Be WATER SMART
Regional Water Authority

RWEPAC

November 13, 2018

WELCOME

Introductions

- Name
- Organization
- Ocean or Mountains?

BE WATER SMART

Agenda

- Welcome and Introductions
- September 2018 Meeting Notes
- Host Presentation-SSWD
- Lessons from Water Smart Innovations (WSI) Conference
- Program Updates
- Agency Announcements
- Lunch
- Adjournment

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Meeting Notes

- September 2018
- Approve and post online?

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Host Presentation

- Sacramento Suburban Water District

  Greg Bundesen, Water Conservation Supervisor

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Lessons from WSI

- Garden in a Box-Colorado (William)
- AMI (Linda)
  - SFPUC
  - Alliance for Water Efficiency Interoperability Study
- Short and Sweet (Amy)
  - Random Control Trials, San Antonio Water System
  - Energy Savings from Drought, UC Davis
  - Regional Water Loss Hub, MWDOC

THE GRASS IS ALWAYS GREENER

using social marketing to motivate homeowners to remove turfgrass

RESOURCE central

CONSERVATION MADE EASY

GARDEN IN A BOX

beautiful landscapes made easy

- Water conservation via landscape change
- Pro-designed xeric garden kits
- DIY kits include:
  - 15 to 30 starter plants
  - Plant and care guide
  - 1-3 plant by number maps
- Size: 60 to 100 sq. ft.
- Cost: $109.00 to $159.00

2018 GARDEN IN A BOX: GARDEN INFO SHEET

MORNING SUNRISE

Designed by Julie Hauser of Indigo Landscape Design

RESOURCE central
CONSERVATION MADE EASY

1 Black-Eyed Susan

Latin Name: *Rudbeckia fulgida 'Goldsturm'*
Mature Height: 12-42"
Mature Spread: 12-18"
Hardy To: 8,000'
Water: Medium
Exposure: Sun
Flower Color: Bronze-Yellow
Flower Season: Summer
Attracts: Butterflies
Description: Throughout the summer, this cheerful flower features a bold, central disc surrounded by bright, yellow ray florets above stiff, hairy stems. Its self-seeding tendency, be sure to deadhead diligently.
Care: Deadhead to encourage blooming and to minimize self-seeding. Cut back to the ground in late winter Plants can also be propagated by division. *Rudbeckia* plants that become taller or bushier than desired can be cut back to about 6" to generate fresh growth.

2 Blanket Flower

Latin Name: *Gaillardia aristata*
Mature Height: 18-24"
Mature Spread: 18-24"
Hardy To: 8,500'
Water: Low
Exposure: Full Sun
Flower Color: Yellow, Yellow/Bronze, or Yellow/Red
Flower Season: Mid-Summer
Attracts: Butterflies, Bees
Description: It boasts large daisies with reddish-brown/orange centers circled by ray flowers of yellow/bronze.
Care: Appreciates a bit of pampering the 1st season, and then takes off on its own. Deadhead occasionally to keep the flowers coming. Divide every 2-3 yrs. in early spring to keep clumps thriving. Avoid planting in rich, moist soils. Only needs supplemental moisture during extended hot and dry conditions, once established.

3 Blue Queen Salvia

Latin Name: *Salvia x sylvestris 'Blue Queen'*
Mature Height: 18-24"
Mature Spread: 12-18"
Hardy To: 8,500'
Water: Low
Exposure: Sun
Flower Color: Purplish-Blue
Flower Season: Early to Late Summer
Attracts: Butterflies, Hummingbirds, Bees
Resistant To: Rabbits, Deer
Description: Gray-green foliage supports tall stalks of delicate, violet flowers that add contrast and dimension to any garden.
Care: Not fussy about soil, this flower flourishes with direct sunlight and low water. Deadhead to encourage repeat flowering in the same season. Pinch out growing tip when plants are 6" tall to encourage bushy growth. Divide every three to four years.

4 English Lavendar

Latin Name: *Lavandula angustifolia 'Munstead'*
Mature Height: 12-18"
Mature Spread: 12-18"
Hardy To: 8,500'
Water: Low
Exposure: Full Sun
Flower Color: Lavender-Blue
Flower Season: Early to Late Spring
Attracts: Butterflies
Resistant To: Rabbits, Deer
Description: Scented, lavender-blue flowers on tight spikes thrust above evergreen, aromatic gray foliage, creating a compact clump well suited for perennial borders.
Care: Prune lightly in the early spring, no more than 4". Shear annually for a tidy and neat appearance and to encourage new growth. Can leave the plants untrimmed for fall and winter. Plant in well-drained soil to avoid root problems.

5 Fringed Sage

Latin Name: *Artemisia frigida*
Mature Height: 6-15"
Mature Spread: 18-24"
Hardy To: 9,000'
Water: Very Low
Exposure: Full to Part Sun
Flower Color: Yellow
Flower Season: Late Summer
Resistant To: Deer
Description: Fringed Sage is a strongly aromatic plant. It is covered with an abundance of hairs that give it a grey-green appearance, and it will grow into a shiny pillow that remains all winter long. This silver-leafed native is an understated favorite of many. It is drought-tolerant, can grow in cold and dry climates, and is a good soil stabilizer and ground cover.
Care: Cut off the foamy flower stems after blooming, or even while blooming, to keep it tidy and living much longer.

6 Husker Red Penstemon

Latin Name: *Penstemon digitalis*
Mature Height: 2-3'
Mature Spread: 18-24"
Hardy To: 8,000'
Water: Low
Exposure: Full Sun to Part Shade, Adaptable
Flower Color: Creamy White
Flower Season: Late Spring to Early Summer
Attracts: Bees, Hummingbirds, Butterflies
Resistant To: Deer
Description: A mound of striking reddish-green foliage with stalks that carry white flowers.
Care: Prune after the first bloom. Husker Red appreciates well-drained soil to avoid root rot and enough sun to keep its stems from flopping. Divide every 3 to 4 years to manage overgrown clumps and keep the plant vigorous. Plants can be staked if necessary.

7 Indian Grass

Latin Name: *Sorghastrum nutans*
Mature Height: 3-5'
Mature Spread: 3-4'
Hardy To: 7,000'
Water: Low
Exposure: Sun
Color: Tan
Flower Season: Late Summer to Fall
Description: Beautiful, blue-green foliage turns to hues of orange in the fall and winter. The array of colors and variety of textures this native grass provides creates interest in the garden no matter the season!
Care: The Yellow Indian Grass is easily grown in average, dry to medium, well-drained soils in full sun. It is tolerant of many soil types including clay, and does well in poor, dry, infertile soils. Cut back to the ground in late winter to early spring just before new growth emerges.

