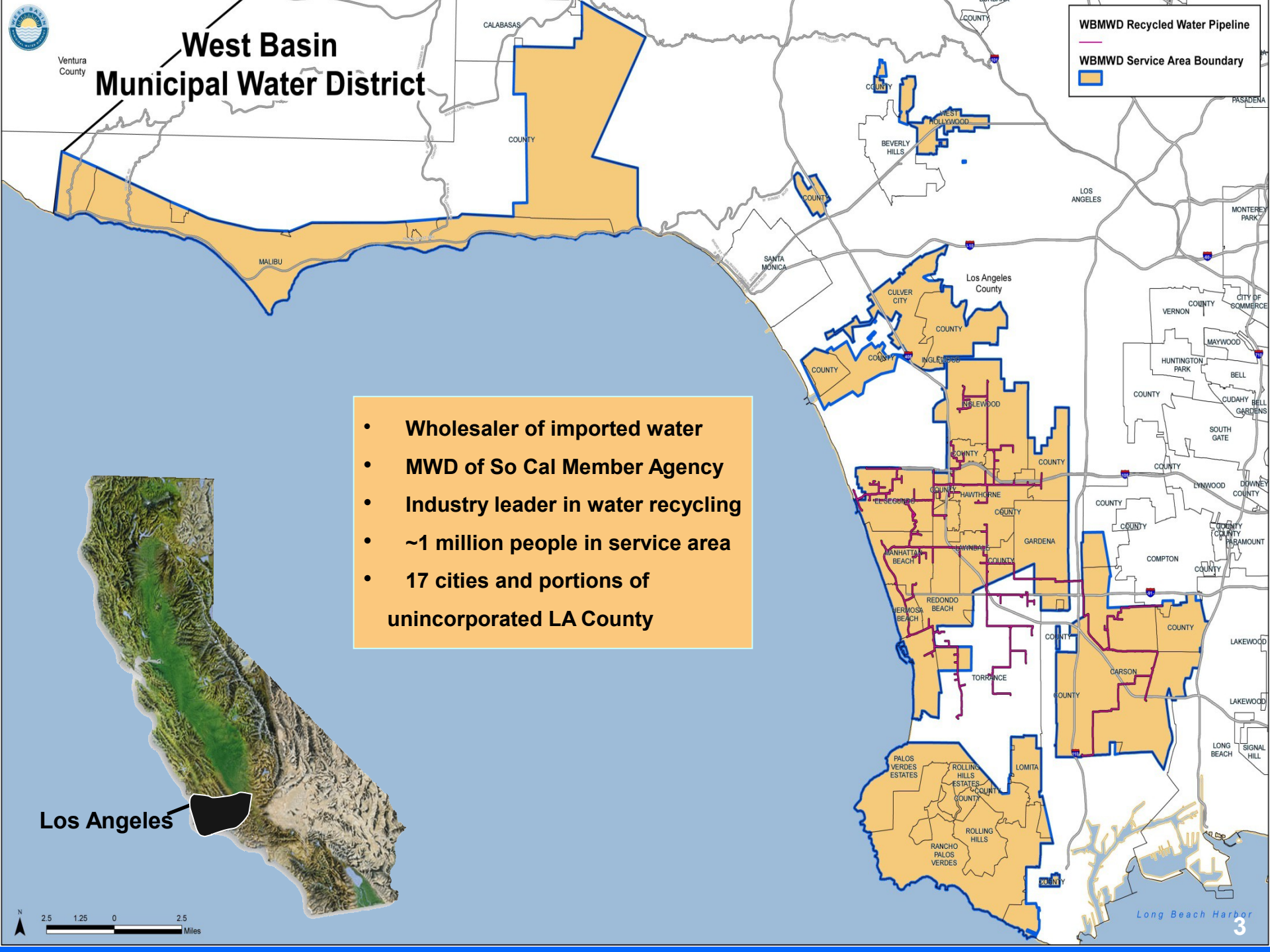
Is There a Need for Desalination?

