

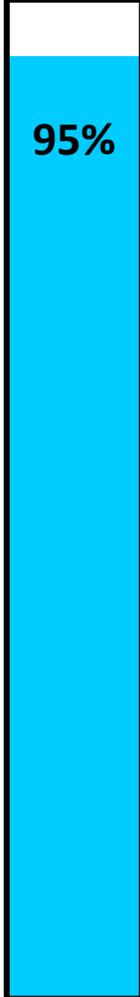
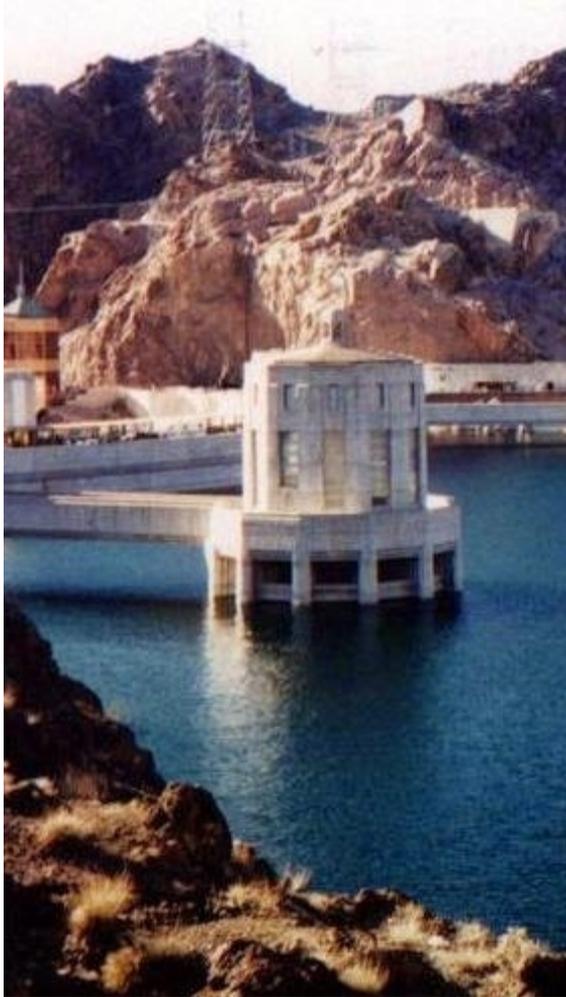


LAS VEGAS VALLEY  
WATER DISTRICT

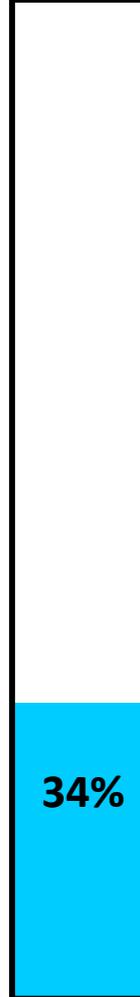
# EXCESSIVE USE CHARGE

NOVEMBER 15, 2023

1999



TODAY



Drought conditions have significantly depleted Lake Mead storage.

Arizona, California and Nevada have agreed to **conserve 3 million acre-feet of water by 2027.**

