



# Water Efficiency Master Plan Workshop

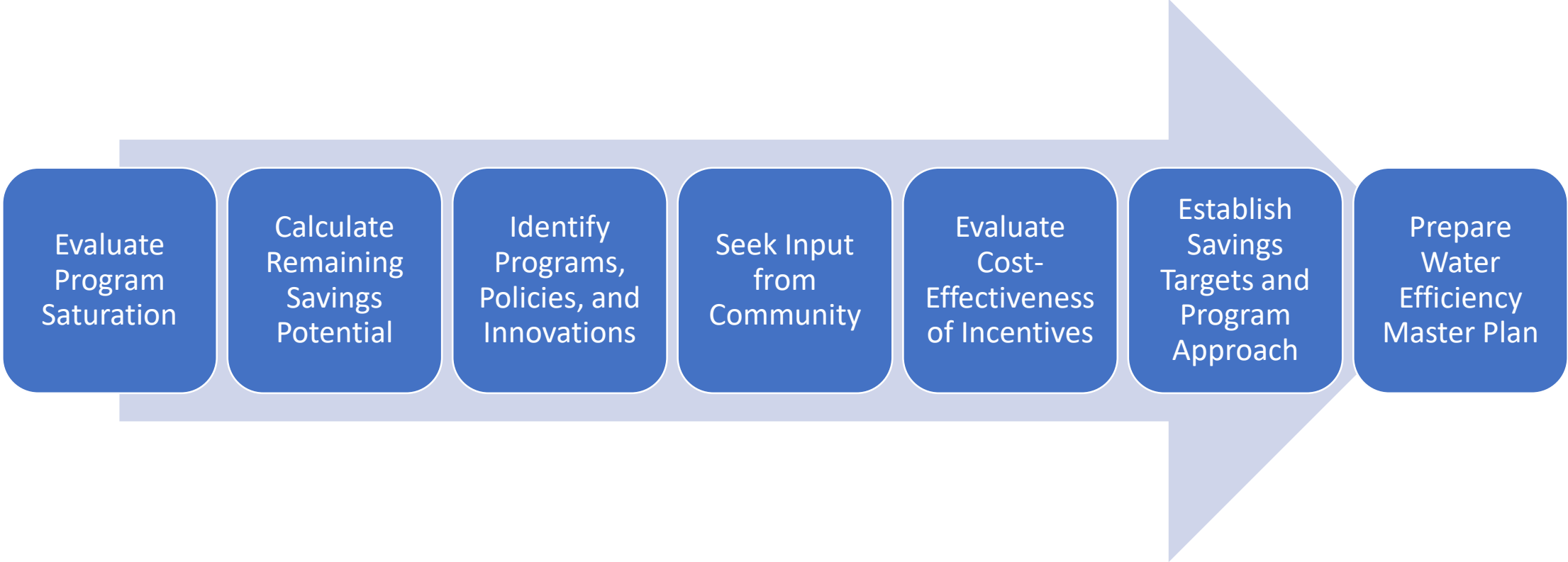
May 1, 2024



# Overview

- Development of the Water Efficiency Master Plan
- Water Use Patterns
- Review of Evaluated Measures
- Water Saving Goals and Water Use Projections
- Community Outreach
- Near Term Board Considerations
  - Review Rebate Changes
  - Review Policy Consideration

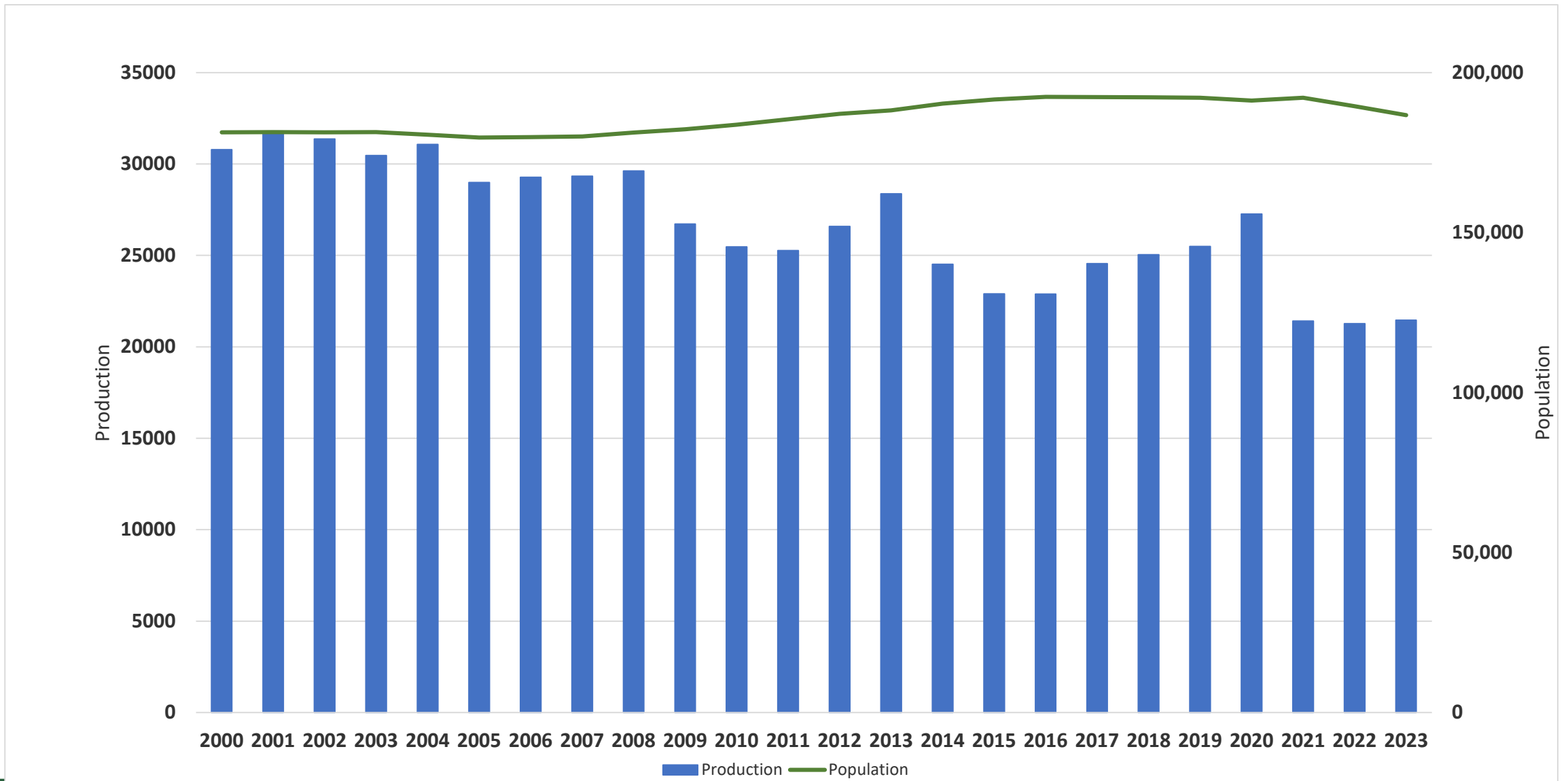
# Development of the Water Efficiency Master Plan



# Outcomes of the Development of the WEMP

- 5-year plan identifies strategies to achieve maximum practicable water savings
- Engaging and easy to read report with detailed Appendices
- Projections Exceed District's Strategic Plan Goal of Reliable Water Supply
  - Objective 1 - Reduce Potable Water Use: *The District will reduce water use and water waste by 800 AF in the next five years*