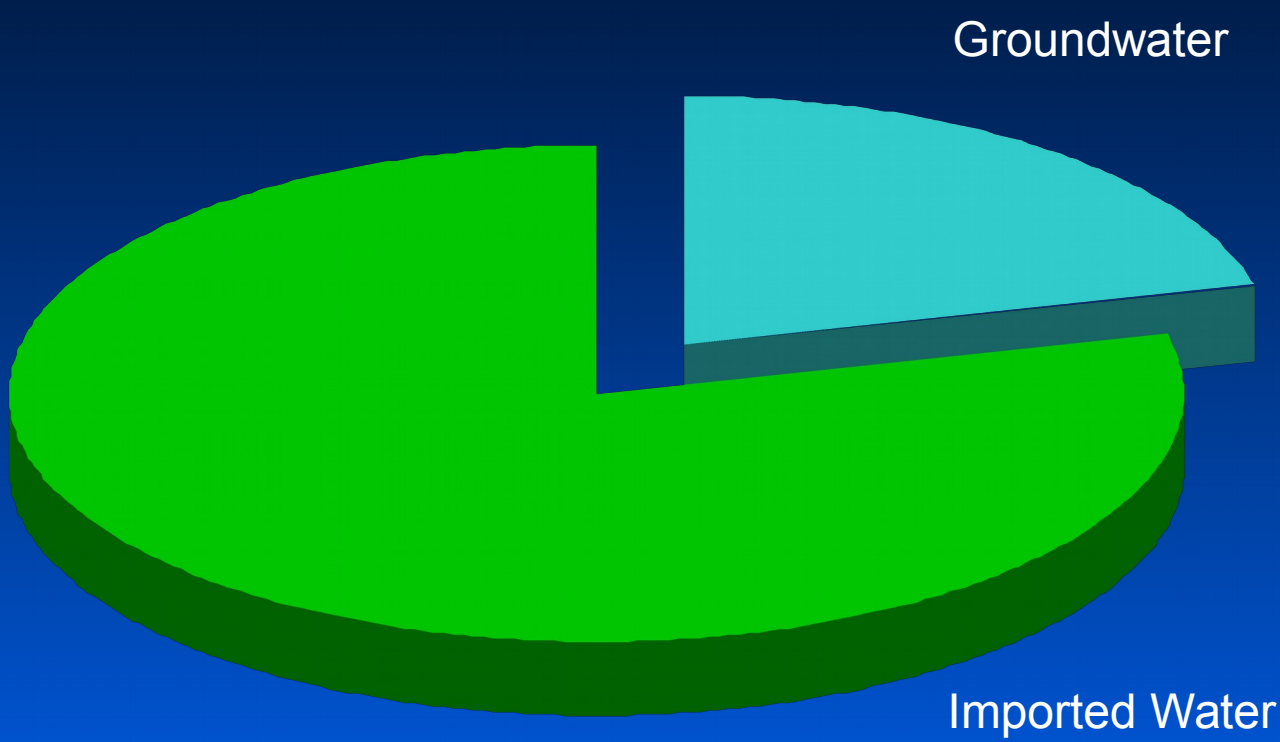
The Bay Area Coalition's
Water Energy Nexus Summit
September 28, 2015

West Basin Municipal Water District



- Wholesaler of imported water
- MWD of So Cal Member Agency
- Industry leader in water recycling
- ~1 million people in service area
- 17 cities and portions of unincorporated LA County

