



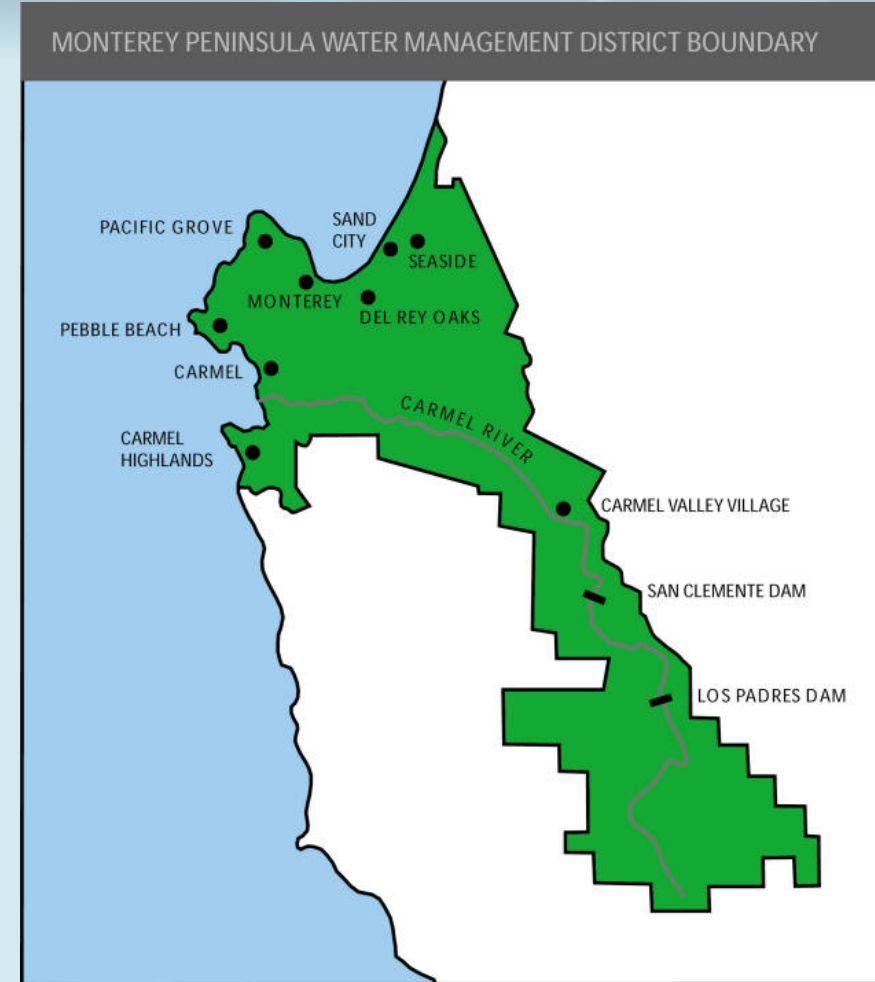
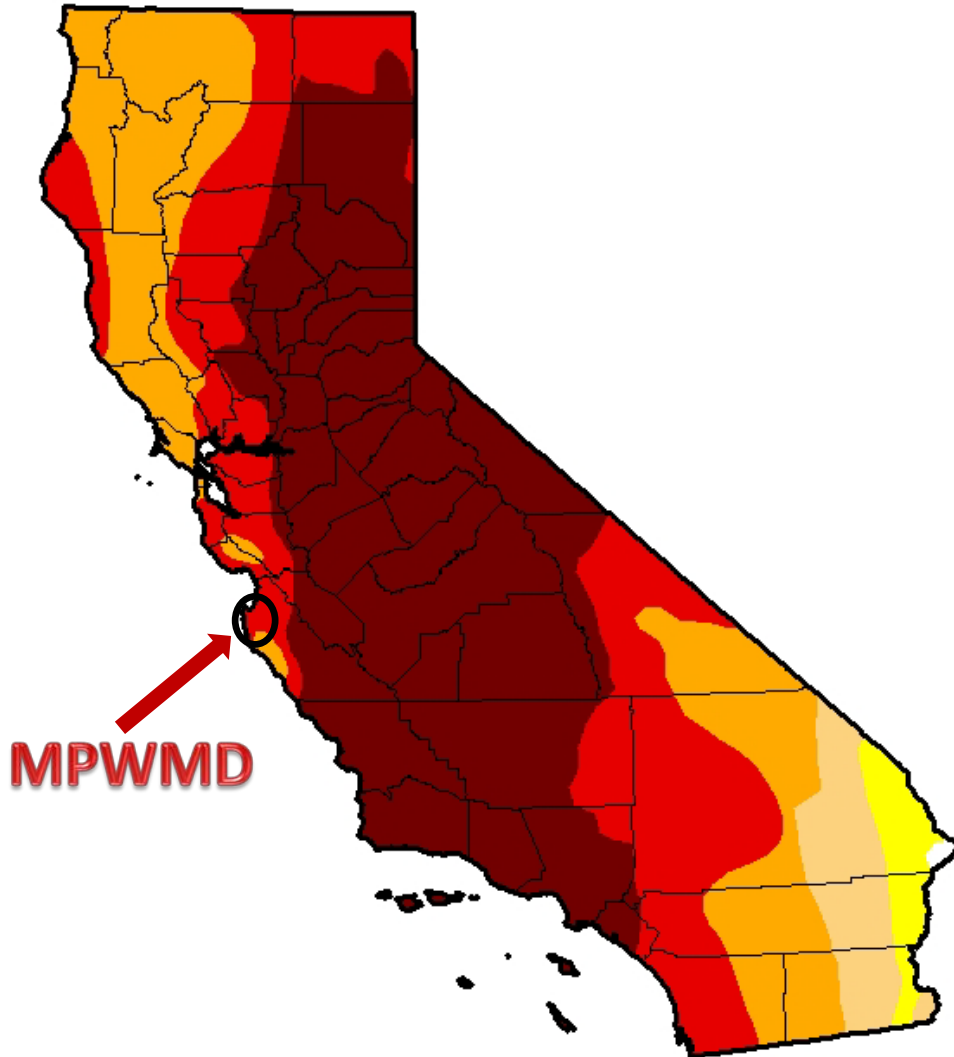
# Conservation is a Culture: The Monterey Peninsula Story