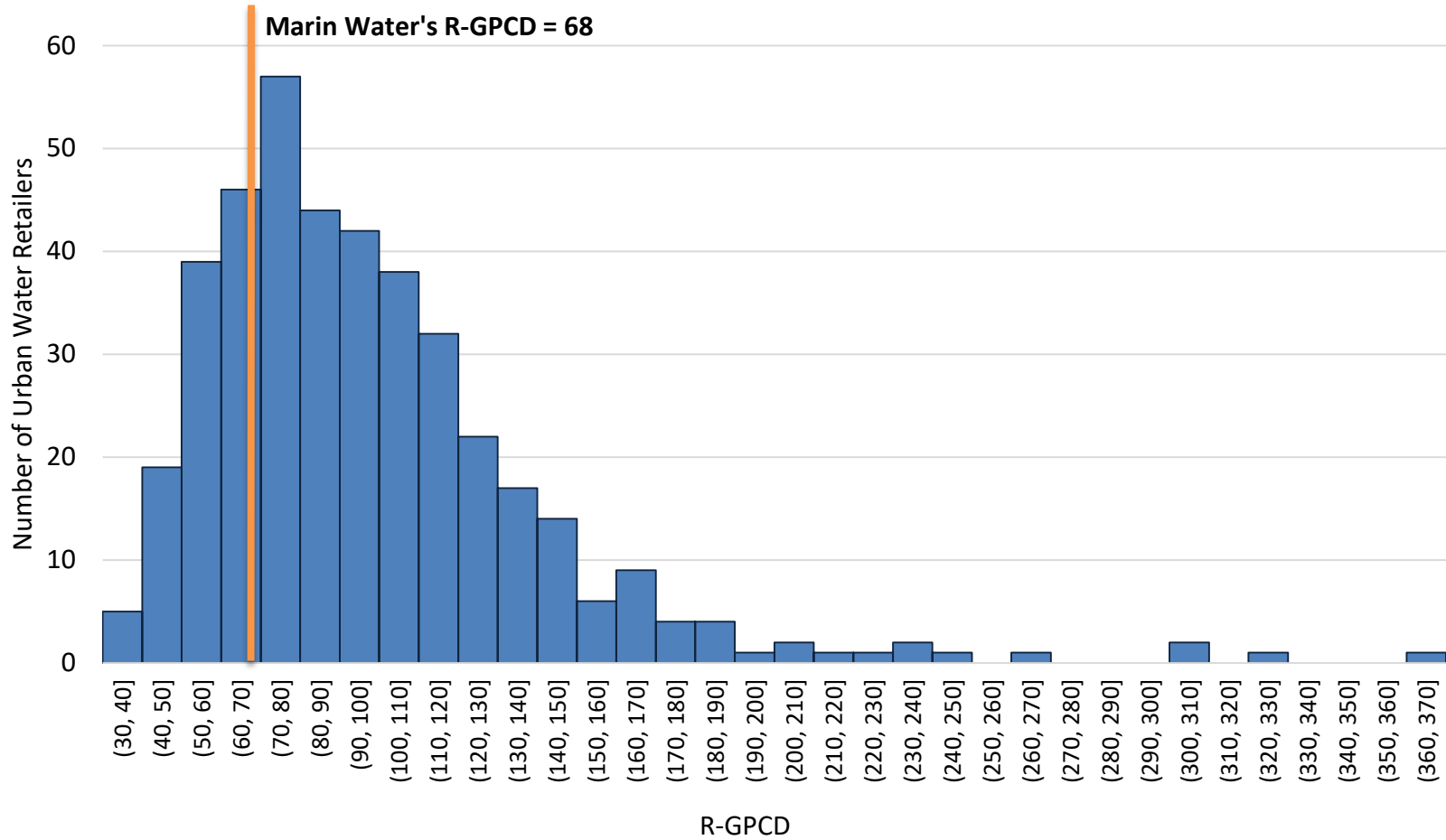
# 2000-2023 Potable Water Demand and Population



# Residential Per Capita Water Use

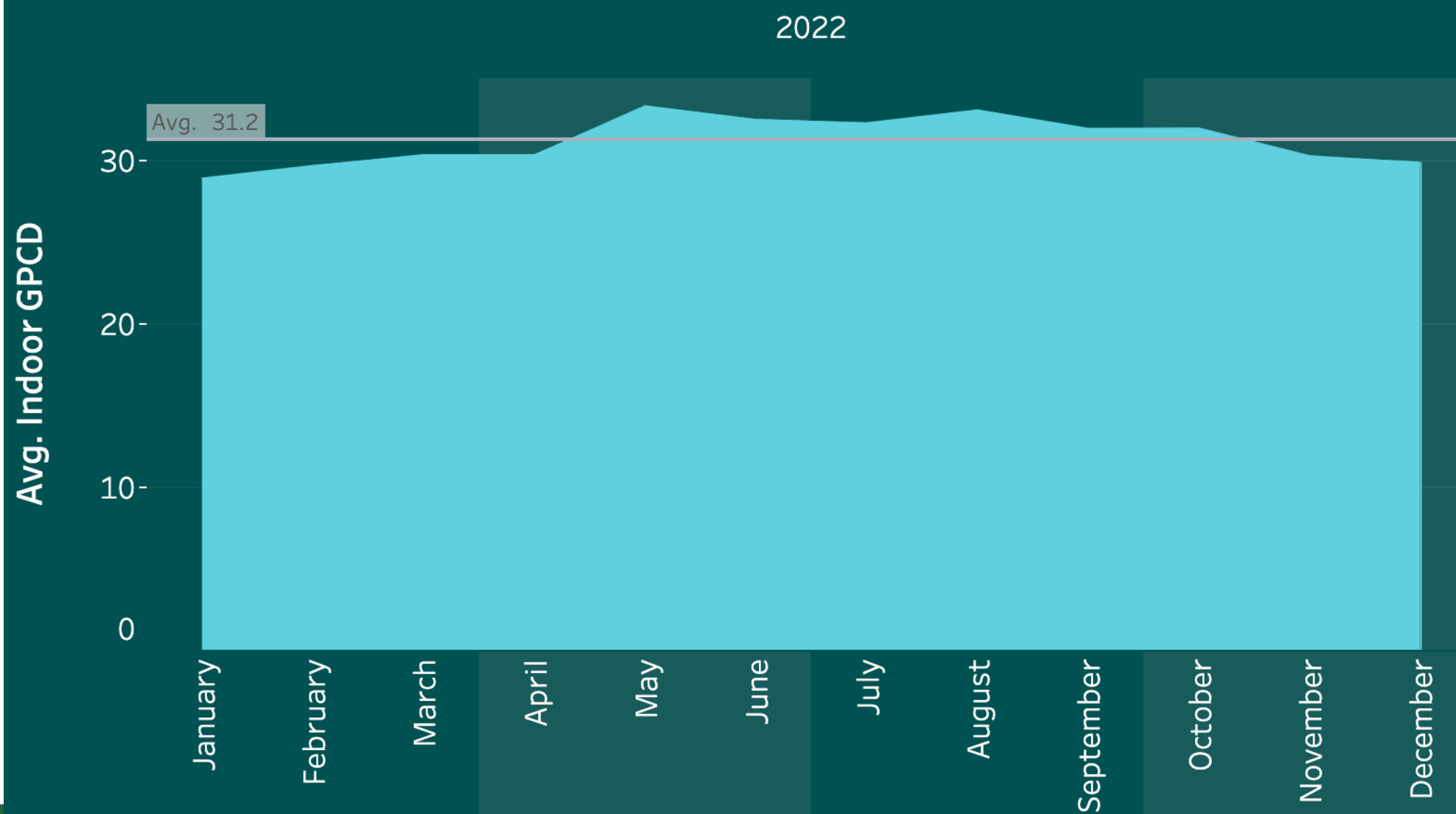
Residential per capita water use is lower than **75%** of all urban water retailers within CA.

