

# Water Budget History:

**Concept: Univ. of California**

ET Weather Station Network for Ag (1982) and Urban Landscapes (1992).....



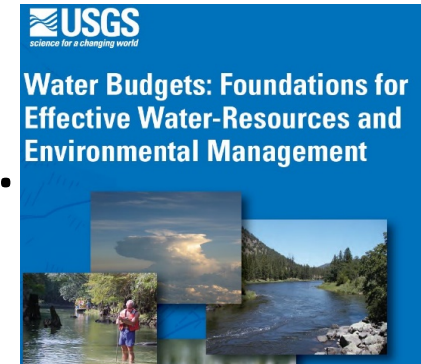
**Colorado River Basin .....**



**State of California.... Water Efficiency Legislation (SB 606, AB 1668)**

**(Agency Population) (55 GPCD) + (ET) (Irrig. Area) (Efficiency Factor) = Agency WB**

**USGS Methodology for Managing Watersheds.....**



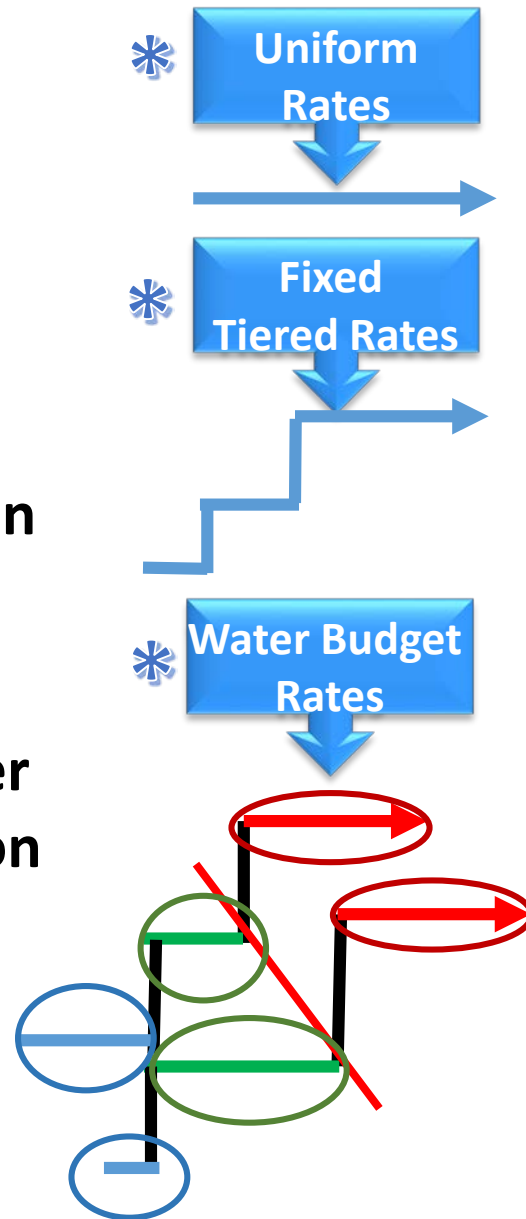
**Agency Rates = Individualized Water Budgets**

**(# Res) (55 GPCD) + (ET) (Irrigated Area) (Eff. Factor) (Drought Factor) = Individual WB**

# Water Rates in the Age of Efficiency

Rates MUST Solve for:

1. Revenue Stability
2. Water Use Efficiency
3. Customer Satisfaction
4. Legality (Prop 218)
5. Help meet new water use efficiency legislation (AB 606, SB 1668)



No efficiency message, no customer education

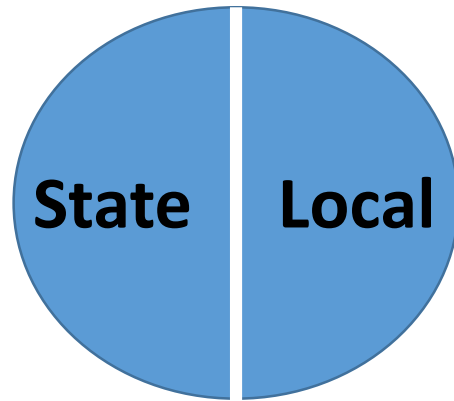
Inaccurate efficiency message, one-size fits all

Individualized, takes more customer level data, equitable/proportional, strong efficiency message