Presented by Stephanie Locke  
Monterey Peninsula Water Management District  
AFC 2015

# The Monterey Peninsula Water Management District

- Special District created by the California Legislature in 1978
- Authority for management of ground and surface water
- Regulatory authority over all water suppliers within its boundaries
  - Main utility: California American Water
  - Approximately 40,000 customers
  - 70% residential (population approx. 96,000)
- Only local water sources (Carmel River and Seaside Groundwater Basin)
- \$2.3 billion hospitality industry (9 million visitors annually)
- Many 2<sup>nd</sup> homes/short-term rentals

# Monterey Peninsula Water Management District



# Conservation Program

- 1987-88: Demand was 17,219 AF
  - 2020 demand projection was 22,000 AF
- First major conservation programs
  - Retrofit upon resale/change of use requirement
  - Water Permit requirement
    - New construction/remodel efficiency requirements
    - Permit required before building permit
- Hired 2 people to enforce requirements
- Data collection
  - 2015 database has over 30,000 unique property records

# Change of Ownership Retrofit Requirements

- Engaged local Realtors/title companies
  - Rely on Realtors to inform seller/buyers
    - Retrofits completed before sale
    - Inspection to verify compliance (compliance = compensation)
    - 2015: Less inspections due to previous retrofits, new documentation
  - Certification form required before transfer
    - Escrow officer at Title Company
  - Non-compliance recorded on title
    - Corrected when future sale, refinance, remodel, etc.

# Water Efficiency Requirements

Water Permit requirement involves every building/planning department before Building Permit is issued

- Water efficient toilets/urinals, showerheads, faucets
- Instant-access hot water & insulated hot water pipes
- High efficiency clothes washers & dishwashers
- Water efficient landscapes/irrigation
  - Rainwater/graywater irrigation encouraged/incentivized
  - No overhead spray on non-turf
  - Rain sensor required on all automatic systems upon change of ownership or remodel

# CII Efficiency Requirements – New Construction

CII has additional requirements:

- No single-pass water use systems
- Water cooled refrigeration equipment prohibited when there is alternative cooling technology available
- Cooling Towers must be equipped with conductivity controllers
- Boilerless steamers or connectionless steamers required in food service
- Alternative water sources for indoor toilet flushing and other uses are encouraged
- Business-specific BMPs must be implemented to extent possible

