



Additional Water Use Restrictions

September 21, 2021



Overview

- Best In Class Review
- Drought Response: Additional Proposed Prohibitions
- Next Steps

From the 2020 UWMP

72.9% - Residential + Landscape

16.7% - Non-Residential

10.4% - Water loss

2020 Production = 27,451 AF

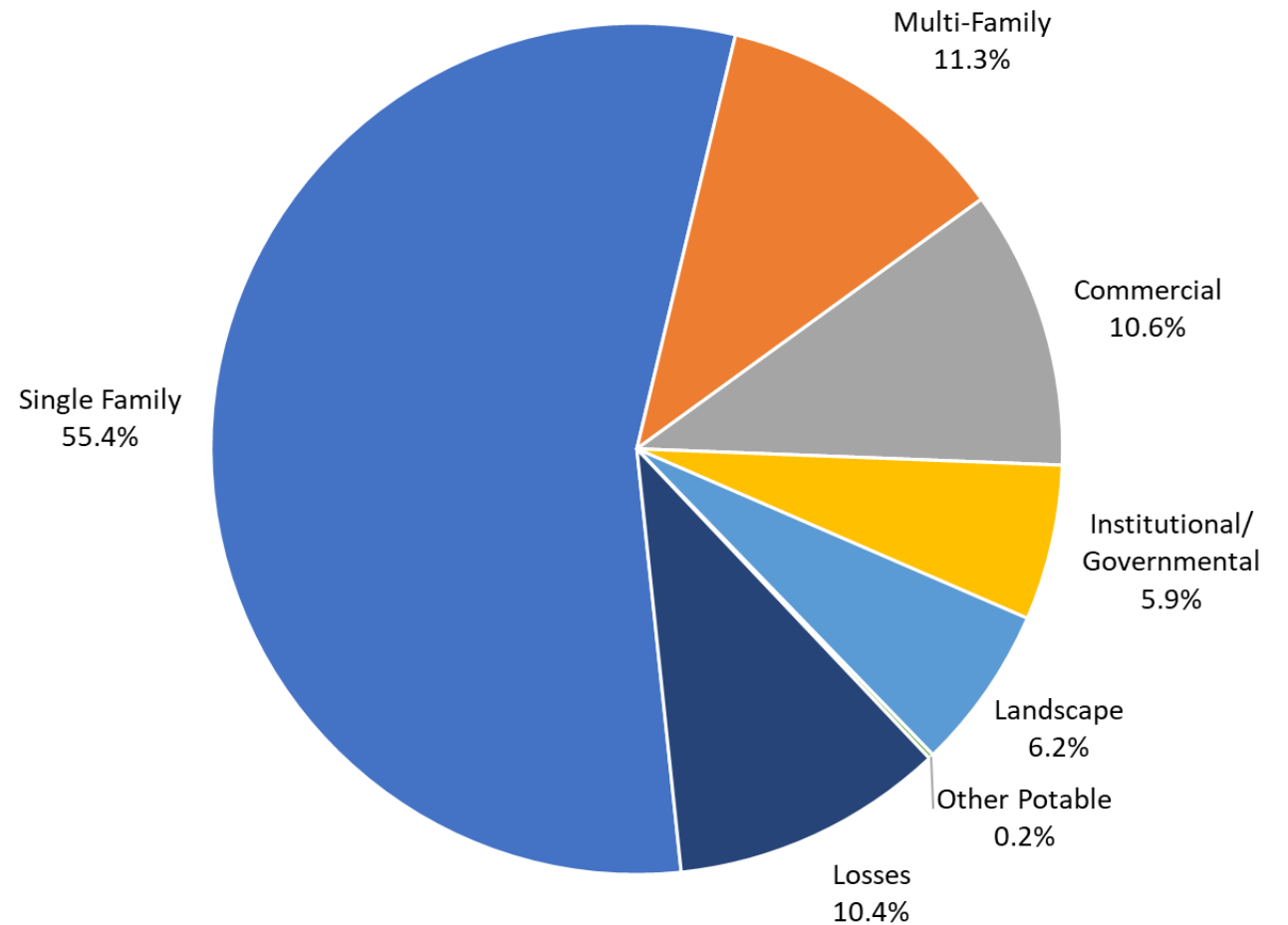
2020 Population = 191,299

2020 Total GPCD = 128.1 GPCD

2020 Residential = 87 GPCD