Distribution of Residential GPCD within California in 2022



\* Data obtained from the State Water Board Conservation Portal reporting

# Monthly Indoor Use for Residential Customers



# Measures Evaluated

## Existing Measures

- Non-Functional Turf Conversion Rebates
- Turf Conversion Rebates
- Smart Irrigation Controller Rebates
- Laundry-to-Landscape Graywater Kits
- Rain Barrel Rebate Program
- Pool Cover Rebates
- AMI Leak Notifications (current AMI accounts)
- Non-Residential Water Use Surveys
- Residential CAP's (site visits)
- Flume Direct Distribution
- High Efficiency Faucet Aerator / Showerhead Giveaway

## New Measures for Pilot or Additional Evaluation

- **Custom Rebate for Commercial Customers**
- Commercial Large Landscape Water Budgets
- Residential Water Budget Pilot Program
- Landscape Efficiency Improvements for Municipal Large Landscapes
- District-wide AMI implementation
- **Update Graywater Ordinance**
- **Update Fixture Standards Code**
- Hot Water Recirculation Standards for New Developments
- Limits on the Amount of New Turf
- Water Efficient Home Certification
- Retrofit on Resale

Pilot Projects

Policy Considerations

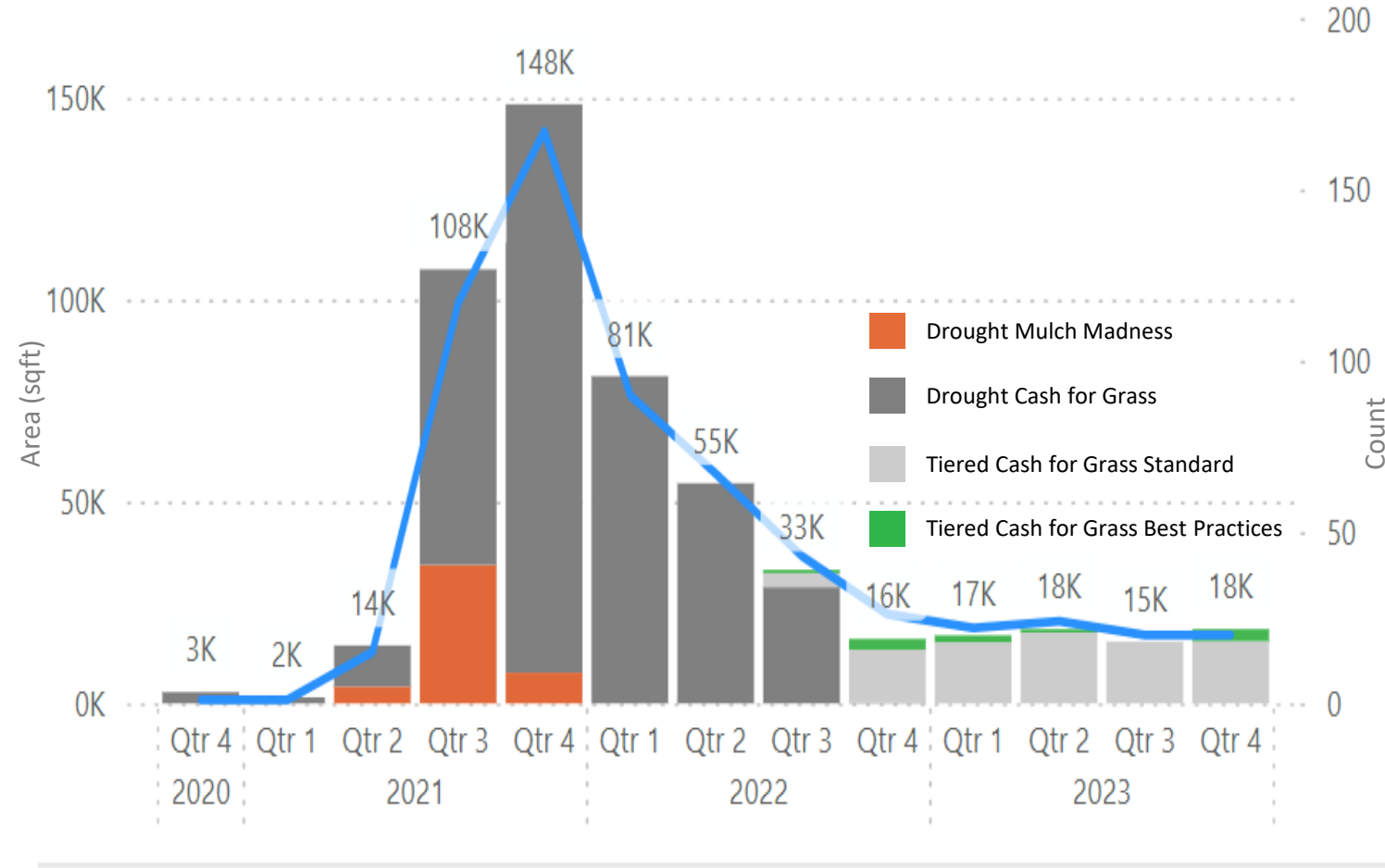
Focus on Outdoor Water Use





# Turf Conversion Programs

- Drought Programs (2 years)
  - 393,000 sqft complete
  - Motivations: Drought awareness and community support to reduce use
- Tiered Programs (1.5 years)
  - 88,000 sqft complete
    - 8,000 sqft best practices
    - 80,000 sqft standard
- Future Goals:
  - 170,000 sqft/ year
  - 70,000 sqft/ year NFT



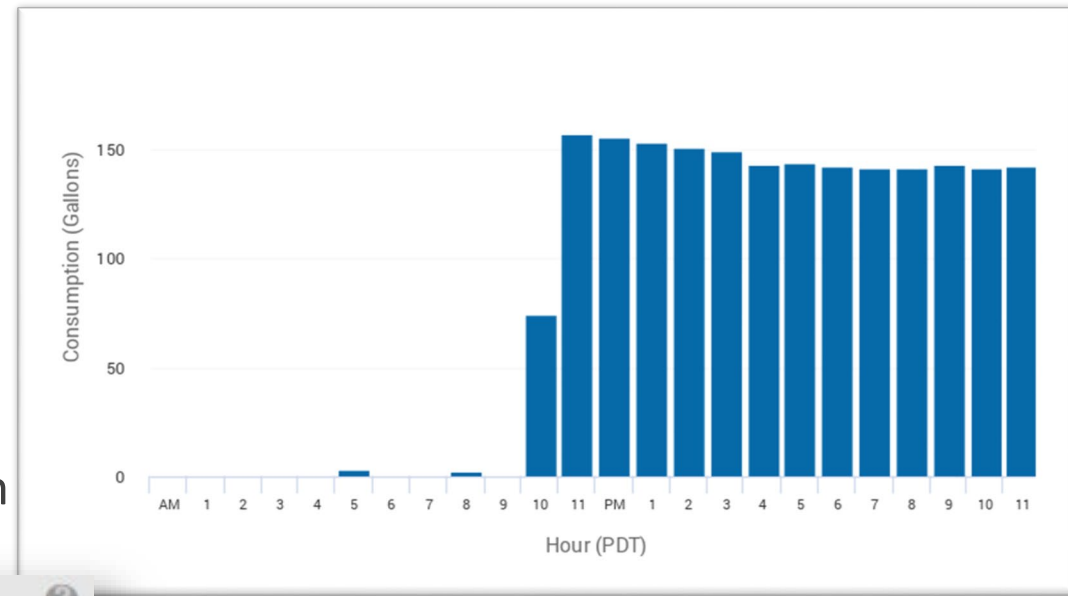
# Potential Savings from AMI

WEMP assumes long term water savings based on system-wide deployment

- Savings currently driven by staff produced leak notifications for the 5,500 accounts
- AMI System-wide deployment moving forward with Program Manager in recruitment

Future Goals:

- Utilize existing AMI analytics to empower customers, monitor savings, etc
- Upcoming AMI pilot to determine effective marketing and outreach strategies
- Maximize the automated alerts to account holders



### Leaks

Started Aug 21

**6** Gallons per hour

Edit Leak Alert

Dear Marin Water Customer:

**You may have a leak.**

An automated review of your water meter data shows continuous use at your property. This means water is flowing through your meter at all hours of the day and night -- a common sign of a leak.