# Conservation in the 1990's

- Water Rationing (1989-1991) reduced 30%
  - By 1997, long-term savings were only 10%
  - Rationing partnership with MPWMD (enforcement) and Cal-Am Water (supplier)
- Permanent water waste regulations/enforcement
  - Leaks, breaks, run-off, etc. (hotline/web reporting)
  - Drinking water at restaurants only on request
  - Conservation signage in public restrooms
- Toilet rebate program



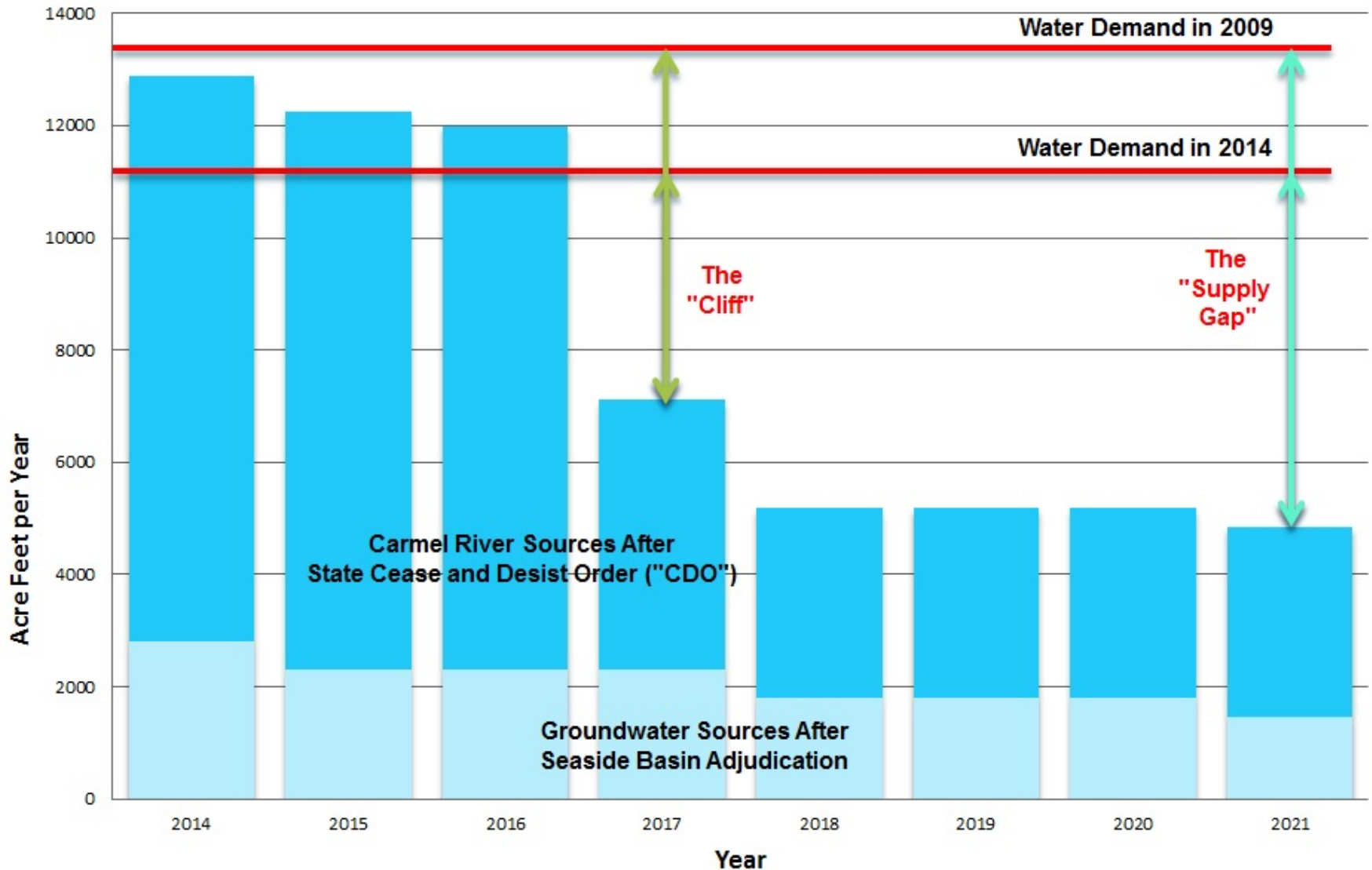
# Recycled Water for Pebble Beach

- Wastewater reclamation project for Pebble Beach golf courses/open space (1995)
  - Replaced 800 AF potable demand
- Partnership with MPWMD, Carmel Area Wastewater District (CAWD), Pebble Beach Community Services District (PBCSD), Pebble Beach Company & 2 others
- MPWMD issued bonds, sells water
- Pebble Beach Co. guaranteed loans
- CAWD added tertiary (1993)/RO treatment (2003)
- PBCSD owns the pipes
- Irrigates all golf courses and open space in Pebble Beach

