



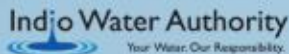
WELCOME





John Soulliere

Mission Springs Water District





Session 4!

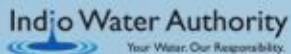
(1% Club)





Mark Krause

Desert Water Agency



Bringing Water into the Coachella Valley

MARK KRAUSE, GENERAL MANAGER
DESERT WATER AGENCY
FEBRUARY 27, 2018



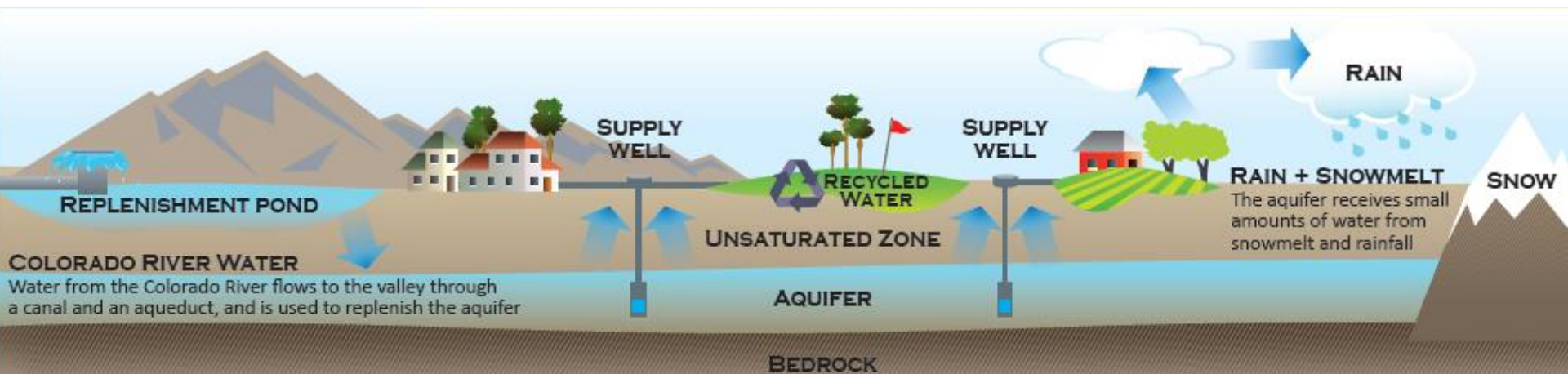
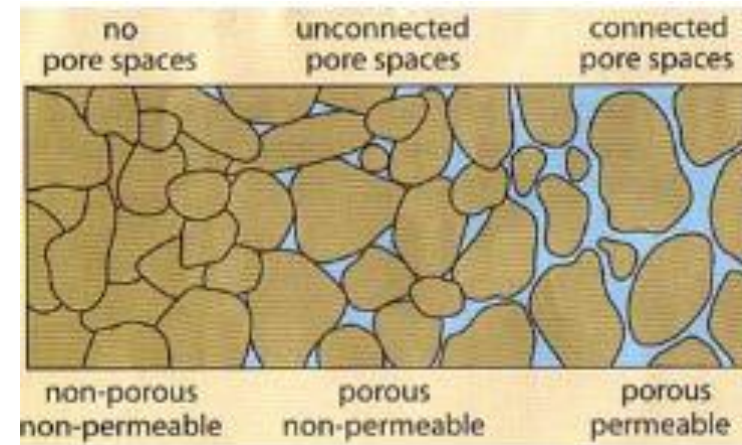
Streams

- Chino Creek, Falls Creek, Snow Creek
- About 5% of DWA supply
- Less than 1% of supply valley wide

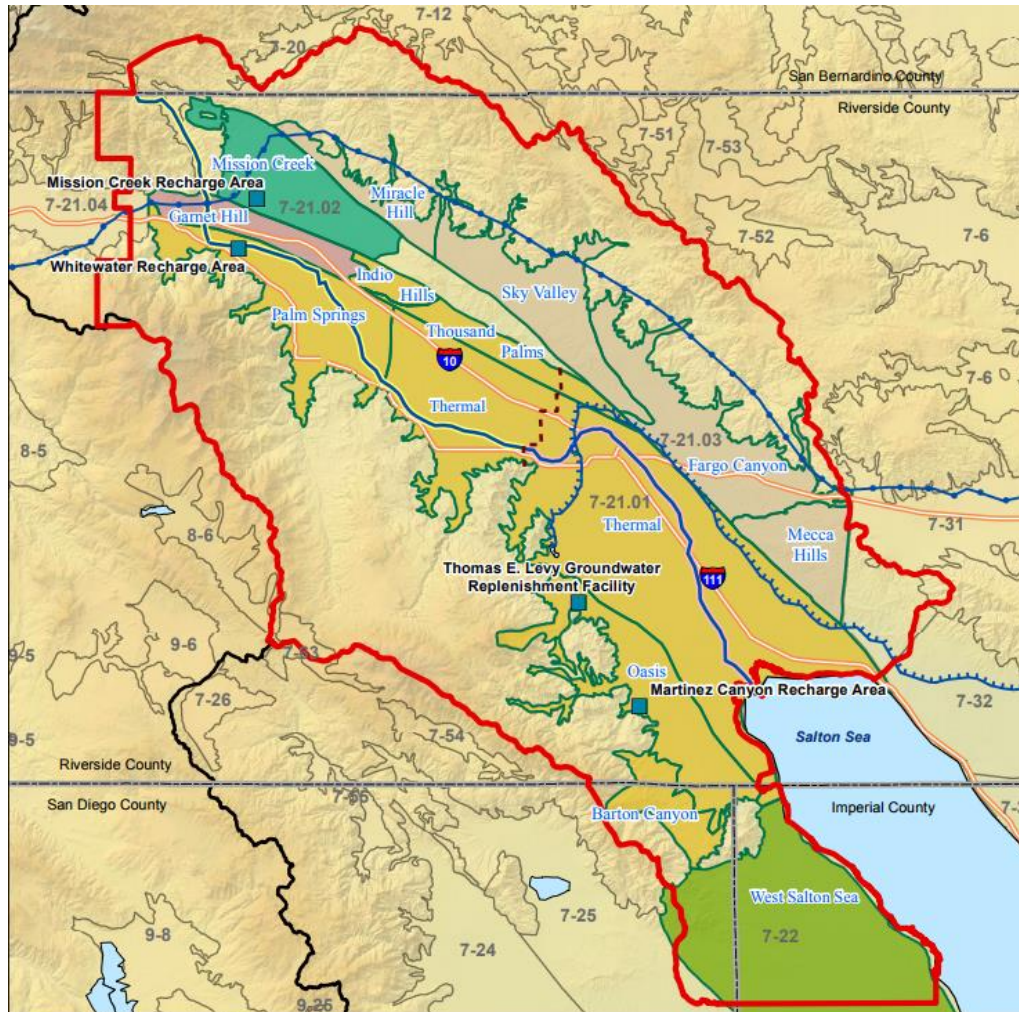


Aquifer

- 39 million acre feet (MAF) in first 1000 feet
- Each year valley uses about .3 MAF of groundwater
- About 130 years worth of water
- Depth to water varies



Basin map

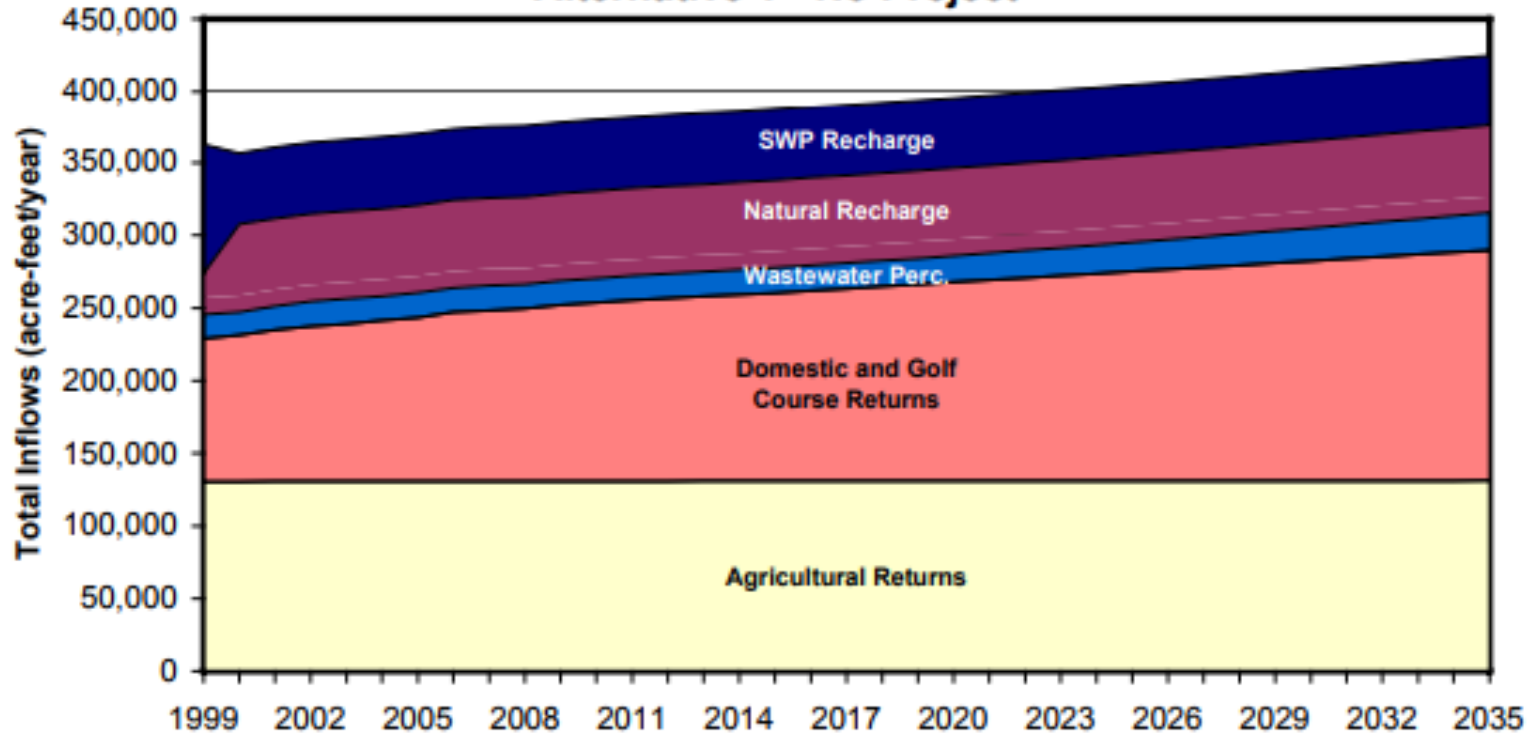


Groundwater Basins in Coachella Valley

- Desert Hot Springs
- Garnet Hill
- Indio/Whitewater River
- Mission Creek
- West Salton Sea
- Groundwater Sub Areas
- 7-X DWR Bulletin 118 Groundwater Basins

Inflows

Figure 4-E
Summary of Projected Inflows by Source (1999-2035)
Alternative 1 - No Project



Balance



DESERT WATER



State Water Contractor



- Two of 29 in the state
- That's why DWA was formed back in 1961
- Work with DWR to maintain statewide system
- Pay to import water

Sierra Nevada



Jan, 28 2017



Feb 8, 2018

The Delta

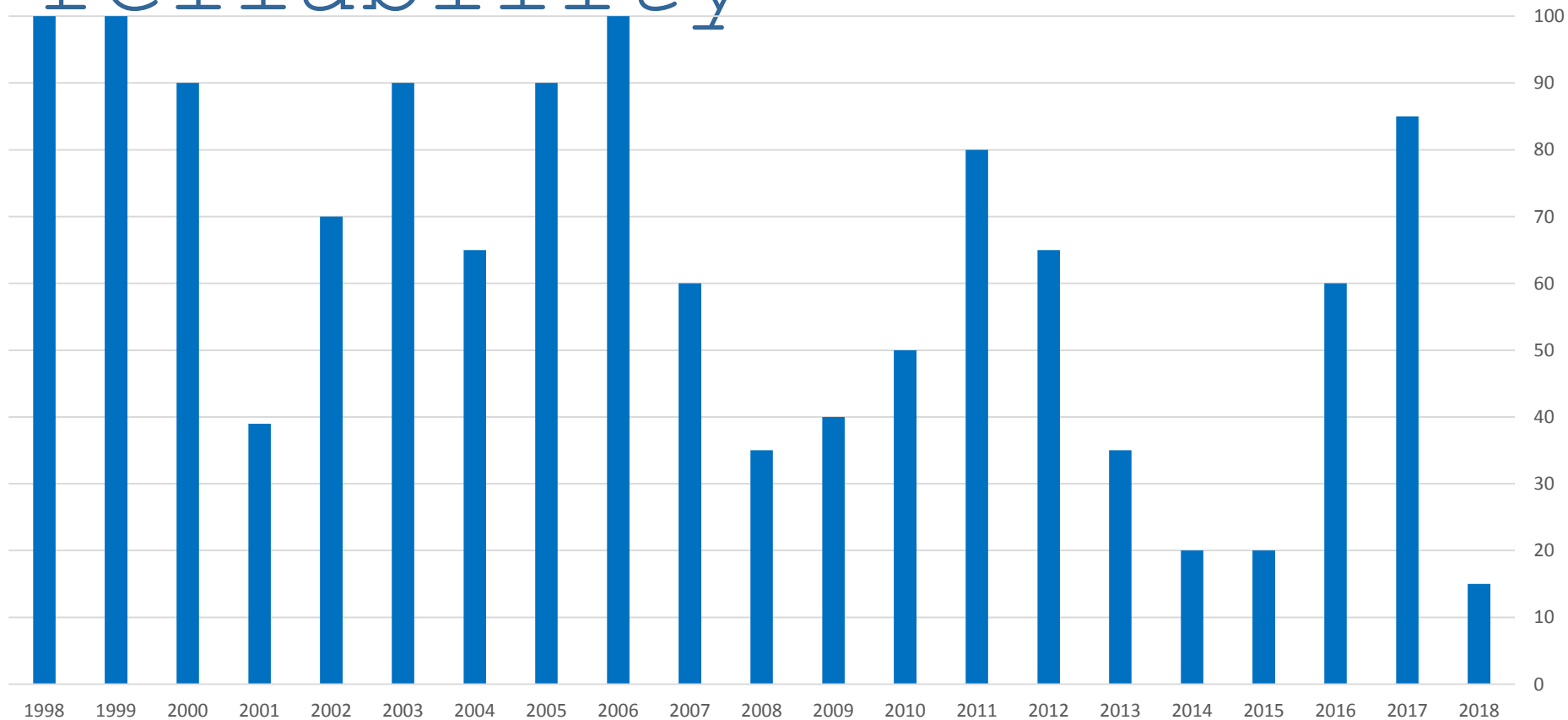


- More than 30 million acre feet flow through each year
- About half the total river flow in the state passes through this region
- Supplies an estimated 7 million acre feet of water per year to approximately 23 million people