8 Knautia

Latin Name: *Knautia macedonica*
Mature Height: 18-24"
Mature Spread: 18-24"
Hardy To: 6,000'
Water: Low
Exposure: Full Sun
Flower Color: Burgundy
Flower Season: Summer
Attracts: Butterflies
Description: Knautia is a tall and clump-forming perennial with deep red pincushion flowers atop slender leaves. The plant may be short-lived, but tends to self-seed. A good companion plant because of its leggy height, it should be underplanted with lower growing perennials.
Care: Knautia is a fast growing plant that requires little maintenance, although the flowers should be deadheaded to promote growth.

9 Prostrate Speedwell

Latin Name: *Veronica prostrata*
Mature Height: 4-8"
Mature Spread: 6-12"
Hardy To: 8,000'
Water: Low
Exposure: Full to Part Sun
Flower Color: Blue
Flower Season: Late Spring
Description: A tight mound of trailing stems clothed by dark green, wedge-shaped leaves blanketed by dense clusters of small, light blue, star-shaped flowers.
Care: Prostrate Speedwell prefers morning sun and afternoon shade if possible. If it begins to wilt, just add some water and it will quickly revive the plant. Remove spent flowers and spikes for a rebloom in early fall. After the first killing frost, cut stems down to an inch or two. Divide overgrown plants in spring or fall.

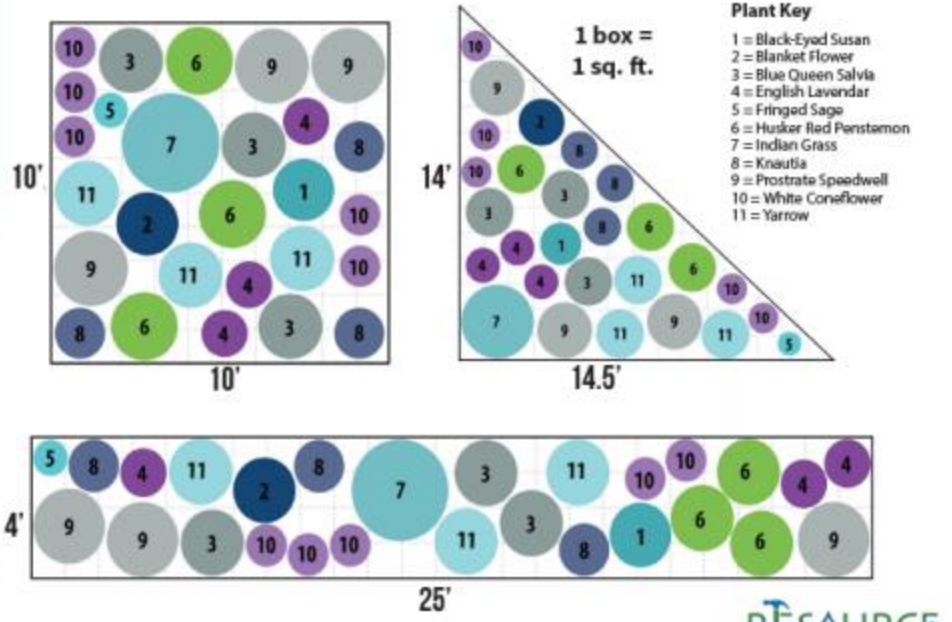
10 White Coneflower

Latin Name: *Echinacea purpurea 'White Swan'*
Mature Height: 24-30"
Mature Spread: 18-24"
Hardy To: 7,000'
Water: Low
Exposure: Full Sun
Flower Color: White
Flower Season: Mid to Late Summer
Attracts: Butterflies, Small Birds and Bees
Description: Large, daisy-like flowers with white rays are held atop deep green leaves.
Care: Cut back stems to promote more flowering, and cut off the dead and faded flowers to prolong the blooming season and prevent excessive self-seeding. Division is seldom necessary for the Coneflower, and it is not recommended. To add an attractive touch to your winter landscape, leave the rayless seed-heads through the fall and winter.

11 Yarrow

Latin Name: *Achillea Millefolium 'Colorado'*
Mature Height: 18-24"
Mature Spread: 2-3'
Hardy To: 9,000'
Water: Low
Exposure: Full Sun
Flower Color: Pastel Mix
Flower Season: Early to Late Summer
Attracts: Butterflies
Description: A spreading clump of finely cut foliage produces leafy stalks topped by clusters of flowers that range in color from red to pink, yellow, cream and white.
Care: Deadhead often to promote blooming. Yarrow has a tendency to spread, so be sure to divide clumps in fall or early spring every 3-5 years. Snip off spent heads at the end of the season to prevent self seeding. Leave the basal foliage, which will remain attractive throughout the winter.

3 Plant by Number Design Options:



RESOURCE central
CONSERVATION MADE EASY

UTILITY PARTNERS

- **$25 Discounts Available:** Arvada, Brighton, Castle Rock, Centennial Water, Cottonwood Water, Denver Water, Eaton, Erie, Fort Collins, Frederick, Golden, Greeley, Lafayette, Lochbuie, Longmont, Louisville, Loveland Water & Power, Lyons, Northglenn, Superior, Thornton, and Westminster.

PROGRAM IMPACT

- Xeriscape uses up to **60% less water** than traditional turf
- In 2018, Resource Central sold **5,210 gardens**
- Through 2018, an estimated cumulative lifetime savings of **135 million gallons of water**
- Through 2018, **1.8 million sq. ft.** of landscape converted to water-wise gardens

CHALLENGES + OPPORTUNITIES

- **39% of customers** removed grass and replaced it with the help of Garden In A Box
  - Roughly double the percentage captured in 2017

- **Primary reasons for purchasing:**

  1. To make my yard more attractive
  2. To use less water on my landscape
  3. To attract pollinators and other beneficial wildlife AND it seemed like an easy way to garden

- **Word of Mouth** – one of the top 3 reasons people hear about the program
  - 15% of customers hear via “word of mouth”

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Lessons from WSI

Advanced Metering Infrastructure (AMI)

- SFPUC Presentation
- Alliance for Water Efficiency Interoperability Study

Random Control Trials;
The Future of Testing New Conservation Ideas?