The West Basin Story



Edward C. Little Water Recycling Facility

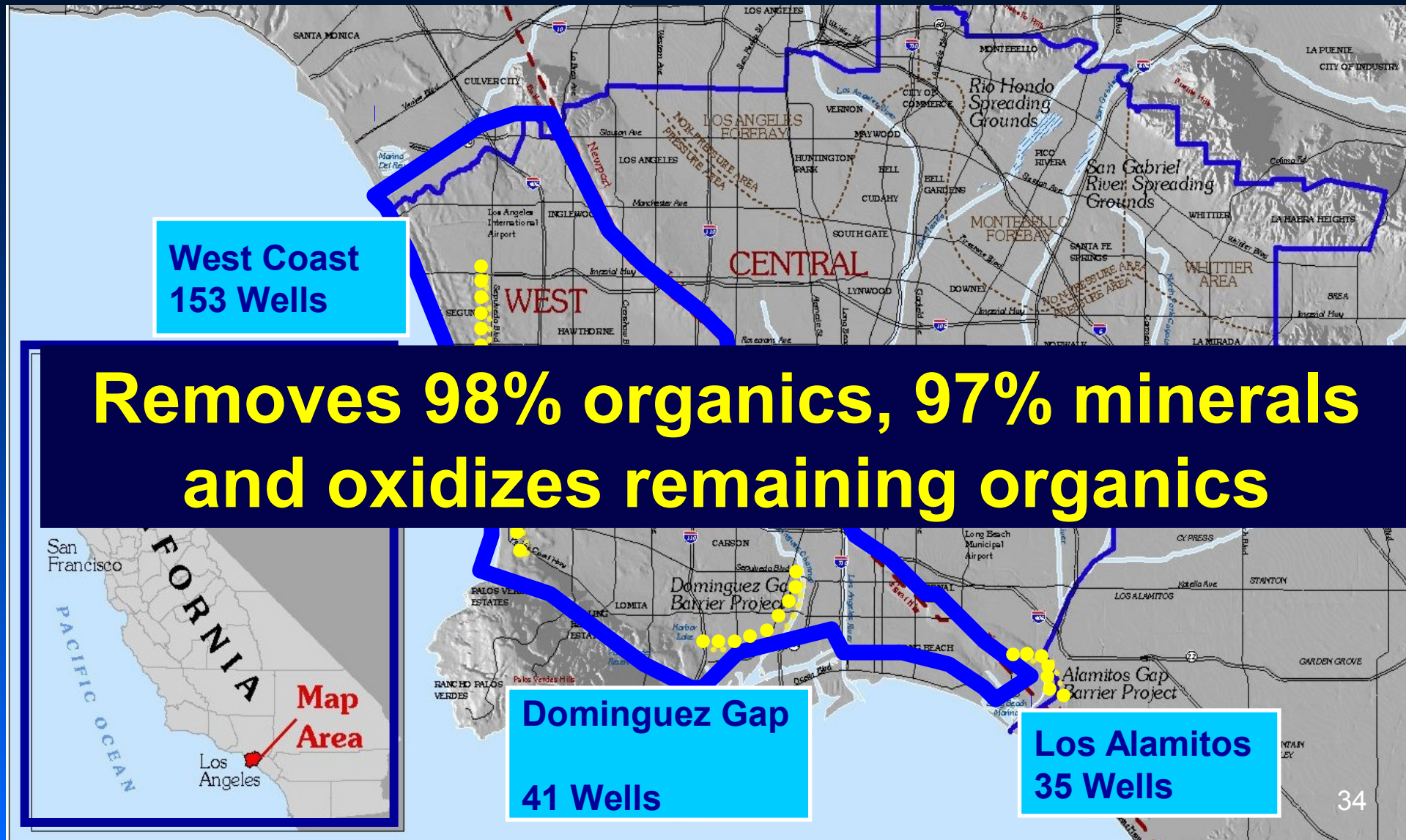
1. Tertiary (Irrigation) Water

2. Nitrified (Cooling Tower) Water

3. Low-Pressure Boiler Feed
(Single Pass RO)

4. Indirect Potable Reuse

Ozone/ Micro Filtration/Reverse Osmosis/UV Peroxide



5. High-Pressure Boiler Feed

(Double Pass RO)

