

An aerial photograph of a large concrete dam and its reservoir, situated in a rugged, mountainous landscape. The reservoir is a deep blue color, contrasting with the dark, rocky terrain. The dam is a long, low structure with several spillways. In the foreground, a bridge with multiple vertical supports spans across the scene. The background features steep, dark mountains under a clear sky.

**2013 CRUWA Annual Conference**  
**December 12, 2013**

**Brenda Burman**

*Metropolitan Water District of Southern California*

# Metropolitan Water District of Southern California

- Regional water wholesaler
  - Serves 6 counties, 19 million people
    - Growth: 170,000 people/yr.
      - \$1 trillion regional economy
- 50%+ of region's supply (4 million acre-ft/yr)



# Metropolitan's Key Water Supplies



**Colorado River  
Aqueduct**



**Northern  
California**



**Local Program, Storage and Transfers**

# Imported Water Supplies



# A Sustainable Future ...

- Diversified Portfolio Approach

*Southern California has been a leader in this strategy for over 20 years*

- Storage & Local Project Improvements

*Local storage increased by 14X to manage “big gulp/little sip”  
1.0 million acre-feet of new conservation/recycling projects planned*

- Stable & Reliable Imported Supplies

*Implement Bay Delta Conservation Plan improvements*



# Metropolitan's Integrated Resource Plan

Blueprint for Adapting to Change

## Water Use Efficiency

- 20% Reduction in Per-Capita Water Use

## Local Resources

- Develop Incentives and Partnerships
- Implement Foundational Actions

## SWP

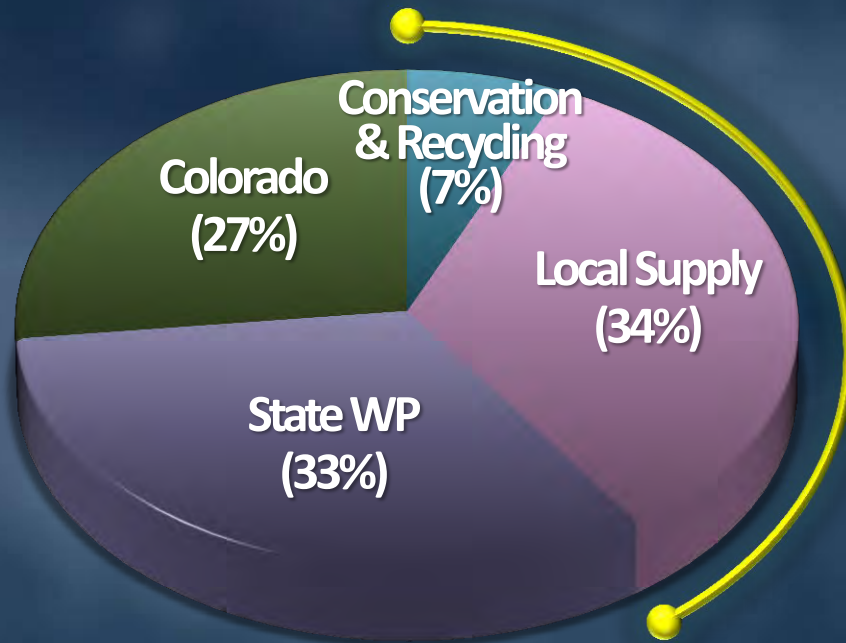
- Delta Improvements for Reliability

## CRA

- Develop Dry-Year Supply Programs

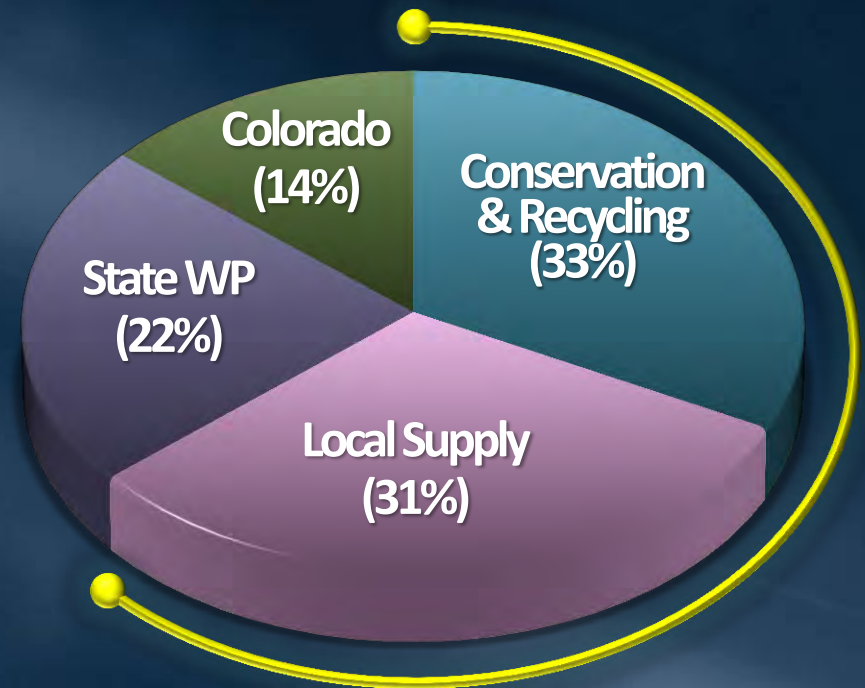
# MWD Water Supply Strategy

## Average Year Water Supply – 1990 vs. 2035



**1990 – 41% Local**

*Heavy dependence on imported supplies*



**2035 – 64% Local**

*Emphasis on conservation, recycling, & local supplies*

# Metropolitan's Storage Programs

## Central Valley/SWP Storage

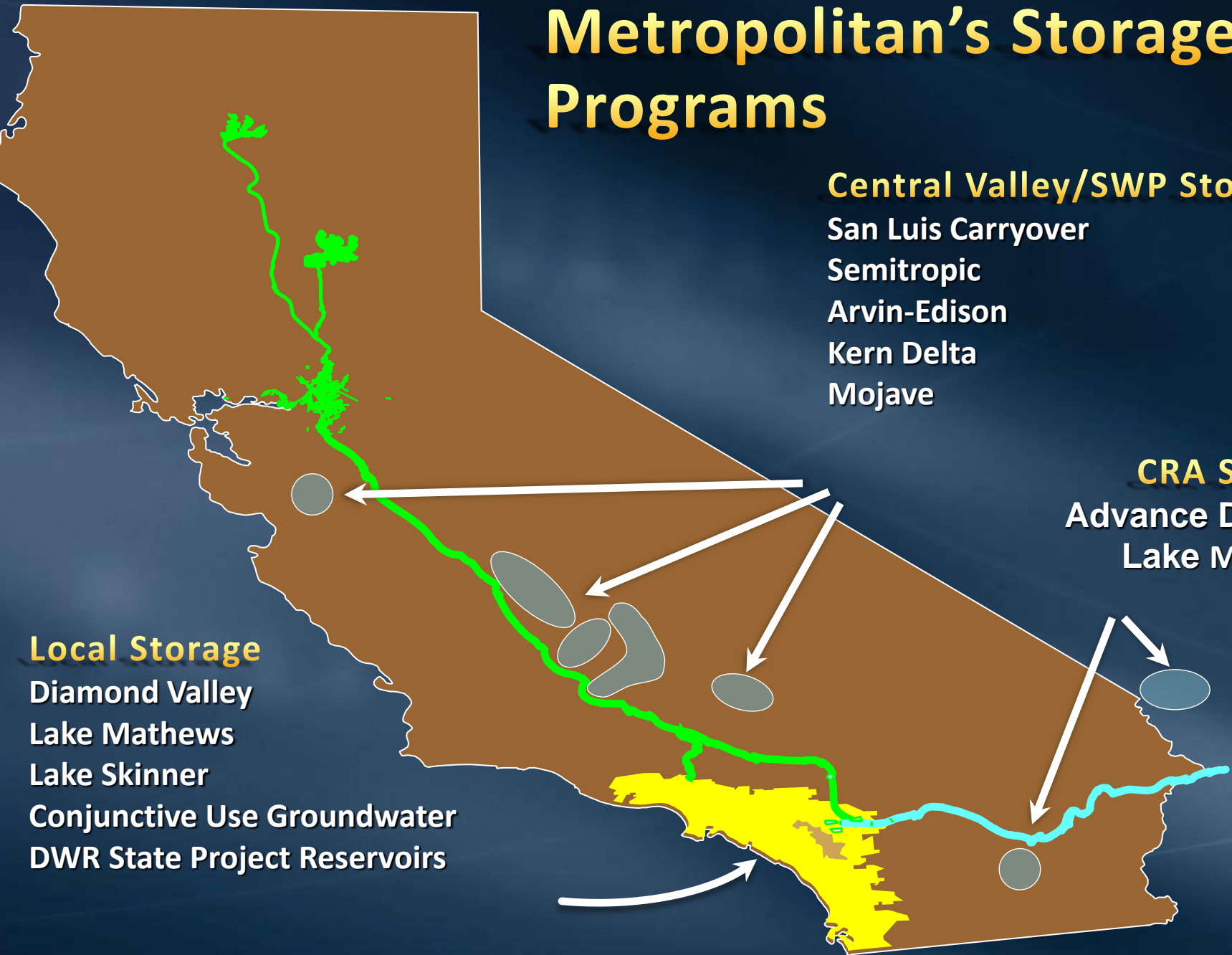
San Luis Carryover  
Semitropic  
Arvin-Edison  
Kern Delta  
Mojave