# Recent initiatives curb consumptive and inefficient water uses.



**NONFUNCTIONAL GRASS: AB356**  
prohibits nonfunctional grass by 2027



**NEW GRASS:** New grass installations are limited to parks, schools and cemeteries



**SEPTIC:** Municipal water supplies cannot be discharged in septic tanks



**GOLF COURSES:** Golf course water budgets were reduced by one-third. No new golf courses.



**EVAPORATIVE COOLING:** New buildings are prohibited from using evaporative cooling



**FOUNTAINS:** New ornamental water features are prohibited, including resorts



**SWIMMING POOLS:** New pools are limited to 600 sq. ft. surface area

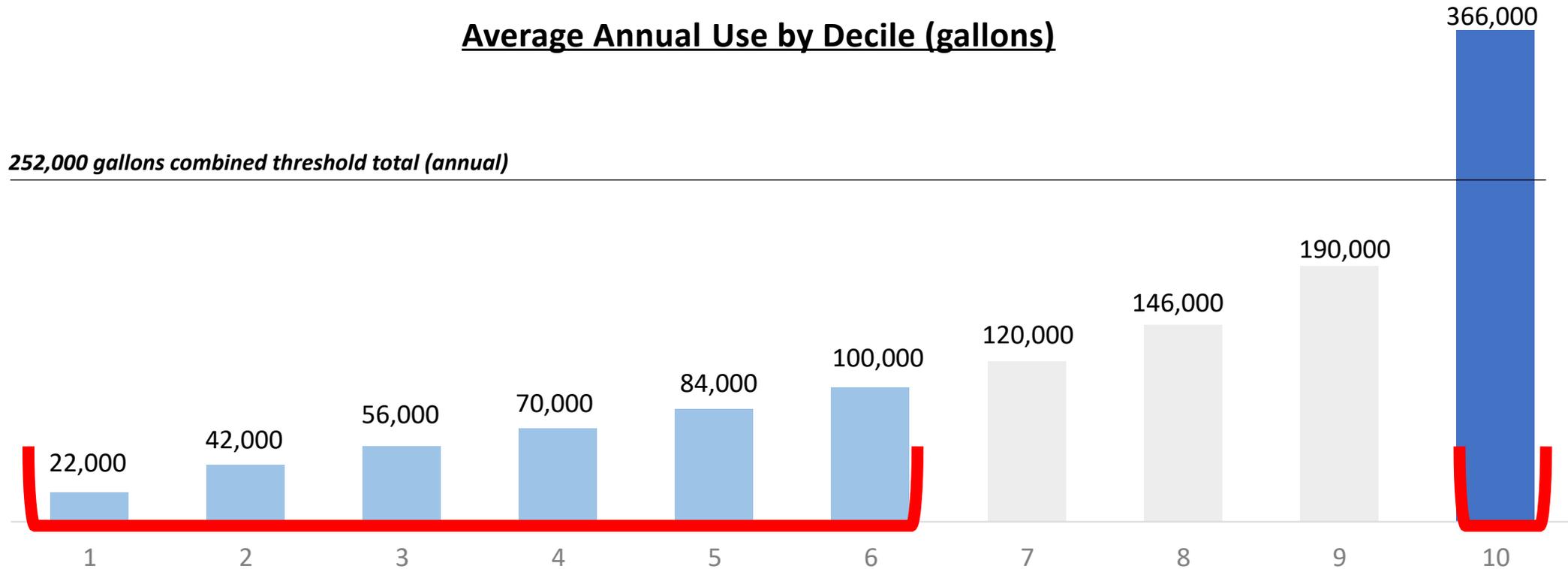


**WATER PRICING:** Water rates to address the top 10 percent of single family residential to reduce consumptive use

# LARGEST WATER USERS

The top 10% of single-family residential customers use approximately the same amount of water as the most efficient 60% combined.

Average Annual Use by Decile (gallons)