State Water Project

reliability

Percent of Water Entitlement (Allocation)

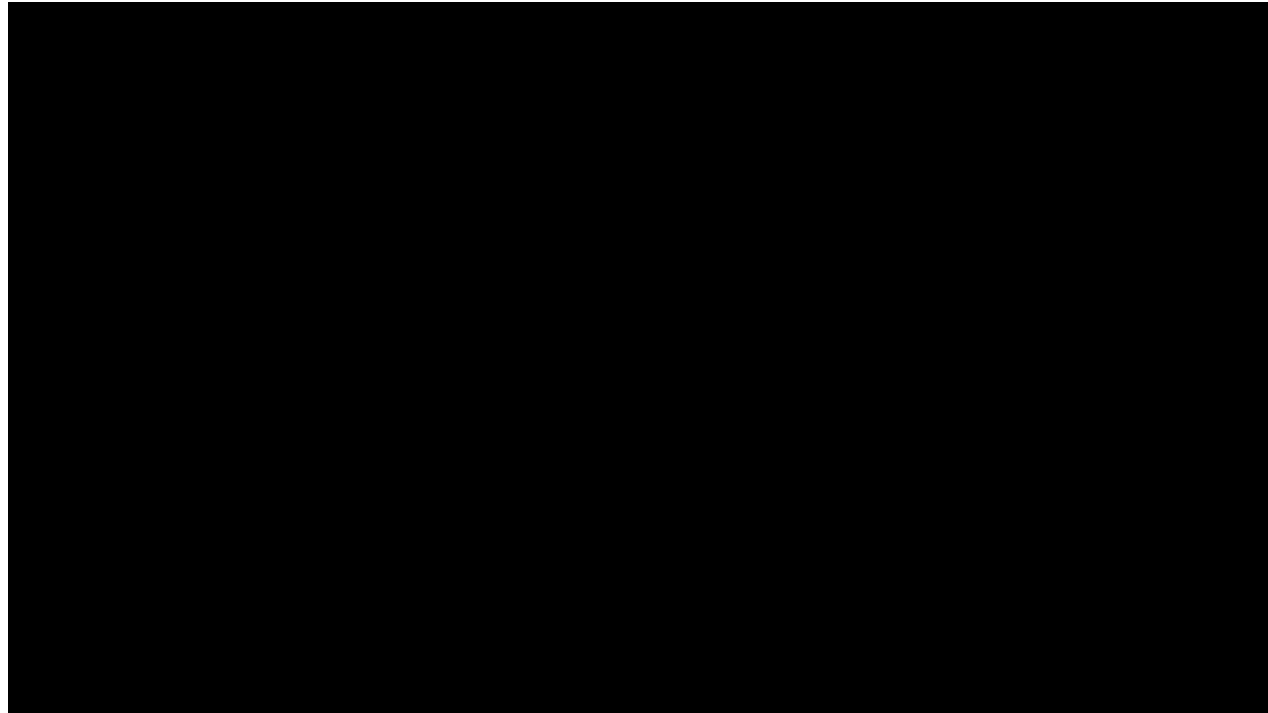


Earthquakes

Typical water flow
snowmelt/
reservoir releases



Earthquake
ocean

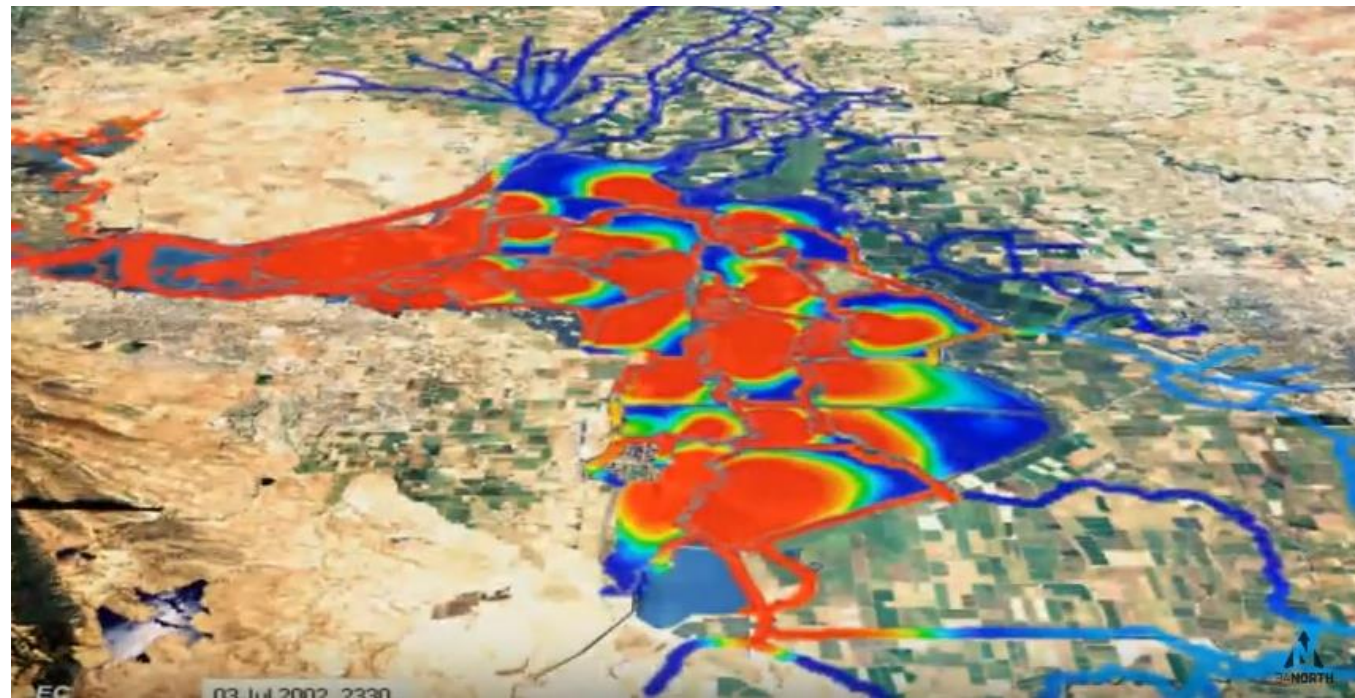


DESERT WATER





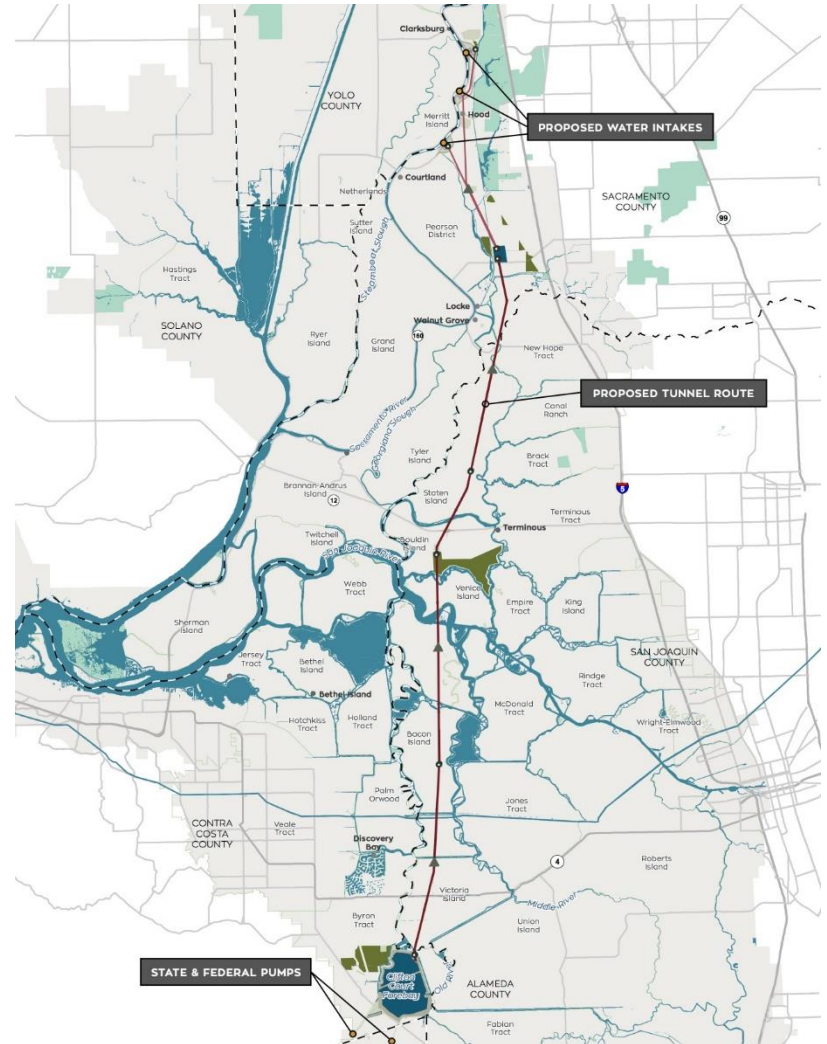
Before



After

CA WaterFix

- Twin tunnels – single tunnel?
- Increase reliability and deliveries
- Less vulnerable to quakes
- Won't be completed for decades
- Still pending



SoCal end point



- Ends at Lake Perris
- Furthest east extension in Beaumont

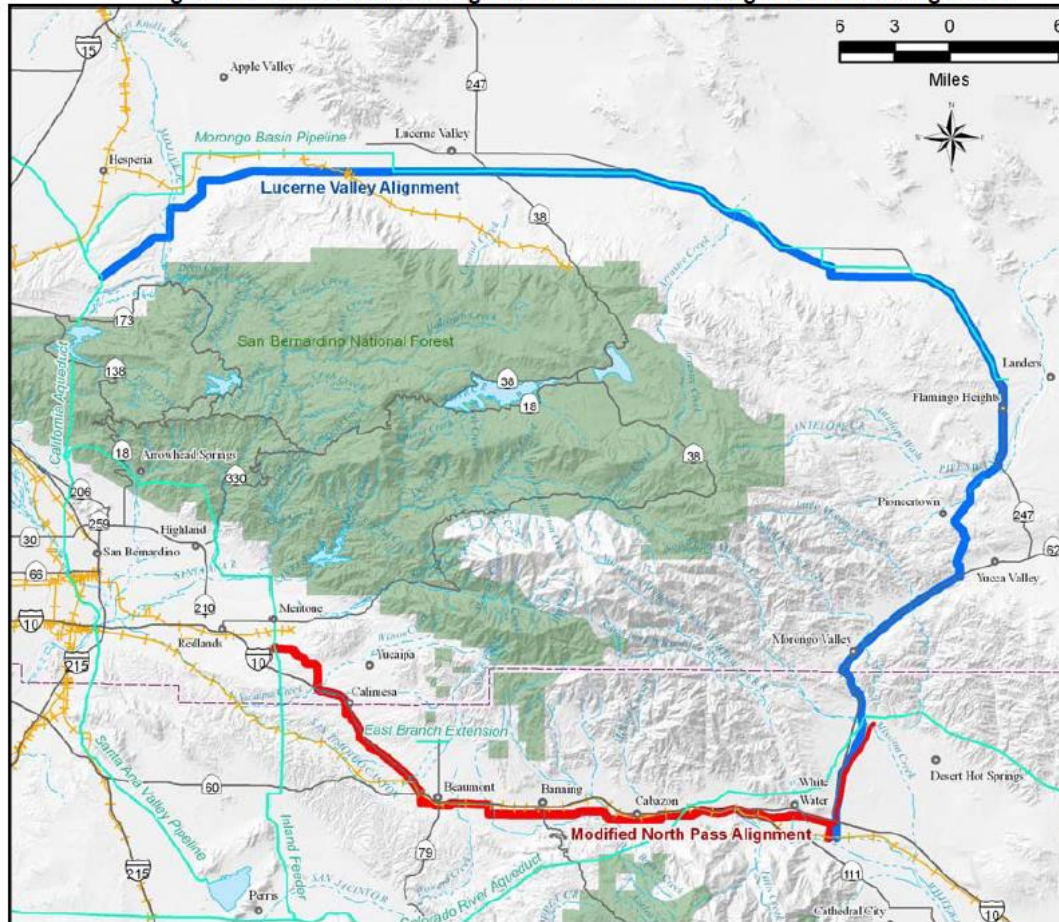


Click on the facility name to see a detailed map.