# Why Water Budget Rates?

- To drive consistent water-use-efficiency

## PWD Sources of Water:



- To apply water allocations equitably
- To meet new State efficiency legislation
- To cover the agency cost of service regardless of the level of water sales

## State Water Allocations

2007	11/30/2006	80%
2008	11/21/2007	25%
	2/1/2008	35%
2009	10/29/2008	15%
	3/18/2009	20%
	4/15/2009	30%
	5/20/2009	40%
2010	11/30/2009	5%
	2/23/2010	15%
	3/30/2010	20%
	4/22/2010	30%
	5/3/2010	40%
	5/20/2010	45%
	6/22/2010	50%
2011	11/22/2010	25%
	12/16/2010	50%
	1/20/2011	60%
	3/15/2011	70%
	4/20/2011	80%
2012	11/18/2011	60%
	2/21/2012	50%
	4/16/2012	60%
	5/23/2012	65%
2013	11/29/2012	30%
	12/21/2012	48%
	3/22/2013	35%
2014	11/19/2013	5%
	1/31/2014	0%
	4/18/2014	5%
2015	12/1/2014	10%
	1/15/2015	15%
	3/2/2015	20%
2016	12/1/2015	10%
	1/26/2016	15%
	2/24/2016	30%
	3/17/2016	45%
	4/21/2016	60%
2017	11/28/2016	20%
	12/21/2016	45%
	1/18/2017	60%
	4/14/2017	85%
2018	11/29/2017	15%
	1/29/2018	20%
	4/24/2018	30%
	5/21/2018	35%
2019	11/30/2018	10%
	1/25/2019	15%
	2/20/2019	35%
	3/20/2019	70%

