



# Lower Colorado River Tour

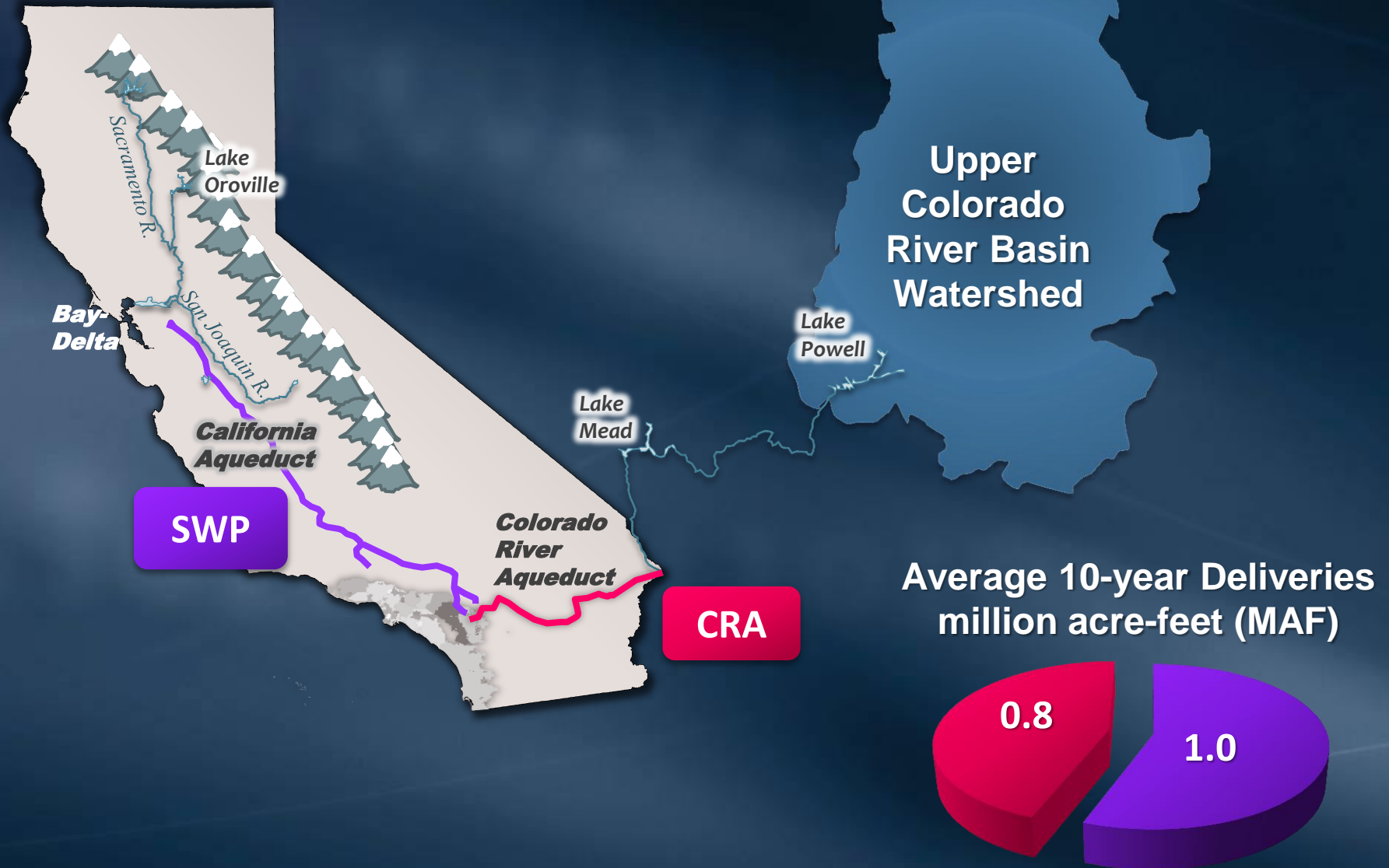
February 28, 2019

Sarah Bartlett  
Metropolitan Water District

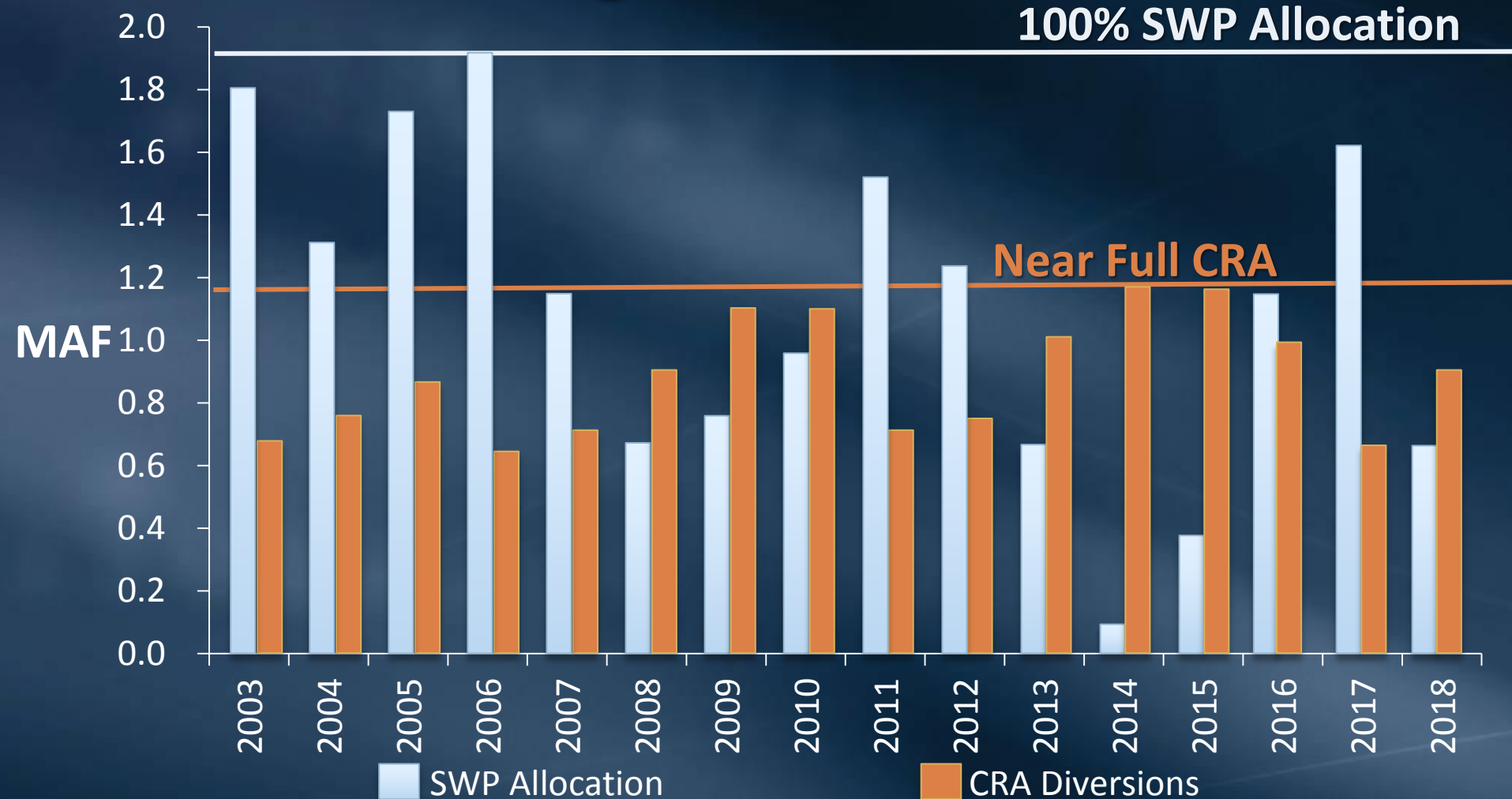
# Metropolitan Water District



# Metropolitan's imported water supplies



# Colorado River use maximized during California droughts





# How we used to fill the Colorado River Aqueduct

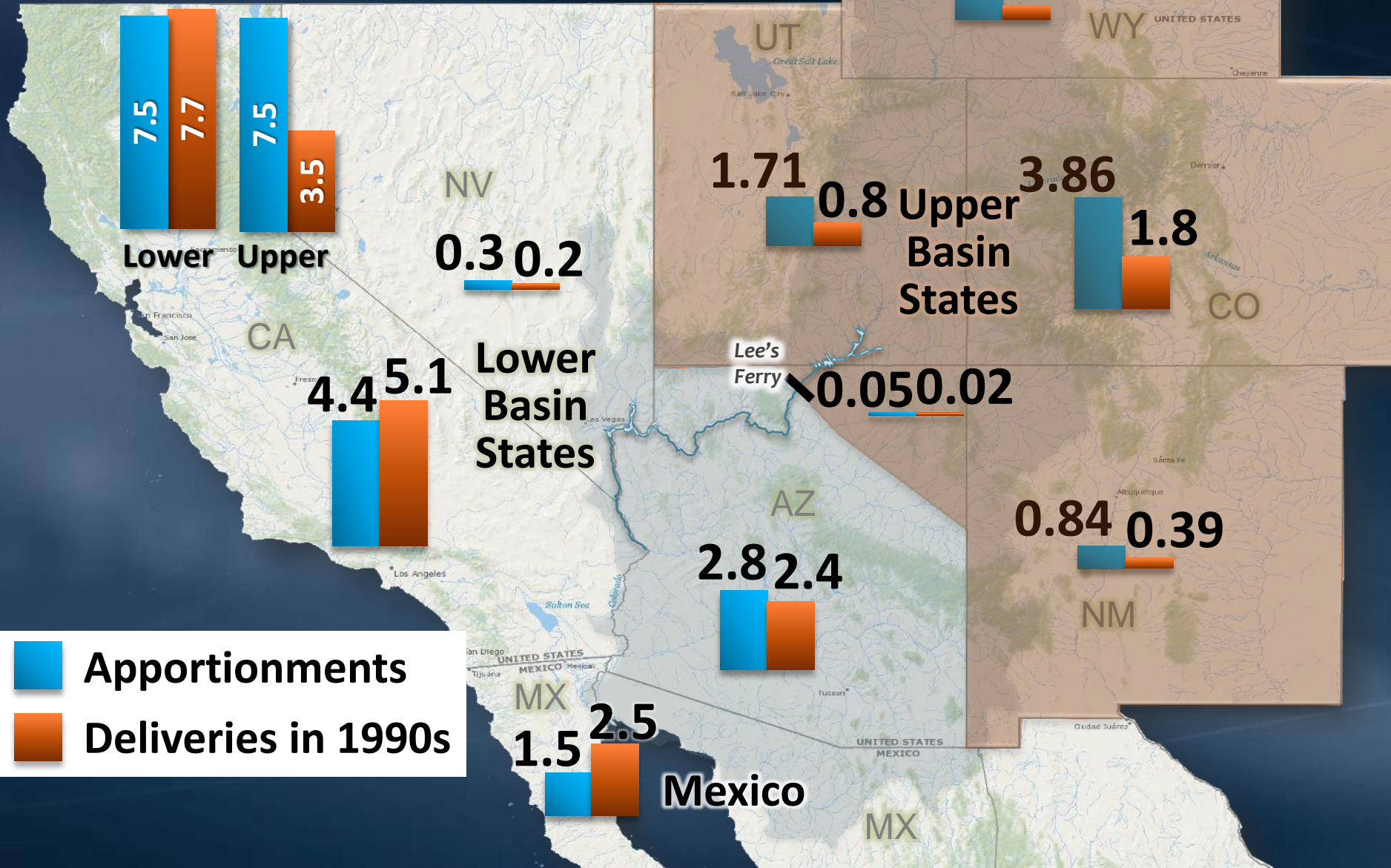
~1.2 MAF



Surplus Supplies

Basic Apportionment

# Colorado River Apportionments (MAF)



■ Apportionments  
■ Deliveries in 1990s



# California Agencies



NEVADA

Lake Mead

CALIFORNIA

Lake Mohave

ARIZONA

Metropolitan Water District

Colorado River Aqueduct

Lake Havasu

Coachella Valley Water District

Palo Verde Irrigation District

Coachella Canal

Imperial Irrigation District

Yuma Project

Imperial Dam

MEXICO

All-American Canal

Salton Canal

# 1931 Seven Party Agreement California Water Allotments

Priority	California Party	Million acre-feet
1	Palo Verde Valley Irrigation District	3.85
2	Yuma Project	
3	Imperial Irrigation District Coachella Valley Water District	
4	Metropolitan Water District	0.55
<b>Subtotal</b>		<b>4.40</b>
5	Metropolitan Water District	0.70
<b>Total</b>		<b>5.10</b>