We estimate that you may be losing 732 gallons per day.

Common types of leaks includes stuck irrigation valves, broken piping and service line leaks.

# Diverse Approaches to Support Our Customers

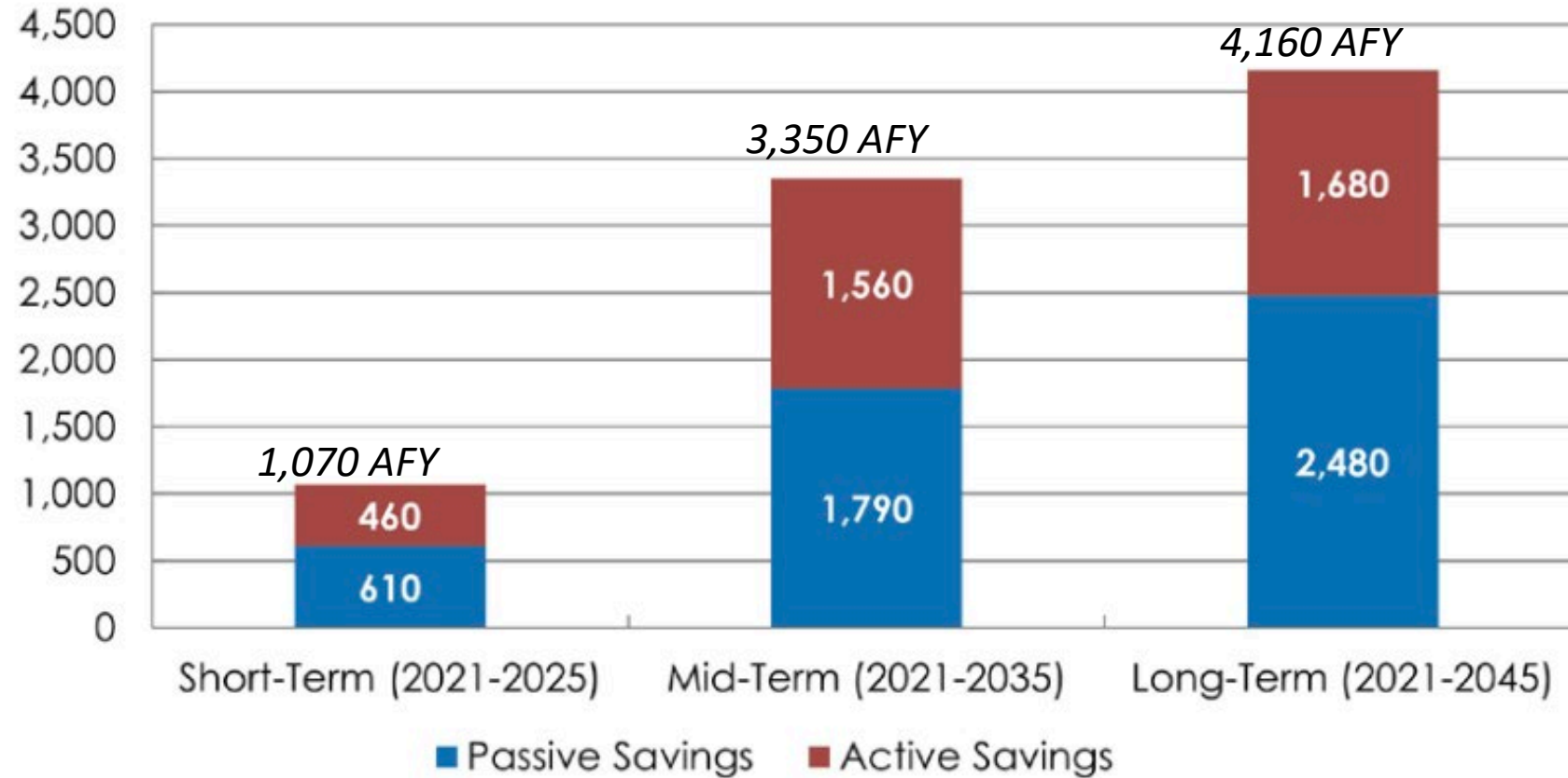
- Taking a multi-benefit approach to measure selection provides customers exposure to high benefit programs
  - Conservation Assistance Program (CAP)
  - Rainwater Harvesting
  - Graywater
- Expand or enhance existing program participation to target historically below-average participation
  - High water users
  - Renters
  - Low-income customers

## A closer look at the interest in graywater incentives

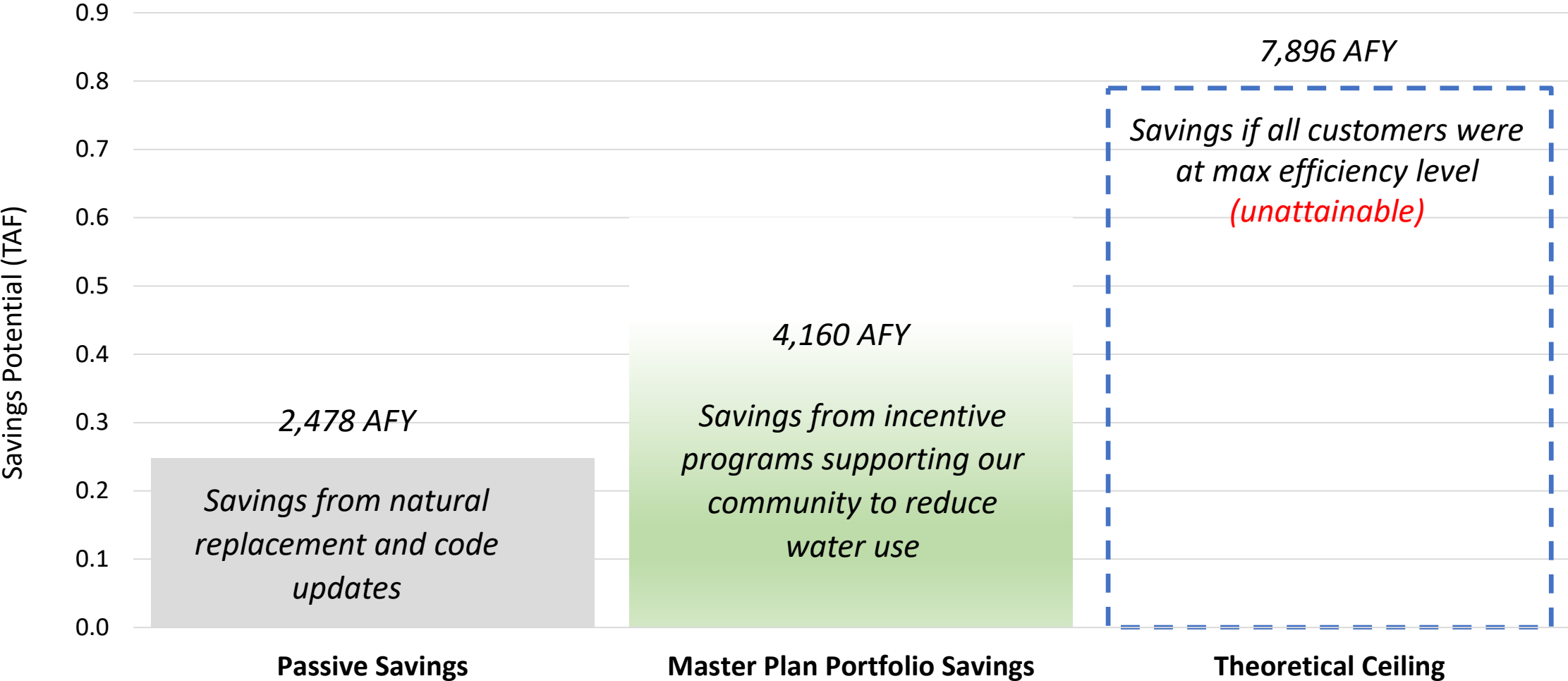
- 1,400 webinar registrants
- 50% attendance
  - 8% purchased a GW kit
  - +60% participation in other programs
    - 22% participated in 1 other programs
    - 16% participated in 2 other programs
    - 4% participated in 3 other programs