Karen Guz
Conservation Director
San Antonio Water System

WaterSmart Innovations Conference
October, 2018

San Antonio Water System

MAKING SAN ANTONIO WATERFUL

Outdoor Conservation = Behavior Based Programs

Human decisions/values/ideas determine outdoor water usage….not science

- 70% of households watered less than “theoretical irrigation requirement” in REUS study
- A percentage of households will increase water use after changing to low-water landscape plant material
- Some households increase usage after drip irrigation retrofit
- Letters pointing out usage data results in measurable reduction in household use…but often denial of impact

Behavior-based Programs Are Usually Planned with "Deemed Savings"

Often Deemed Savings Estimates Have A Key Assumption…

People Are Rational and Will Behave in Logical Ways

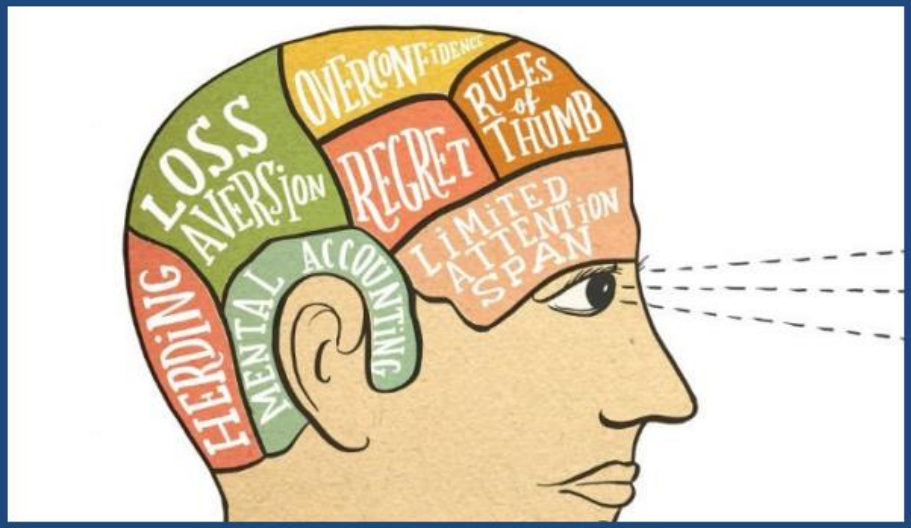
"Say It Ain't So Results" Do Happen

Program Results Are Not What We Always Expect

2016 Rain Barrel Incentive

- increased water usage
- decreased participation motivation
- nearly all participants were proud of their perceived savings

Behavioral Economics



The basic message of behavioral economics is that humans are hard wired to make judgment errors and they need a nudge to make decisions that are in their own best interest.

Conclusion: Deemed Savings Assumptions May be False.

Behavior-Based Savings Must Be Tested “in the wild”

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CENTER FOR WATER-ENERGY EFFICIENCY

Impact of California's Urban Water Conservation on Electricity Consumption and Greenhouse Gas Emissions

Frank Loge
Dept. of Civil and Environmental Engineering
Center for Water-Energy Efficiency
University of California, Davis

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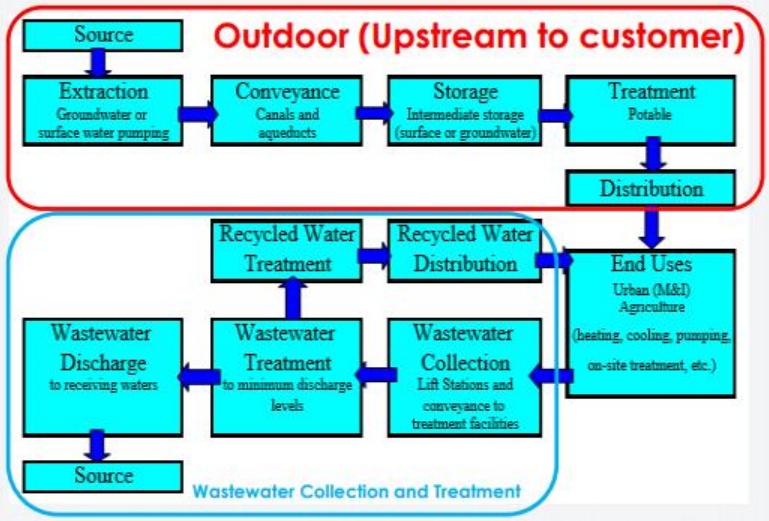
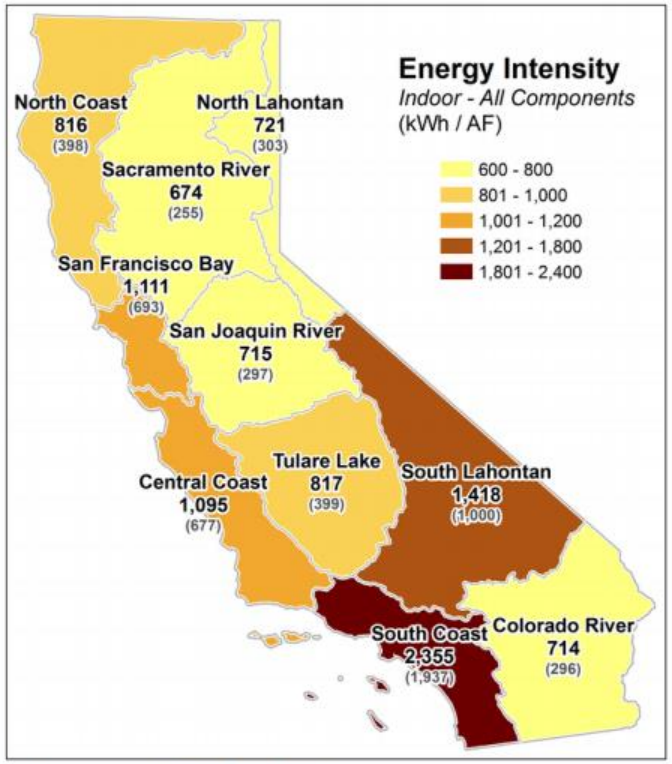
Indoor (All components)