# Quantification Settlement Agreement

## Quantified Water Budgets

Priority	California Party	Million acre-feet
<b>1</b>	Palo Verde Valley Irrigation District	<b>0.42</b> (Average)
<b>2</b>	Yuma Project	
<b>3</b>	Imperial Irrigation District	<b>3.10</b>
	Coachella Valley Water District	<b>0.33</b>
<b>4</b>	Metropolitan Water District	<b>0.55<sup>*</sup></b>
<b>Total</b>		<b>4.40</b>

\* Amount fluctuates based on PVID/Yuma Project use, unused IID and CVWD water

# How we fill the Colorado River Aqueduct moving forward

~1.2 MAF



- Invest in local supplies and demand reduction
- Agricultural partnerships

**Basic Apportionment**

# Metropolitan has invested \$1.4B to reduce demands and develop local supplies

**\$158M**

941,000 acre-feet recovered

**GROUNDWATER RECOVERY**

**\$782M**

2,848,000 acre-feet saved

**CONSERVATION**

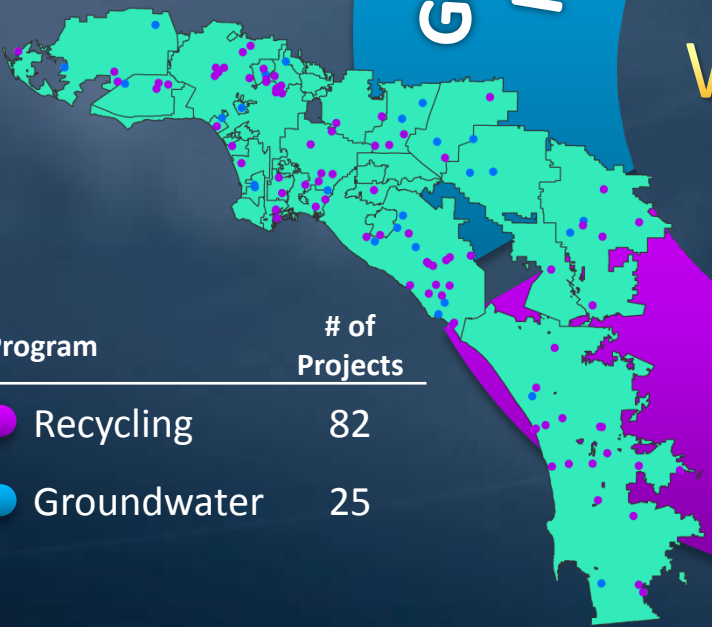
**Regional Water Supply Reliability**



**RECYCLING**

**\$474M**

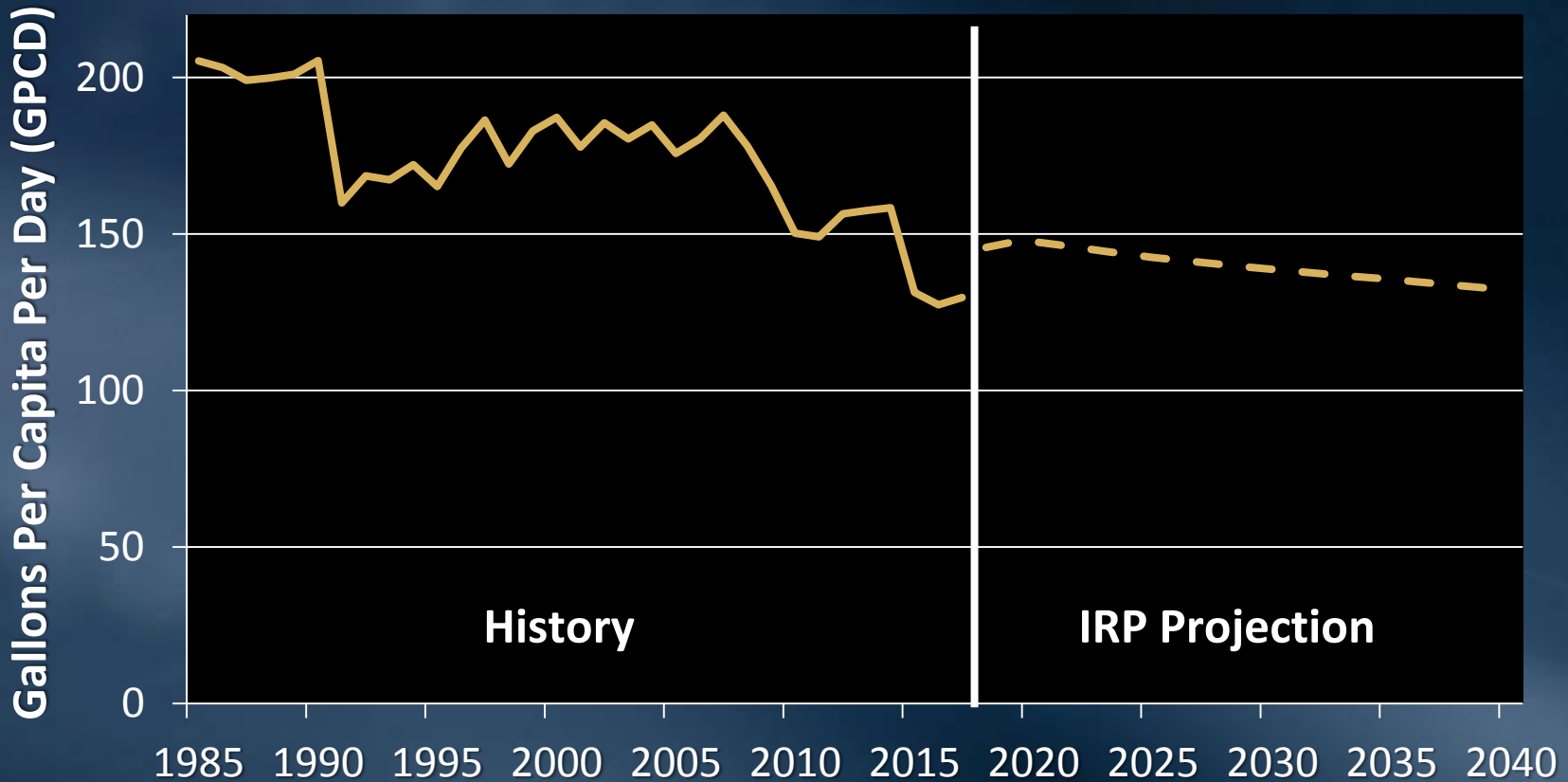
2,757,000 acre-feet produced



Program	# of Projects
Recycling	82
Groundwater	25

# Demands have decreased

Potable Per Capita Water Use\*  
Metropolitan's Service Area



\*2017 GPCD based on best available data as of July 2018 and is subject to reconciliation.



# QSA Opens Door For Supply Programs



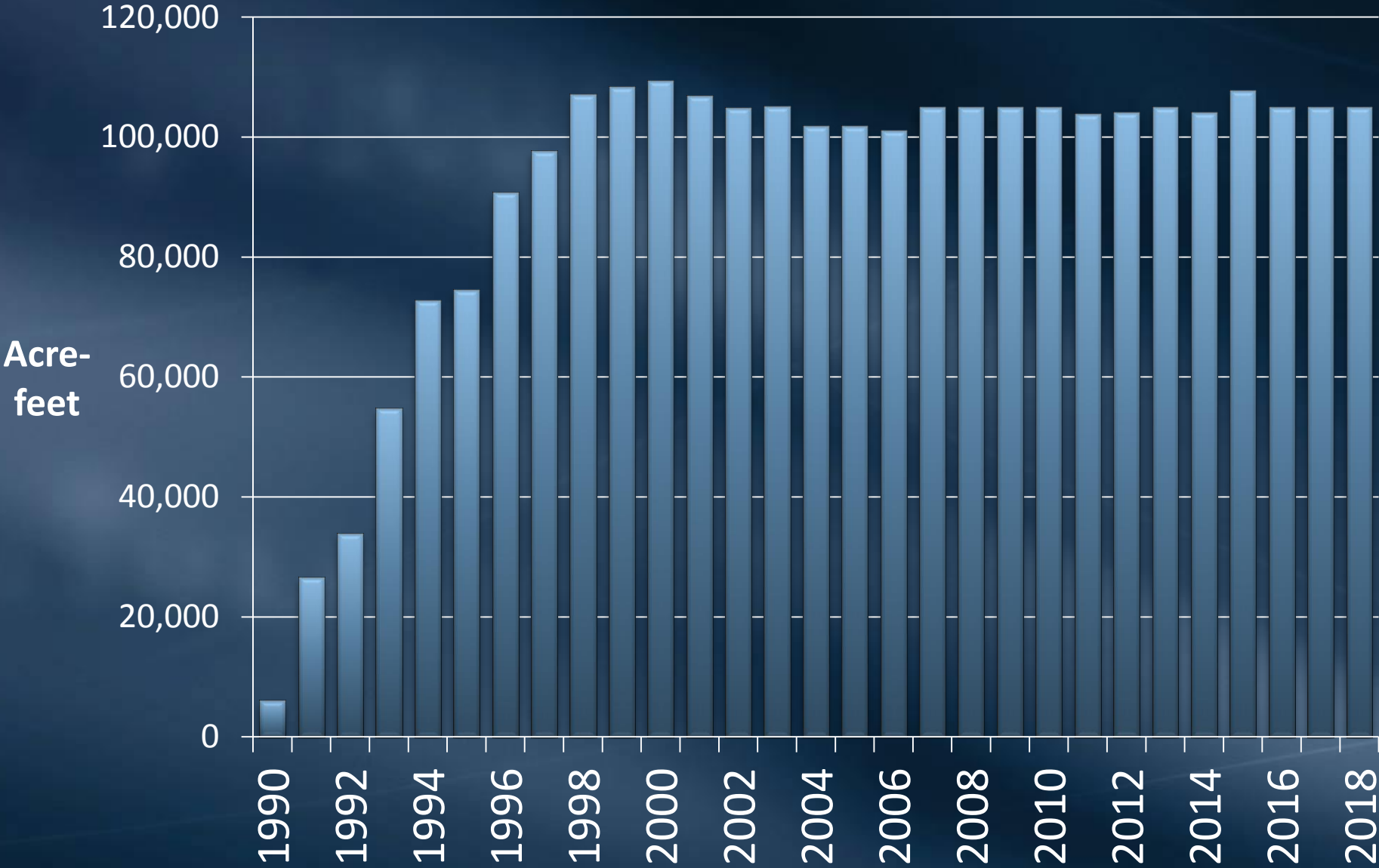
# Agriculture Conservation Measures with IID

- 50-year Program (1990-2040)
- Between 100 and 110 TAF conserved each year
- Allows IID to grow the same crops with less water