Designer Waters

3

Indirect Potable Reuse: Barrier

Saved 165 Billion Gallons of Water

2

Nitrified Water

Reverse Osmosis: Single Pass

5

Reverse Osmosis: Double Pass

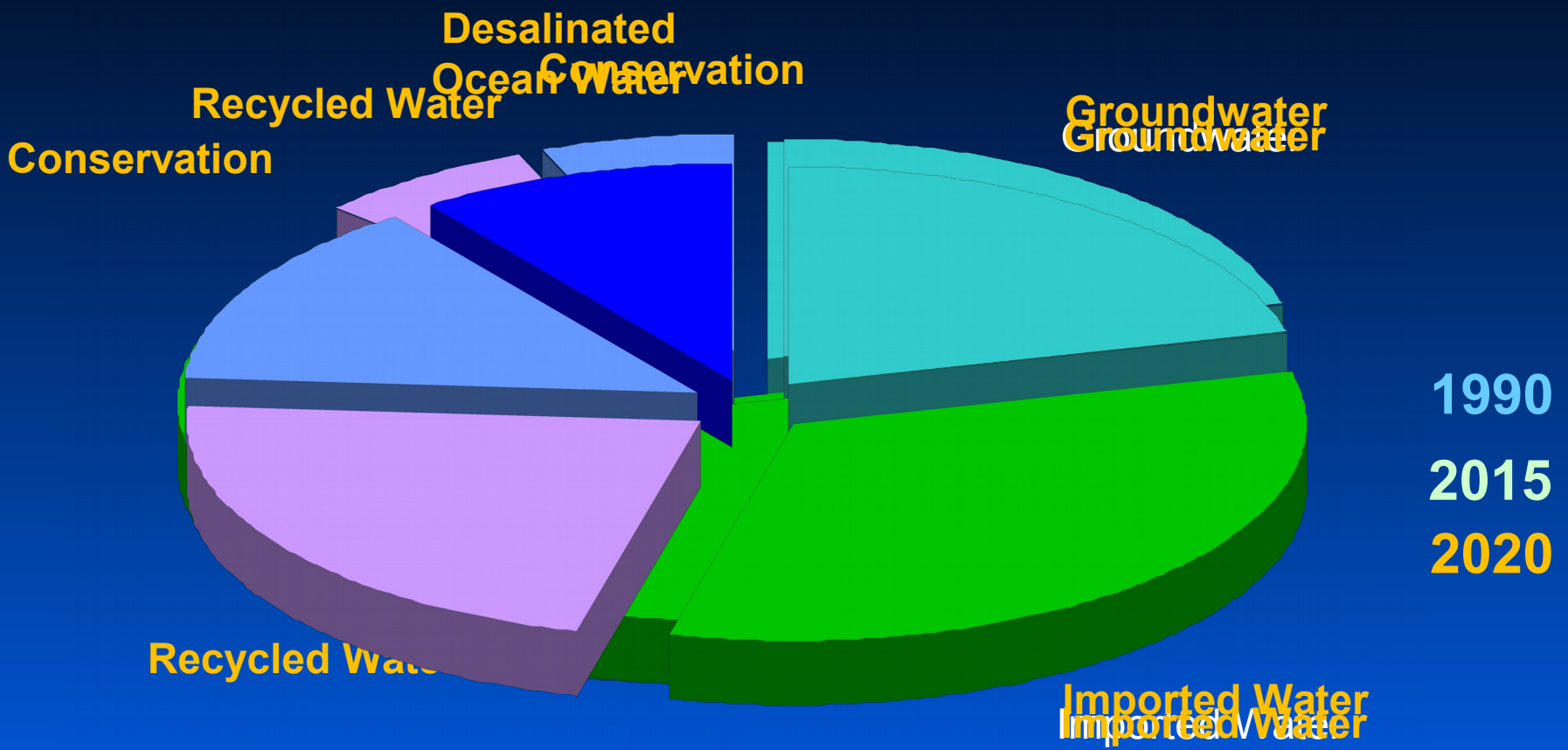
Designer Water No. 6

Tertiary Membrane Bioreactor

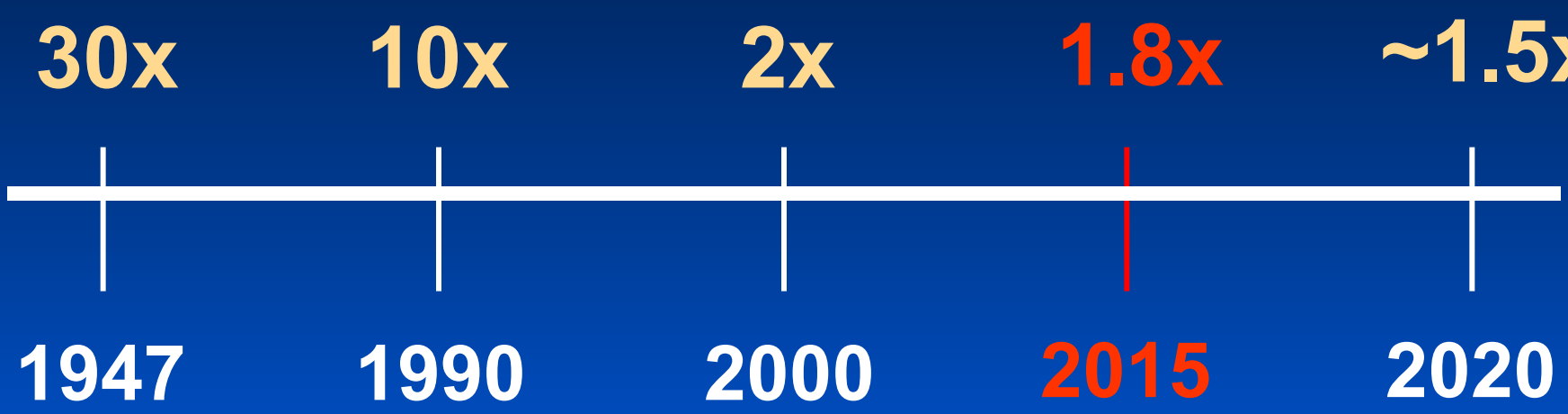
"What Does the Public Think?"

	Favor
1. Voluntary conservation	91%
2. Recycled water	81%
3. Ocean-water desalination	75%
4. Build new dams	63%
5. Increase imported water	56%
6. Mandatory conservation	48%
7. Increase the price of water	32%

