**

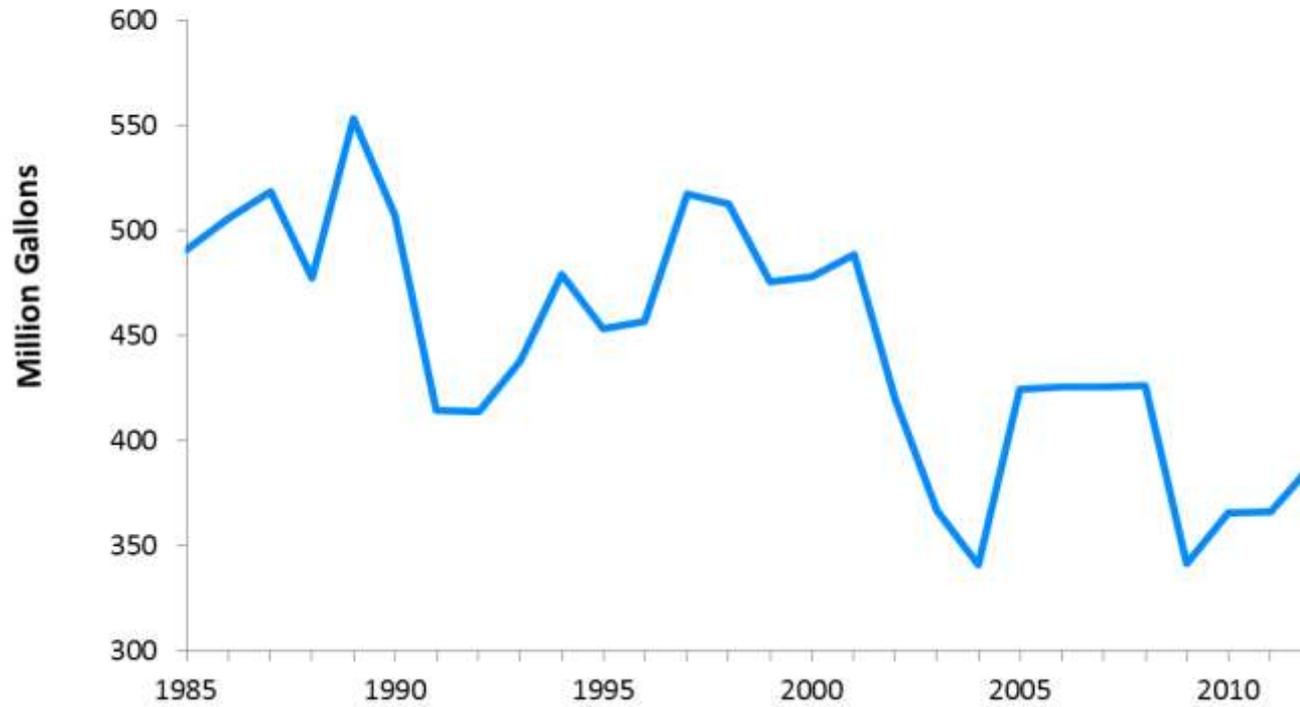
# Demand Management

- **Unmetered system into the 1980s**
- **Initial two block rate system**
- **Current four block system with 4:1 curve**
- **Conservation success since 2005 – 20-25% reduction in demand**
- **Building a culture of conservation**
- **Urban form/water demand linkage**