# IID-MWD Conservation Program Yield



# All-American, Coachella Canal Lining





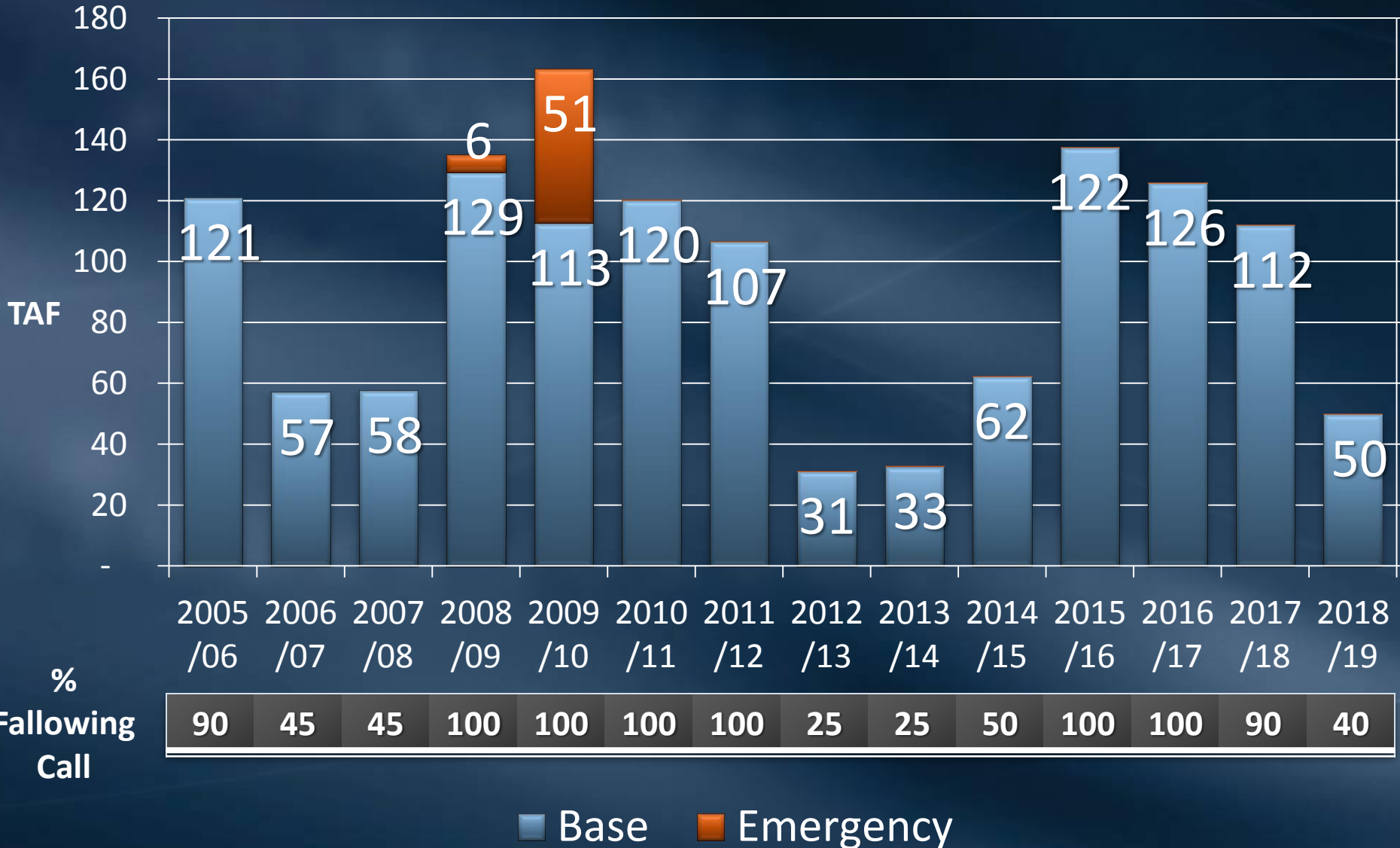
# PVID Land Fallowing

- 35-year Program (2005-2040)
- Variable Fallowing Call
- Stabilizes Farm Economy
- Community Improvement Program



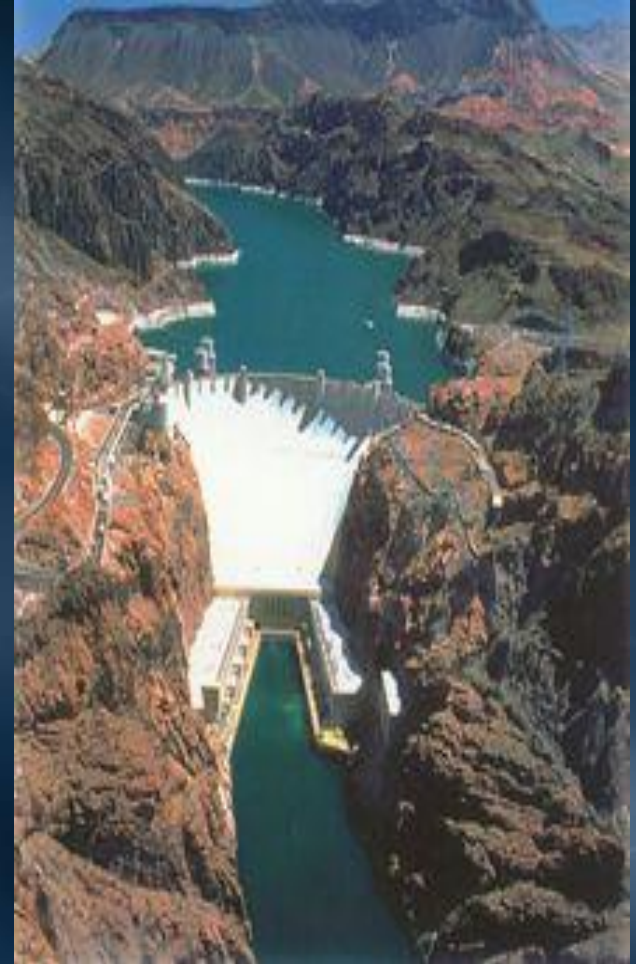
# PVID Following Program Yield

Water Saved (TAF), Contract Year (August 1 – July 31)