West Basin Water Supply Portfolio



Desal Costs vs. Imported Costs



Water Supply Challenges

Judicial restrictions intended to protect the

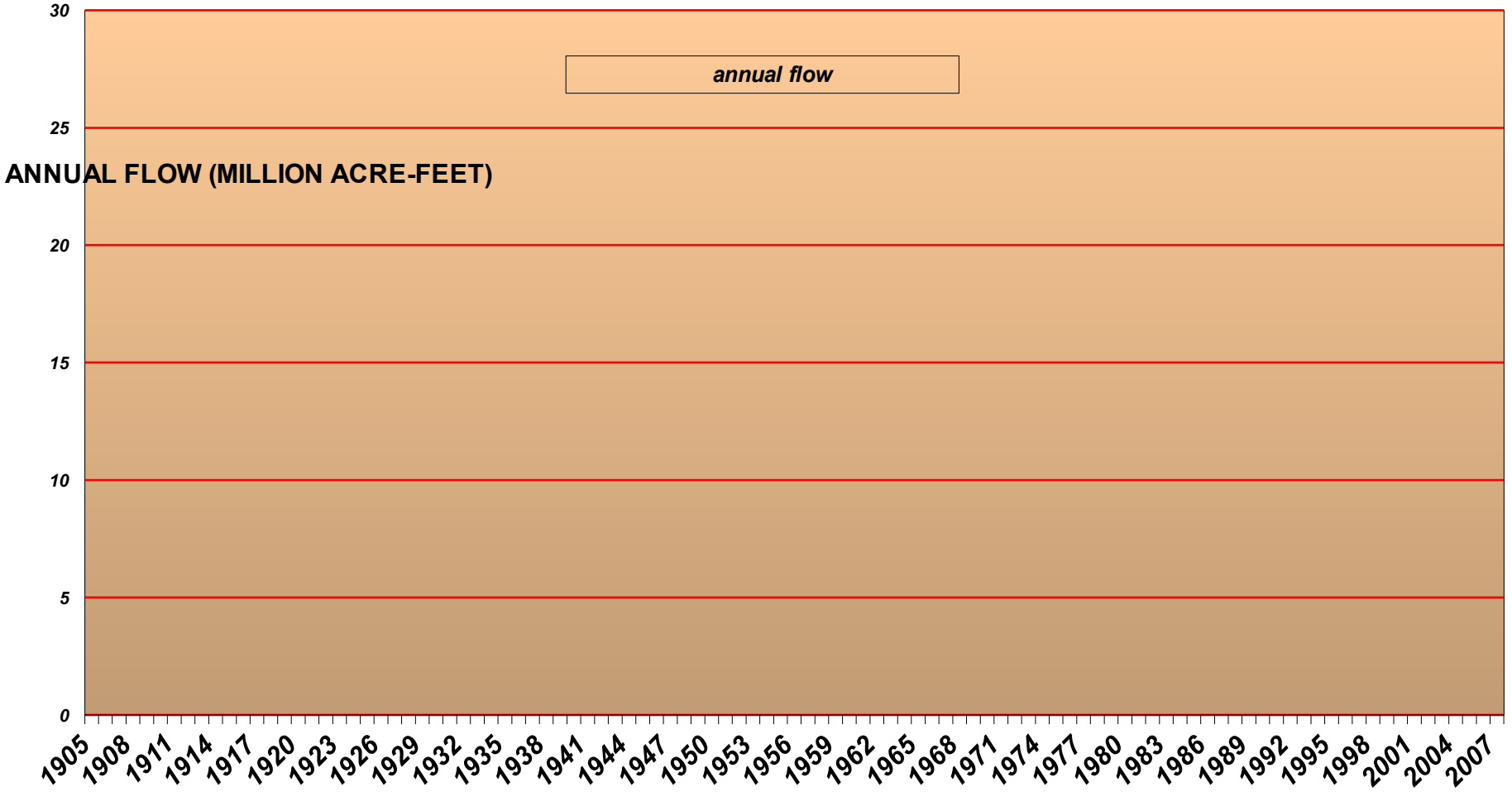
Cut State Deliveries By 33%

from the San Joaquin Bay Delta

1. Warmest Winter on Record
2. Lowest Snow Pack Ever Recorded
3. Lowest Runoff Ever for LA Aqueduct
4. Colorado River Basin Close to its FIRST EVER Historic Shortage Allocation
Dry Winter

Colorado River Basin
WY
UT
NV
CO
NM
CA
AZ
MEXICO
UPPER BASIN
LAKE POWELL
LEE FERRY
LAKE MEAD
LAKE MOHAVE
LAKE HAVASU
LOWER BASIN
California Aqueduct
Los Angeles Aqueduct
Colorado River Aqueduct
MWD
CVWD
PVID
IID
Yuma Project
All-American Canal
COLORADO RIVER DELTA
GULF OF CALIFORNIA