## CRA Storage

Advance Delivery  
Lake Mead ICS

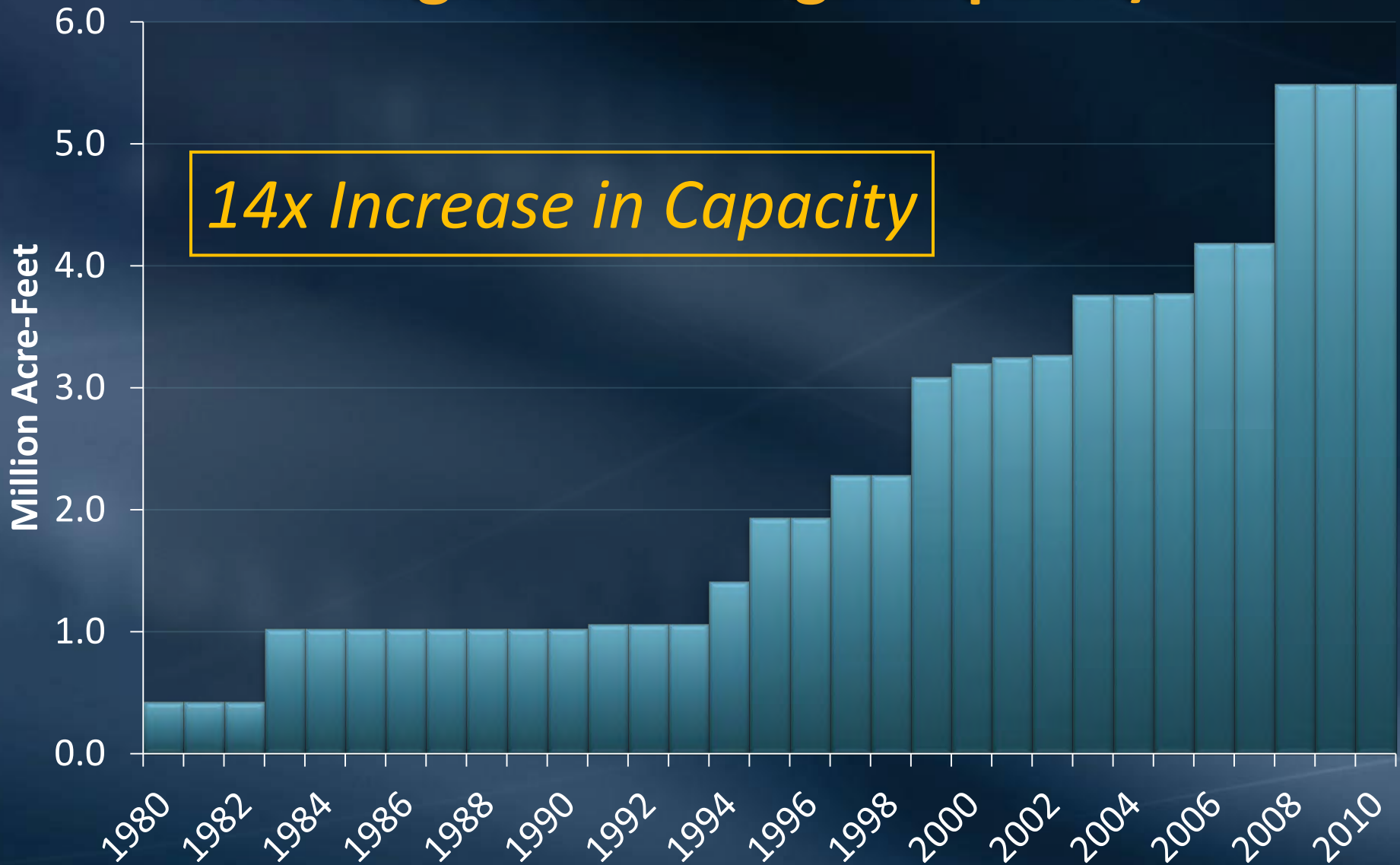
## Local Storage

Diamond Valley  
Lake Mathews  
Lake Skinner  
Conjunctive Use Groundwater  
DWR State Project Reservoirs





# Metropolitan Has Increased The Region's Storage Capacity



# A Long-Term Focus on Efficiency

- Regional Conservation Rebate Program
  - Cumulative investment of \$322 million
- Total Annual Water Savings of 920 TAF
- Innovative Conservation Program
  - Provides funding for research and development



## Regional Investments In Local Supplies

▲	Conservation:	900,000 af/yr
○	Recycling:	335,000 af/yr
■	Groundwater Recovery:	111,000 af/yr
★	Seawater:	46,000 af/yr (planned)

*Conservation represents regional actions both active & passive*

*Recycling & groundwater represents total regional production 2012 (Metropolitan & member agency)*

# Large Municipal Providers: Arizona CAP Service Area

## CAP Service Area:

- 34 Large Providers use CAP water for M&I
- Serve 4.7M people (70% of the State's population)
- Arizona's population centers around Phoenix and Tucson
- Assured Water Supply program fully enforced



# Conservation Best Management Practices: Arizona CAP Service Area

- CAP providers have BMP programs available to over 90% of their customers including:
  - Public awareness information
  - Conservation education and training
  - Outreach services
  - System improvements / efficiency
- Numerous additional programs including:
  - Rebates/incentives
  - Ordinances
  - Research/innovation

# Key Features of Conservation and Reuse Arizona CAP Service Area

- Arizona's water management regulatory framework:
  - Requires conservation by all water users in the CAP area
  - Requires a 100-year Assured Water Supply
  - Encourages wastewater recycling
- Since 1985, residential water use efficiency has improved considerably in the CAP service area
- Key conservation BMPs have been adopted by water providers representing over 90% of the CAP area population;
- More than 95% of the wastewater generated within the CAP service area serves beneficial uses