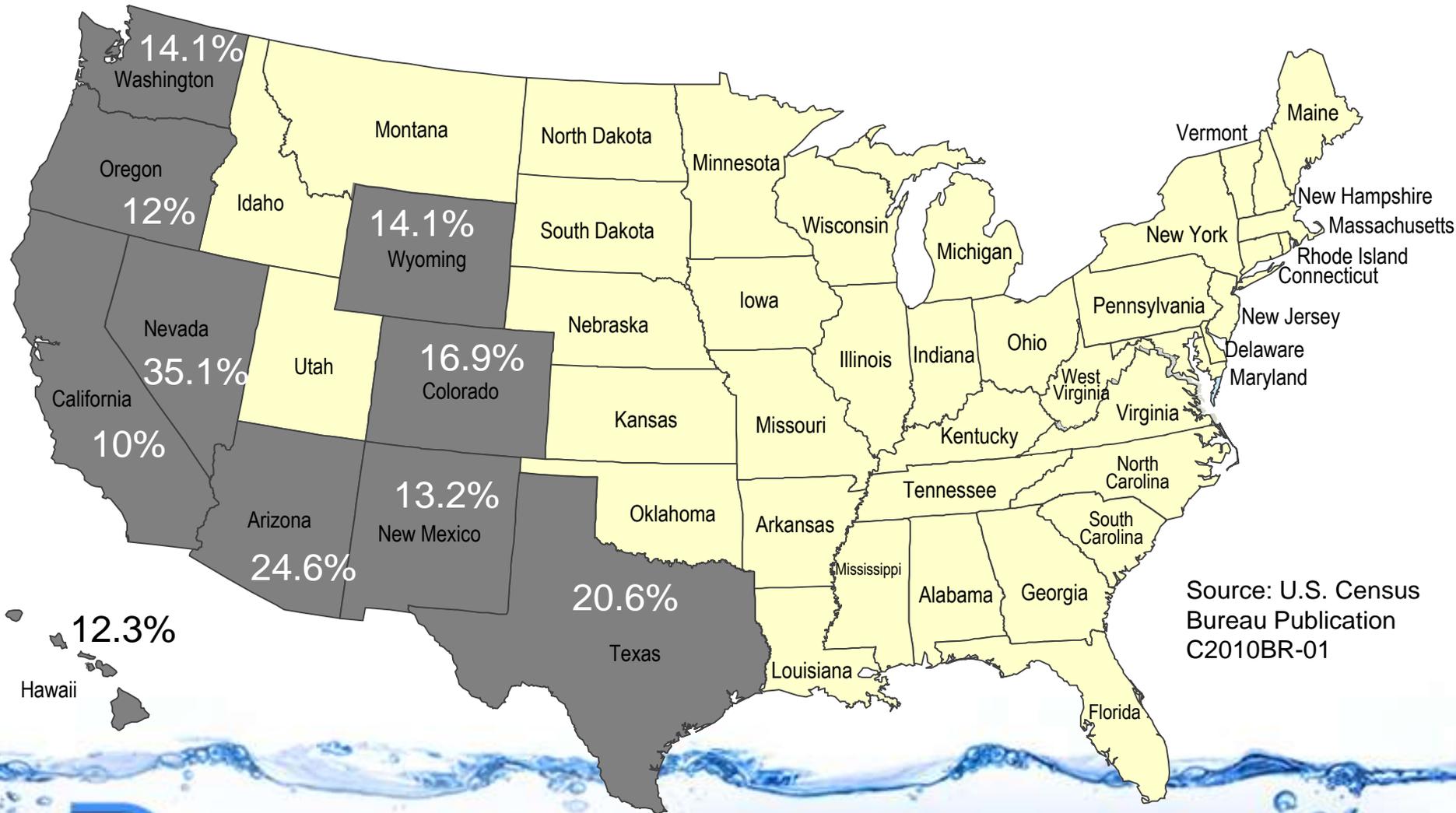
## Treated Water Demand and Population



## Maximum Day Use