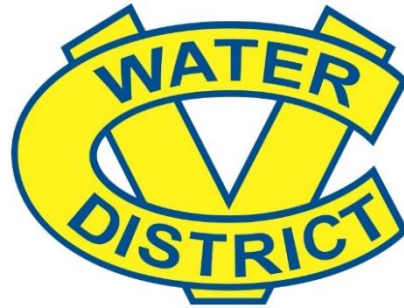
Possible routes to

Figure 1-3 SWP Extension Alignments Evaluated During Phase 2 Investigations



- Two routes
 - Lucerne Valley - 88 miles
 - San Gorgonio Pass - 38 miles
- Would cost about \$1.6B

MWD exchange



DESERT WATER



- Trade Colorado River water for State water
- Avoid building +\$1.6B pipeline
- Saves ratepayer money
- Guaranteed delivery
- Get advanced deliveries to help groundwater levels

DESERT WATER



Colorado River



- Trade Colorado River water for State water
- Avoid building +\$2B pipeline
- Saves ratepayer money
- Get advanced deliveries to help groundwater levels



Water replenishment



- Two west valley facilities for SWP
- One mid-valley location being built
- One east valley location

Water replenishment





DESERT WATER





DESERT WATER





DESERT WATER





DESERT WATER





Ivory Reyburn

Coachella Valley Water District



COLORADO RIVER WATER AND THE COACHELLA VALLEY

IVORY REYBURN

COACHELLA VALLEY WATER DISTRICT

FEBRUARY 27, 2018



COACHELLA VALLEY WATER SOURCES



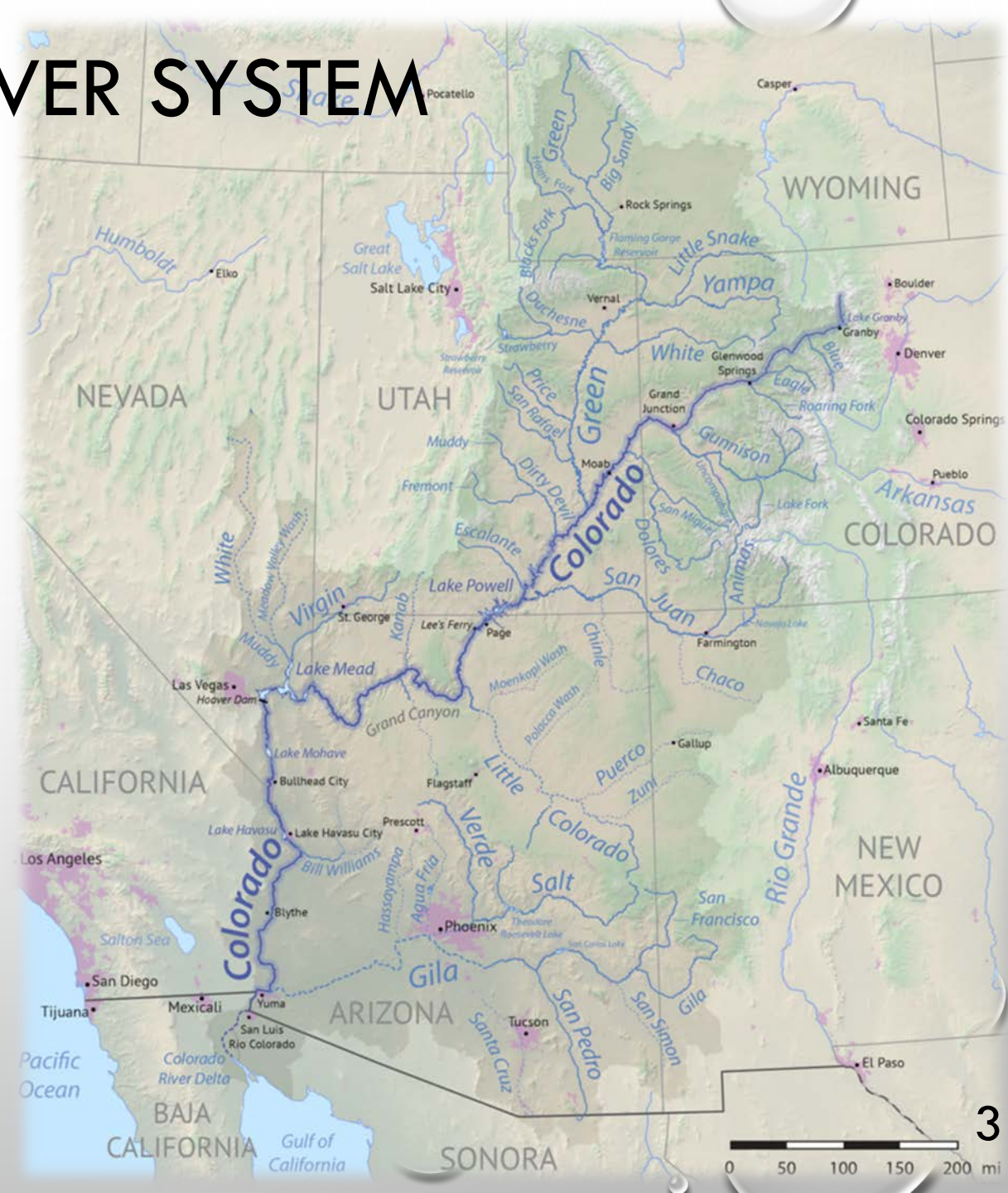
- GROUNDWATER AQUIFER
- NATURAL INFLOWS
- CA STATE WATER PROJECT
- COLORADO RIVER



COLORADO RIVER SYSTEM

COMPLEX SYSTEM RULED BY THE
“LAW OF THE RIVER”

A COLLECTION OF AGREEMENTS,
COMPACTS, LEGISLATION, U.S.
SUPREME COURT DECREE,
INTERNATIONAL TREATY



COLORADO RIVER SYSTEM

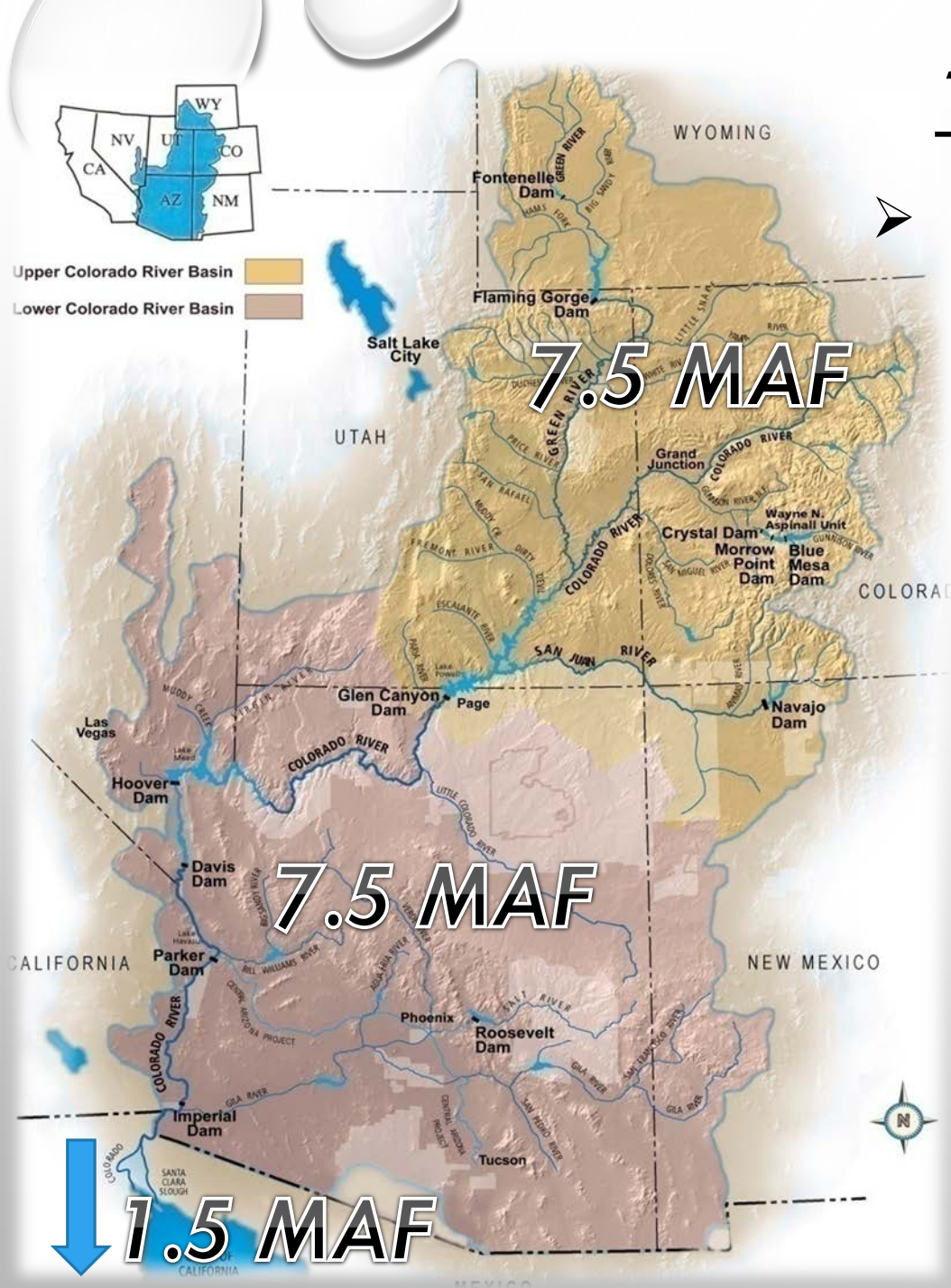
- Seven U.S. States
 - WY, UT, CO, NV, AZ, CA, NM
- Two Mexican States
 - Baja, Sonora
- Two Basins: Upper and Lower
- Originates in Colorado
- Flows 1,450 Miles
- Green, San Juan, Little Colorado, and Gila Rivers
- Outlets to Sea of Cortez
- Transported Outside the Basin



1922 COLORADO RIVER COMPACT

➤ DIVIDES 15 MAF BETWEEN UPPER AND LOWER BASINS

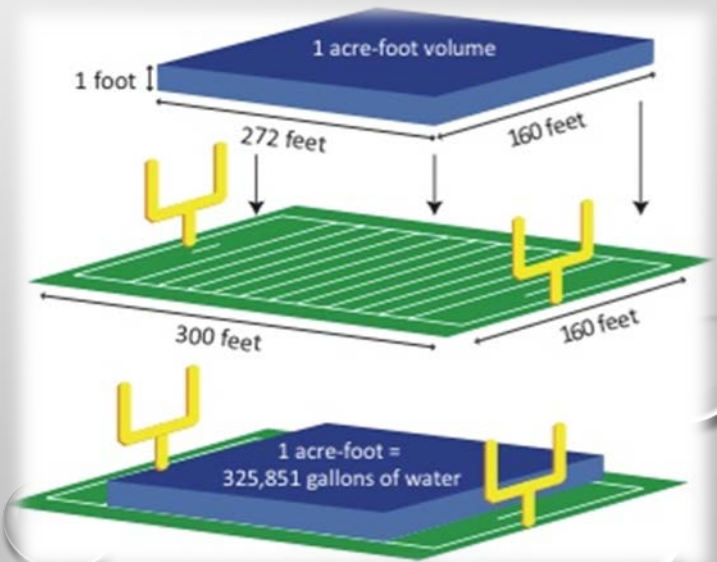
- Growth and Development in West
- 7.5 MAF/Year to Upper Basin
- 7.5 MAF/Year to Lower Basin
- Water Originates in Upper Basin, Used in Lower Basin
- Reserves Water for future Upper Basin development
- Allows continued development in Lower Basin



MAF: 1 Million Acre-feet

1 Acre-foot (AF):

- ✓ 325,851 gallons
- ✓ 1 foot of water on 1 acre



1928 BOULDER CANYON PROJECT ACT

- ALLOCATES 7.5 MAF BETWEEN THE LOWER BASIN STATES
 - LIMITS CALIFORNIA TO **4.4 MILLION ACRE-FEET**
 - HOOVER DAM, IMPERIAL DAM, ALL-AMERICAN CANAL AND COACHELLA CANAL
- 1944 U.S. - MEXICO TREATY FOR UTILIZATION OF WATERS OF THE COLORADO AND TIJUANA RIVERS AND THE RIO GRANDE
- 1964 U.S. SUPREME COURT DECREE *ARIZONA V. CALIFORNIA* SUPPORTS ALLOCATIONS



Allocations (MAF):

California	4.4
Arizona	2.8
<u>Nevada</u>	<u>0.3</u>
	7.5
Mexico	1.5



COLORADO RIVER WATER DISTRIBUTION

Average annual flow 13.8 million acre feet

Basin divisions

Upper basin states (Wyoming, Utah, Colorado, New Mexico)	7.5 million acre feet
Lower basin states (California, Nevada, Arizona) ..	7.5 million acre feet
Lower basin states (additional water if available) ..	1.0 million acre feet
Mexico	1.5 million acre feet
Evaporation, etc.	1.0 million acre feet
Total basic divisions	18.5 million acre feet

Lower basin state allotments

California	4.4 million acre feet
Arizona	2.8 million acre feet
Nevada	300,000 acre feet

Priorities within California

1. Water to irrigate 104,500 acres in Palo Verde Irrigation District	} 3.85 million acre feet total
2. Water to irrigate 25,000 acres in Yuma Project (California Division)	
3a. Imperial Irrigation District & Coachella Valley County Water District	
3b. Water to irrigate an additional 16,000 acres in Palo Verde	} 300,000 acre feet total
4. Metropolitan Water District of Southern California	
5a. Metropolitan Water District of Southern California	550,000 acre feet
5b. City and County of San Diego	112,000 acre feet
6a. IID and CVCWD	} 300,000 acre feet total
6b. Water to irrigate an additional 16,000 acres in PVID	
Total divisions within California	5,362 million acre feet

1931 SEVEN PARTY AGREEMENT



➤ CALIFORNIA PARTIES DIVIDE THE 4.4 MAF

- SETTLES CONFLICT BETWEEN MUNICIPAL AND AGRICULTURE
- PALO VERDE IRRIGATION DISTRICT, IMPERIAL IRRIGATION DISTRICT, CVWD, YUMA PROJECT, METROPOLITAN WATER DISTRICT, LOS ANGELES, AND SAN DIEGO



2003 QUANTIFICATION SETTLEMENT AGREEMENT (QSA) MWD, IID, CVWD

➤ FIRMS UP THE 4.4 MAF WATER SUPPLY BETWEEN CALIFORNIA PARTIES



- CA WAS CONSISTENTLY DIVERTING GREATER THAN 4.4 MAF
- 75 YEAR AGREEMENT ALLOWS PLANNING FOR FUTURE
- PROVIDES FOR TRANSFERS BETWEEN AGENCIES

➤ 2007 INTERIM GUIDELINES FOR LOWER BASIN

- LOWER BASIN OPERATING CRITERIA IN DROUGHT/LOW STORAGE
- CONSIDERS STORAGE IN LAKE POWELL AND LAKE MEAD
- CVWD WATER RIGHTS ARE SECURE



WHO BENEFITS?