# The Delta



**Sacramento**

**Suisun Bay**

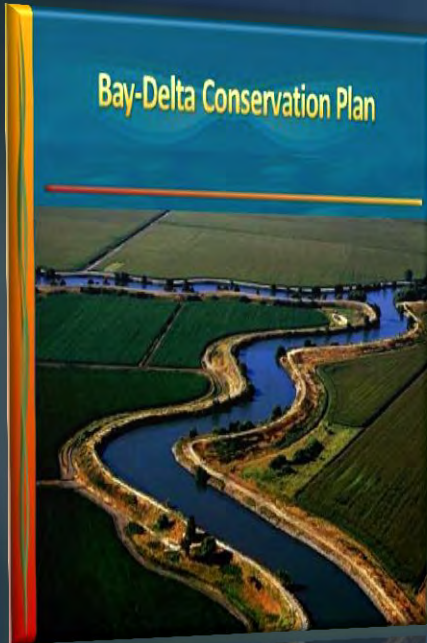
**Stockton**

**State & Federal Pumping Plants**

*California's Bay-Delta*

# Bay-Delta Conservation Plan

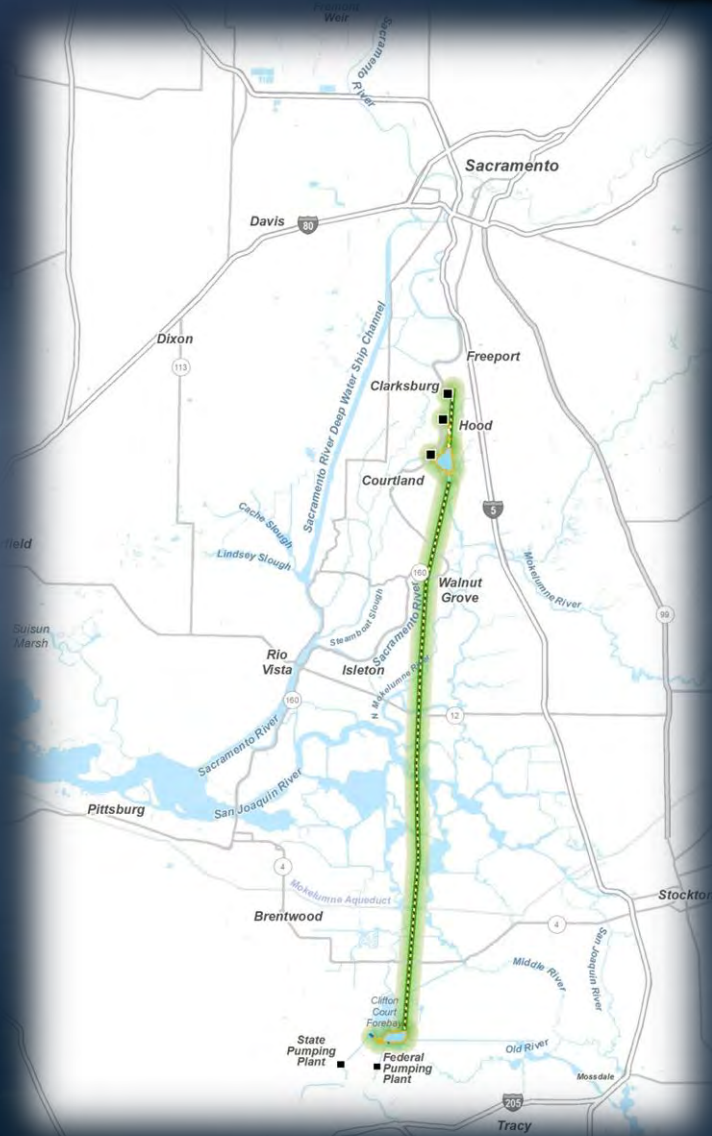
## Overview



- 50-year Plan to Achieve Co-equal Goals
  - Water Supply Reliability
  - Restored Ecosystem
- New conveyance facility: Twin tunnel proposal – 9,000cfs capacity
- Multi-species protection & Habitat Restoration



# Twin Tunnels Protect Water Supplies from Earthquakes



- Tunnels protect water supply from saltwater intrusion in the event of an earthquake
- Tunnels provide flexibility -- taking more water during wet periods, less water during dry periods
- New conveyance provides water supply reliability that water agencies need

# Bay Delta Conservation Plan



**Sac River**

**Sacramento**

**North Diversion**

**Tunnels**

**Stockton**

**SJ River**

**SWP Pumps**  
**CVP Pumps**

**South Diversion**

*Preliminary Subject to Revision*

# BDCP: Ecosystem Restoration

- Ecological Conservation
  - Biological goals/objectives
    - 57 species
  - Accelerated habitat restoration