# Population Increase 2000–2010



Source: U.S. Census Bureau Publication C2010BR-01

# Colorado Water Demand Projections

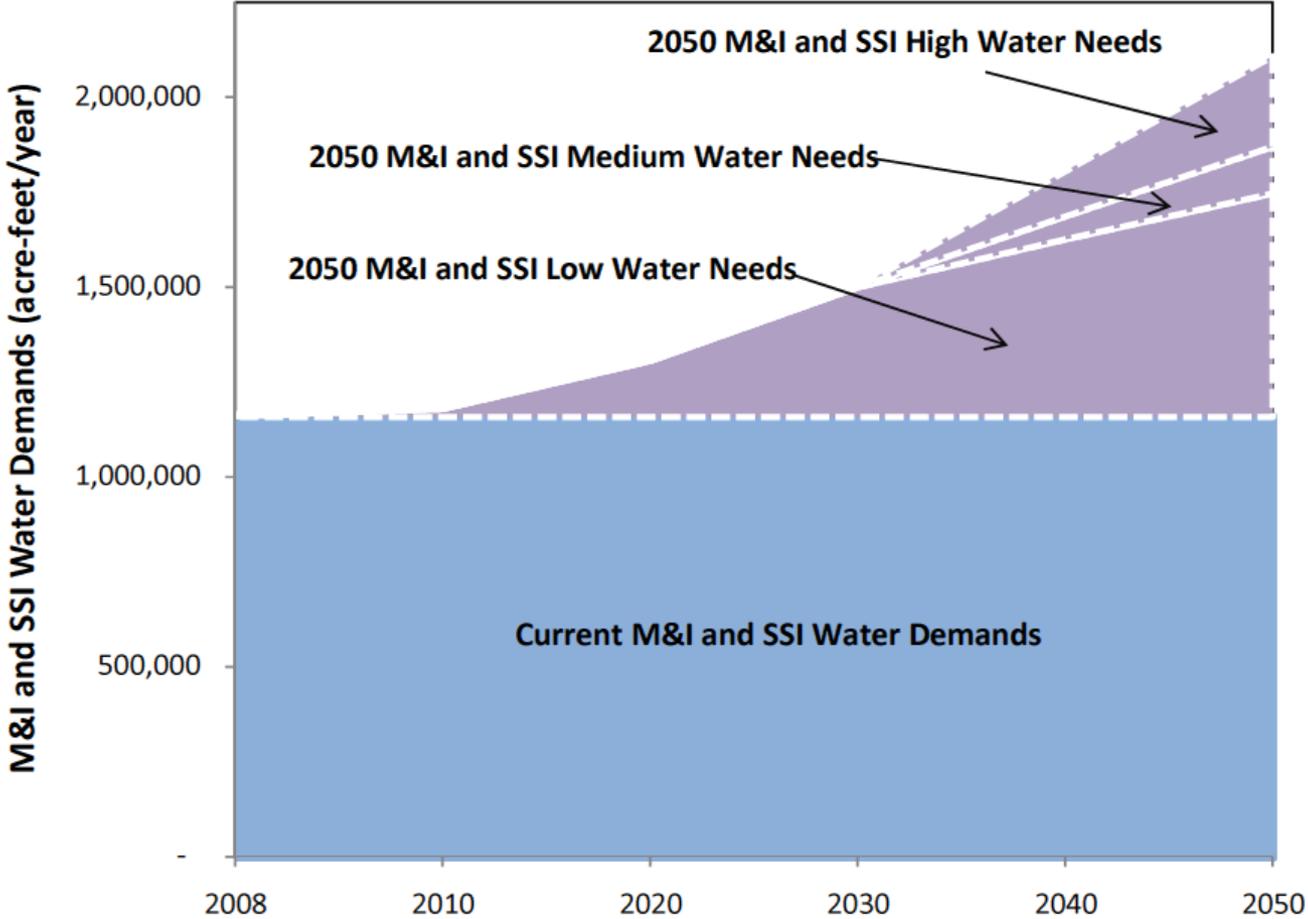
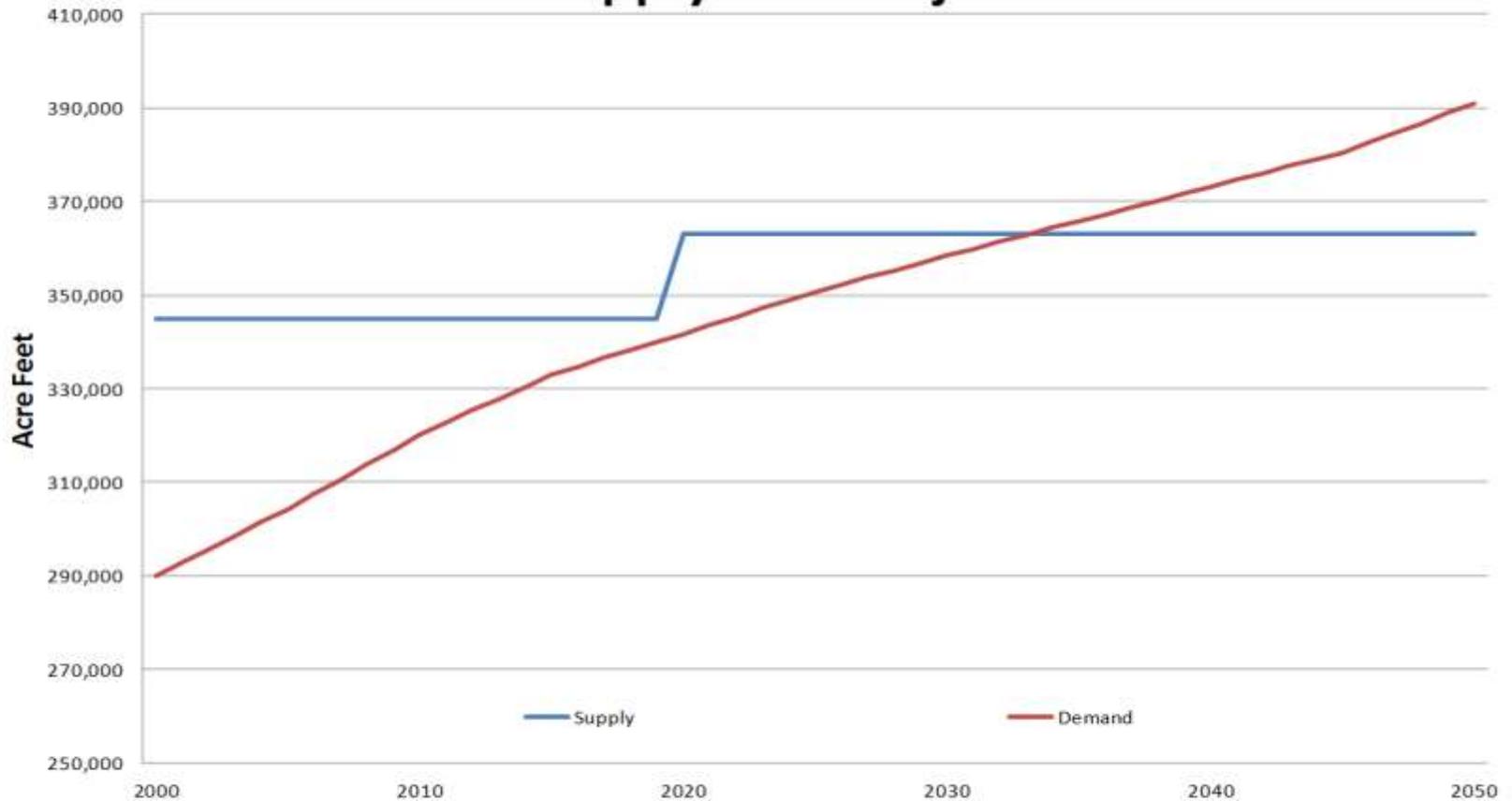