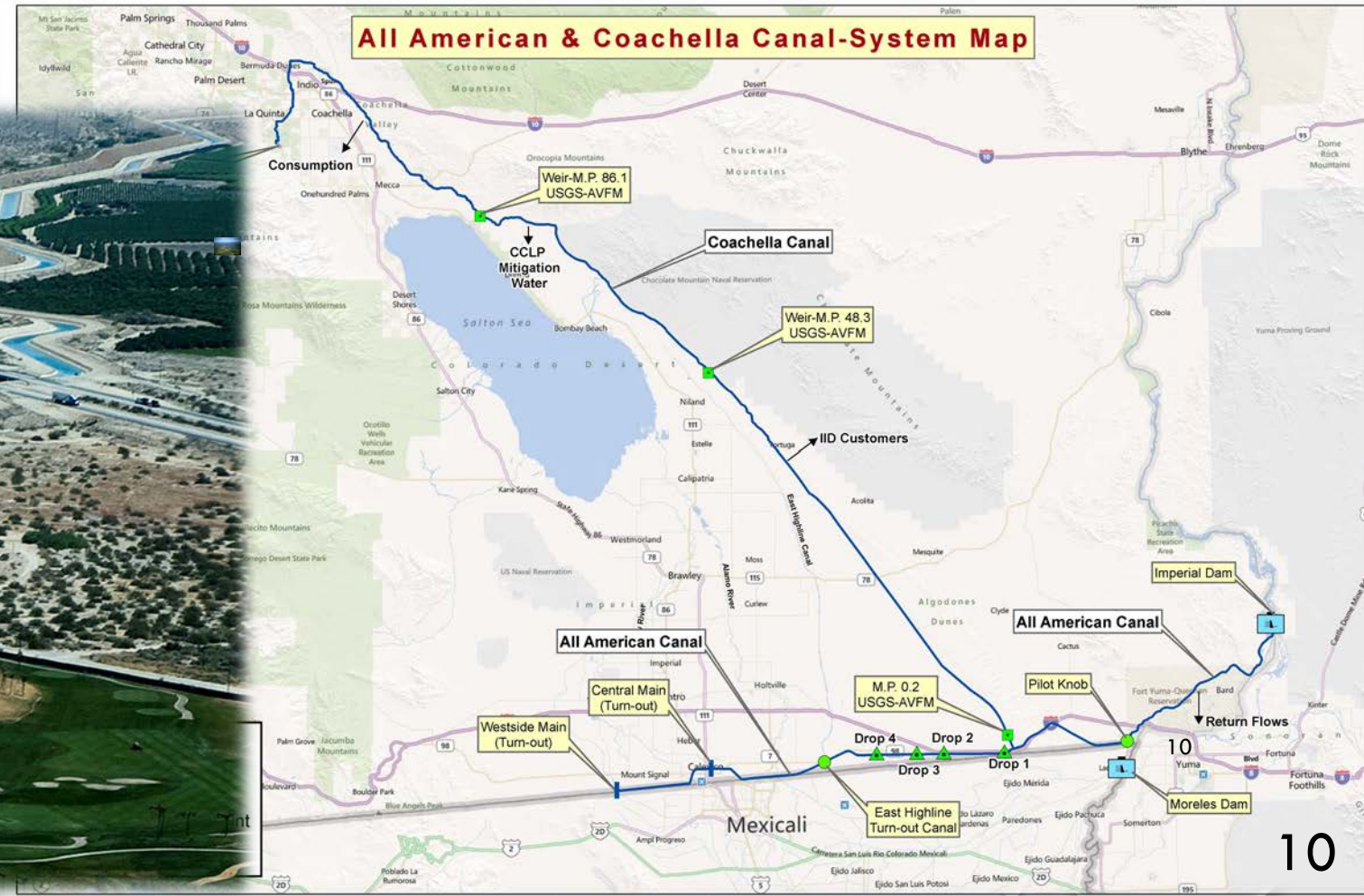
- 25 MILLION PEOPLE FOR MUNICIPAL SERVICE
- 22 NATIVE AMERICAN TRIBES
- 5.5 MILLION ACRES OF IRRIGATED LAND
- 7 NATIONAL WILDLIFE REFUGES
- 4 NATIONAL RECREATION AREAS
- 11 NATIONAL PARKS
- ✓ AND THE COACHELLA VALLEY



CONVEYANCE OF COLORADO RIVER WATER

➤ COACHELLA BRANCH OF THE ALL-AMERICAN CANAL

- Constructed 1934 -1948
- 123 miles to Lake Cahuilla
- CVWD Distribution System



COACHELLA VALLEY'S ECONOMY

#1 Tourism/Recreation

- \$4 billion per year
- 19,000 people employed

#2 Agriculture

- \$1 billion per year
- 12,000 people employed



IVORY REYBURN
WATER PROGRAM MANAGER
COACHELLA VALLEY WATER DISTRICT

(760) 398-2661 EXT. 2200

IREYBURN@CVWD.ORG

WWW.CVWD.ORG





Matt McCue & John Soulliere

Mission Springs Water District





Public Finance
and
The Economics of Water 101.5

Overview

- General principals for every public agency
- The difference between Public Finance and the Economics of Water
- Public finance
- The economics of water
- Q&A

General principals for public agencies

- The service we actually provide
- Water (and wastewater) is a 24/7 operation
- There are numerous methods of cost recovery that all must lead to the same end results:
 - Cover 100% of costs
 - Have a nexus to expenses
 - No profit
- Governed by an elected board

What is the difference between Public Finance and the Economics of Water?

- Working definitions:
 - Public finance:
 - STEWARDSHIP of, and accounting for the publics' assets in a government agency
 - Economics of water:
 - The internal and external factors that influence the cost of production, distribution and consumption of water.



**Matt McCue, Director of Administrative Services
and Finance**

PUBLIC FINANCE



Local government authority—where does it come from?

- Authority and Accountability
 - Local government obtains its authority to exist and function from the State Legislature
 - The conduct of all business is controlled by a combination of State Statutes (Codes), State Constitution and case law
 - A Board of Directors has the legal and fiduciary responsibility to follow all the laws
 - In addition to those laws there are the industry practices that are taken into consideration

Regulatory Framework

- Fiscal Checks and balances:
 - Transparency and the State controller's Office (www.sco.ca.gov)



The screenshot shows the website for the California State Controller's Office (SCO) Single Audits of local government agencies. The page has a dark navigation bar with links for Home, About Us, Public Services, State and Local, State Employees, Publications, and News. The main content area features a breadcrumb trail: Home → State and Local → Local Government → Single Audits - Local Agencies. The title is "Single Audits - Local Agencies". Below the title is a paragraph stating: "This page contains information pertaining to single audit submissions and guidelines for audits of local government agencies." The main text welcomes visitors to the SCO Single Audits of local government agencies web pages, mentioning the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance) issued December 26, 2013, and OMB Circular A-133. It notes that effective for fiscal years beginning after December 25, 2014, 2 CFR 200.501 requires non-Federal entities that expend \$750,000 or more in Federal awards in a fiscal year to have a single or program-specific audit conducted for that fiscal year. It also mentions that guidance on determining Federal awards expended is provided in accordance with 2 CFR 200.502. The dollar threshold was previously \$500,000 under OMB Circular A-133. The SCO is the single audit oversight agency for most California local governments, ensuring the State of California carries out its responsibilities in accordance with this federal act. This site will help you find information applicable to the single audits process.

Single Audit Guidance

Information and Instructions	State Agency Resources	Resource Links and Publications
<ul style="list-style-type: none">→ Single Audit Requirement→ Exempt Entities→ Entities with Direct Funding→ Reporting Package→ Filing Extensions	<ul style="list-style-type: none">→ State Agency Responsibility→ Audit Finding Follow Up→ Audit Finding Relinquishment Policy→ Audit Finding Process	<ul style="list-style-type: none">→ Uniform Guidance→ Federal OMB Circular A-133 Page→ Federal OMB Circular A-133 Compliance Statement→ Catalog of Federal Domestic Assistance

Regulatory Framework

Audits:

California Government Code Section 6505 requires that annually public agencies shall contract with a Certified Public Accountant. (s) ... and shall conform to generally accepted auditing standards. And that significant estimates used by management fairly present the financial position of the District. The audit report shall be filed within twelve months after the end of the fiscal year under examination.



Regulatory Framework

- TRANSPARENCY!
- Regular reporting to the Board
- Public agendas
- Books are “open”

MSWD
Mission Springs Water District

760.329.6448 - Call 24 hours a day for emergency service

PAY YOUR BILL ONLINE
• Access usage information and bill history
• Manage multiple properties in one place
Register your account today!

Search:

[MSWD HOME](#) | [CONTACT US](#) | [MY ACCOUNT](#)

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- Home
- Contact Us
- My Account**
- Account Home
- Pay My Bill(s)
- Add an Account
- Account Settings
- MSWD At Your Service**
- Customer Service
- Board Information**
- Financial Information
- Engineering Services
- Employment Information
- Contact Us
- MSWD 2.0 Financial Master Plan
- About
- FAQ

Board Information

MSWD is governed by a five-member Board of Directors. Directors are elected concurrent with the general elections every even-numbered year. Director's terms are four-years. The election of directors alternates between three seats and two seats, respectively, every two years.

All Directors are appointed to serve on two of five Board committees (finance, engineering, public affairs, human relations and executive committee). Members also serve liaisons to other governmental, community, regional and national boards, associations and organizations.

Feel free to email questions you have about Board meetings or Board issues to info@mswd.org.

Meeting Minutes and Agendas

Date	Agenda	Packet	Minutes
02-2018 Regular Meeting	Agenda	Packet	Minutes
01-2018 Regular Meeting	Agenda	Packet	Minutes
12-2017 Regular Meeting	Agenda	Packet	Minutes
11-15-17 Special Meeting	Agenda	Packet	Minutes
11-2017 Regular Meeting	Agenda	Packet	Minutes
10-2017 Regular Meeting	Agenda	Packet	Minutes
09-18-17 Special Meeting	Agenda	Packet	Minutes
09-2017 Regular Meeting	Agenda	Packet	Minutes
08-21-17 Special Meeting	Agenda	Packet	Minutes
08-2017 Regular Meeting	Agenda	Packet	Minutes

Meet our Board Members

[Randy Duncan, President](#)
[Russ Martin, Vice President](#)
[Nancy S. Wright, Director](#)
[Ivan Sewell, Director](#)
[Jeff Bowman, Director](#)

Board Members AB 1234 Ethics Training Certifications

[Russ Martin](#)
[Jeff Bowman](#)
[Ivan Sewell](#)
[Nancy S. Wright](#)
[Randy Duncan](#)

The MSWD Board of Directors meets regularly on the third Monday of the month at 3 p.m. Each of these meetings is preceded by a Study Session held at 3 p.m. on the Thursday before the regular meeting.