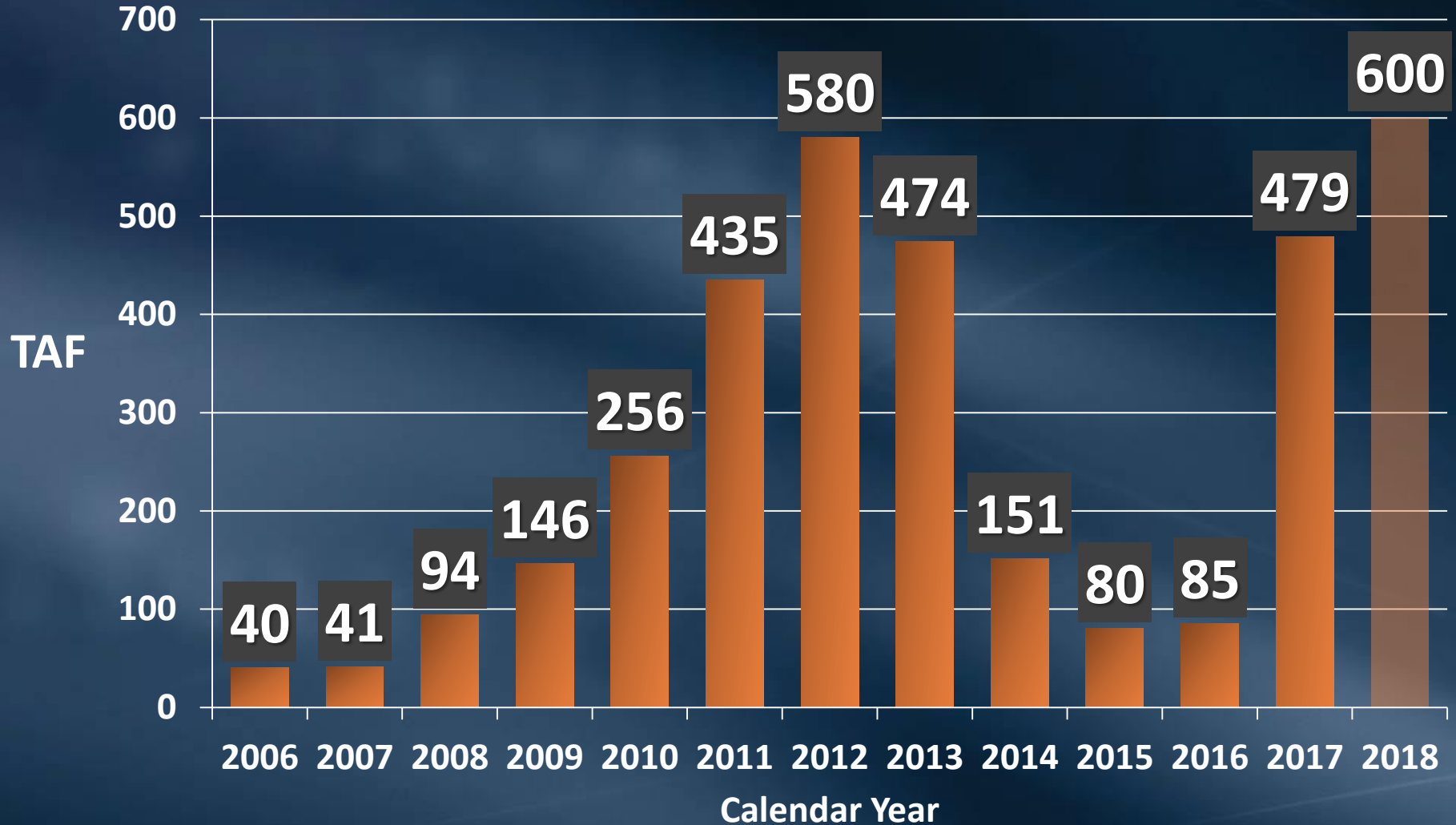


# Development of Lake Mead Storage (ICS) Program

- MWD can store 1.5 million acre-feet in Lake Mead
- Avoids costs and impacts of building new storage reservoirs