Figure ES-13 Existing and Future M&I and SSI Demands

# Denver Water Supply and Projected Demand



\*A 30,000 acre foot strategic water reserve is kept in addition to 345,000 acre feet of water supply

\*The increase in supply in 2020 is a depiction of the Gross reservoir enlargement project

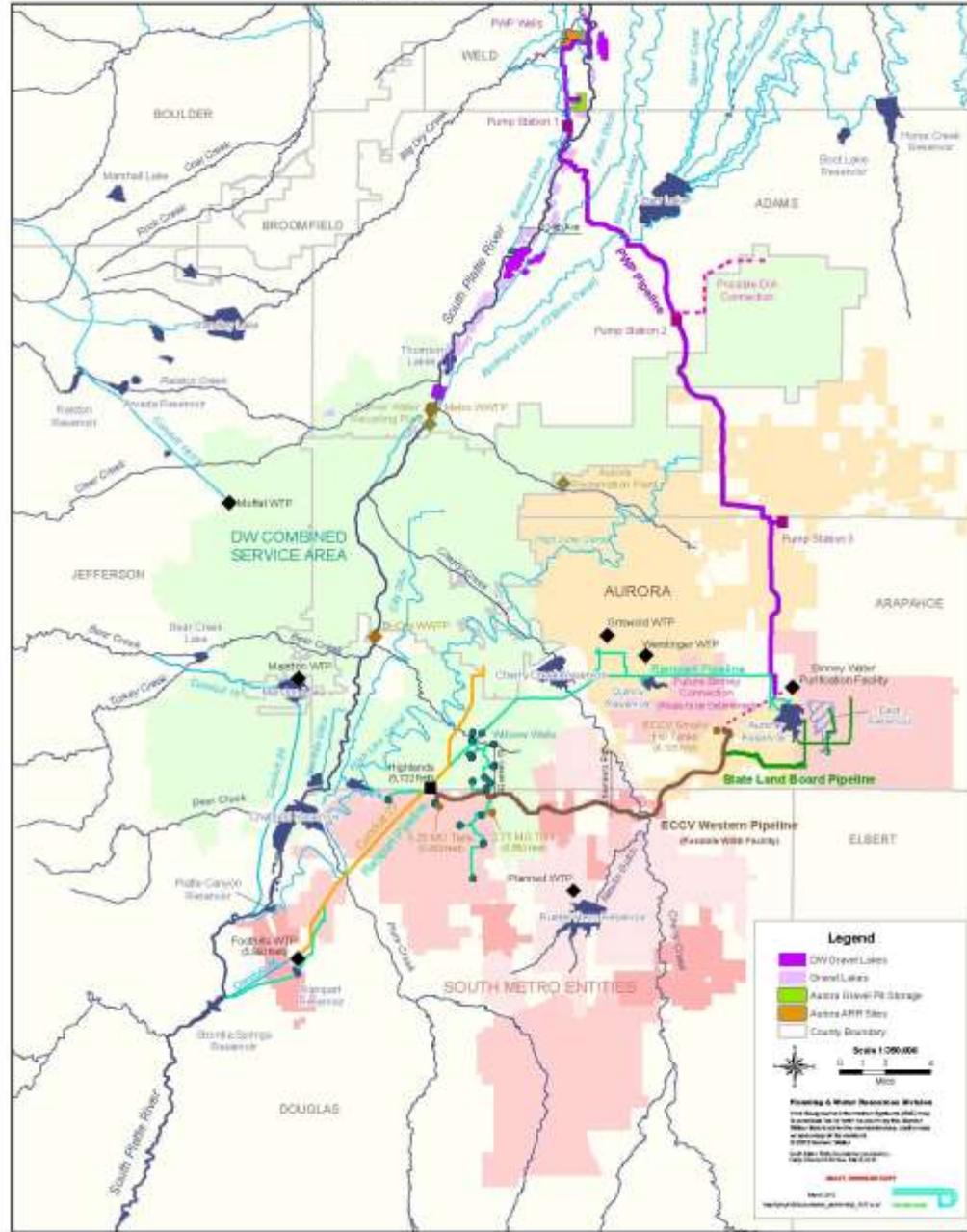
Source: 2002 Integrated Resource Plan

# “All of the Above” Strategy

- **Plans for meeting future growth:**
  - Conservation
  - Recycled water
  - Ag sharing
  - System enhancements
  - WISE
  - Gross expansion



# WISE Partnership



# Gross Reservoir — Need for Expansion



- **Reliability**
- **Vulnerability**
- **Supply**

# Issues Facing Denver's Water Supply



- **Climate Change**
- **Drought**
- **Catastrophic Wildfires**
- **Terrorism**
- **Regulatory Requirements**
- **Colorado River Compact Call**
- **Growth**

# What Everyone Wants

- **Good stewardship of the resource**
- **High quality, durable water supplies**
- **Healthy riparian environments/aquatic systems**
- **Systems that support the recreational economy and local communities**
- **Ability to cope with continuing population growth/climate change**