2020 Non-Residential + Loss = 41.1
GPCD

2020 Marin Water Demand

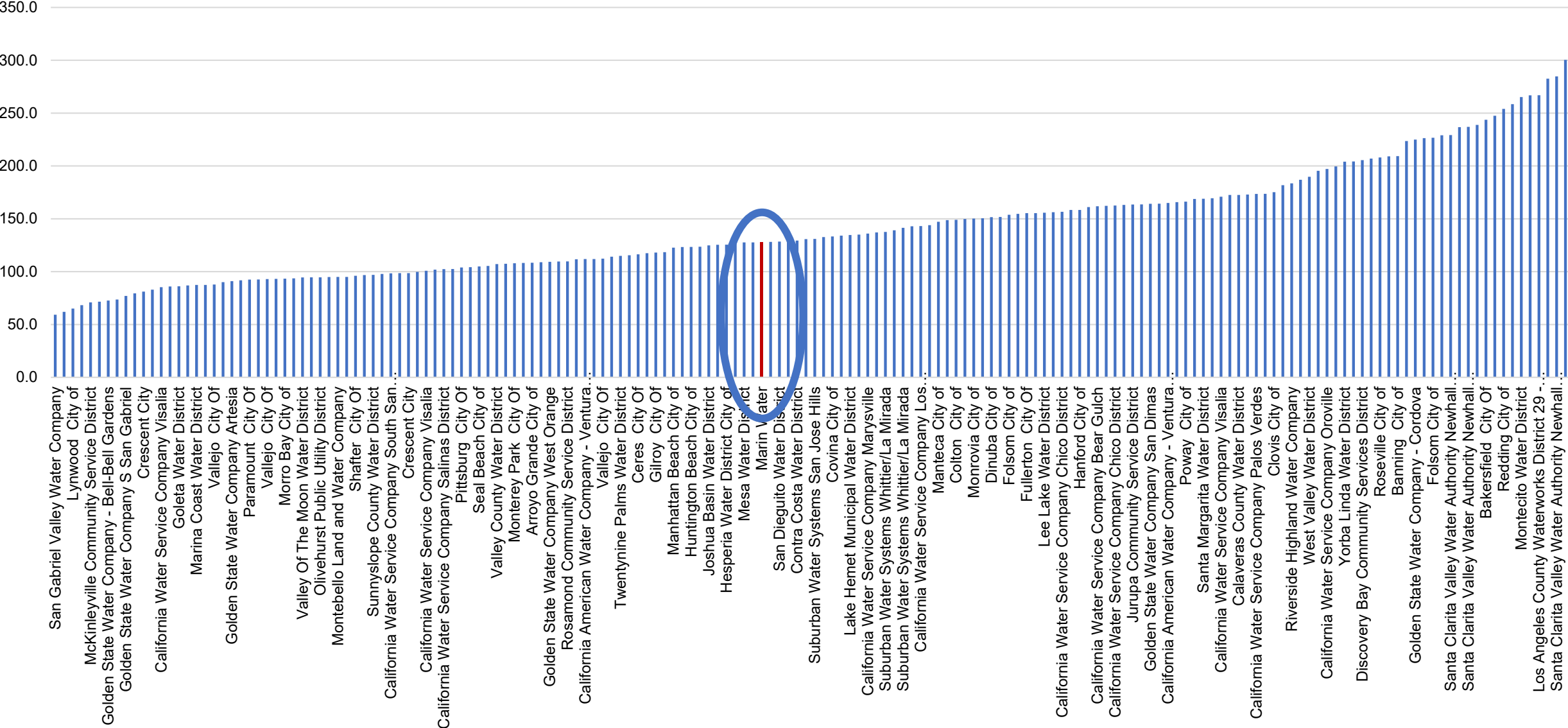


Comparison of Systemwide Gallons Per Capita Per Day

Agency	Population	Total gpcd
Scottsdale, AZ	217,385	273.1
Henderson, NV	277,502	256.9
St. George, UT	171,040	236.2
Colorado Springs, CO	441,000	212.3
Fort Collins, CO	129,000	157.9
Denver, CO	1,174,000	156.7
Tacoma, WA	317,450	150.0
Otay, CA	198,616	149.9