# Monterey is Highly Regulated

- SWRCB Order No. 95-10
  - Cal-Am reduce unlawful diversions from the Carmel River (July 1995)
  - By reducing demand through tiered rates, Cal-Am better able to comply with Order
- Seaside Adjudication Decision (2006)
  - Annual reductions in groundwater extraction
- SWRCB Cease and Desist Order (2009)
  - Annual reductions until legalized supply
  - “The Cliff” in 2017

# Monterey's CDO & the 2017 "Cliff"



# Monterey Residential Tiered Rates

- MPWMD and Cal-Am co-developed tiered residential rate proposal in 1996
  - First Tier: Base interior use/low income
  - Second Tier: Average SFD use
  - Third Tier: Penalty for excessive use
  - Reduced service charge to increase upper tiers
- Created greater incentives for conservation
- Considered reasonable and fair

# Expanded Conservation Program

- Expanded Conservation & Standby Rationing Plan
  - 7 stage plan – Always in Stage 1
  - 5-Tiered rates based on number of residents (residential)
    - \$0.6054/100 gallons (lowest tier)
    - \$6.0543/100 gallons (5<sup>th</sup> tier)
    - Between 2010-2015, approximately 40 reduction in number of Tier 5 users
  - Mandatory landscape audits/budgets for large users, irrigation meters, open space
- Required all visitor serving commercial, public and quasi-public facilities to retrofit toilets, faucets, showerheads (2001)

# Rebate Program

Ultra high efficiency toilet

Instant-access hot water

High efficiency toilet

High efficiency dishwasher

High efficiency clothes washer

Graywater irrigation systems

Efficient sprinkler nozzles

Soil moisture sensor

Lawn removal

Cooling tower conductivity controller

Cooling tower pH controller

High efficiency commercial dishwasher

Ozone laundry system

Water efficient steam/combo oven

Connectionless food steamer

Medical steam sterilizer water tempering device

Water broom

X-ray film processor recirculation system

Waterless wok stove

Pint or zero water urinal

Dry vacuum pump

# Monterey Non-Residential Rates – Transitioning from Tiers to BMPs

- Tiered rates based on each customer's type of use and size (2000-2013)
  - Required knowledge of square-footage or other measurements
  - Unique businesses required variances
  - Difficult to predict use in upper tiers
- BMP commercial rate structure replaced 3 tiered rates (2013)
  - Requires Best Management Practices for lower rates
  - Toilets, urinals, faucets, signage (indoors)
  - Efficient irrigation systems and controllers (outdoors)

# Monterey Rate BMP

- Division 1: Rate BMP compliant/minimal landscaping  
\$0.90/100 gallons (CGL)
- Division 2: Rate BMP compliant/water is essential to product of business  
\$1.0222/100 gallons
- Division 3: Rate BMP compliant w/landscaping  
\$1.1357/100 gallons
- Division 4: Not Rate BMP compliant  
\$2.2715/100 gallons