# Denver's Interests

- **More certainty**
- **Fewer resources devoted to conflict**
- **More yield**
- **Address vulnerability of north end**
- **Clarity – Green Mt., Shoshone, conditional rights**
- **Address regional problems beyond the Denver system**
- **Build statewide ethic about efficiency**

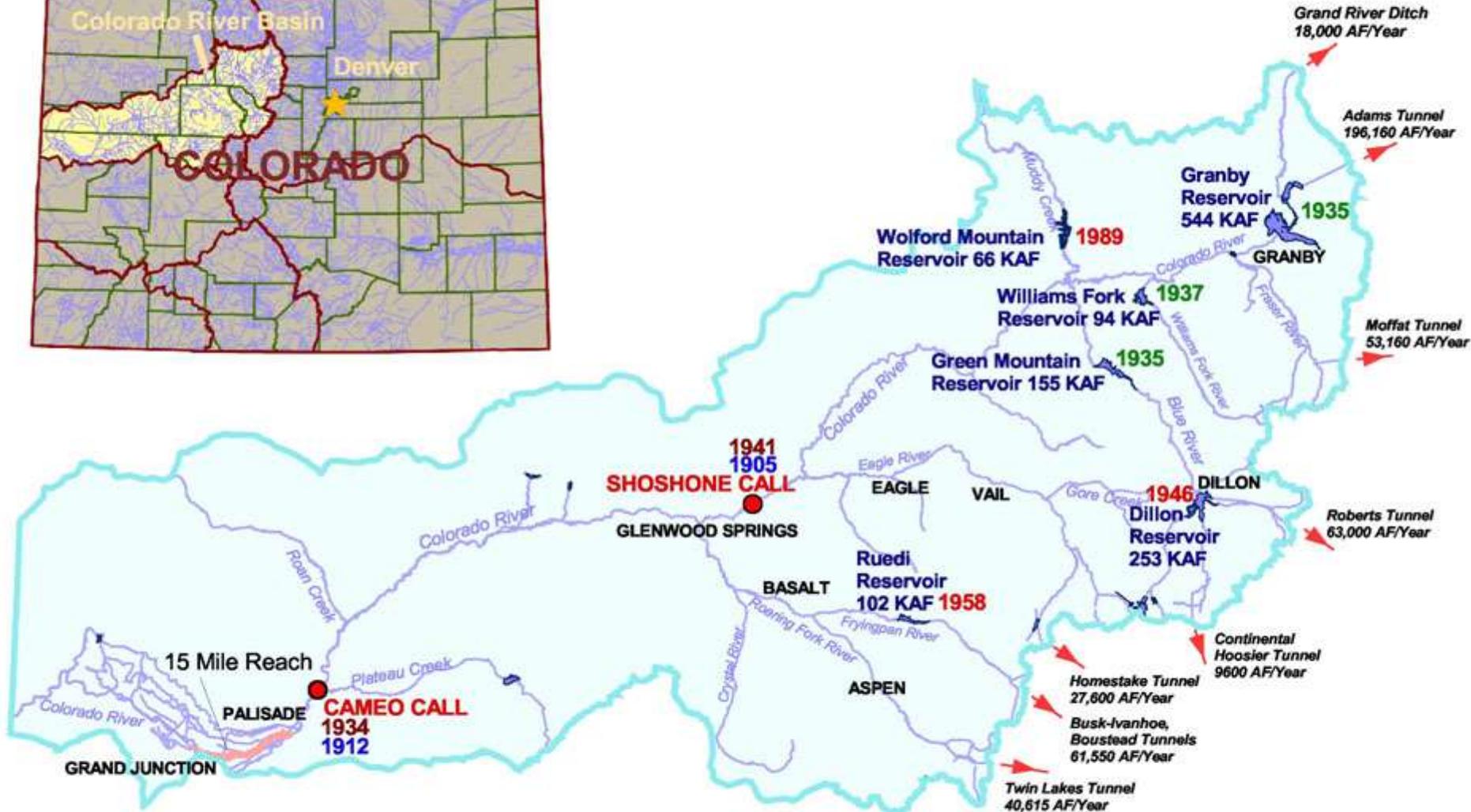
# Ultimate Premise

**Better, more diverse system w/ more certainty but also more constraints and obligations is better than what a more autonomous future would yield cooperating selectively and fighting most of the time**