Mountain View, CA	72,800	132.6
Marin Water (2020)	191,299	128.1
Aurora, CO	325,078	126.6
Austin, TX	886,768	121.9
Tucson, AZ	739,485	119.0
San Diego, CA	1,312,000	118.2
Santa Barbara, CA	91,416	115.0
San Antonio, TX	1,360,000	105.7
Philadelphia, PA	1,500,000	104.5
Chicago, IL	5,300,000	98.4

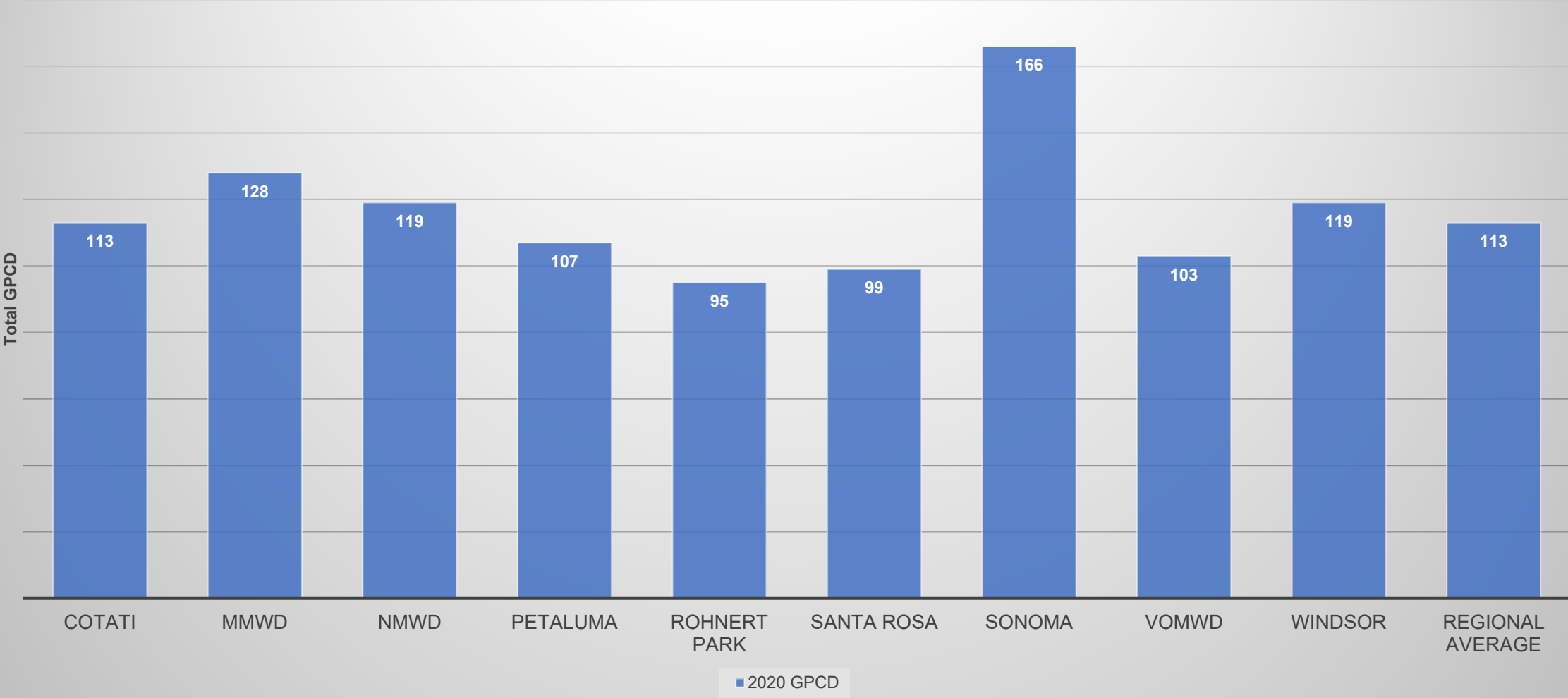
Data from Residential End Uses of Water, 2016 (except where noted)