Each decile = about 36,000 customers

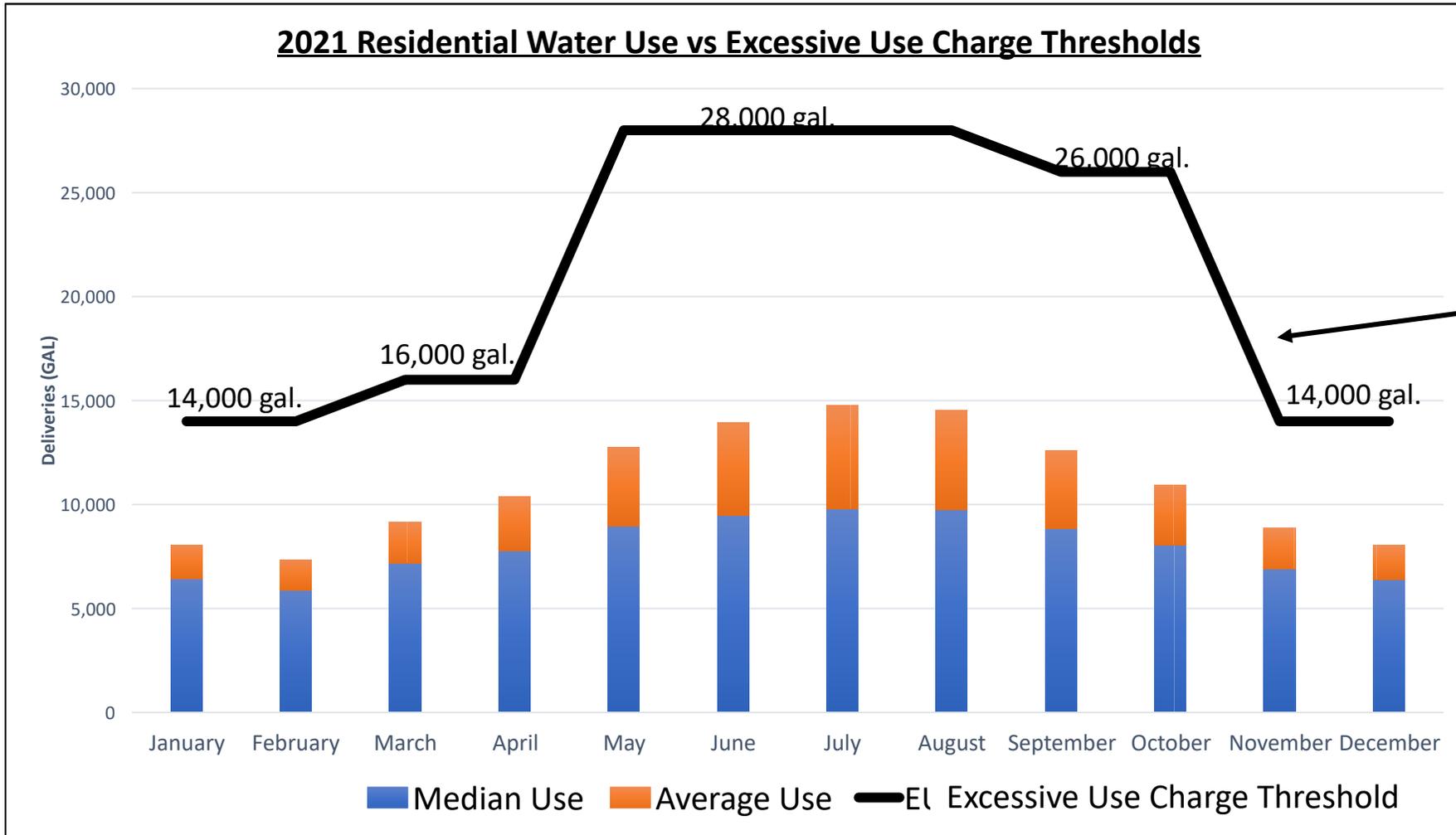
# LARGEST WATER USERS

The community's largest water users often have:

- Unresolved leaks
- Large amounts of grass
- Turf that is inefficiently watered
- Spray irrigation regardless of landscape
- Significant over-irrigation of grass/plants
- Irrigation settings that do not follow the seasonal watering schedule



# EXCESSIVE USE CHARGE THRESHOLDS



Thresholds are set at the minimum of the top 10% of SFR water bills per season and allows up to 252,000 gallons of water a year without incurring extra fees.

# WATER PRICING

**Last fall, the LVVWD Board of Directors approved conservation-based changes to water rates.**

**Tier Equalization:** Equalize all tiers to create unified thresholds across all residential meter sizes. Every residential customer pays the same amount for the same amount of water used, regardless of meter size.

**Excessive Use Charge:** A surcharge (\$9) added to every 1,000 gallons of water used beyond an established threshold that changes by watering season.

# OUTREACH

Upon approval of the rates, the LVVWD made significant efforts to notify customers.



**Direct Postcards:** 368,609 postcards sent directly to customers in October



**Reminder Letters:** 204,371 letters to customers with ¾-inch to 2-inch meters in Dec - Apr



**>1 inch Reminder Letters:** 15,040 letters to customers with 1 to 2-inch meters in April



**LVVWD Bill Inserts:** 360,000 – 375,000 customers each month (online and post mailed)



# OUTREACH



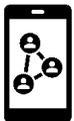
**News and Media:** News articles and mentions on major local news stations (Oct – Dec)