# Recent Conservation Programs

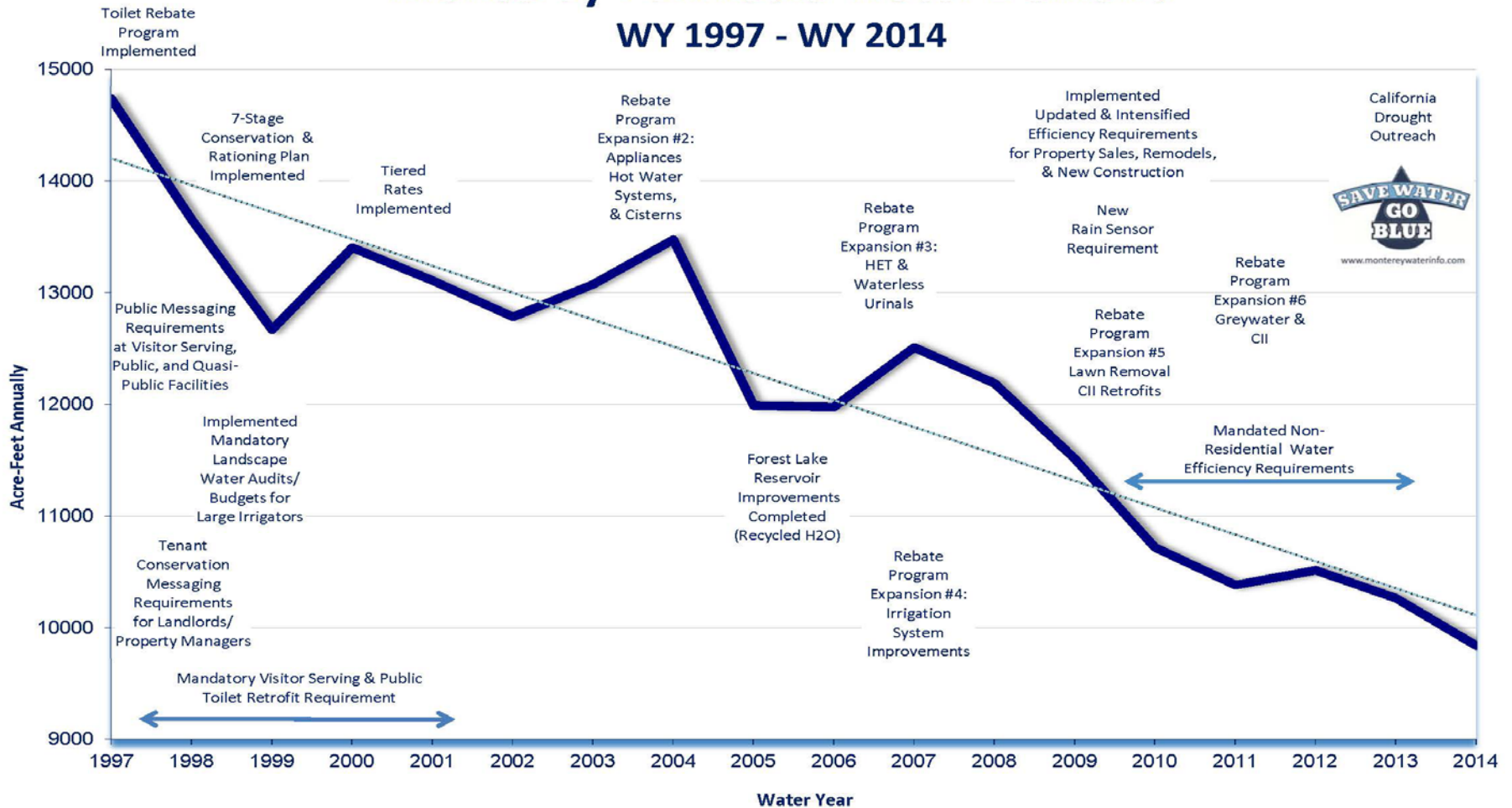
- In cooperation with local business organizations, in 2014 **ALL** non-residential was required to install
  - HET if not ULF
  - Water efficient showerheads and faucets
  - High efficiency clothes washers
  - Efficient ice machines
  - Water efficient pre-rinse spray valves
  - Towel/linen reuse program
- Increased outreach programs and public workshops
- Collaboration with highest CII users
- School landscape retrofits

# School Landscape Retrofits

- Schools were required to meet indoor CII requirements in 2014
- MPWMD/Cal-Am audited indoor & out at all schools
  - Provided equipment and funding
- Smart controllers
- Irrigation system improvements
- Developed demonstration/learning site for students
- Replaced football field with synthetic turf
- 49% reduction in use

# A Variety of Approaches Make Success

## Monterey Peninsula Water Demand WY 1997 - WY 2014



Data Source: CAW Customers and Consumption by Political Jurisdiction

# Monterey Peninsula's Success

- 1987-88: Demand was 17,219 AF
  - Demand was expected to be 22,000 AF by 2020
- WY 2014 demand (Oct. 2013-Sept. 2014) was **9,841 AF**
- California mandatory reduction target of 8%
  - Currently 17% below 2013 (June-August)

**Demand has been reduced by 43% from 1988**



For more information visit:

[www.MontereyWaterInfo.org](http://www.MontereyWaterInfo.org)

and

[www.MPWMD.net](http://www.MPWMD.net)

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