Total Per Capita - California



Average of 2017, 2018, 2019 consumption from California DWR, based on annual reported data (eAR)

Regional Demand Comparison 2020 GPCD



	Albuquerque Bernalillo County Water Utility Authority	Colorado Springs Utilities	El Paso Water	City of Grand Junction	City of Phoenix Water Services Department	Salt Lake City Department of Public Utilities	Southern Nevada Water Authority	Tucson Water	Washington County Water Conservancy District	Marin Municipal Water District
State	New Mexico	Colorado	Texas	Colorado	Arizona	Utah	Nevada	Arizona	Utah	California
Major Metro Region(s)	Albuquerque	Colorado Springs	El Paso	Grand Junction	Phoenix	Salt Lake City	Las Vegas	Tucson	St. George	San Rafael
Number of Agencies Served	1	1	1	1	1	1	7	1	7	1
Service Type Provided	Retail and two small wholesale accounts	Retail	Primarily retail, some wholesale	Retail	Retail	Primarily retail, some wholesale	Wholesale	Retail	Primarily wholesale, some retail	Primarily retail
Service Area Size (sq mi)	190 sq mi	195 sq mi	250 sq mi	9 sq mi	661 sq mi	136 sq mi	822 sq mi	390 sq mi	200 sq mi	34.4 sq. mi
Approx. Population Served	658,238	470,513	787,208	28,215	1,648,611	316,402	2,262,962	750,000	153,000	191,299

How does Marin Water Compare with the Arid West?

Long Term Water Demand Management

Approach #1 – Specify what can/must be installed

- Manage demand via indoor fixture standards, landscape rules and regulations
- Community engagement
- Incentives

Approach #2 – Specify how much water can be used based on need and water availability

- Manage demand via Indoor and outdoor water budgets, alerts, reminders
- Rates
- Community engagement
- Incentives

Approach #3 – Both. Utilities often use a hybrid of both approaches.