Meetings and Study Sessions are

Standards and qualifications



"You seem to have the qualifications we're looking for in an accountant"

- Qualifications
- Ongoing education
- Qualified staff

Board of Directors as Fiduciary Agents

- Balance stewardship of agency , public interest, health and safety.
- Final fiduciary responsibility



Rates and cost recovery

- Agency is required to remain whole
 - CA Water Code, Section 31007:

The rates and charges to be collected by the district and shall be so fixed as to yield an amount sufficient to do each of the following:

- (a) Pay the operating expenses of the district.**
- (b) Provide for repairs and depreciation of works owned or operated by the district.**
- (c) Pay the interest on any bonded debt.**

Rates and cost recovery

- The rate/charge must reflect the cost of providing the service—“Nexus”
- Rate/charge must be equitable
- Rate/charge can not be discriminatory
 - Prop. 218 precluded the use of “Senior” discounts
 - If one class of customer is charged less than actual cost, other customers would be charged more

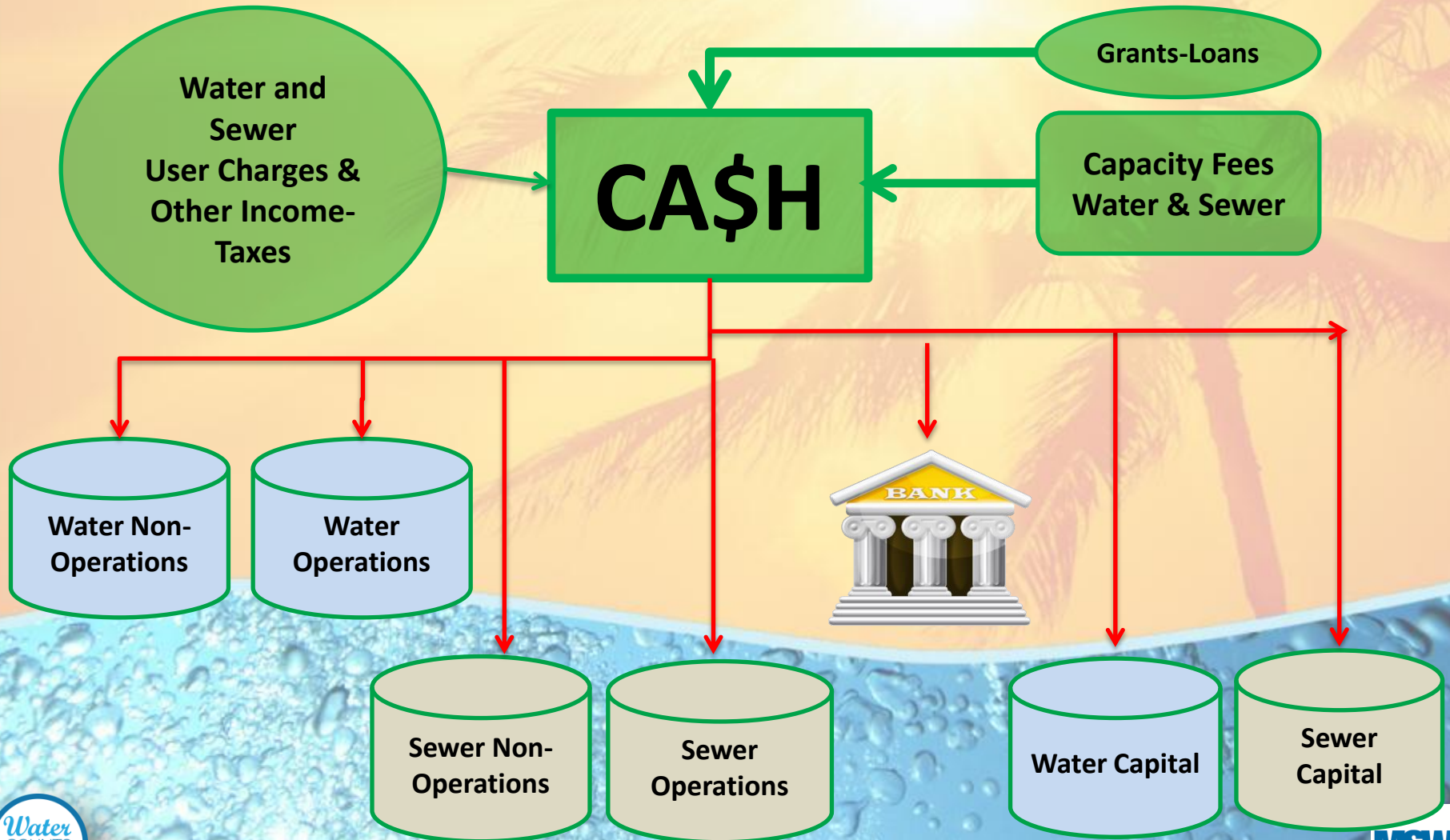
Water is Free: Getting it to the Customers Safely Costs Money

- Extraction (Wells)
- Treatment
- Storage
- Transmission
- Distribution
- Measurement (Billing)
- Maintenance of entire system
- Sustainability (perpetual)
- Regulatory compliance

Water and Sewer Utilities

- Have to abide by the laws
- Also have to abide by Regulatory Requirements:
 - Department of Health Services
 - Regional Water Quality Control Board
 - Occupational Safety and Health Administration
 - California Environmental Quality Act
 - Fair Labor Standards
- **Provide service 24/7**

District Cash (Sources- Uses)



The “218” Process

- What is Prop 218?
 - The “Right to Vote on Taxes Act of 1996”
 - “This measure ... limits the methods by which local governments exact revenue from taxpayers without their consent.”
 - any levy ... imposed by an agency upon a parcel or upon a person as an incident of property ownership, including a user fee or charge for a property-related service.”

The “218” Process

- Cost of services study
- Open and transparent
- Noticing requirements
- Public information meetings (smart but not required)
- Public Hearing/protest hearing

Cost of Services Study

- 6 months
- ~\$75,000
- Foundation of proposed rate action



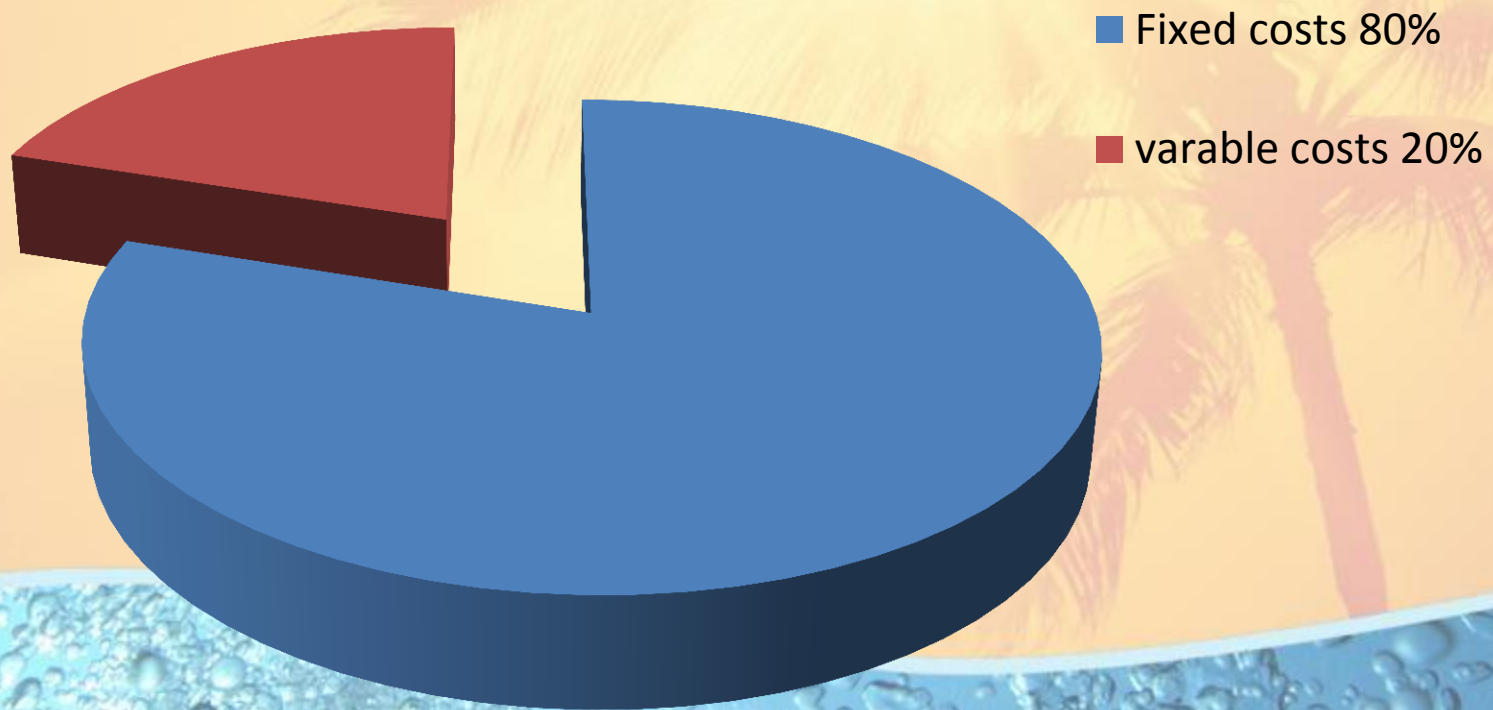
Cost of Services Study

- Fixed cost
 - Reoccurring regardless of variable factors
- Volumetric charges
 - Variable, can change quickly



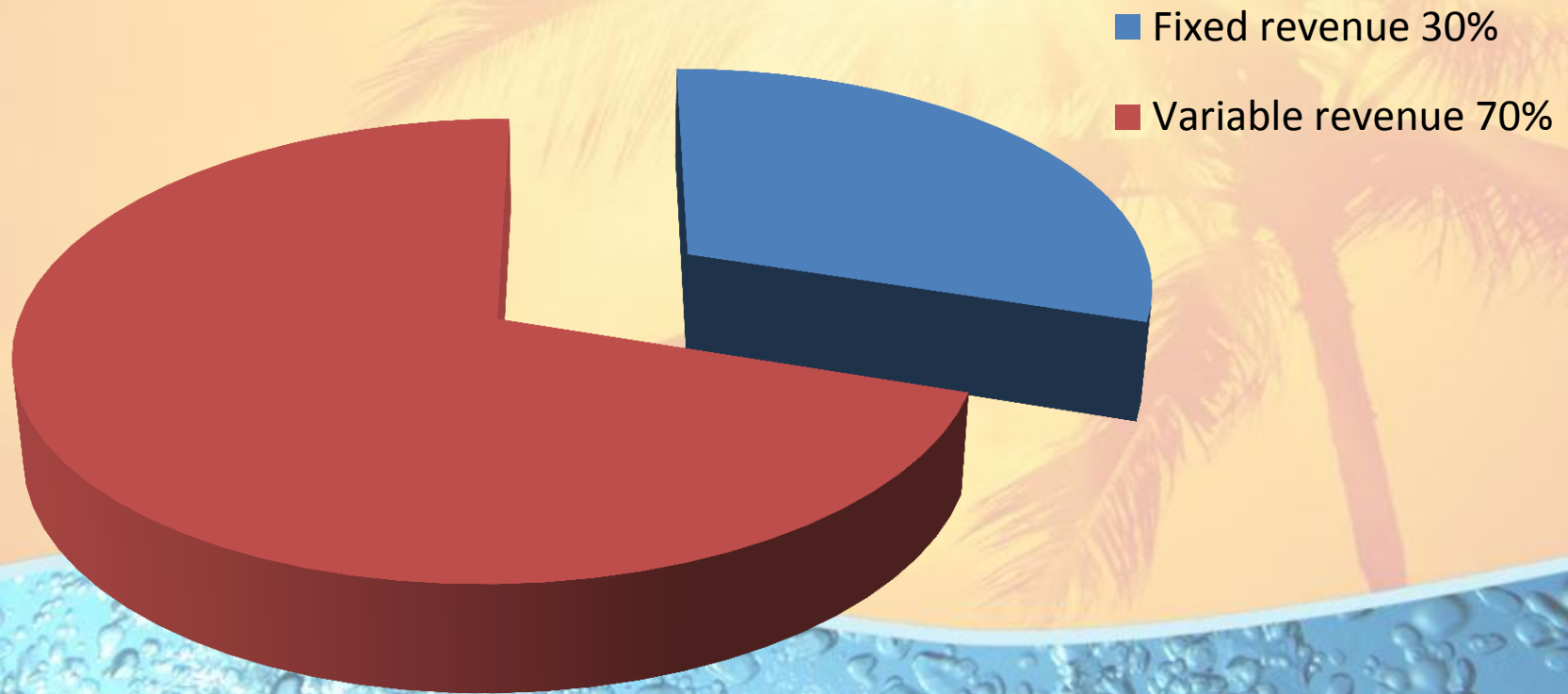
Water industry cost recovery challenge

Fixed v. variable costs



Water industry cost recovery challenge

Fixed v. Variable revenue



■ Fixed revenue 30%

■ Variable revenue 70%

Water industry cost recovery challenge

- Fixed costs decrease very little when use drops.
- Rates must go up to cover cost or costs must be decreased.
- We don't like volatility!



Reserves

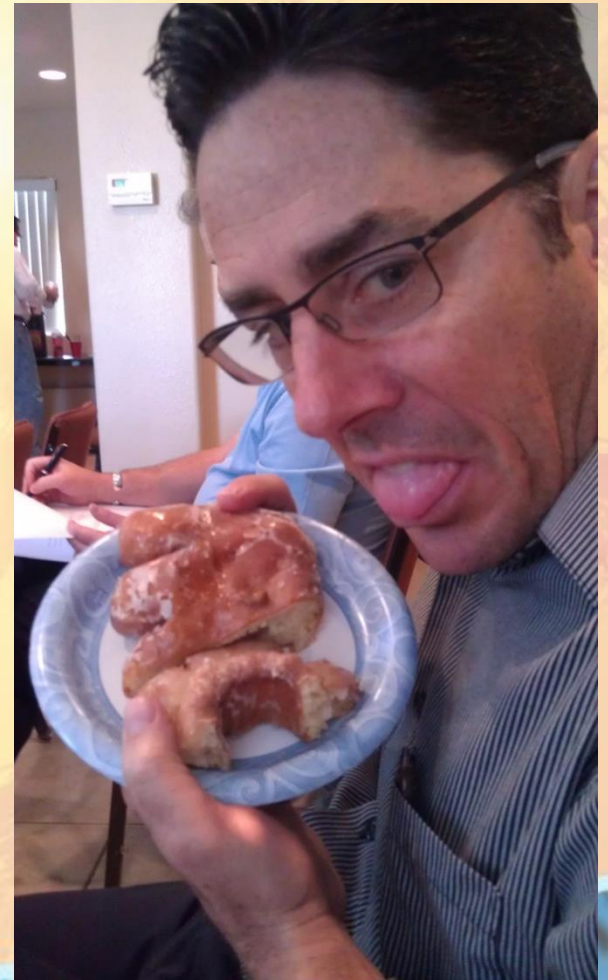
- What is a “reserve” fund and why is there so much money in it?