COLORADO RIVER NATURAL FLOW (AT LEE'S FERRY)
1906-2008
103 Year Average = 15.0 MAF



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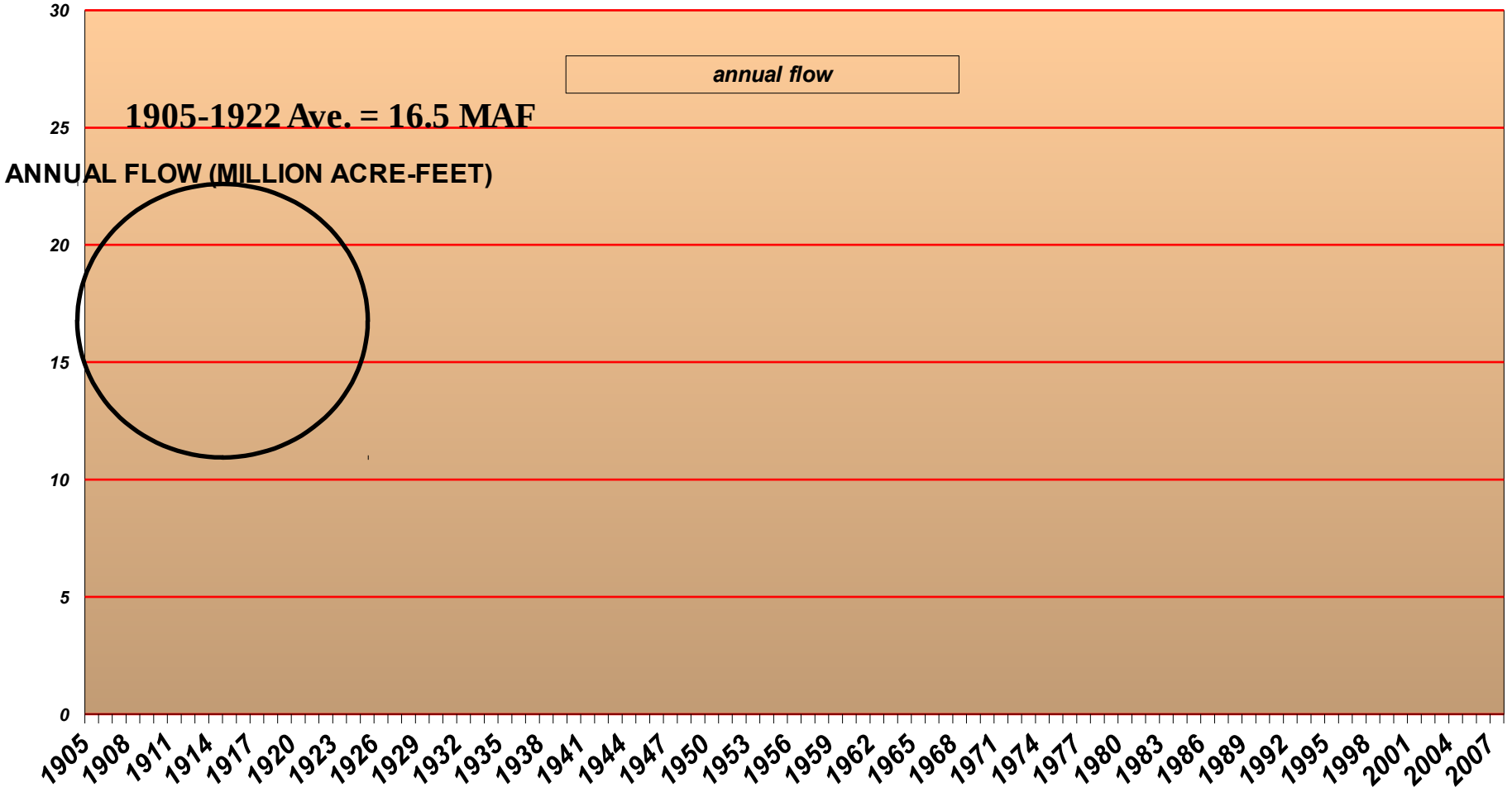
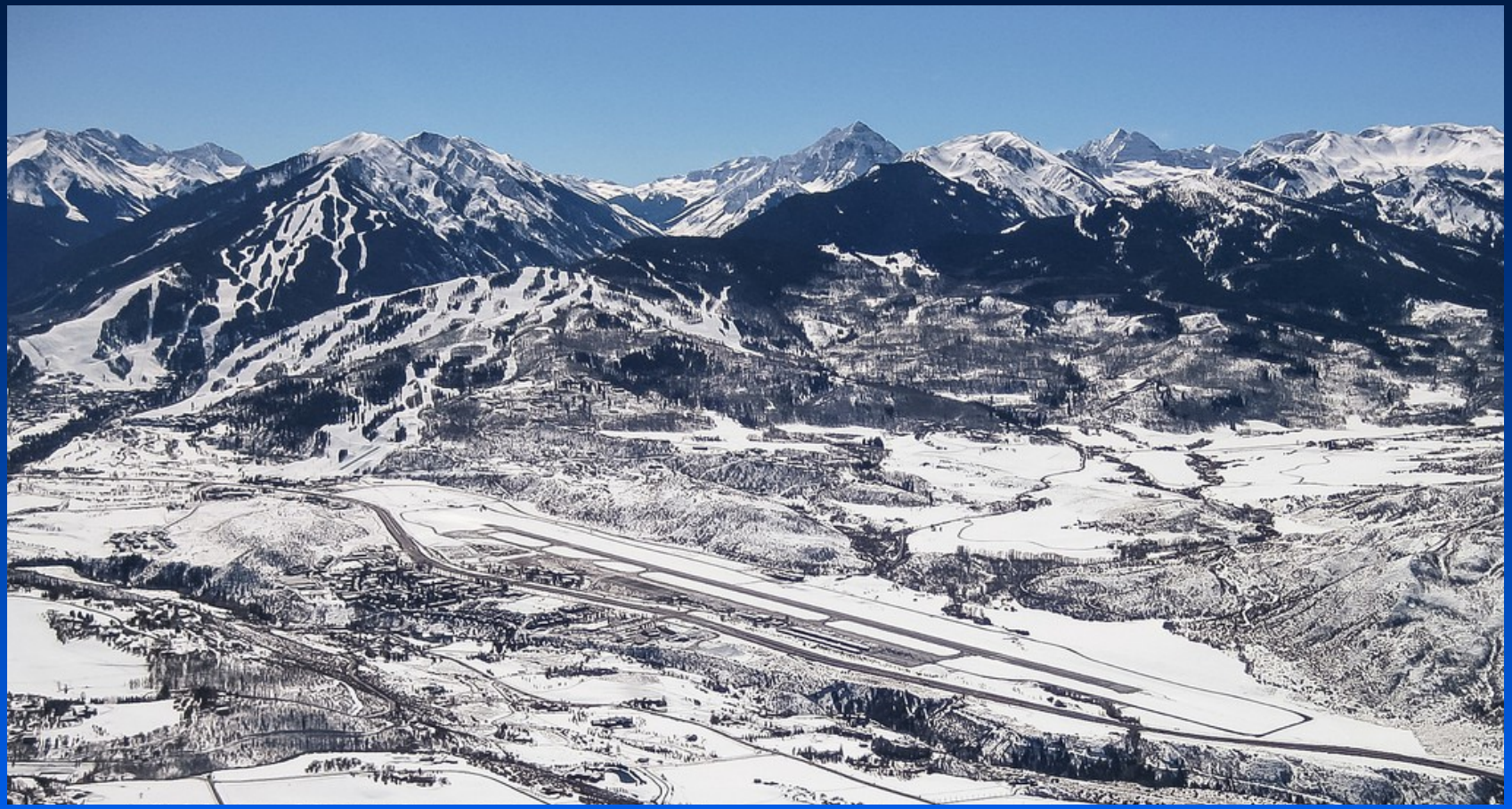
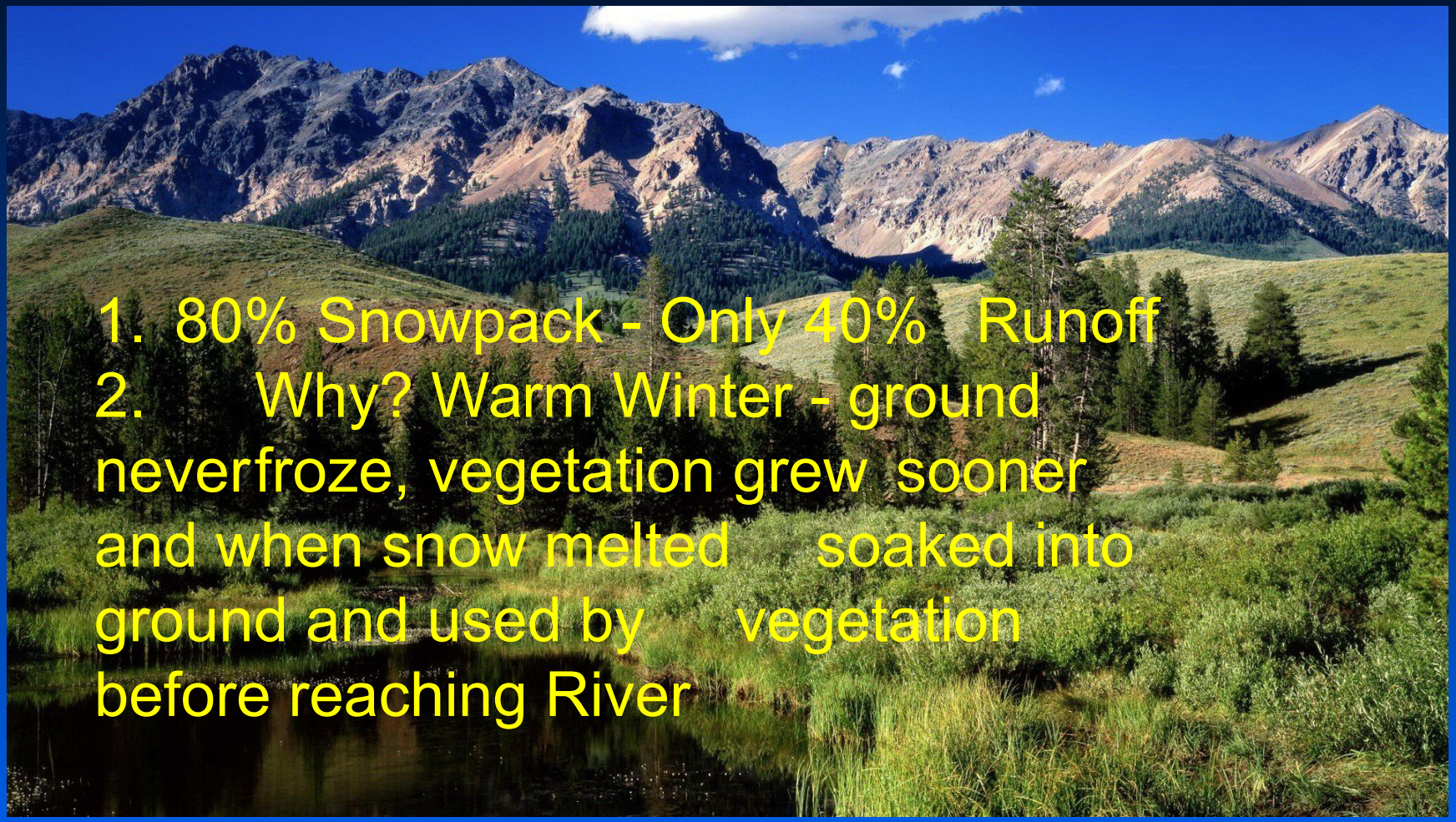