# Water Saving Goals

- Water saving projections based on evaluated measures
  - Projected participation
  - Incentive levels
  - Anticipated water savings
- Cost for Evaluated Program is \$1,830/acft

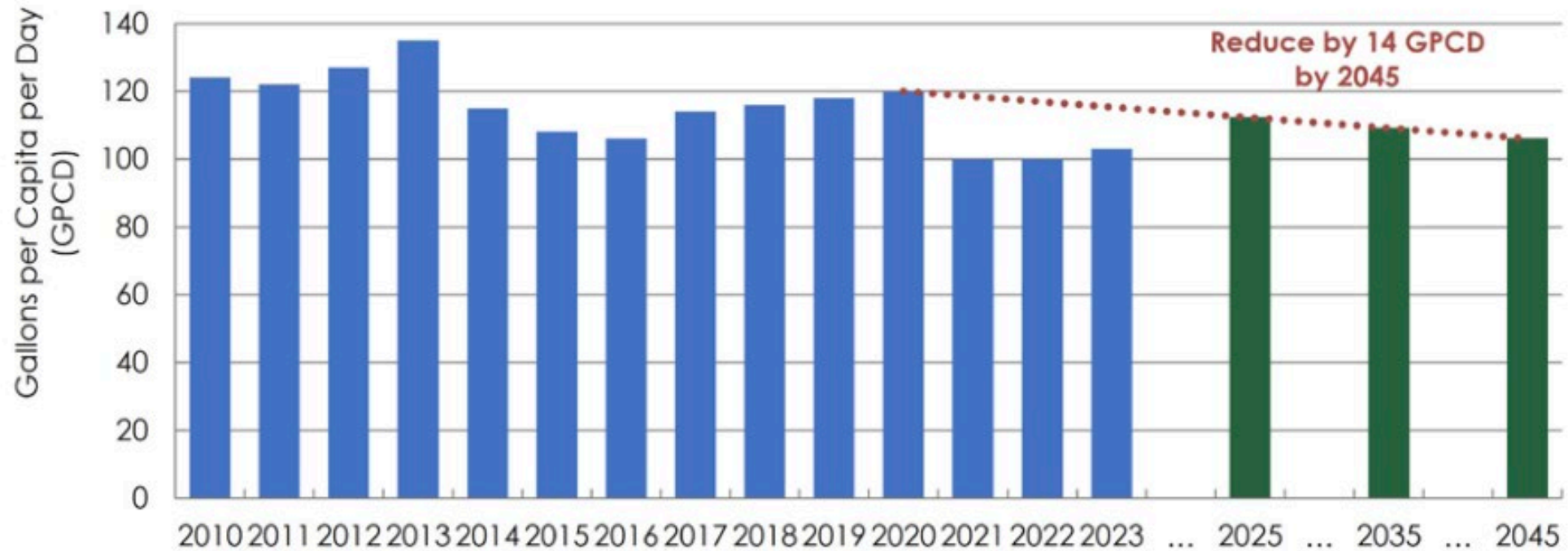


# Remaining Conservation Savings Potential in 2045



# Impact of Projected Water Savings on Future Water Use

## Historical and Projected Per Capita Water Use



WEMP goals will result in retaining water saving achieved during the drought and avoiding historic rebound trends.



# Community Outreach

# Gauging Customer Awareness and Preferences

*Understanding the customer will continue to be key to shaping effective outreach campaigns.*





# Gauging Customer Awareness and Preferences

## Primary methods:

- Program participation rates
- Digital engagement analytics from outreach platforms
- Anecdotal customer feedback and testimonials
- **Statistically significant data from periodic customer surveying**



# Customer Surveying

## Background

- Most recent survey conducted in 2023
- Conducted by contracted research and opinion firm
- 415 responses were collected using random selection phone call and online surveying methods
- Gauged single-family and duplex residential customers' awareness and opinions regarding several District focus areas, including:
  - Views and awareness of water efficiency programs
  - Motivations for saving water
  - Preferences for District Communications/Outreach



# Customer Surveying

## Conclusions

- Respondents found communications from Marin Water helpful
- Most preferred e-newsletters sent to their inbox and inserts in their mailed water bills as their preferred forms of communication.
- Customers highly value using water efficiently.



# Customer Surveying

## Conclusions *(continued)*

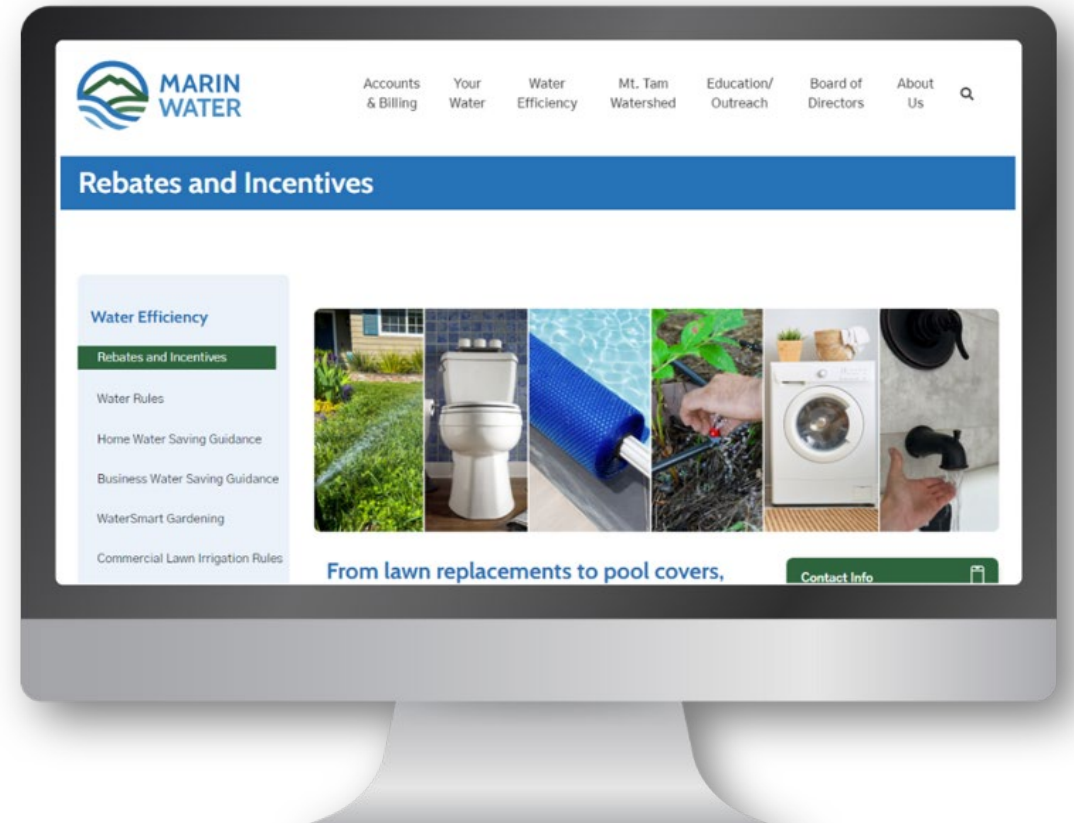
- Three in four say reducing water usage is extremely or very important.
- Almost all customers say they have taken steps to reduce their water usage.
- A majority say they do not need help reducing their water use. But two in five say they could use help finding ways to reduce water use.