Source: Wilkinson, 2007

California Hydrological Zones' Energy Intensity



Source: CWEE, 2016

Energy Intensity

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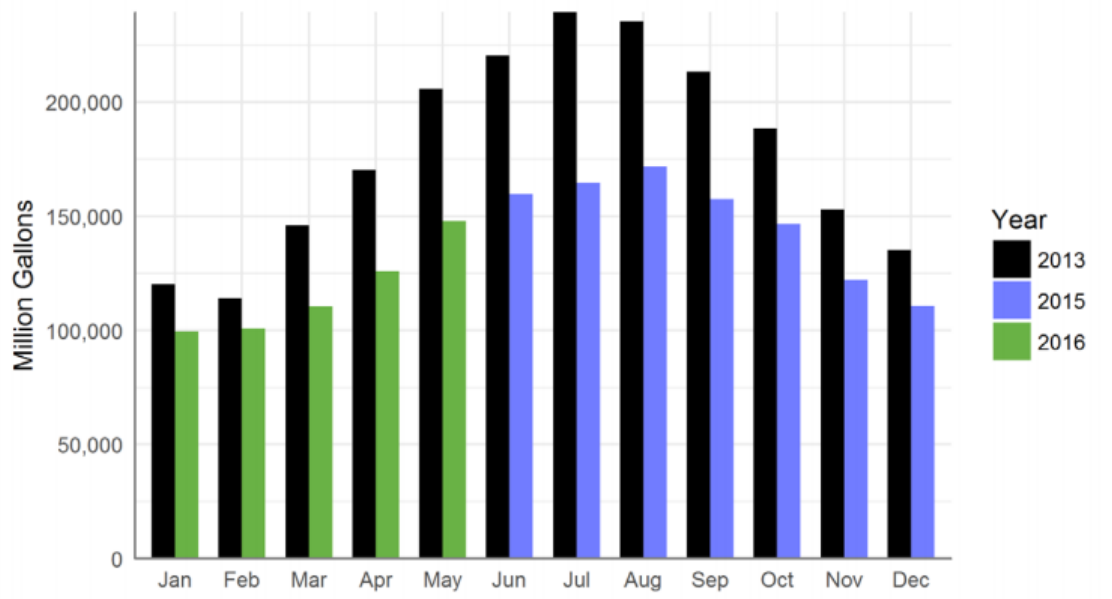
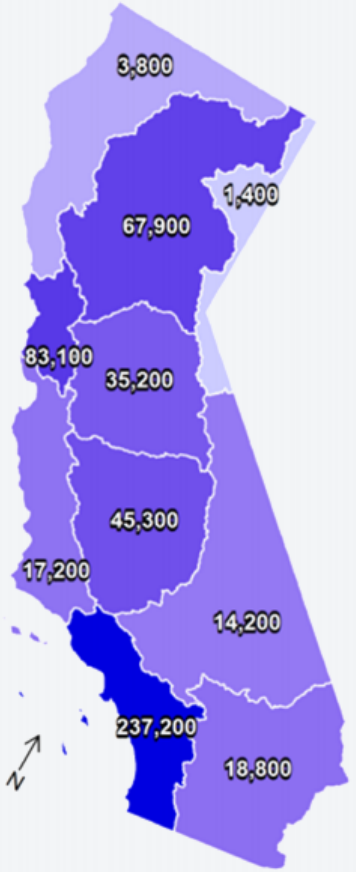
24.5% Savings



Total Water Savings
524,000 MG



Statewide monthly water deliveries relative to 2013 baseline values

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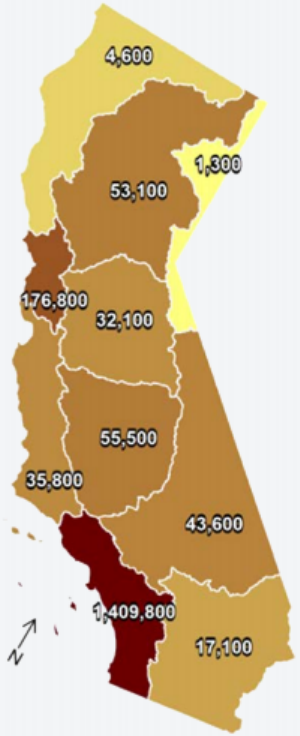
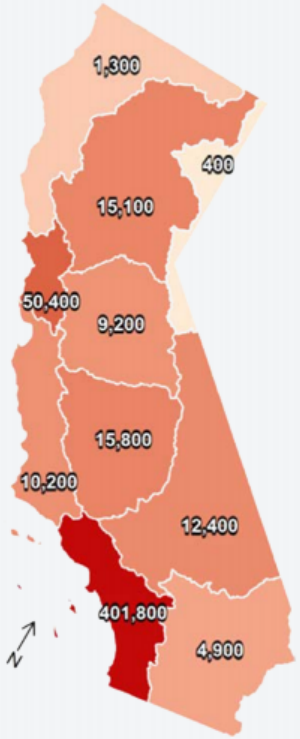
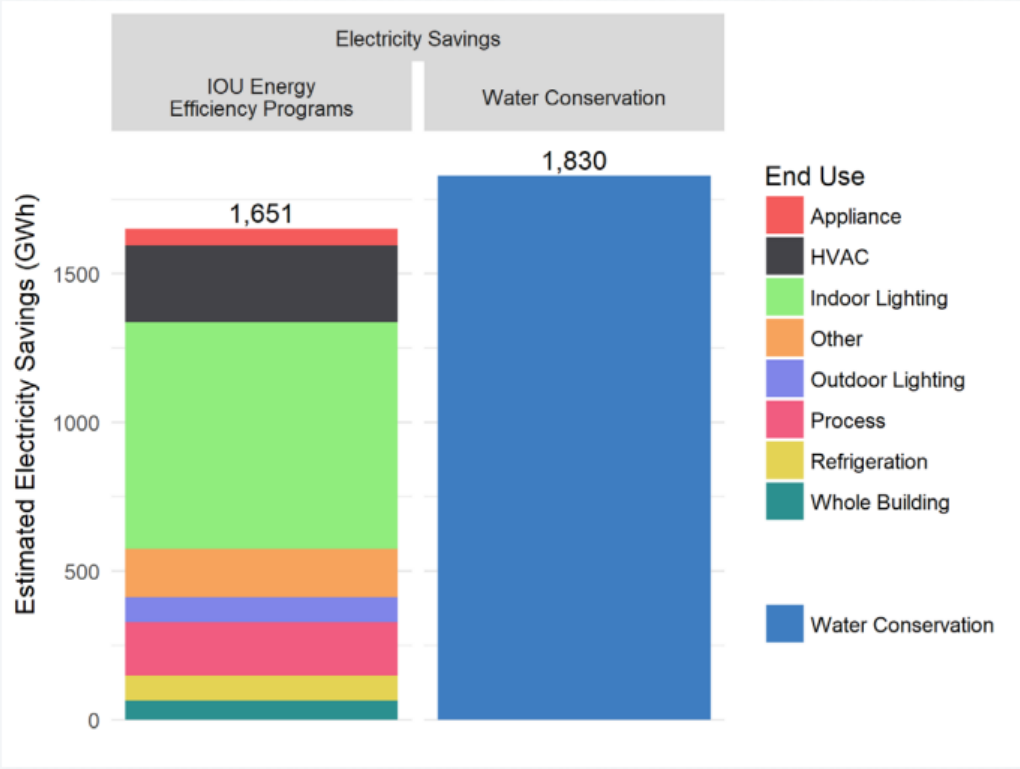
Total Electricity Savings
1,830,000 MWh



Total GHG Savings
521,000 MT CO_2e





Estimated electricity savings from statewide water conservation (June 2015 – May 2016) vs. total electricity savings from IOU EE program savings (July 2015 – June 2016)