John Soulliere, Conservation and Public Affairs
Officer

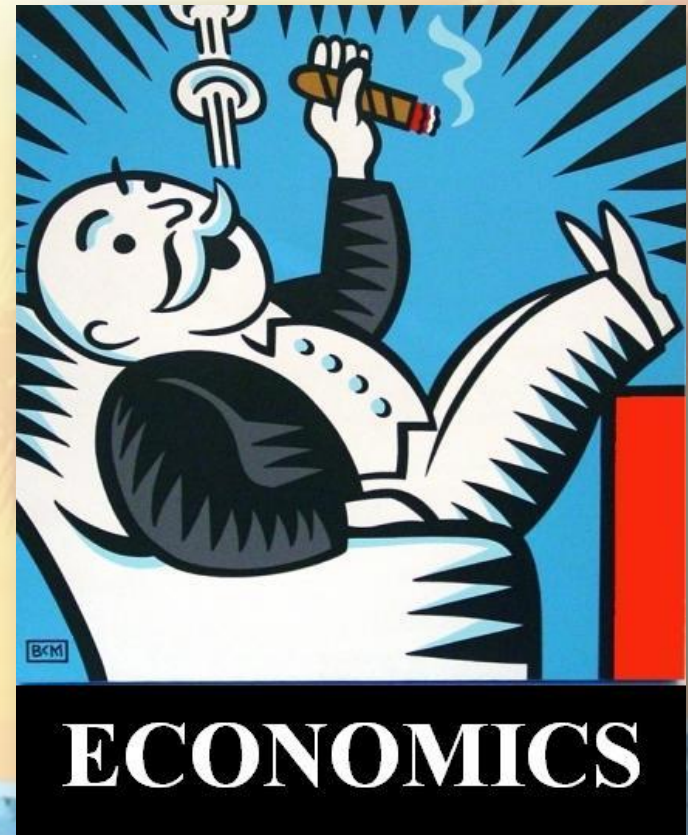
ECONOMICS OF WATER

101.5



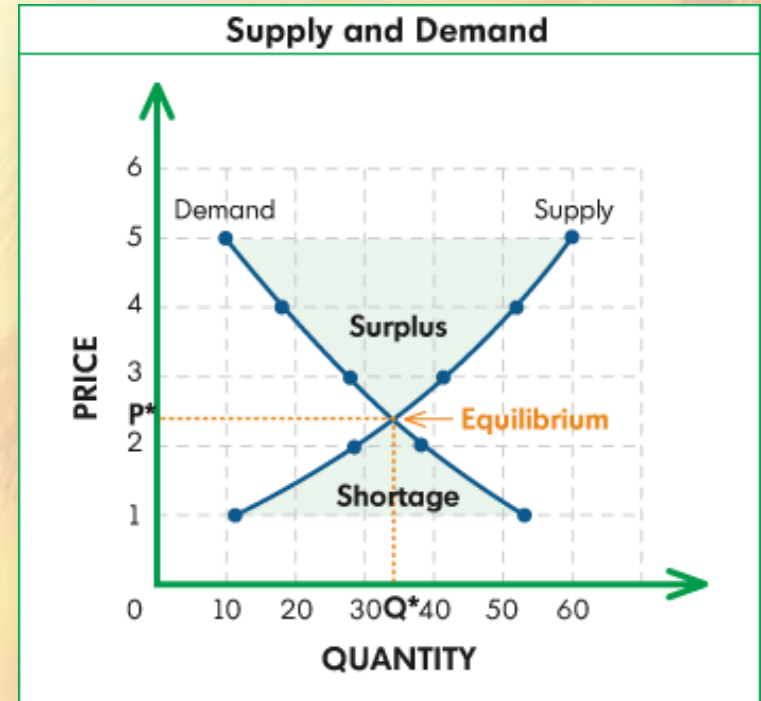
Economics of Water

- Working Definition:
 - The internal and external factors that influence the cost of production, distribution and consumption of water.



Equilibrium

- Economic equilibrium is a condition or state in which economic forces are balanced.
- Water equilibrium is concerned with capacity and demand.



Value of Water



- Priority and perception, not pricing
- Consumer buying decisions and perceived value

Value of Water

0.004 per gallon



Value of Water

- Soda: \$1.29 = 482 gal
- Bottled water \$0.99 = 370 gal
- Water machine \$0.30 = 112 gal
- “Brita” style pitcher \$0.16 = 60 gal





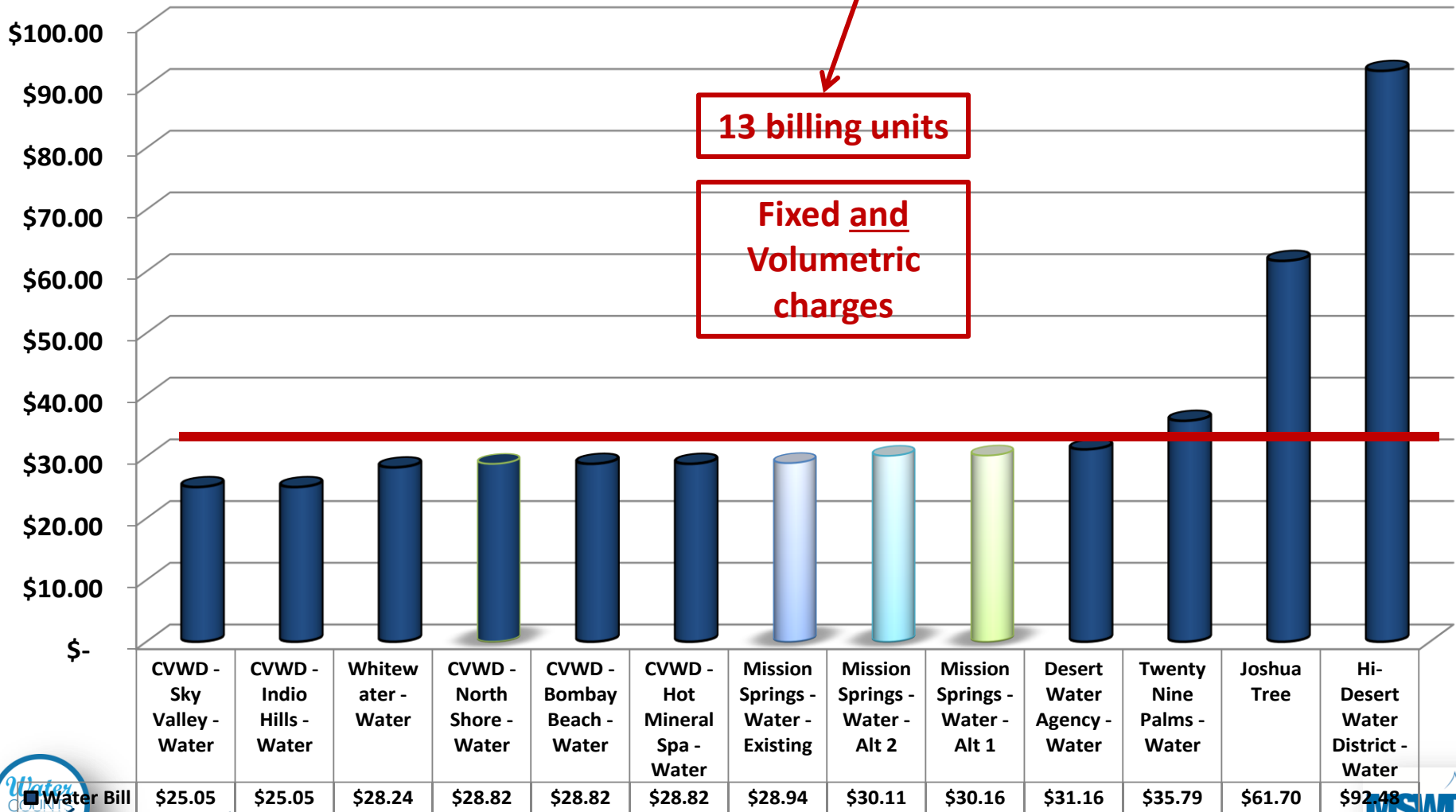
1 billing unit

748 gallons


< \$2.00!

Rate Survey – Water – SFR @ 1,300 Cubic Ft per Mo.

Comparison of Average Monthly Residential Water Bill @ 1,300 Cubic Feet / Mo



13 billing units
Fixed and Volumetric charges



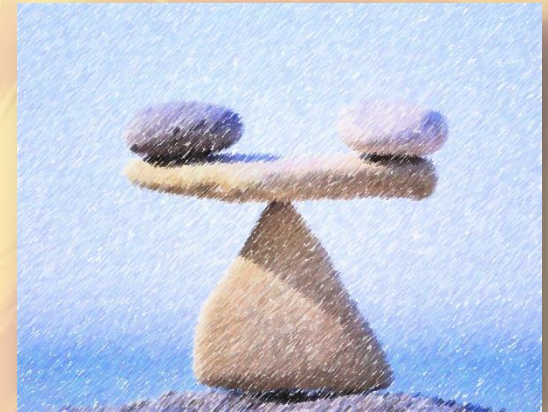
Factors that affect equilibrium in the water industry

**GET YOUR HANDS OFF MY
EQUILIBRIUM!**

Messing with equilibrium

The playing field

- Water systems are built on max demand assumptions.
- Rates are set to equalize capacity and delivery costs, with volumetric sales.
- Fixed charges and fixed revenue are not equalized in CA.
- Volumetric (variable) charges are not equalized.



Capacity Supply and Demand



- System built for demand of 600 gal per household per day.
- After conservation serving 325 gal per household per day.
- Shortfall revenue of 275 gal per household per day.
- Downward pressure on water use is upward pressure on water cost!

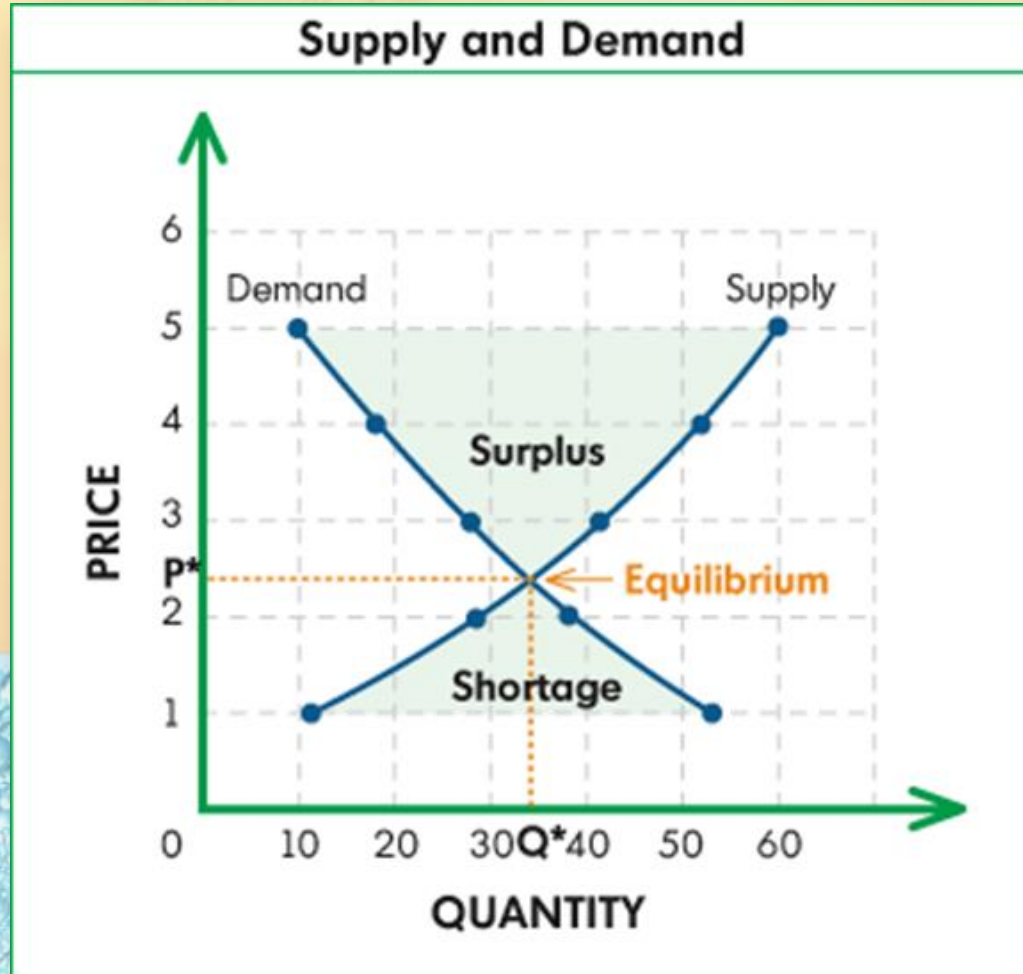
Lower use = higher cost: Why?