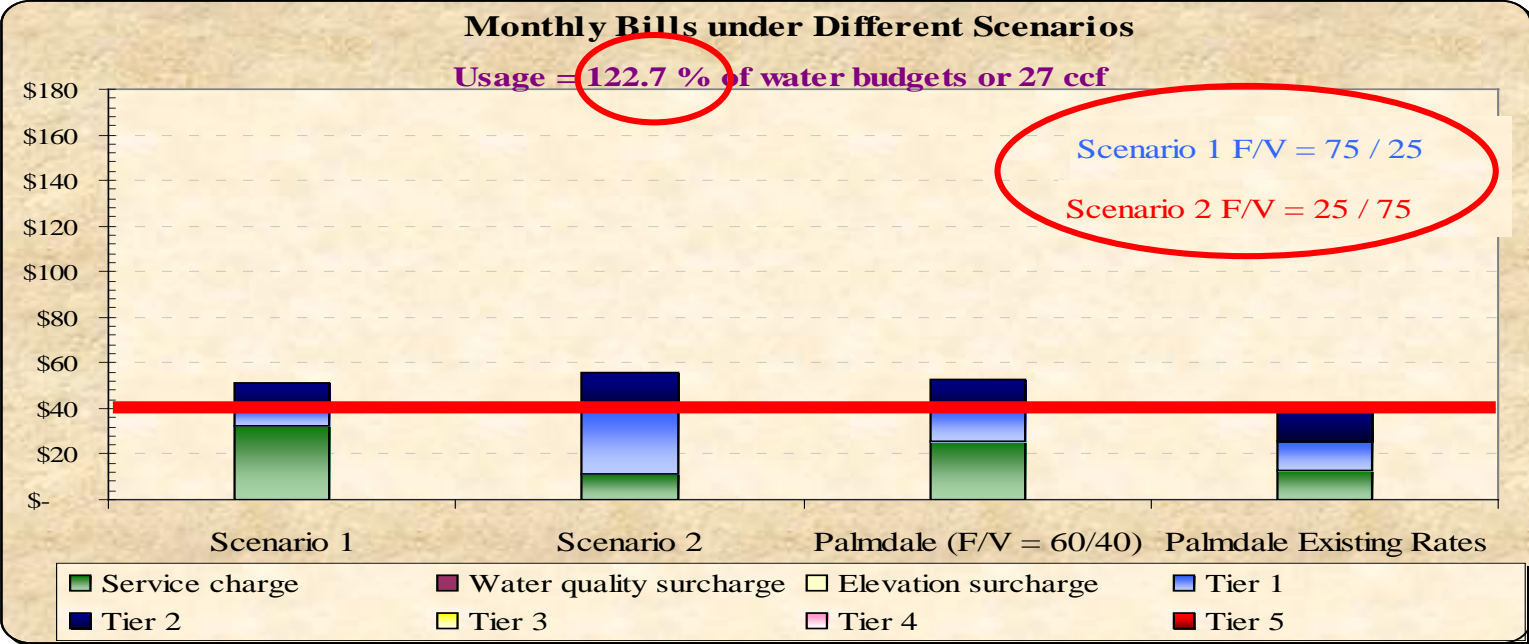
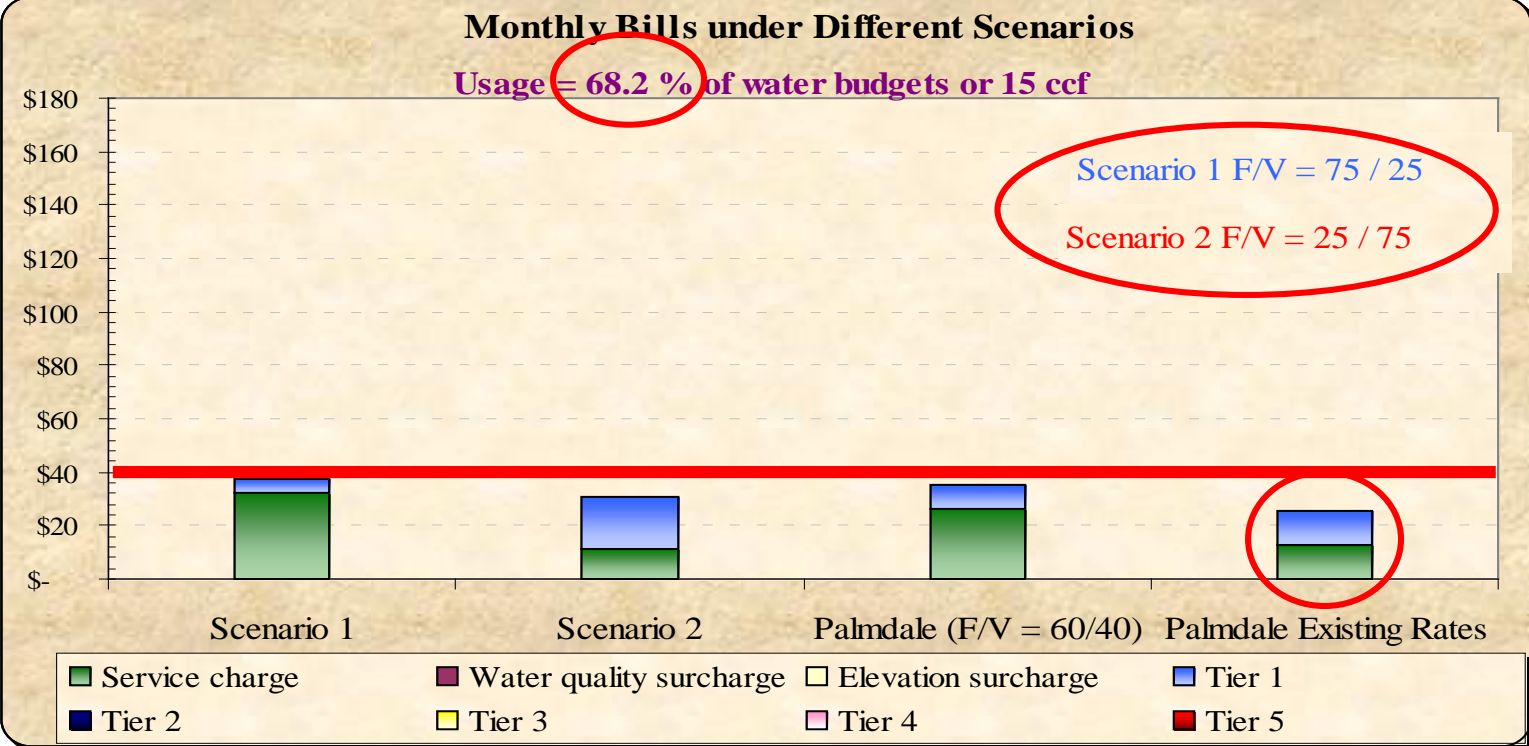
# The Key to Revenue Stability = Fixed Charge

## Fixed Charges: (PWD Fixed Costs = 75%)

- Operations/Maintenance
- Debt Service
- Capital Projects
- People, Property, Pipes, Pumps, Parking (Water Storage) etc.