MWDOC Water Loss Control:

Building a Regional Hub

Striving to Achieve an Economically Optimized Level of Water Loss

WaterSmart Innovations 2018

The MWDOC Water Loss Control Program

Started in 2016 to empower Orange County agencies to:

- Comply with state water loss regulations
- Achieve cost-justified distribution efficiency
- Develop fluency in water loss analysis and management

Technical Assistance **Work Group** **Shared Services**

Agencies pick which technical assistance and shared services tasks they want to pursue

Work Group Capacity Building

Bimonthly workgroup meetings to:

- Develop expertise across Orange County
- Promote peer learning and exchange

Well-received topics so far:

Sales meter management

District metered areas

Leak Detection

Loss and theft recovery

Performance indicators

Cost-justified intervention

AMI

Progress So Far

29 agencies have participated in technical assistance

3 years of water audits

8 agencies that tested customer meters through the MWDOC program

Acquisition of a USBR grant for regional leak detection equipmen t lending library

Pilot leakage savings research with MWDSC

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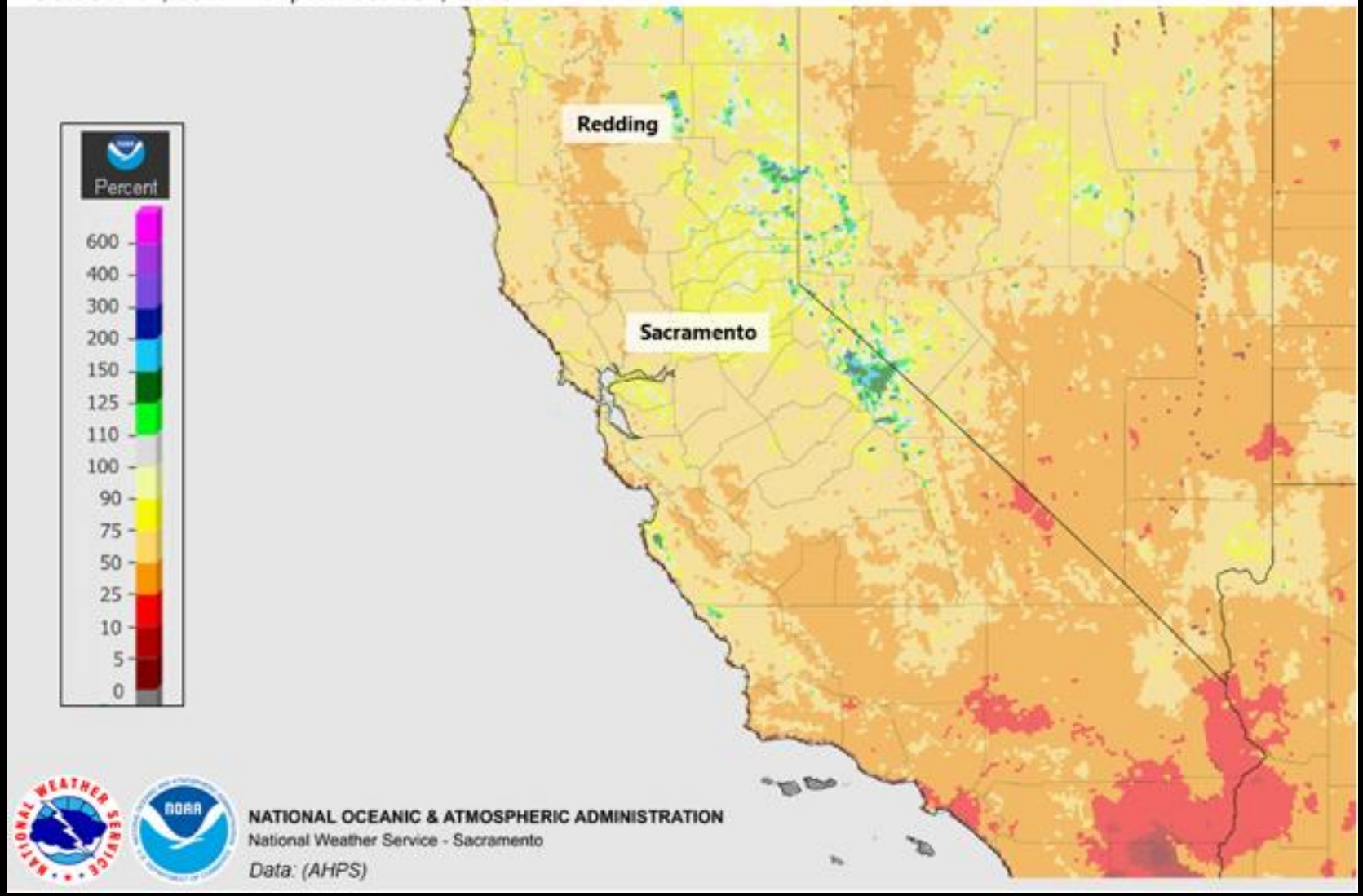
Program Updates

- 2018 Water Year Review and 2019 Water Year Preview
- Regional Water Supply Efforts
- Landscape Imagery Analysis Request for Proposals
- CalWEP
- Water/Energy Peak Use
- Winter Campaign
- QWEL