# Customer Surveying

## Conclusions *(continued)*

- Protecting water supply and preparing for future droughts are the major reasons customers would reduce water use.
- Roughly one-quarter of customers say they've used one of Marin Water's programs; many are unfamiliar with a number of the incentives available.
- The Cash for Grass rebate program has some of the highest awareness of all incentive and rebate programs even though few customers surveyed say they've used it.



# What's Next for Community Outreach?

*Survey conclusions, ongoing customer input, digital analytics, and program participation levels will contribute to informing and guiding Marin Water's outreach strategies.*



# What's Next for Community Outreach?

There is strong customer engagement with the Districts' ongoing, signature communication tools, including bill inserts and the monthly e-newsletter.

However, data also shows that opportunity remains to find ways to reach some customers who may not be getting District communications and who are unfamiliar with water efficiency programs available to assist them, particularly rebates and incentives.

- ü Continue broad outreach through existing channels
- ü Explore new opportunities to connect hard-to-reach customers with District Water Efficiency programs
  - o Pursue unique community partnerships
  - o Explore new advertising strategies to reach disadvantaged communities and renters.



# What's Next for Community Outreach?

Some education is needed to help residential customers understand what a water efficient household truly is in Marin Water's service area.

- ✓ Establish comparison or baseline examples that help customers to better recognize if their household may have room for improvement.

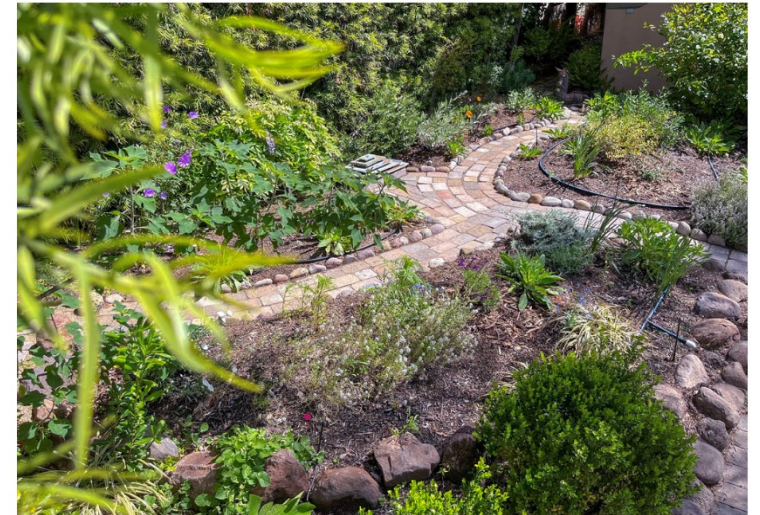




# What's Next for Community Outreach?

There are still some customers who are open to assistance in reducing their water use; however, it is a minority of customers that want this assistance.

- ✓ Take a more focused and narrowed approach to target advertising efforts to the District's higher water users.
- ✓ Use real-life customer success stories to inspire action from those who may be skeptical or on the fence.
- ✓ Use available detailed behavioral datasets – generated from Esri Census information – which focus on consumer lifestyle and spending habits to help inform how to tailor advertising methods and campaign messaging to appeal to various targeted customer audiences.



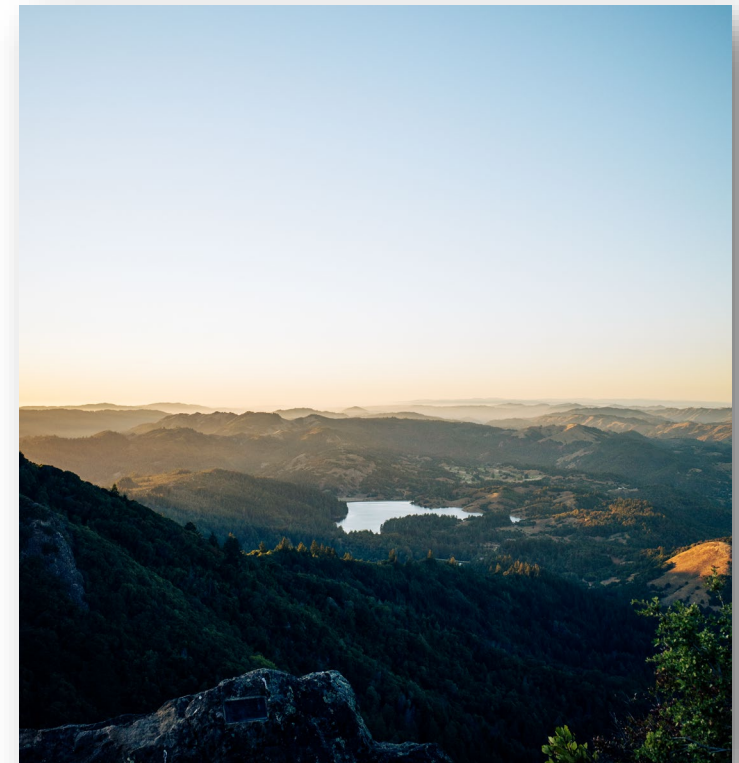
## Garden Makeover Brings Happiness, Water Savings

In her quest to build a modern, sustainable backyard oasis — one filled with native plants to nurture pollinators — San Anselmo resident Marty B. tapped into a Marin Water rebate program while also tapping into her own creative process.

# What's Next for Community Outreach?

The community understands the importance of using water wisely and is motivated by preserving our supply in the face of climate uncertainty.

- ✓ Develop compelling visuals and narrative for campaigns that underscores the idea that reducing water usage protects the community's existing water supply and better prepares everyone for future droughts.



# Summary of WEMP

- WEMP incentive program participation levels are aspirational and will be a challenge to meet.
- Outreach and community engagement will play a key role in driving program participation.
- WEMP goals will result in retaining water saving achieved during the drought and avoiding historic rebound trends.
- Additional chapters in the WEMP, including ‘What’s Next?’ sections outlining additional activities, tasks, and/or evaluations.
- Pilot projects and policy considerations will be further developed with updates provided to the Board.

# Review Proposed Incentive Changes

# Proposed Incentives Changes

- Sunset:
  - High Efficiency Toilet Rebate
  - High Efficiency Clothes Washer
- Launch
  - Custom rebate for commercial, industrial, institutional, dedicated irrigation, and multi-family customers

# Toilet Replacement Programs

1993-2019: Over 48,000 toilets incentivized, additional 14,000 replaced through policy.