**Approach yields more benefits for customers, nature, West Slope communities and the state. Also sets the stage for collaboration on bigger challenges ahead that we all face**



# Colorado River Basin



# Colorado River Basin



# Colorado River Cooperative Agreement

- **Largest of its kind in the history of Colorado**
- **April 28, 2011: Denver Water and 40 West Slope entities announced proposed agreement.**
- **To date: Signed by Grand, Summit and Eagle counties; Denver Water; Glenwood Springs and others**
- **Remaining signatures expected within the next couple of months**

# Colorado River Cooperative Agreement

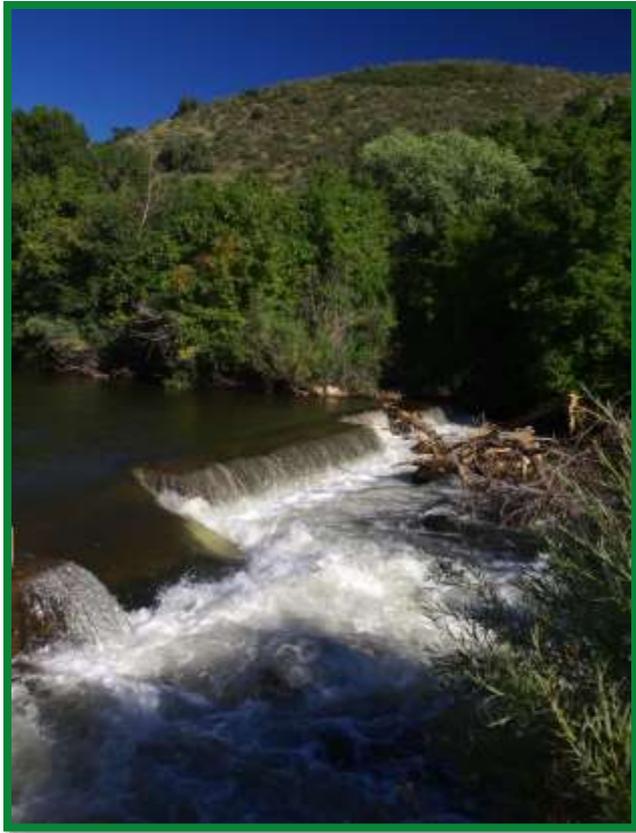
- Resolves historic conflicts and creates holistic approach to resolving Colorado water disputes
- Establishes cooperative, long-term efforts to improve the health of the Colorado River and its tributaries
- Creates additional water supply for those who live, work and play on the West Slope and for customers of Denver Water

# Benefits for Colorado

- Ensures future Denver Water projects on the West Slope will be cooperative projects
- Protects and restores stream health
- Increases amount of Denver Water's conservation and/or recycled water
- Dedicates funds for watershed, water treatment and aquatic habitat improvements



# Benefits for Denver Water



- **Secures future water for customers by resolving long-standing disputes over service area**
- **Increases certainty and secures West Slope support for the Moffat Collection System Project**
- **Allows WISE to move forward**
- **All parties work cooperatively on future water issues**
- **Provides environmental protection and enhancements**

# New Way of Doing Business



- Water utilities in the West must do business in a new way
- Collaboration to solve our problems is critical
- Cooperating and negotiating will be the key
- The Colorado River Cooperative Agreement is the leading example

***“Collaboration can move mountains, and move water wars. We are interconnected in a way that demands this type of approach.”***

**—Gov. Hickenlooper**

# Future Issues and Collaboration

- **Managing Compact obligations**
- **Challenges of climate change**
- **Driving efficiency statewide**
- **Managing for multiple objectives**
- **More vehicles for sharing, a more effective market**