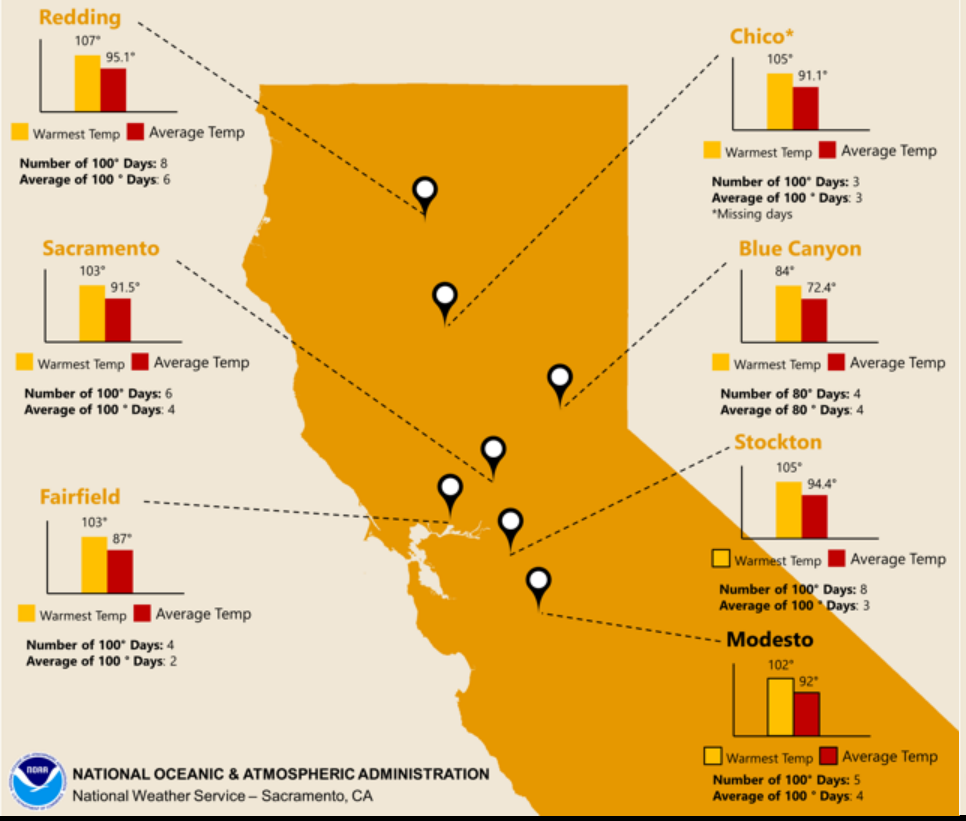
Precipitation – Percent of Normal

October 1st, 2017 – September 30th, 2018



June 2018 Climate Summary

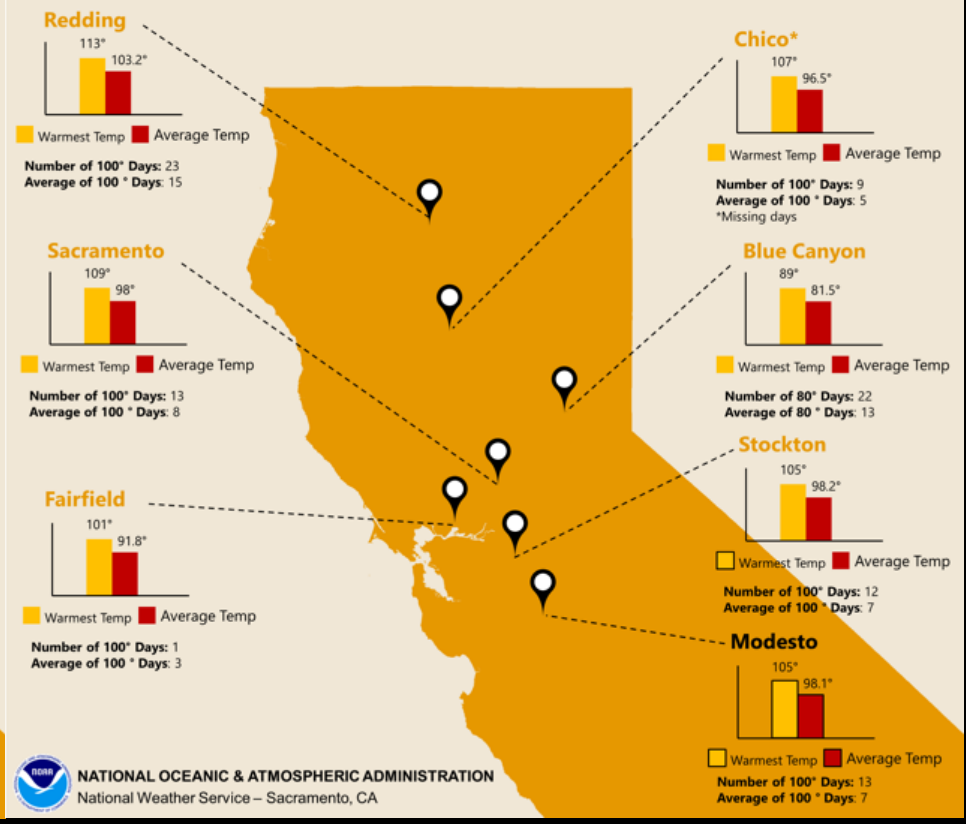
Interior Northern California



NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION
National Weather Service – Sacramento, CA

July 2018 Climate Summary

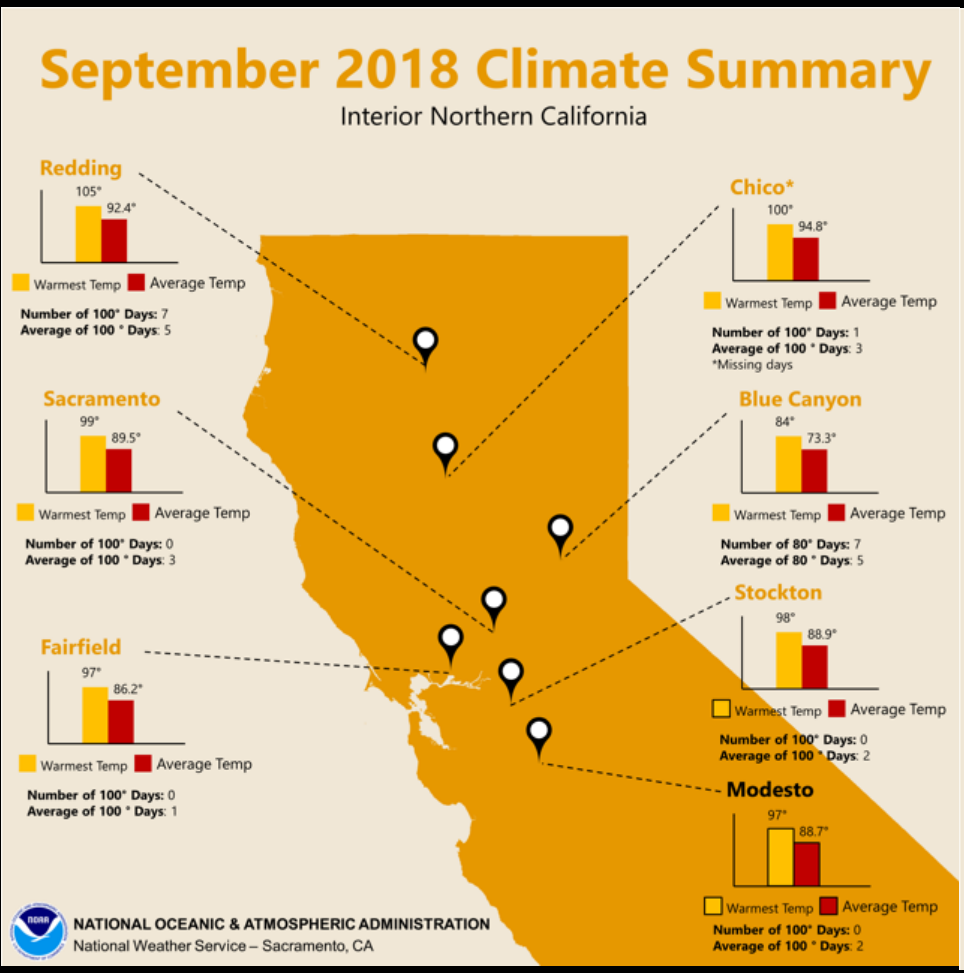
Interior Northern California



NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION
National Weather Service – Sacramento, CA