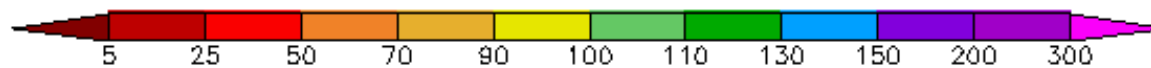
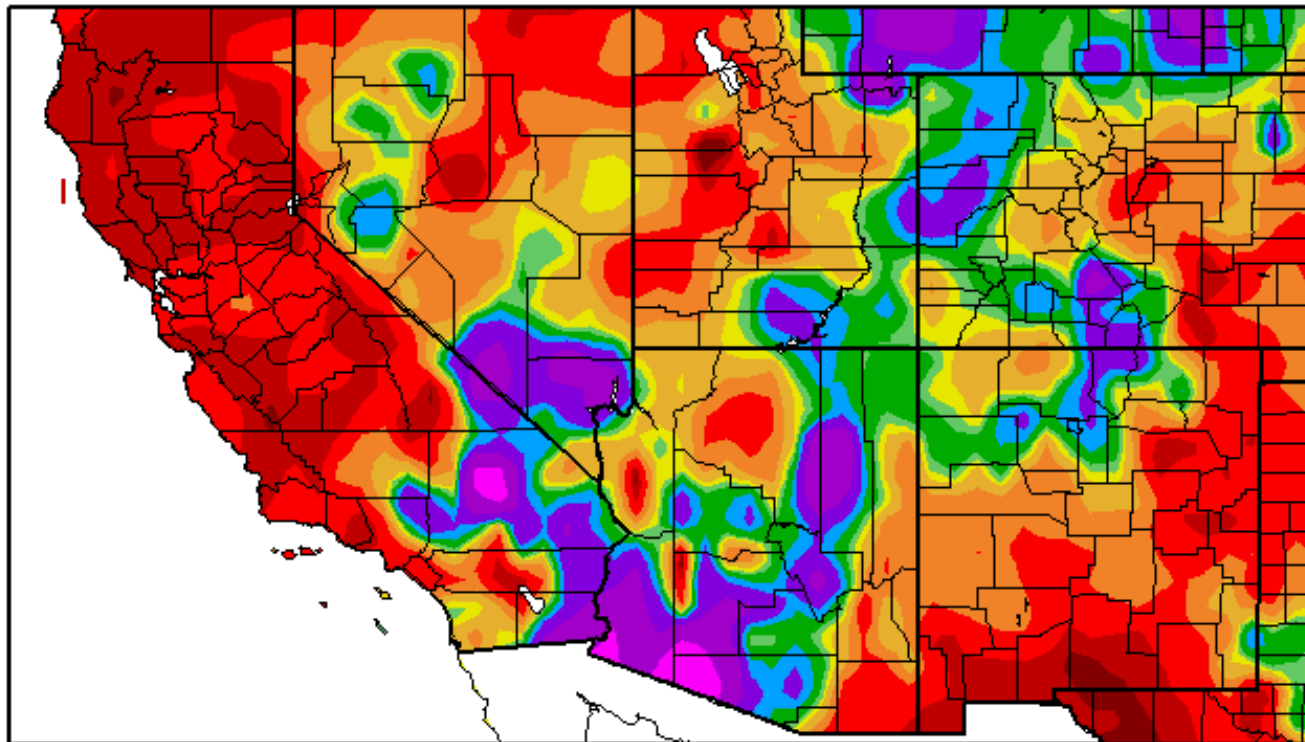


Restoration & Preservation	Targets
New Floodplain	10,000 acres
Tidal Habitat	65,000 acres
Channel Margin	20 Levee Miles
Riparian	5,000 acres
Grassland	10,000 acres
Other Habitats	5,000 acres
Managed Wetlands	6,500 acres
Cultivated Lands	~45,000 acres
Enhanced floodplain habitat in the Yolo Bypass	
<b>TOTAL</b>	<b>Up to 145,000 acres</b>

# Statewide Hydrologic Conditions

## Percent of Average Precipitation

Percent of Normal Precipitation (%)  
10/1/2013 – 12/1/2013



# Water Supply Conditions

As of December 8, 2013



## California

- Jan-Nov driest on record
- SWP 2014 Initial Allocation: 5%

# Basin Study Next Steps

## M&I Conservation / Reuse Workgroup

- Co-chairs:
  - Kathy Ferris and Carol Ward-Morris (alt) – AMWUA
  - Marc Waage – Denver Water
  - Jack Safely – Metropolitan Water District
- Representatives from 7 basin states, NGOs, USBR
- Working together as regions to collect, aggregate data

# Workgroup Scope of Work

- Quantify conservation and reuse savings to date
- Identify successful, innovative programs that could be expanded in other areas
- Provide information on projected future water savings
- Assess impact of savings on Colorado River demands
- Identify Phase 2 activities



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