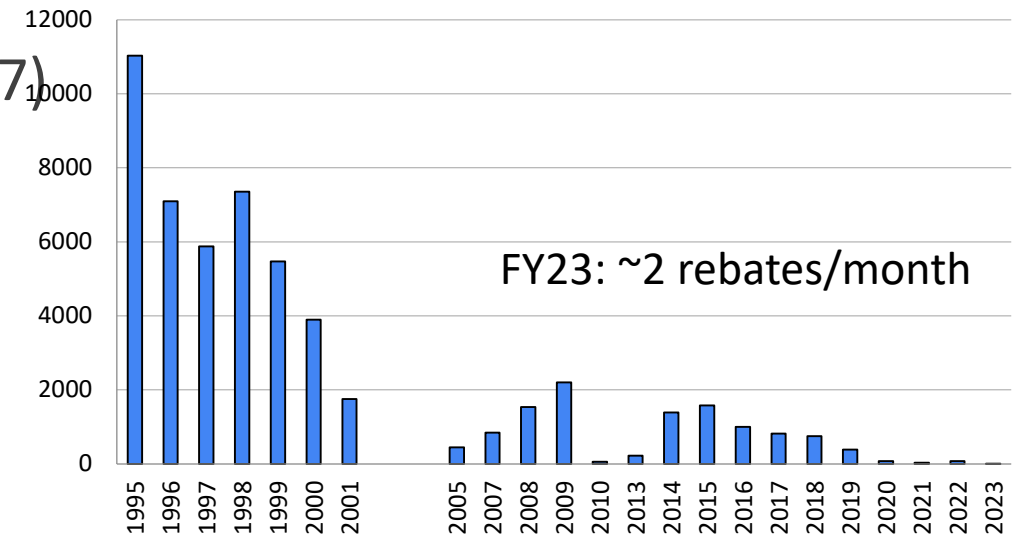
## Policy

- As of 2014, only HET's (1.28gpf) can be sold in CA (AB715)
- Residential Time-of-Sale Ordinance (2002-2004)
- Residential Time-of-Service Ordinance (2004-2007)

## Incentives

- No-interest loan programs (1993-1998)
- ULFT toilet rebate programs (1994-2002)
- Free Toilet Giveaways (1995-2000)
- Multi-Family Direct Install Program (2004-2005)
- School Retrofit Program (1996-2003)
- HET Rebate Program (2007-2009, 2012-2019)
- HET Water Shortage Emergency Reinstatement (2021)

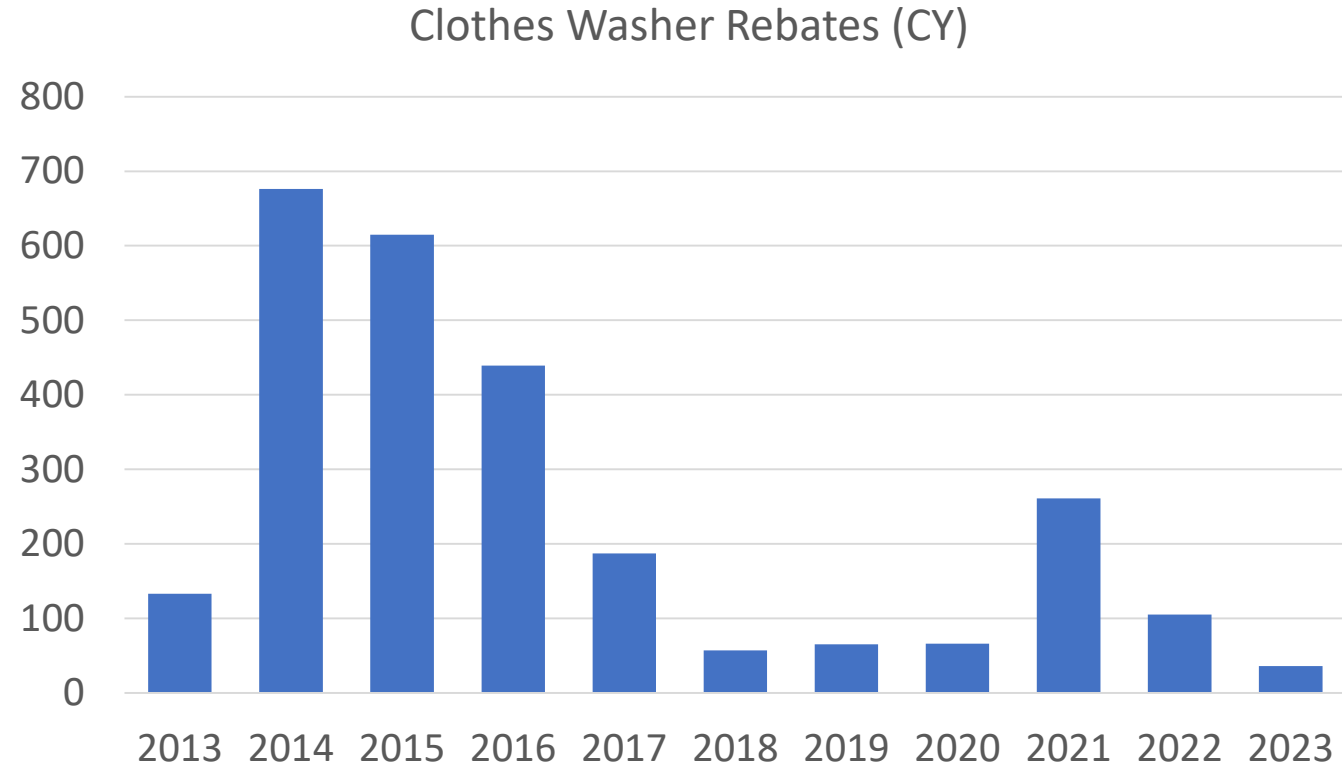
HET Rebates & Retrofit Programs



Staff Recommendation: Sunset rebate based on Flume saturation data and low participation.

# High Efficiency Clothes Washers

- \$100 rebate
- ~8 rebates/month
- Market transformation through codes are reducing water use of clothes washers
  - Feb 2024: DOE published new standards for residential clothes washers.
- Free-riders are likely the majority of rebate program participants.



Staff Recommendation: Sunset rebate based on low participation, high saturation, and free-riders.

# New Program Offering- Custom Rebate

- The Custom Rebate would provide an incentive for customers to implement water saving upgrades that are not covered through any other existing rebate program.
- Program will provide support for restaurants, schools, apartment dwellers and other customers who have had less access to financial support to make water efficient changes.



# Calculating the Custom Rebate

- Water savings, fixture life, and costs must be reliably estimated and verified by District staff prior to installation.
- The customer rebate amount will be the lesser of:
  - 50% cost share or
  - The amount calculated based on water savings at \$3/ccf
- Rebate based on water savings will be calculated at 75% of the cost of water purchased from Sonoma Water.
  - As of FY2024 the rebate would be 75% x \$1,455/acft or \$3/ccf saved.
- Rebate payments will be made in two installments:
  - 1) 50% after installation,
  - 2) Remaining rebate after demonstrating water savings over a one-year period
- All projects with an incentive that exceeds \$25,000 will require an additional administrative approval.