Total cost to operate and maintain
system
÷

Reduced No. of customers, and/or
consumption & overall revenue
=

Higher cost per unit of water

DOWNWARD PRESSURE ON WATER USE IS UPWARD PRESSURE ON WATER COST!



The Equilibrium of Tequila!

U.S. EDITION ▼ Mon, Feb 26, 2018

Newsweek

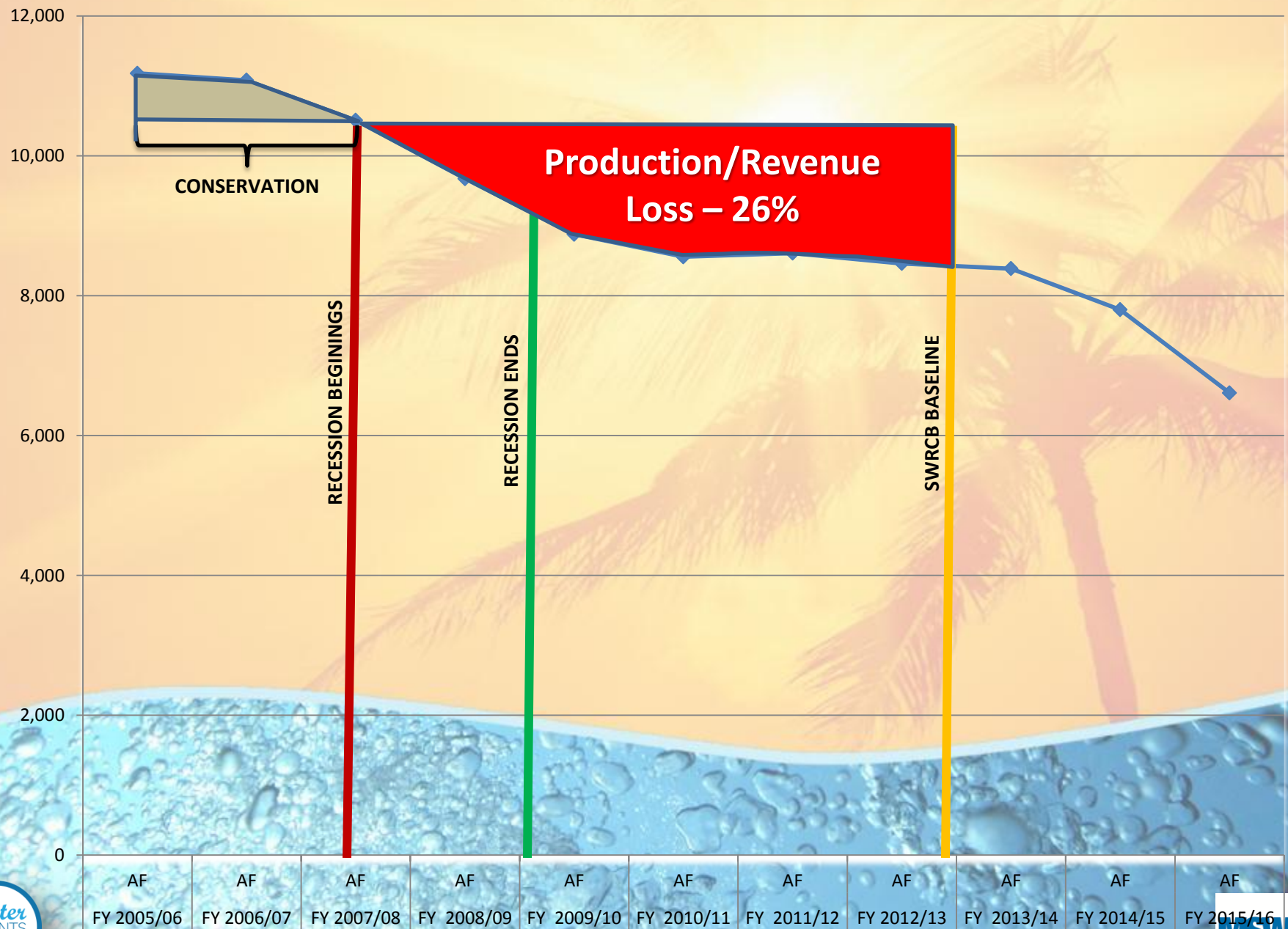


- “TEQUILA'S AGAVE PLANT IS FACING A GLOBAL SHORTAGE: WHAT ARE THE IMPLICATIONS FOR DRINKERS?”

Upward pressure that impacts equilibrium

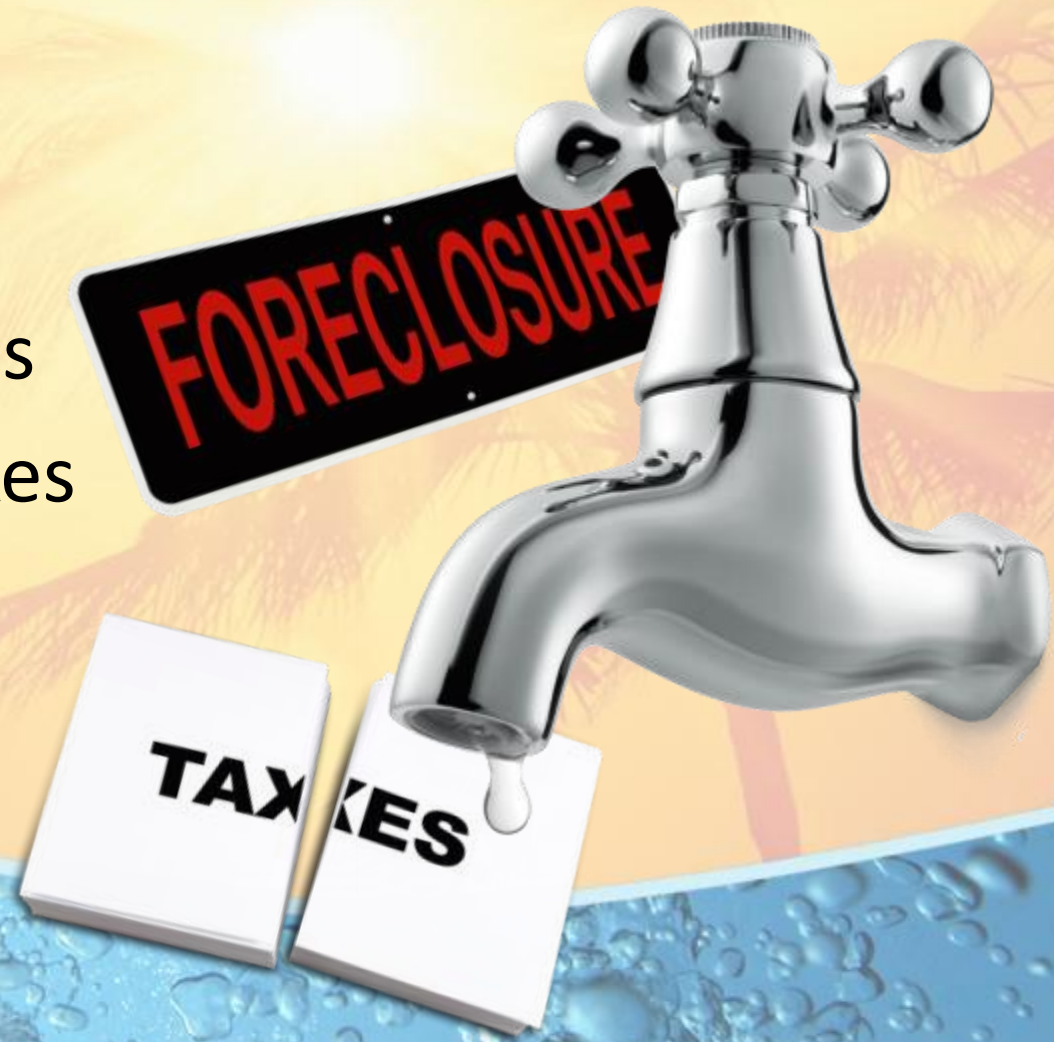
- Economic downturn

PRODUCTION/CONSUMPTION/REVENUE CURVE

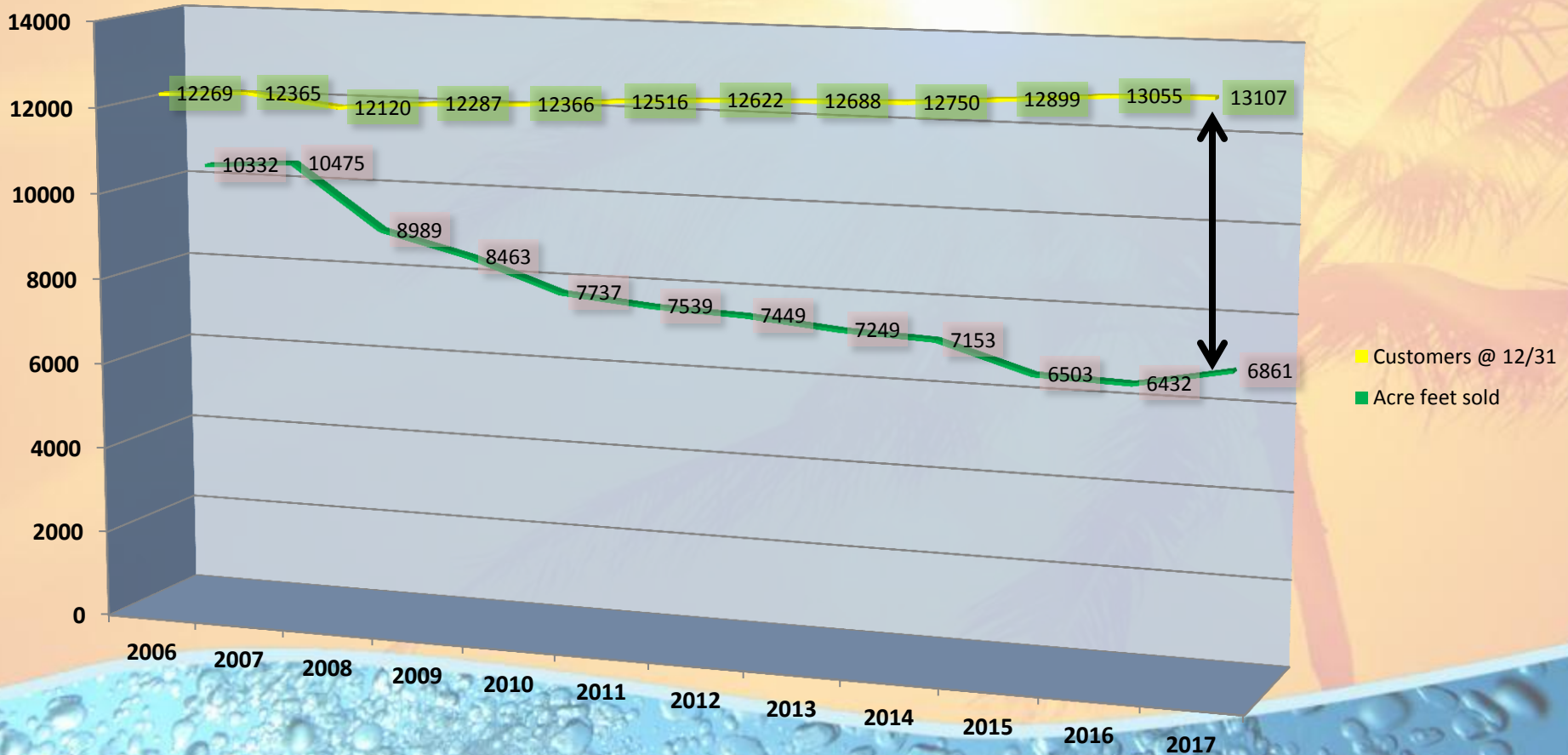


Economic downturn—results

- Foreclosures
- Lower water sales
- Lost property taxes



Equalizing the new normal



Upward pressure that impacts equilibrium

- Economic downturn
- External pressure on costs

Upward pressures—costs

The disturbing trend



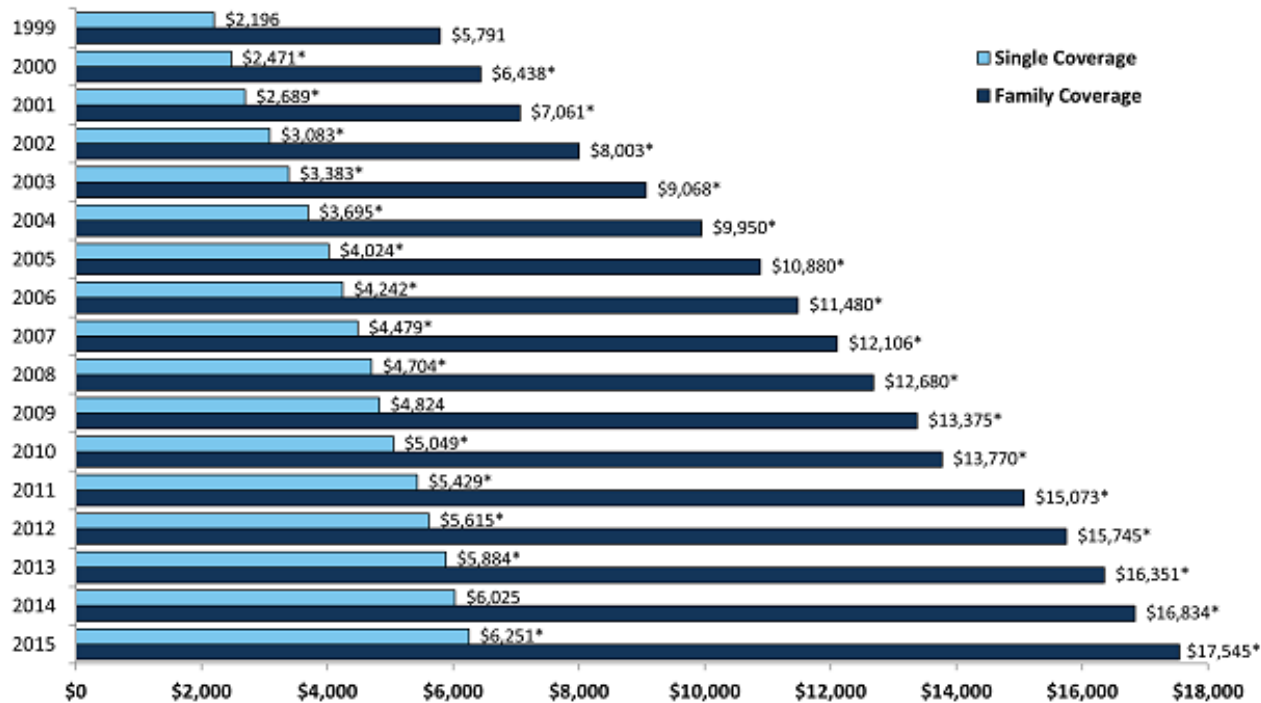
Upward pressure—regulatory

- Water and Wastewater test reports \$103,000
- Sludge disposal increased \$450,000
- Uranium treatment up to \$550,000
- Environmental compliance \$50,000
- Permits and Licensing \$120,000
- Plans \$250,000

\$1,500,000 = \$10/mo. per account

Upward pressure—regulatory

Average Annual Premiums for Single and Family Coverage, 1999-2015



* Estimate is statistically different from estimate for the previous year shown ($p < .05$).