Indoor Use

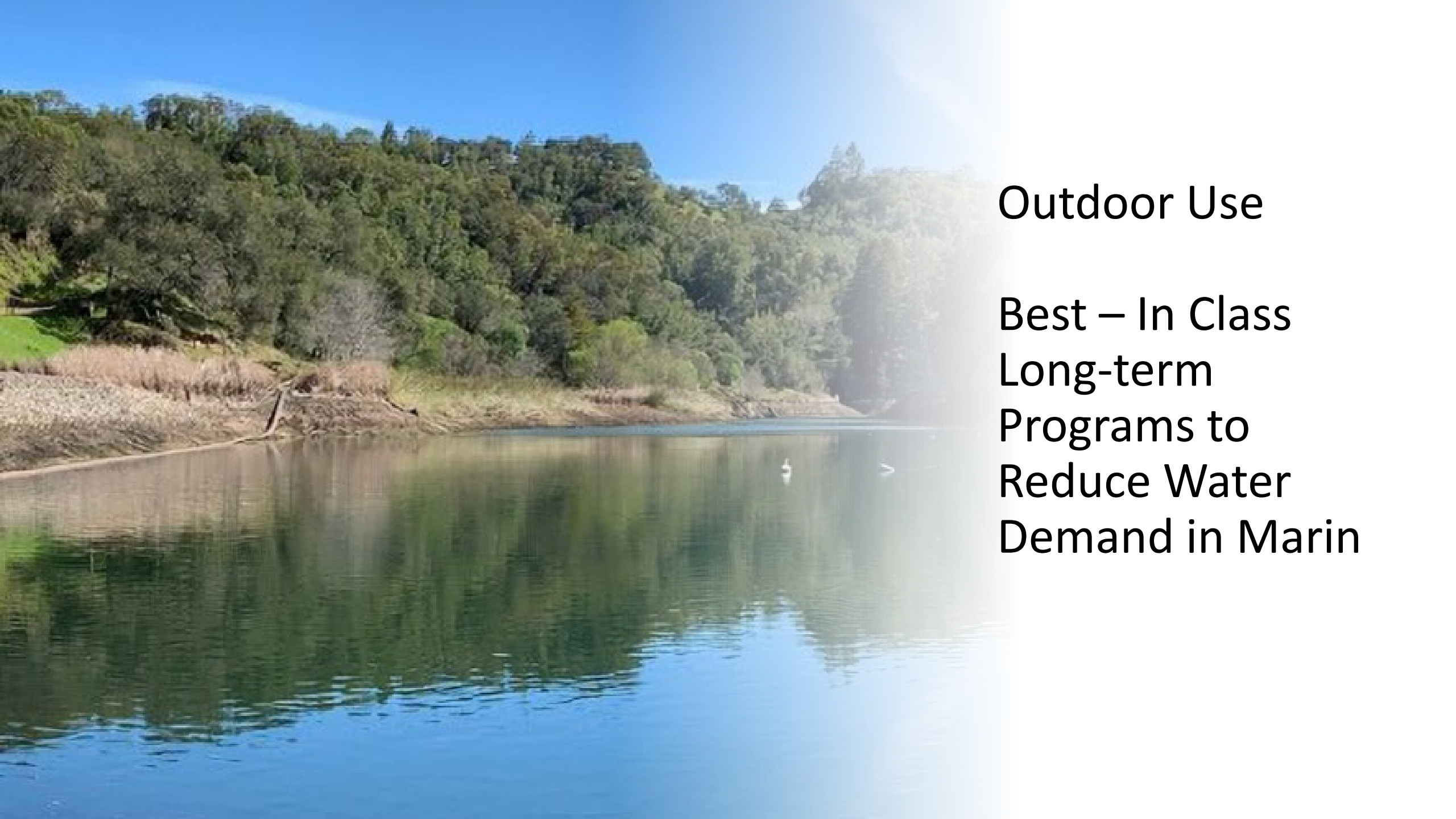
Best – In Class
Programs to Reduce
Long Term Water
Demand in Marin



Indoor GPCD by County - Q2 2021



California Counties Avg. Indoor SF GPCD Q2 2021



Outdoor Use

Best – In Class
Long-term
Programs to
Reduce Water
Demand in Marin



Las Vegas, NV – Landscape Development Codes

- No new turf may be installed in residential front yards.
- Residential side & backyard turf limited up to 50% of landscapable land
- No turf less than 100 SF or more than 5,000 SF
- Developments prohibited from installing turf in common areas.
- New turf in non-residential developments is prohibited, except for schools or public or private parks.
- **Functional turf is legally defined:** Irrigated lawn grass area that provides a recreational benefit to the community and is: 1,500 contiguous square feet or greater, more than 30 feet in all dimensions, located at least 10 feet from a street, installed on slopes less than 25 percent, and not installed within street medians, along streetscapes or at the front of entryways to commercial sites, neighborhoods or subdivisions.

Las Vegas, NV - “Non-functional” Grass Ban



What is “non-functional” grass?



Grass between roads and sidewalks.



Grass in medians and traffic circles.



Decorative grass outside businesses and housing developments.



Any grass that is used for aesthetics and not recreation.

Introduced March 22, 2021

Completion required by January 1, 2027

Turf Replacement/Cash for Grass

- Becoming a standard program across the Western US
- Programs typically pay \$2 - \$3 and occasionally \$4 per square foot (combined wholesaler and retailer rebates).
- \$2 can cover the cost of removing turf and leaving bare ground
- \$3 and above covers the cost of removal + new landscaping



Not All Turf Replacement is the Same

Factors to consider:

- Replanting with climate appropriate plant material
- Replant coverage area and water requirements



Landscape Water Budgets

- A water management tool used to estimate the volume of water a landscape will reasonably require through the year.
- Landscape water budgets can consider the size of the landscape, the landscape water requirement, climate, water supply availability, and other factors.
- Water use target for each customer.
- Water budgets are used informationally to communicate with customers and to identify inefficient water users.
- Water budgets may be connected to an inclining block rate billing structure.
- Common practice is to reduce water budget allocations as landscapes size increases.
- Proven tool for long-term water demand management.
- Marin Water has taken the first step and measured residential landscape area. Measurement of all other areas are under way.