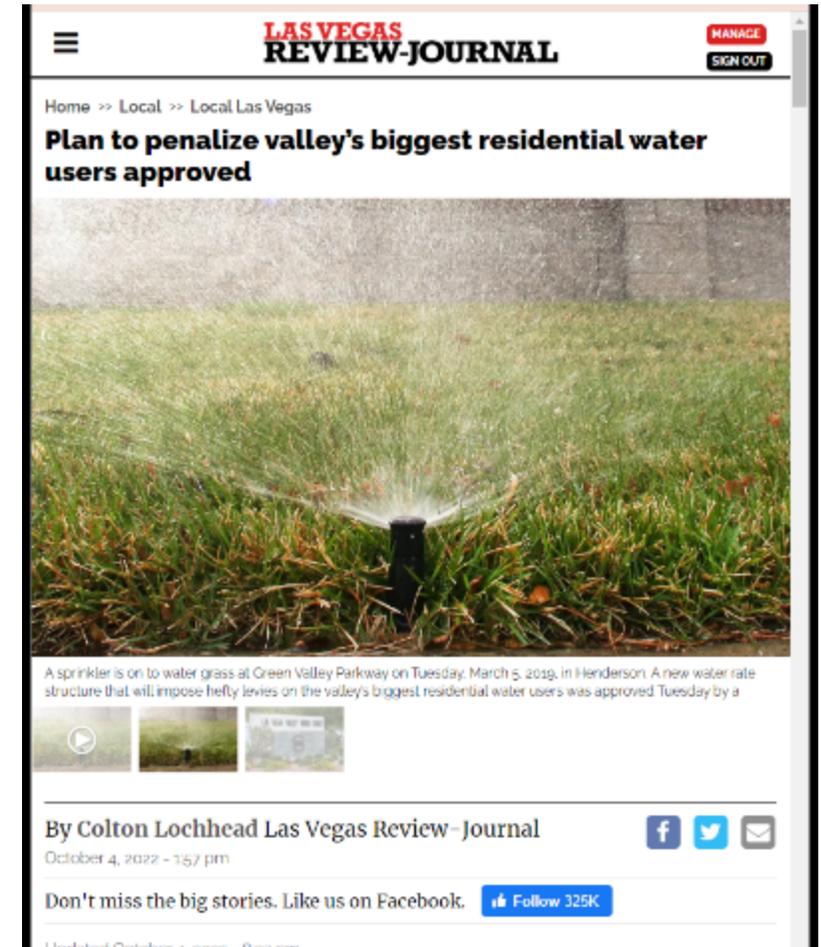
**TV Ads:** More than 300 ads shown in English and Spanish (Feb – Mar)



**Radio Ads:** More than 2,250 ads aired in English and Spanish (Feb – Mar)



**Social Media Posts:** 945,000 impressions between February and March



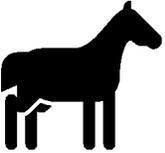
# METER DATA

**Property water usage is primarily driven by three factors:  
large turf areas, irrigation and/or leaks.**

- **Indoor water usage is not a significant driver of a property's water use (Indoor water use is approximately 4,000 – 5,000 gallons per month)**
- **The number of people occupying a property has minimal impact to a home's overall water use**
- **Irrigation and unresolved leaks are the principal drivers for exceeding Excessive Use thresholds**