# Examples of Custom CII Rebate\*

<i>Measure</i>	<i>Annual saving (gal)</i>	<i>Measure Cost</i>	<i>Rebate Based on Savings</i>	<i>Rebate Based on 50% of Cost</i>	<i>Sample Final Rebate</i>	<i>\$/acft</i>
<i>Replace Water Cooled Chiller with Air Cooled Chiller</i>	230,124	\$ 258,603	\$ <b>13,844</b>	\$ 129,302	\$ 13,844	\$ 1,307
<i>Washing Machine Ozone Units</i>	316,820	\$ 4,067	\$ 12,707	\$ <b>2,034</b>	\$ 2,034	\$ 209
<i>Deionized Water Recirculation Loop</i>	4,644,000	\$ 45,635	\$ 465,642	\$ <b>22,818</b>	\$ 22,818	\$ 64
<i>Replaced Wet Vac with Dry Vac</i>	80,004	\$ 10,628	\$ <b>3,209</b>	\$ 5,314	\$ 3,209	\$1,307

\*Provided by local water utility partners from actual projects.

# Summary of Water Efficiency Incentive Changes

## Staff Recommendations:

- Direct staff to return with an action item sun setting the current Toilet and Clothes Washer Rebate Programs effective July 31, 2024.
  - Allow time for customers who have not taken action to replace these fixtures to do so.
- Direct staff to return with an action item launching a Custom Rebate Program for Board consideration

# Proposed Policy Changes

# Proposed Policy Changes

- Graywater Ordinance
- Fixture Standards Code

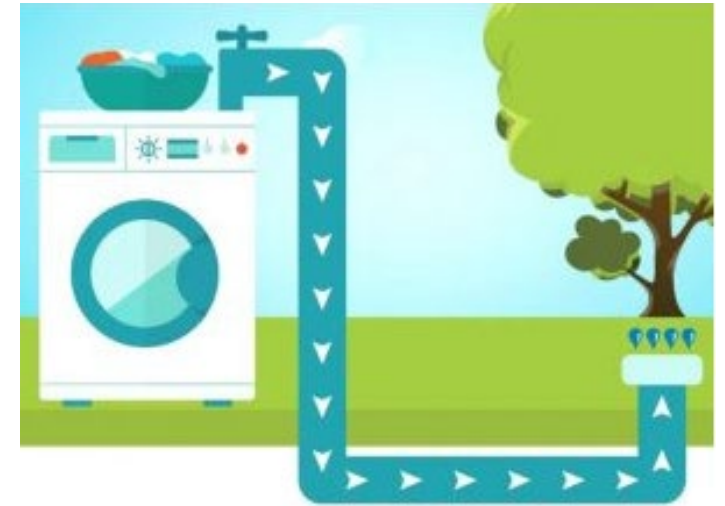


# Graywater Ordinance

# Graywater Ordinance (adopted May 2016)

All applicants requesting a water service for a new residential or commercial structure which requires the **installation of a new service**, and all applicants requesting an **enlarged water service** for a “substantial remodel” to an existing residential or commercial structure.... shall install a gray water recycling system to reuse the maximum practicable amount of gray water on site.

- "Substantial remodel" is the renovation of any structure, which, combined with any additions to the structure, affects a floor area which exceeds 50% of the existing floor area of the structure within any 36-month period.



# Tracking Compliance of the Graywater Ordinance

Activity FY 2020 – October 15, 2022

- Service Connections Subject to Graywater Ordinance: 272
- Graywater System Installations: 28 (10 simple systems; 18 Laundry to Landscape)
- Self-certification resulted in 90% of sites 'not-feasible.'

Administrative changes effective November 1, 2022:

- Applicants shall submit documentation of evidence for review by District to determine the status of 'not-feasible'.
- Limit 'not-feasible' determination to specific parameters.
- Stub-out is allowed for compliance.
- Changes have resulted in 35% of 'not-feasible' sites and 47% install stub-outs.



# Expand Graywater Ordinance to Increase Options

Staff proposal to update the current ordinance to allow expanded compliance:

- Require one of the following for all new connections or substantial remodels:
  - Installation of drought-tolerant, “low” or “very low” plant material (as classified by WUCOLS) in 100% of any new or rehabilitated planting areas that total at least 500 square feet in size, utilizing no irrigation or low-volume irrigation; or
  - Install a graywater system; or
  - Install a rainwater catchment system which has a minimum capacity of 500 gallons; or
  - Irrigate site with recycled water (required where available)

# Financial Assessment of Incremental Cost to Customer for the Proposed Changes

- Drought-tolerant, “low” or “very low” plant material
  - 500sqft @\$2-8/sqft: Customer Cost \$1,000 - \$4,000; Water Savings: 3,700-14,000gal/yr (20yr life: \$4,403-\$4,655/acft)
- Graywater system
  - Stub-out Only: Customer Cost \$750-\$1,000; Water Savings: 0
  - Laundry-to-Landscape: Customer Cost \$1,500-\$2,000; Water Savings: 4,400 gal/yr (10yr life: \$12,960/acft)
  - Complex System: Customer Cost \$16,000; Water Savings: 29,200 gal/yr (10yr life: \$17,854/acft)
- Rainwater catchment system
  - 500gal capacity: Customer Cost \$2,500; Water Savings: 1,000 gal/yr (20 yr life: \$40,731/acft)
- Irrigate site with recycled water (required where available)
  - No additional cost to customer if recycled water is on site

# Summary of Graywater Code Changes

Staff recommendation:

- Direct staff to repeal and replace the current District Code requirements for graywater and adopt a new ordinance providing compliance methodologies listed below:
  - Installation of drought-tolerant, “low” or “very low” plant material (as classified by WUCOLS) in 100% of any new or rehabilitated planting areas that total at least 500 square feet in size, utilizing no irrigation or low-volume irrigation; or
  - Install a graywater system; or
  - Install a rainwater catchment system which has a minimum capacity of 500 gallons; or
  - Irrigate site with recycled water (required where available)



# **Fixture Standards Code Changes**



# District Current Fixture Standards

- Fixture standards are applicable to ‘all plumbing installed, moved or replaced in any new or existing service’
  - All Services Interior Plumbing Fixtures
  - Non-residential Interior Plumbing Fixtures
  - Commercial Equipment Specifications
- District specific fixture standards began in 1990’s
- Most recent update occurred in 2009
- District code is outdated.

## All Services Interior Plumbing Fixtures:

- Clothes washers
- Lavatory faucet
- Showerheads
- Toilets
- Urinals

## Non-residential Interior Plumbing Fixtures:

- Kitchen/Bar Faucets
- Public & Metered Faucets

## Commercial Equipment Specifications:

- Dishwashers
- Pre Rise Spray Valves (PRSV)
- Food Steamers
- Dipper Wells
- Ice Machines
- Heating, Ventilation and Air Conditioning (HVAC)

# Building and Industry Standards Provide an Alternative to Updating District Code

- CALGreen standards are required for use by building departments and are updated every 3 years:
  - Energy Conservation
  - Material Conservation
  - Environmental Quality
  - Water Conservation
- Local building departments have an established process in place for verification and reporting to ensure compliance
- CALGreen has standards for all Interior Plumbing Fixtures
- Consortium for Energy Efficiency (CEE) develop water and energy specifications for commercial kitchen equipment

# Summary of Changes to the Fixture Standards Code

Staff recommendation:

- Direct staff to revise the current fixture standards to align with CALGreen for Interior Fixture Standards, including non-residential.
- Direct staff to revise Commercial Kitchen Equipment Specifications to align with CEE specifications as appropriate and streamline regulatory text for clarify.

# Next Steps



# Next Steps

- Incorporate Board input into WEMP for review at a future Communications and Water Efficiency Committee Meeting
- Update the proposed incentive program changes for Board consideration at a future Communications and Water Efficiency Committee Meeting
- Update the proposed policy considerations for Board consideration at a future Communications and Water Efficiency Committee Meeting