# MWD Storage Balance (ICS) in Lake Mead





# How We Fill the Colorado Aqueduct Today

1.2 MAF

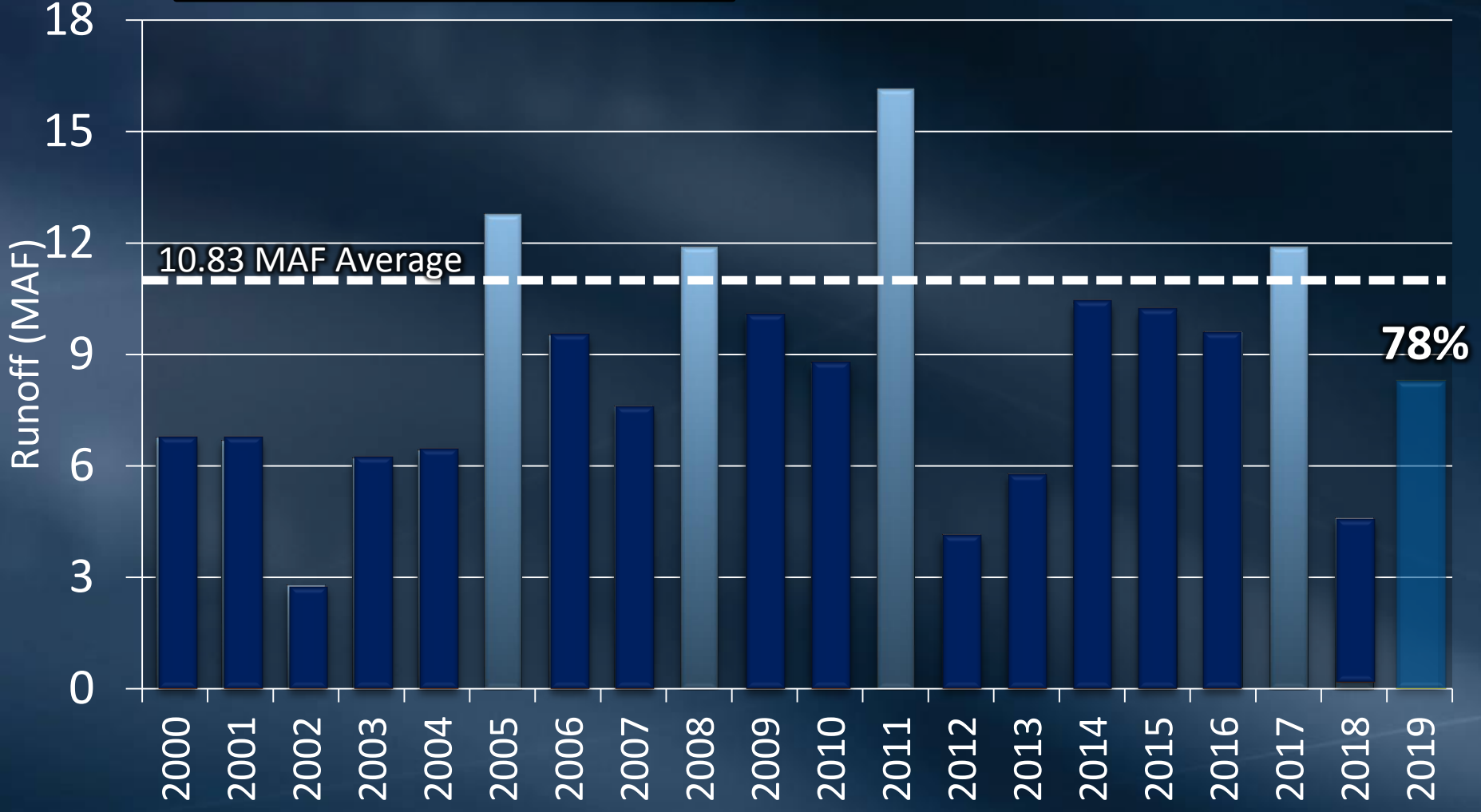


# Dealing with Drought and Overallocation



# Upper Colorado River Basin Runoff

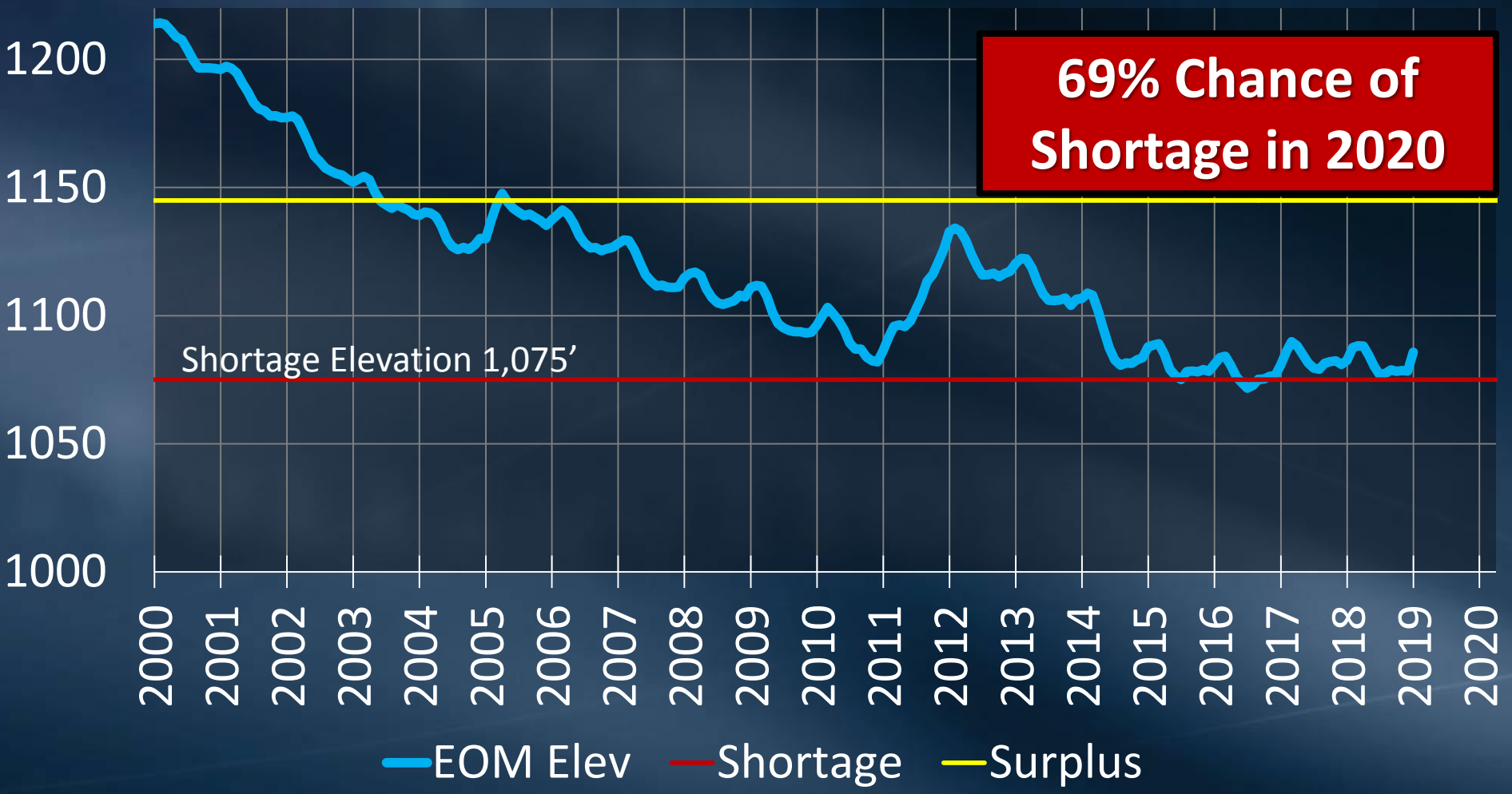
**Historic Drought**



# Increasing Chances of Shortage

## Lake Mead Elevation

Max. Capacity 1229 ft, 26.1 MAF



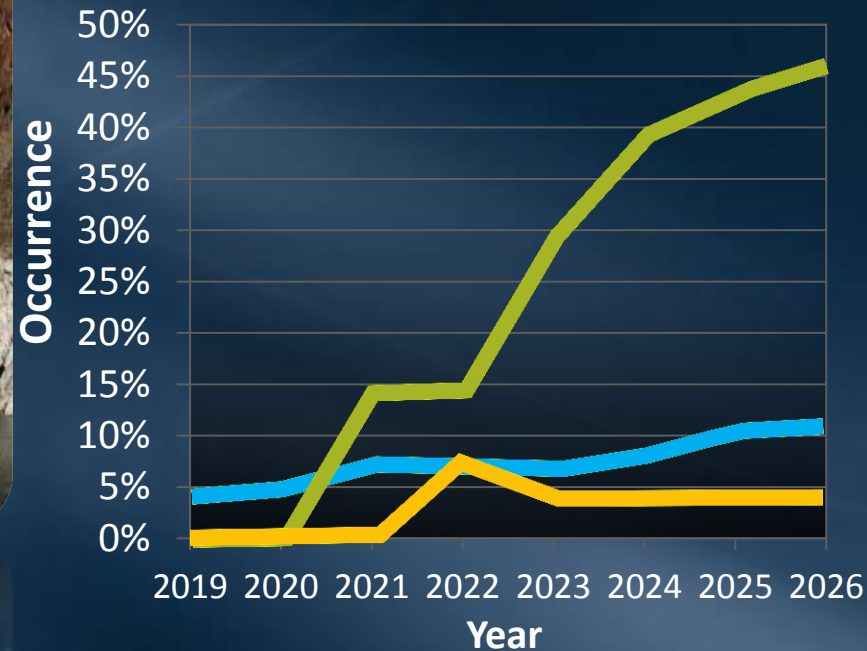


# Drought Contingency Plan to Help Avoid Shortage on the Colorado River



If Mead falls below 1,020', AZ, NV, and CA could all face severe and sustained water curtailments

Probability Lake Mead Elevation Less than 1,020' in any month



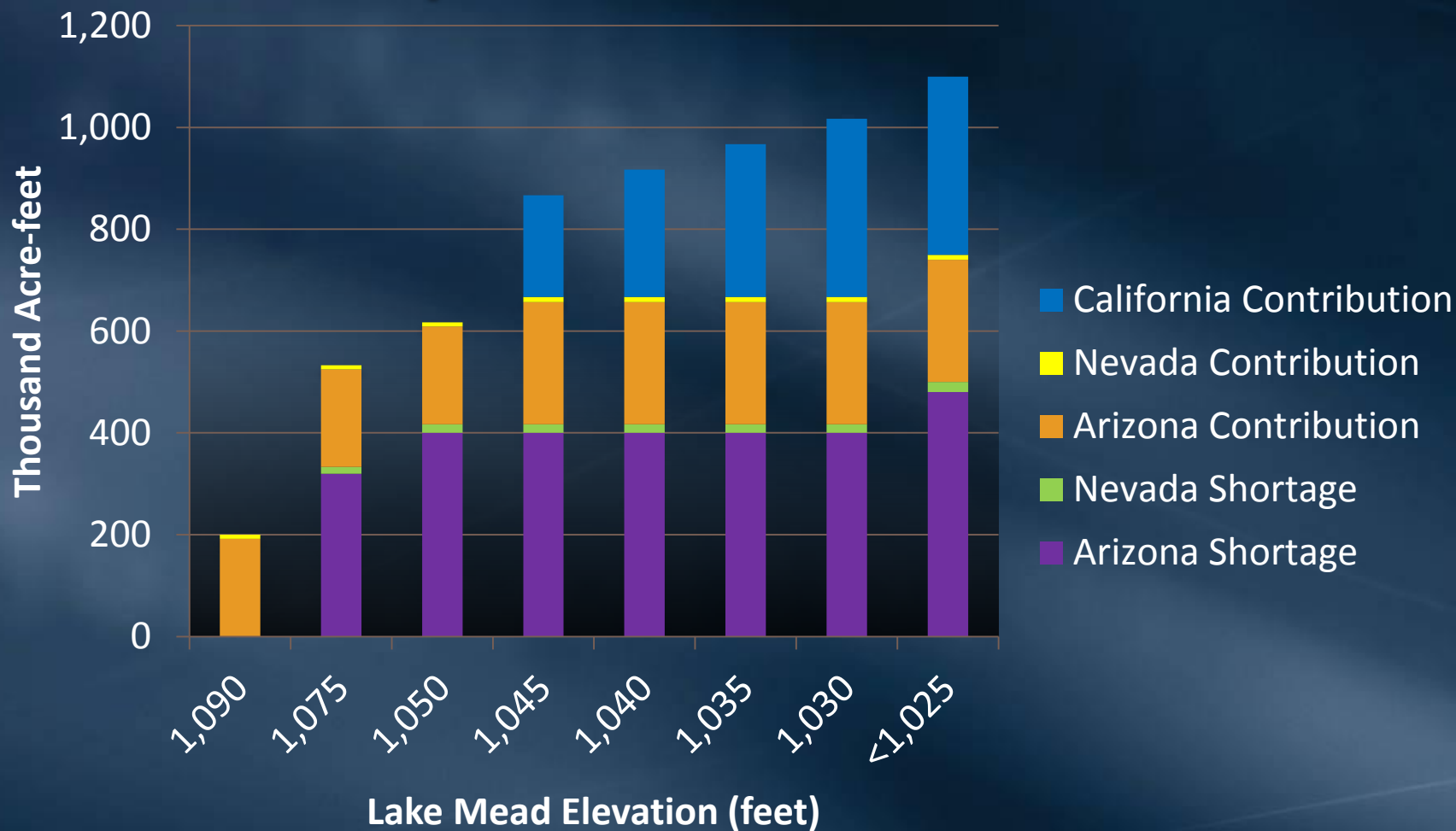
- 2007 Projection
- 2018 Projection without a DCP
- 2018 Projection with a DCP

# Summary of Proposed DCP

*Goal is to avoid Lake Mead reaching critical elevations*

- Water use reductions triggers for each state
  - In addition to existing shortage amounts
- Delivery reduction amounts conditionally recoverable
- Provides flexibility during shortages
  - Delivery of stored water in Lake Mead (ICS)
  - Interstate Banking

# Total Lower Basin Contributions with DCP by Elevation



# If DCP is approved, what's next?

- Negotiations on post-2026 operating guidelines to begin immediately
- MWD to conduct study looking at new Colorado River water supply options