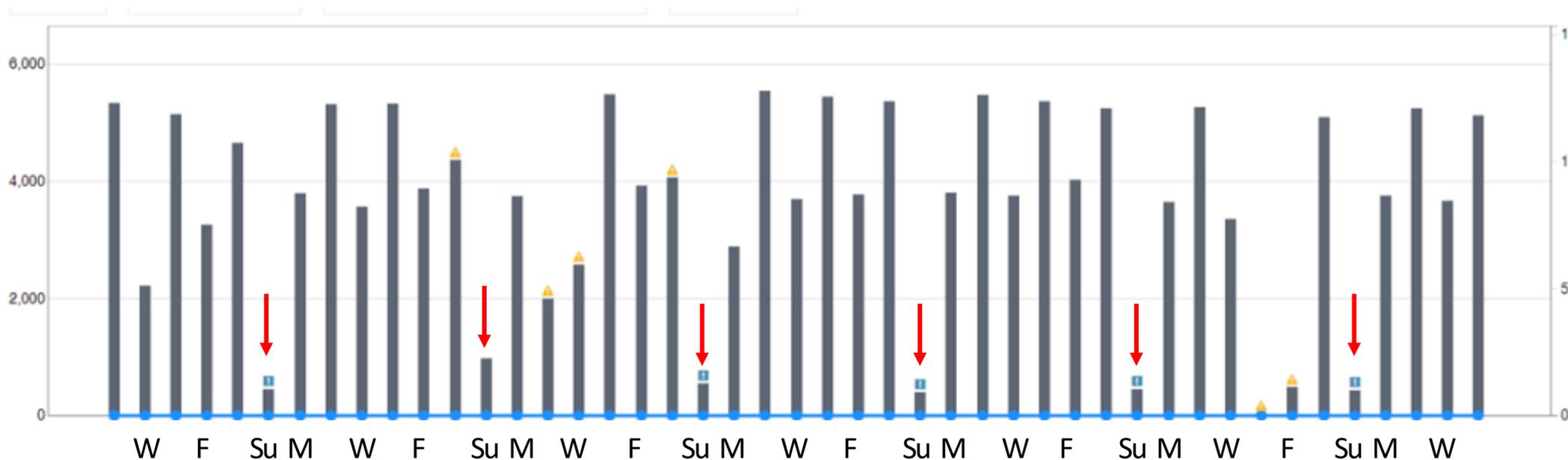
# HOME WATER USAGE

## Average monthly usage

					
<b>INDOOR USE</b> 4,000 – 5,000 gallons	<b>NATIVE LANDSCAPES</b> (1,500 sq.ft) 2,125 gallons	<b>GRASS</b> (1,500 sq. ft) 9,125 gallons	<b>POOLS</b> 2,000 gallons	<b>TREES</b> 130 – 1,210 gal (Medium Use)	<b>HORSES</b> 600 gal.
Laundry Toilets Dishwasher Showers/baths Sinks	Drip-irrigated water efficient landscaping	Grass with typical spray irrigation	Average pool size = 475 sq. ft.	Low Usage Tree: 80 – 730 gallons Med Usage Tree: 130-1,210 gal High Usage Tree: 190 – 1,700 gal	Daily drinking requirements, bathing and maintenance

# METER DATA - Daily

Meter data helps LVVWD identify the dominant types of water use.



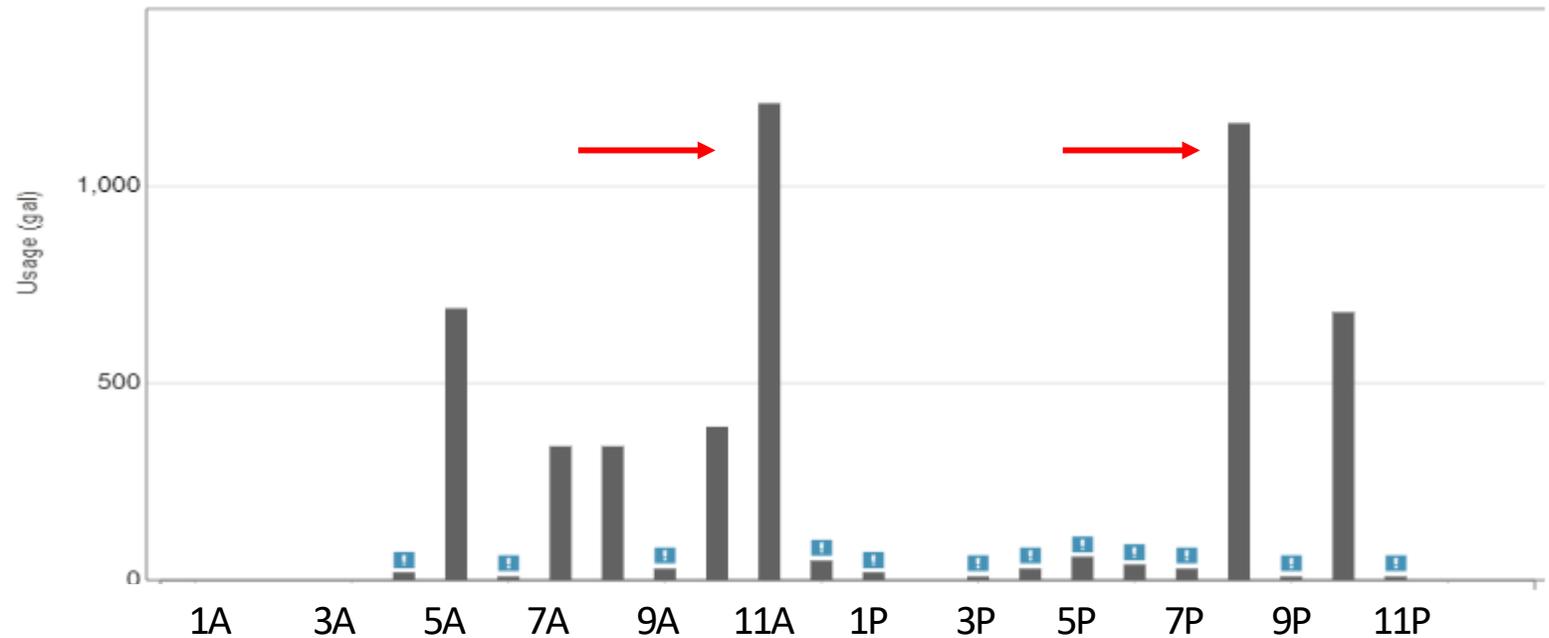
This customer is a very high water user (~ 4,000-6,000 gallons a day), but the water use pattern reveals that the customer is not watering on Sundays, indicating the vast majority is irrigation.