September 2018 Climate Summary

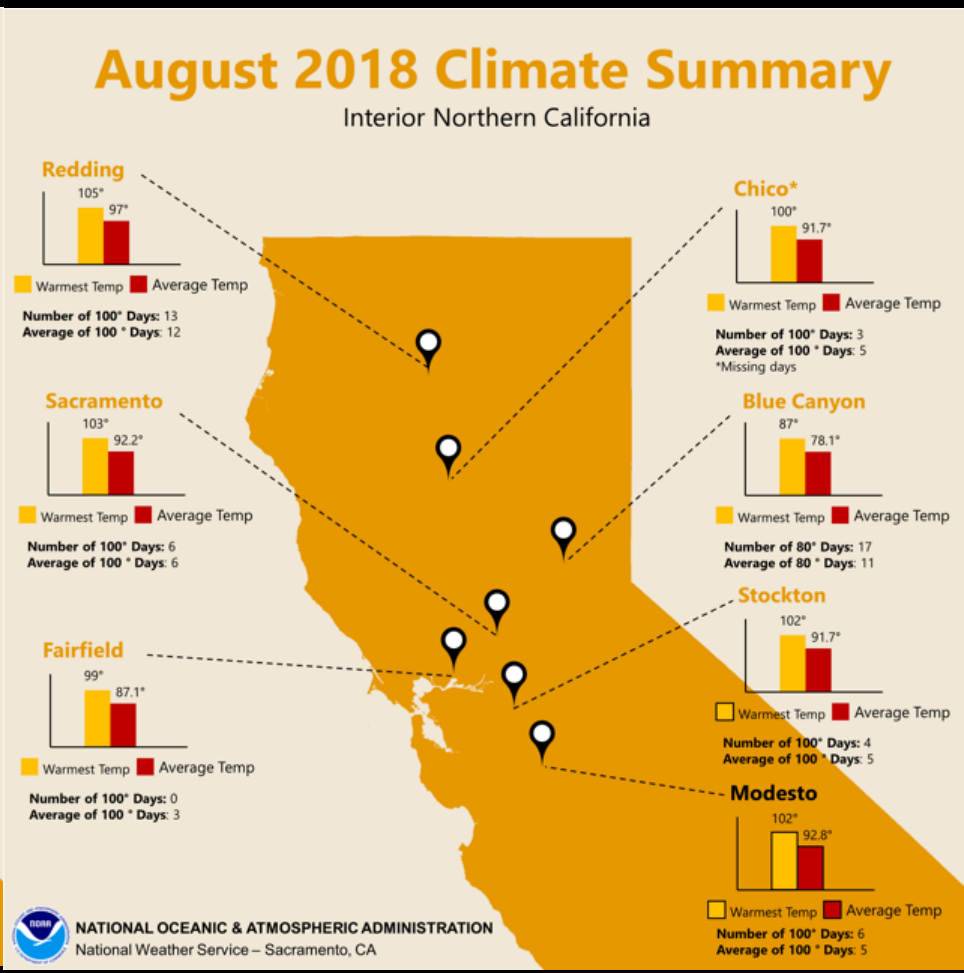
Interior Northern California



NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION
National Weather Service – Sacramento, CA

August 2018 Climate Summary

Interior Northern California



NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION
National Weather Service – Sacramento, CA

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2019 Water Preview

- El Nino is forecasted
  - 70% chance
  - Wet winter?
  - Worth all the hype?

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Regional Water Supply Efforts

- Water Quality Control Plan
  - Sacramento
  - San Joaquin
- Regional Reliability Plan
- Groundwater Bank/Water Transfers
- Integrated Regional Water Management (IRWM)
  - Water Efficiency Projects
    - » Water Loss
    - » Public outreach
    - » Rebates/Direct Install
    - » Joint Water Energy Programs
    - » Research studies

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Landscape Imagery Analysis RFP

- Calculate irrigated and irrigable residential area
- Estimate residential landscape water budgets
- Estimate water agency targets for the legislation

- Executive Committee directed staff to release an RFQ/RFP
- December 2019 release
- January/February start

- Collectively funded through RWA
- Interested?

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CalWEP

- Chair transition
- AWE Board Appointment
- New Executive Director
- Focus on Member Benefits
  - Conservation Legislation

- What do you want to see from CalWEP?
  - Research
  - Public outreach materials
  - Etc.?

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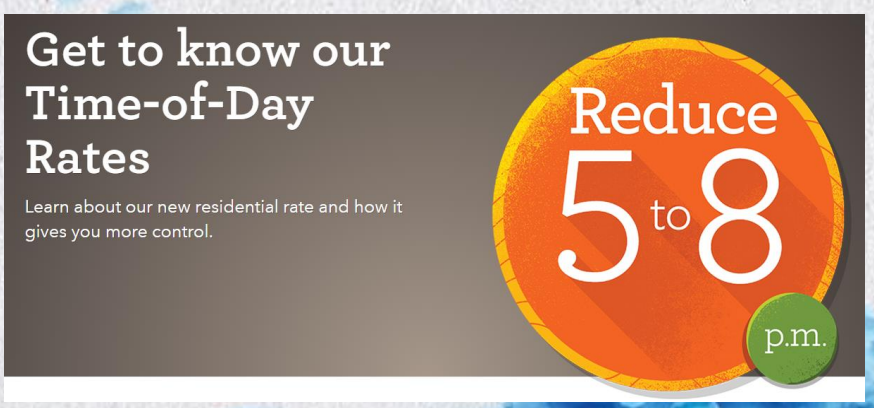
Energy/Water Peak Use Coordination

- SMUD Time of Day Pricing in 2019
- Opportunity to partner?
  - Peak Energy Use = Peak Water Use
- PG&E?
- Joint programs?



The new pay structure, called a "time of use" rate, seeks to shift demand for power away from times when energy is typically consumed the most. By 2018, all Sacramento Municipal Utility District rate payers would likely be transitioned to the new rate system, if the utility's board approves the rate structure. Hector Amezcua - hamezcua@sacbee.com

LOCAL

SMUD phasing in new rate plan based on demand

BY EDWARD ORTIZ
eortiz@sacbee.com

April 02, 2016 11:00 PM
Updated April 03, 2016 09:25 PM

Sacramento home energy users could be among the first in California to pay rates that rise or fall based on the time they consume energy, with summer peak time electricity prices possibly costing three times that of current base rates.