BUDGET BASED RATES



Irvine Ranch Water District (IRWD) Year BBRs

Implemented:

1991

Customer Types:

Single family residential, multi-family residential, landscape, and CII

Contact Department and Phone Number:

Water Efficiency, (949) 453-5581



Eastern Municipal Water District (EMWD) Year BBRs

Implemented:

June 2009

Customer Types:

Single family residential and multi-family residential

Contact Department and Phone Number:

Conservation Department, (952) 928-3777 ext. 3322



El Toro Water District (ETWD) Year BBRs

Implemented:

July 2010

Customer Types:

Single family residential, multi-family residential, and landscape irrigation

Contact Department and Phone Number:

Customer Service/Billing, (949) 837-7050



Las Virgenes Municipal Water District (LVMWD) Year BBRs Implemented:

January 2016

Customer Types:

Single family residential, multi-family residential, irrigation, commercial, and recycled water

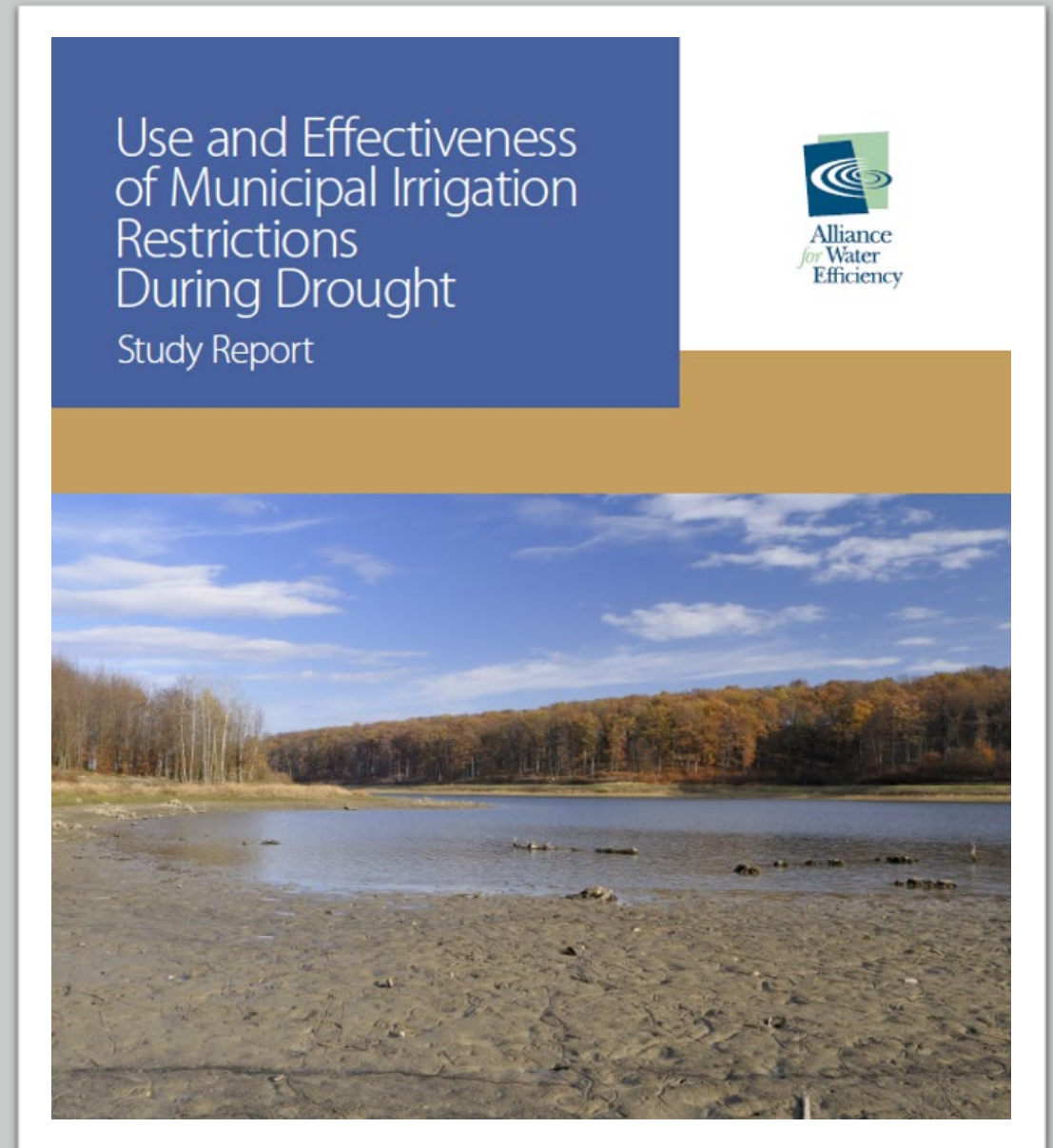
Contact Department and Phone Number:

Carlos G. Reyes, Resource Conservation and Public Outreach, creyes@lvmwd.com, (818) 251-2130

AND MANY MORE....

Water Budgets and Drought Response

- During a Drought.....
- Landscape water budgets can be reduced as necessary (10%, 20%,)
- Percent reduction impacts large landscapes and small landscapes differentially and equitably.
- The monthly water budget (indoor & outdoor) becomes a method for monitoring compliance with drought response for every customer, every month.
- 2020 research from the Alliance for Water Efficiency shows utilities with water budgets had among the most effective drought response.



Key Takeaways

Landscaping is the Primary Opportunity for Long Term Savings

- Informational water budgets provide valuable guidance
- Water budget-based billing is aspirational and attainable
- Landscape restrictions can provide long term savings and will transform the plant pallet in the community

Prohibition on Non-Functional Turf

- Requires a definition of Functional Turf.
- **Functional Turf:** Irrigated turf area that provides a recreational benefit to the community and is:
 - 1,500 contiguous square feet or greater
 - more than 30 feet in all dimensions
 - located at least 10 feet from a street
 - installed on slopes less than 25 percent
 - not installed within street medians, along streetscapes or at the front of entryways to commercial sites, neighborhoods or subdivisions

Implementation of a Non-Functional Turf Prohibition

- Applicability
 - Near Term: New and rehabilitated landscapes
 - Phased-in: All existing landscape by established date
 - SNWA has 6 years for full deployment
- Identification of non-functional turf locations
- Offer incentives to expedite conversion
- Provide direction and insight on appropriate replacement plant material

Single Family Residential Landscape Code

- No new turf may be installed in residential front yards
- Side & backyard turf limited up to 50% of landscapable land
- No turf less than 100 SF or more than 5,000 SF

Implementation

- Incorporate into Water Efficient Landscaping Code
 - New and rehabilitated landscapes

Next Steps

- Develop draft ordinance prohibiting Non-Functional Turf
- Develop draft ordinance restricting residential landscapes
- Continue to develop possible approaches water budgets

Drought Response: Additional Potential Prohibitions

- Winter Irrigation
- Pool Filling

Potential Prohibition on Winter Irrigation

- Water use limits exclude commercial, institutional and multifamily customers
- Opportunity to provide District–wide consistency to all winter irrigation
- Prohibit all automatic irrigation during winter billing period (December – May)
- Spot watering by hand is exempt
- Summer billing period would revert back to current irrigation restrictions
 - Limit overhead spray sprinkler irrigation to 1 day per week, as assigned by District
 - Drip irrigation limited to 2 days per week
 - Spot watering by hand is exempt

Sample Prohibitions on Pool Filling

North Marin WD: Refilling a completely drained swimming pool and/or initial filling of any swimming pool for which application for a building permit was made after July 1, 2021 (Adopted April 20, 2021)

Healdsburg: Emptying existing pools is prohibited. New pools must source water from outside the City's water system.

Refilling of a swimming pool except when topping off to prevent damage to pump and filter equipment is allowed. (Adopted May 3, 2021)

Drought Response- Next Steps

- Develop draft emergency ordinance for Board consideration on October 5th