SOURCE: Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 1999-2015.

THE HENRY J.
KAISER
FAMILY
FOUNDATION

Upward pressure that impacts equilibrium

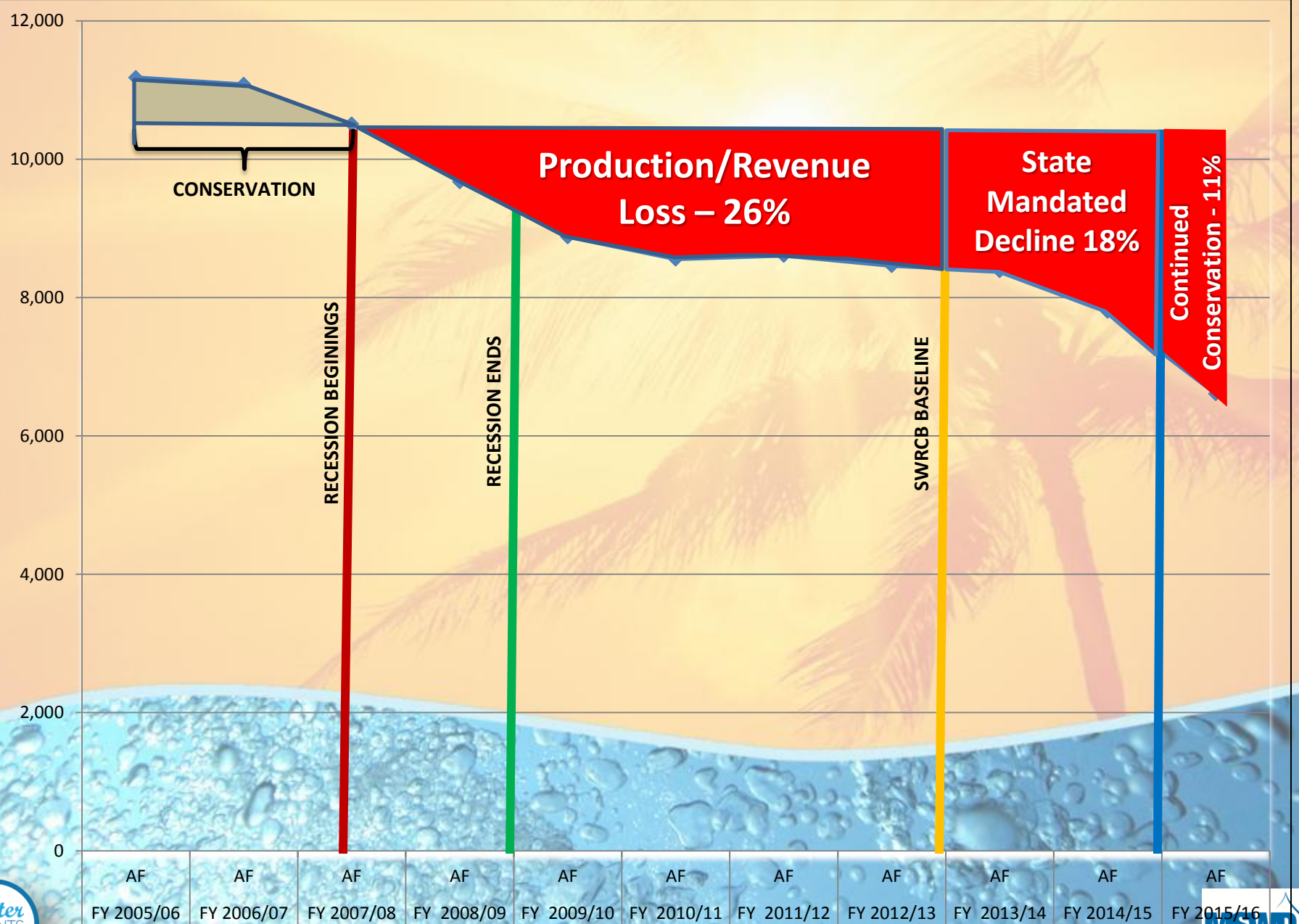
- Economic downturn
- External cost pressure on costs
- Bright ideas
 - #1
 - #2

Upward pressure—bright Idea #1

- The ambitious Vice President



PRODUCTION/CONSUMPTION/REVENUE CURVE



Proud but nervous!

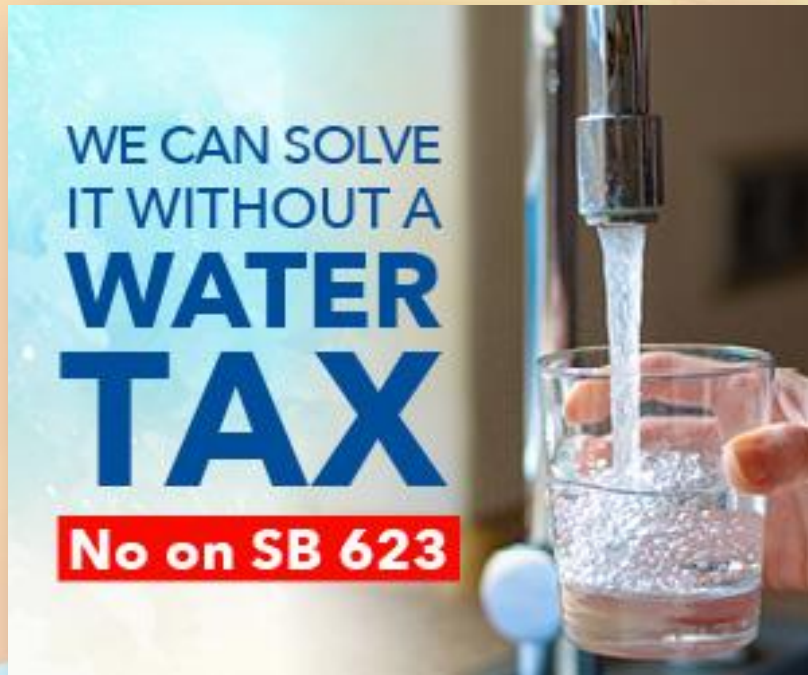
- CV Water Counts Agencies water savings since 2015
 - 32,375,870,757 Gallons
 - 100,000 acre feet
 - 50,000 households for a year

Upward pressure—bright Idea #2

- CA Water Tax



CA Water Tax



- Intended to assist rural, low-income communities with access to safe drinking water
- SB 623 (and the Gov's FY2019 budget) would tax drinking water
- Forces water agencies to collect taxes for Sac.
- Increased upward pressure on local agencies (rates!)



Help2Others

ASSISTANCE PROGRAM

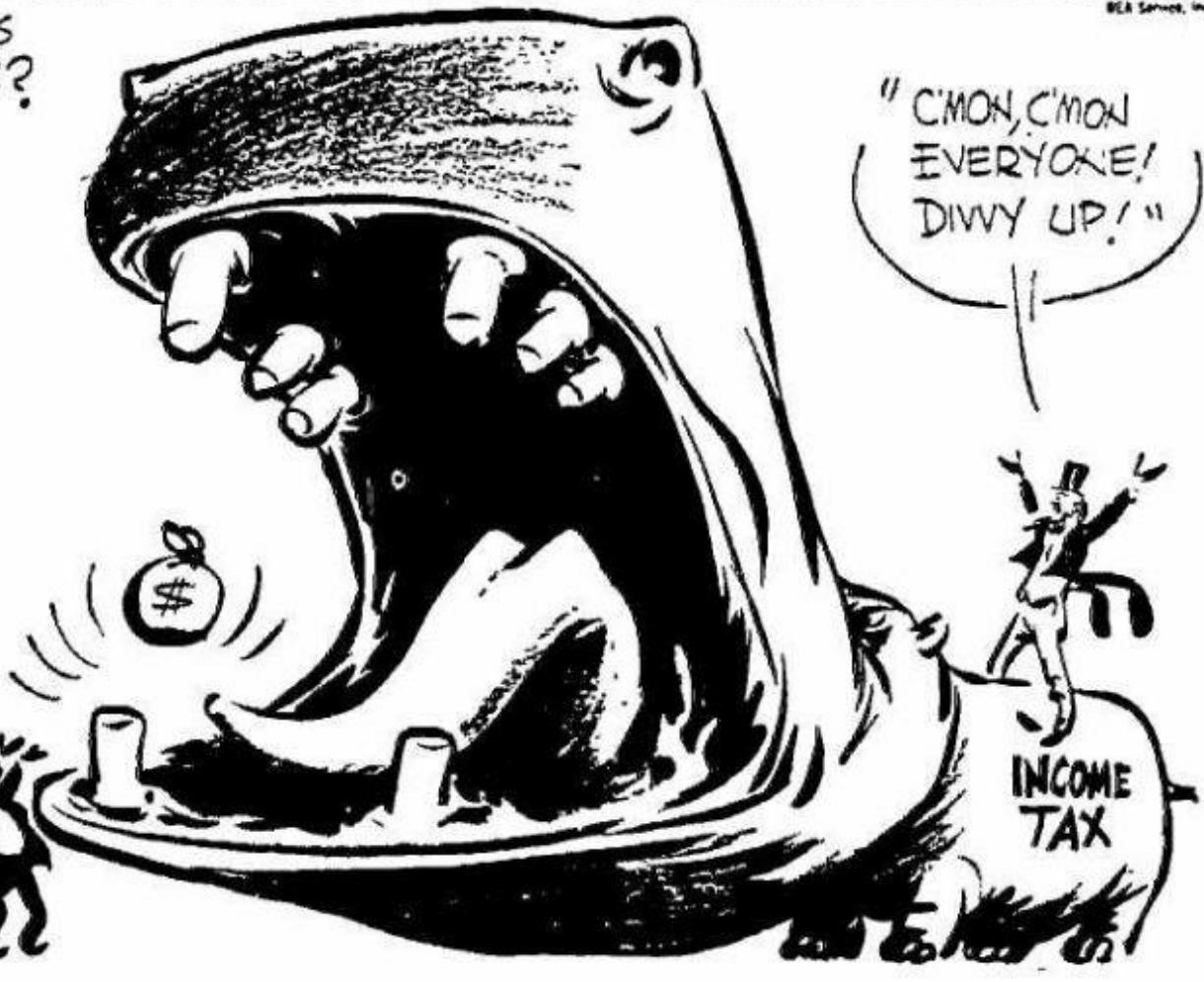
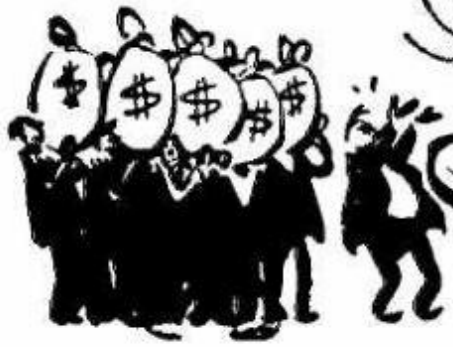




IT WOULD TURN INTO THIS SORT OF A MONSTER?

RICH MAN
POOR MAN
BEGGAR MAN
THIEF
DOCTOR
LAWYER
MERCHANT
CHIEF

"C'MON, C'MON EVERYONE! DIVVY UP!"



INCOME TAX

Final Word on Proposition 218

- Pricing signals—by permission only!
- We want a say!

First Lesson

- The wallet of government
 - It doesn't have one
 - If the public perceives waste or excess, they will not hear anything you have to say.
 - Transparency REALLY does matter.



Second Principle

- It's not what you know, nor what the public knows. It's what the public knows that YOU know.
 - Don't underestimate the public's need to know about the changes you are making.

Third Principle

- A sense of ownership will lead to a sense of stewardship.
 - Generally, people will take better care of what they own.
 - Empowering the public to make decisions based on good stewardship through awareness of ownership.

DEAR 1-PERCENTERS: STAY INFORMED!



Q&A