The new structure, called a "time of use" rate, seeks to shift demand for power away from times when energy is typically consumed the most – during summer weekdays from 4 p.m.

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Winter Campaign

- New campaign for set your clocks back, dial back controller concept
- Ideas:
  - Hibernate
  - Once Upon a Time
  - Winter is here

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QWEL

- Wrapped up first QWEL training series
- Thank you to SSWD for hosting!!!
- Regional specific manual printed
  - $30 each
  - Amazon Prime
- Working on setting dates for the spring 2019 training
  - What water agency staff are interested in attending?

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BWS Postcard

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Turf Grass Flyer

Tired of Your Thirsty Turfgrass?

Be WATER SMART Regional Water Authority

Outdoor water use in the Sacramento region accounts for more than half of a household's total water use, which can be 250 gallons per day in the summer. About 30 percent of outdoor water use is wasted from evaporation and overwatering. Watering in the early morning hours and installing WaterSense-labeled irrigation timers can reduce this water waste.

Another option is to replace traditional cool season turfgrass with lower-water use plant options like **turfgrass alternatives** and **turfgrass substitutes/ground cover plants**. These plants are more suited to the Sacramento region's Mediterranean climate.

Turfgrass Alternatives

Turfgrass alternatives are low-water use grasses that have the look and feel of turfgrass but require half the water to thrive.

COMMON NAME	WATER USE	SUN	FOOT TRAFFIC/WEAR	DESCRIPTION
UC Verde Buffalograss	1/4 of the amount compared to traditional turfgrass	Full Sun	Tough and durable	Warm-season turfgrass; looks its best during the summer; dormant to semi-dormant in winter; straw-green color; drought tolerant; nearly pollen free; height peaks at 4-6" tall; depending on preference, mow every 2-3 weeks; for a more natural look mow less frequently, but at least once per year; disease and insect resistant; dense habit at maturity, helps to reduce weed growth.
90/10 Tall Fescue Includes: Penn RK4, Rebel XL4, Firecracker SLS Tall Fescue & Ridgeline Kentucky Bluegrass	Moderate	Sun, Partial Shade	High, residential, wear recovery very good	Certified by the Turfgrass Water Conservation Alliance (TWCA) & Alliance for Low Input Sustainable Turf A-List for drought tolerance & deep roots; cool season grass, stays green year round; adapts to partial shade; salt & heat tolerant, improved disease resistance; mowing height 1-1/2 to 2", can mow higher to reduce stress; water needs can depend upon tolerance for varying shades of green.
Native Mow Free™	Low, 50% less water than traditional turfgrass; drought tolerant, per grower	Full sun; up to 50% shade tolerance	Clumpy, not for sports activities	CA natives; fine leaf blade texture; can be maintained as a turf lawn or left unmowed for a meadow-like appearance; provides erosion control on slopes.

UC Verde Buffalograss

Credit: Florasource, Ltd.

90/10 Tall Fescue

Credit: Delta Bluegrass Company

Native Mow Free™

Credit: Laura Morton Design

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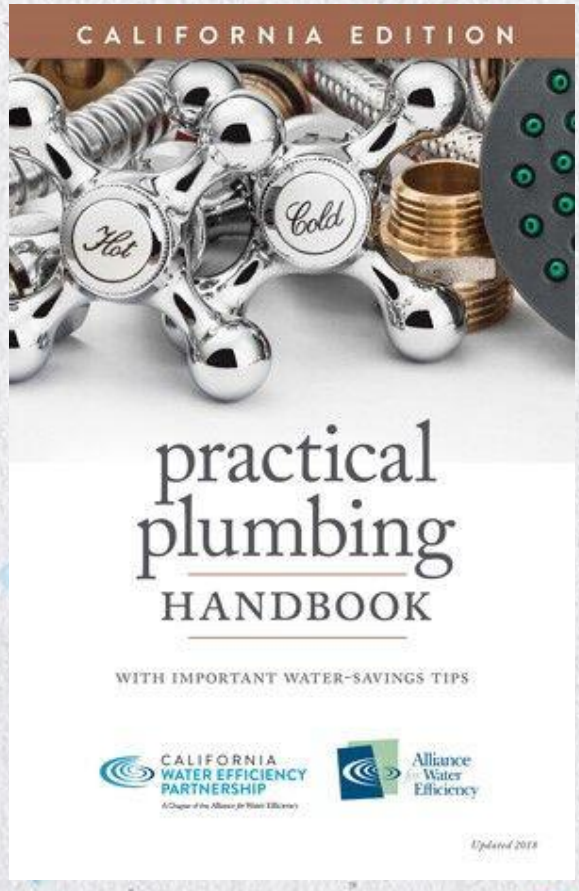
Practical Plumbing Handbook



Regional Order-in progress

- Indoor and Outdoor
- $2.50 each
- Order with Monica

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Regional Water Authority

Announcements & Events

BE WATER SMART

Holiday Social

When: December 11th

Where: Old Spaghetti Factory in Rancho Cordova

Who: You and your staff

Why: To celebrate our hard work in 2018

Why: To eat spumoni?

How: RSVP to Monica

BE WATER SMART

Looking Forward…

Date	Host
January 8, 2019	Regional water Authority 5620 Birdcage St, STE 180 Citrus Heights, CA 95610
March 12, 2019	
May 14, 2019	Regional water Authority Soil Born Farms?
July 9, 2019	
September 10, 2019	Regional water Authority Sierra Health Foundation?
November 12, 2019	
December 10, 2019	Old Spaghetti Factory in Rancho Cordova
January 14, 2020	Regional water Authority 5620 Birdcage St, STE 180 Citrus Heights, CA 95610

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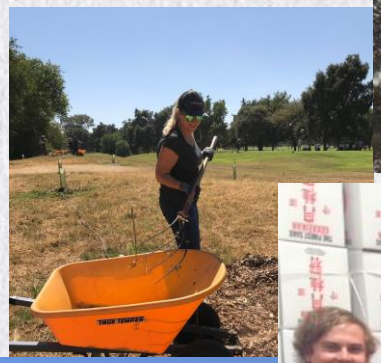
Sunsetting the RWEPAC Tours

- Raley Field (March 2017)
- Soil Born Farms (May 2017/2018)
- PCWA Pump Station (July 2017)
- Golden One Center (November 2017)
- Gekkeikan Facility (July 2018)
- Sac Tree (September 2018)



Thank You!

..And please stay for lunch

rubio's COASTAL GRILL

Be WATER SMART Regional Water Authority

BeWaterSmart.info