Normal Winter Keeps ET Low



Native Plants Use Water When Snow Melts



Loss of Supply to the Environment

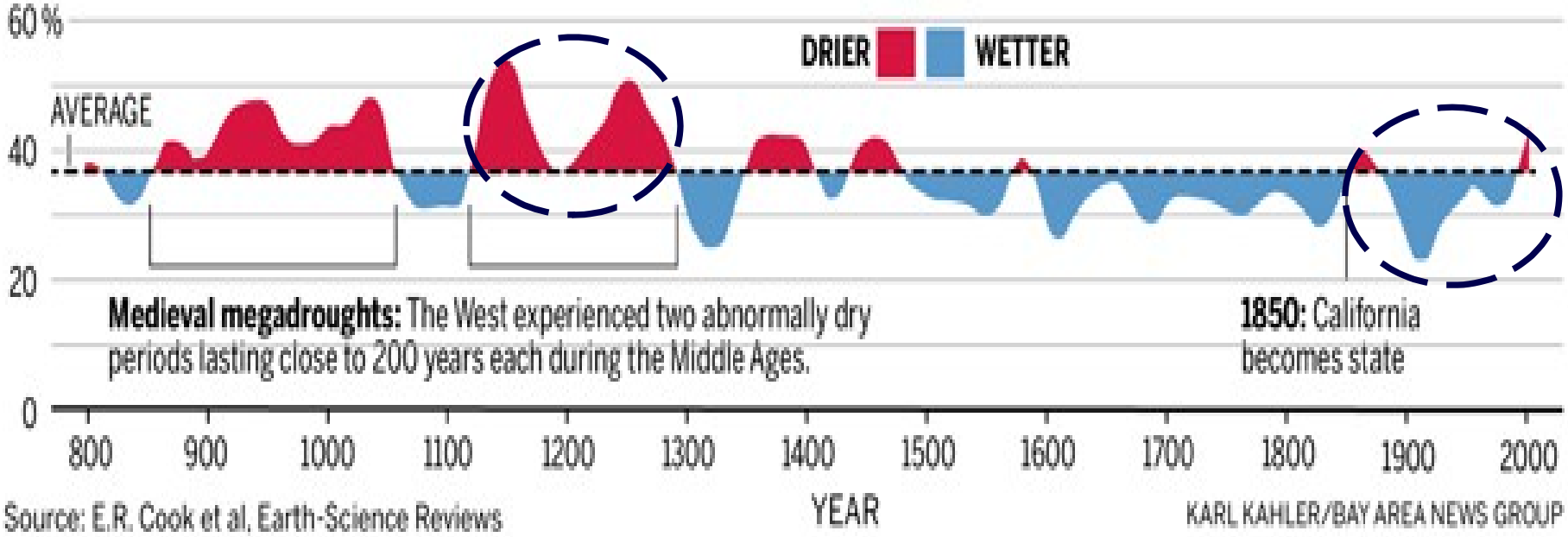
1. Mono Lake- Public Trust
2. Owens Dry Lake-PM 10
3. Bay-Delta-ESA
4. Los Angeles Aqueducts-1990s- 400,000 AFY
5. Los Angeles Aqueducts-Today- 40,000 AFY

April 1, 2015 Snowpack

First Time Ever Statewide Mandatory Cut in Urban Usage - 25%

Food for Thought: First Four Years of a Mega-Drought?

A 200-Year Drought?



Cannot Use Recent Past to Predict the Future
Is This the New Normal?

Is There a Need for Desal?

1. Can't Use Past to Predict Future Supply
2. 20th Century Wettest in the Last 1000 years
3. ESA/Public Trust/EPA Greater Take from Past Urban/Agricultural Supply's
4. CRA is Over Appropriated
5. MWD IRP- 150,000 AF/Y
6. Public Support High

Q:What is our most expensive glass of water?
A:The one you don’t have

“Genius is 1% inspiration and 99% perspiration” – Thomas Edison

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