## Variable Charges: (PWD Variable = 25%)

- Water purchases
- Energy to pump/move water
- Treatment



# Meeting Proposition 218:

- Hold Public meetings
- Notice all property owners
- Apply costs and allocations in a proportional manner

1. At the meter (*fixed charges*)
2. With allocations (*individualized water budgets*)

Current San Juan Capistrano Rates

CUSTOMER TYPE	(1) Essential*	(2) Efficient	(3) Inefficient	(4) Excessive
Regular Lot	\$4.16	\$5.79	\$6.28	\$6.28

## CERTIFIED FOR PUBLICATION

IN THE COURT OF APPEAL OF THE STATE OF CALIFORNIA  
FOURTH APPELLATE DISTRICT  
DIVISION THREE

“While tiered, or inclined rates that go up progressively in relation to usage are perfectly consonant with article XIII D, section 6, subdivision (b)(3), the tiers must still correspond to the actual cost of providing service at a given level of usage. [San Juan] did not try to calculate the cost of actually providing water at its various tier use levels. It merely allocated all its costs among the price tier levels, based not on costs, but on predetermined usage budgets.”

“As we say numerous times in this opinion, tiered water rate structures and Proposition 218 are thoroughly compatible so long as those rates reflect the cost of service attributable to each parcel.”

“Neither the voters nor the Constitution say anything we can find that would prohibit tiered pricing.”

## Definitions:

**Fairness** = impartiality, objective, open-minded

**Equal** = the same as, uniform (*not proportional*)

**Equitable** = fairness, impartiality, justice, parity, comparative

**Proportional** = relative, rational, comparative (*Prop 218*)

**Scientific** = objective, comparative, logical

**Manage** = achieve, oversee, govern...

# Who Has Water Budget Rates & What Do They Say?

## WBR Implementations:

IRWD (1991)

Highlands Ranch, Co. (2004)

Castle Rock, Co. (2005)

Boulder, Co. (2007)

Palmdale WD, (2008)

Coachella Valley WD (2008)

Eastern Municipal WD, (2009)

City of Corona (2009)

Rancho California WD (2010)

Elsinore Valley MWD (2010)

El Toro WD (2010)

Moulton Niguel WD (2011)

Western MWD (2011) Santa

Margarita WD (2016)

Las Virgenes WD (2016)

5 agencies in SAWPA region

- *“People now pay attention to leaks and water waste.” PWD*
- *Agency cost recovery is right where we estimated even with significant water savings.” RCWD*
- *“85% of our users meet the water efficiency standards.” MNWD*
- *“We have 90%+ Customer Satisfaction.” IRWD*
- *“We had a payback for the new rate structure implementation within 6 months.” WMWD*

## Las Virgenes MWD 2015:

- Losing \$1.5 million/yr. due to lower demand/rate design
- Reserves used to avoid rate increases during drought
- High water use despite the onset of drought/few effective programs
- Discord on Board

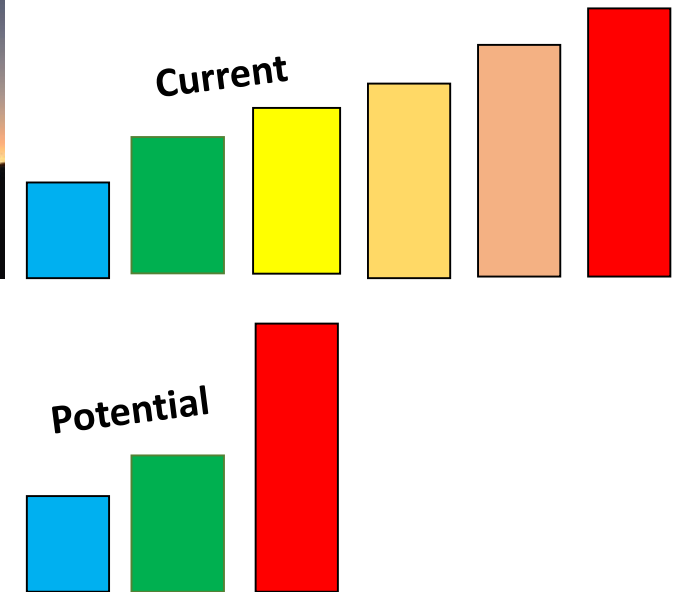
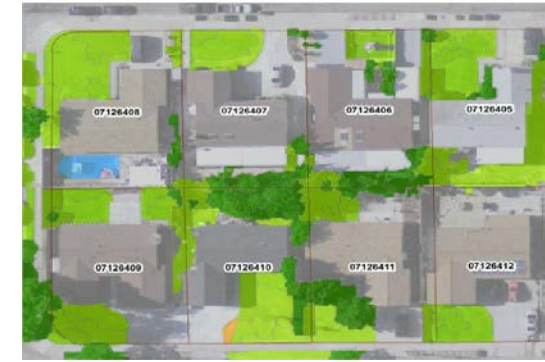
## Las Virgenes MWD 2019:

- Meets costs of service/budgets
- Rebuilt Reserves/more conservation dollars
- 60% of customers meet budgets
- Board is very happy
- 4 Prop 218 protests (out of 23,000)



# PWD 2019 Rate Study/Analysis

- Costs have changed
- Capital projects require funding
- New State efficiency standards
  - Need more accurate customer data
    - # of Residents
    - Actual Residential landscape area
  - Mirror State standards
    - 55 Gallons per person per day (66 GPCD)
    - 60% of ET x Landscape area (80% ET)
- Evaluate Prop 218 standing
  - # of Tiers

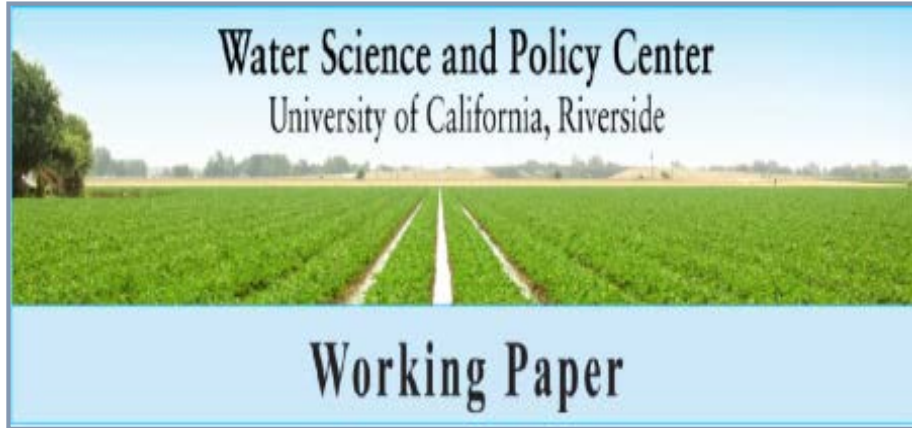


Indoor

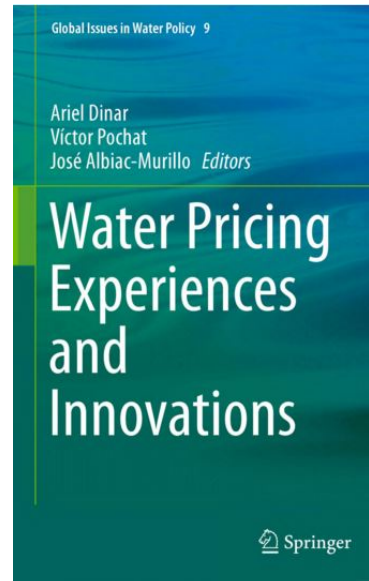
Outdoor

**(# Res) (55 GPCD) + (ET) (Irrigated Area) (Eff. Factor) (Drought Factor) = Individual Water Budget**

# UC Riverside Economists Study and Validate Impacts of Water Budget Rates?



- **“Reduced use 18% *without negative economic impact to the public agency.*”**
- **“To achieve a similar water use reduction would have required a *30% increase in water rates.*”**



Allocation-Based Water Pricing  
Promotes Conservation While Keeping User Costs Low

Ken Baerenklau, Kurt Schwabe, and Ariel Dinar

## Can Allocation-Based Water Rates Promote Conservation and Increase Welfare? A California Case Study

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# Tell the Water Agency Story on the Water Bill:

- The majority of PWD costs are fixed
- Your allocations can correspond to State standards
- Customers are allocated water equitably and proportionally (Prop. 218)
- ...and you have maintained incredibly low costs