# METER DATA - Hourly

**A more granular look provides insight into the frequency and duration of irrigation events. This customer is watering heavily at 5 a.m., 11 a.m., and again at 8 p.m. and 10 p.m., with potentially other irrigation activities throughout the morning.**

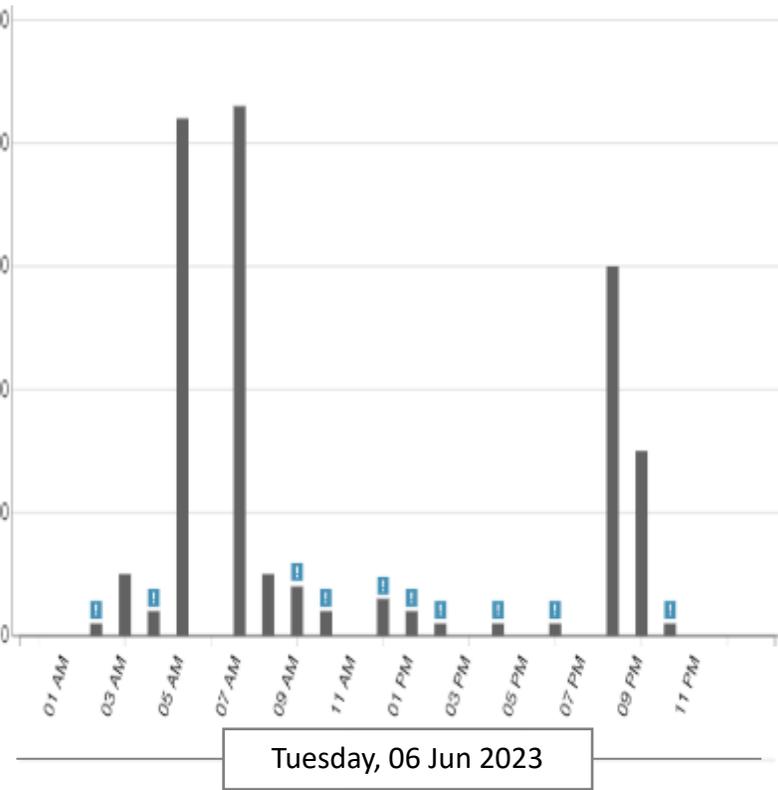
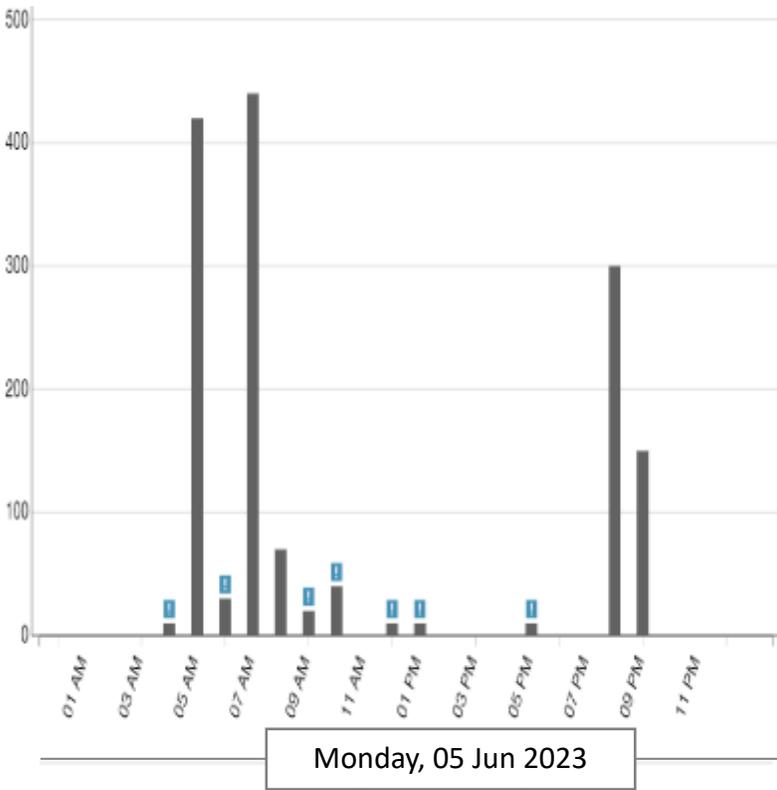
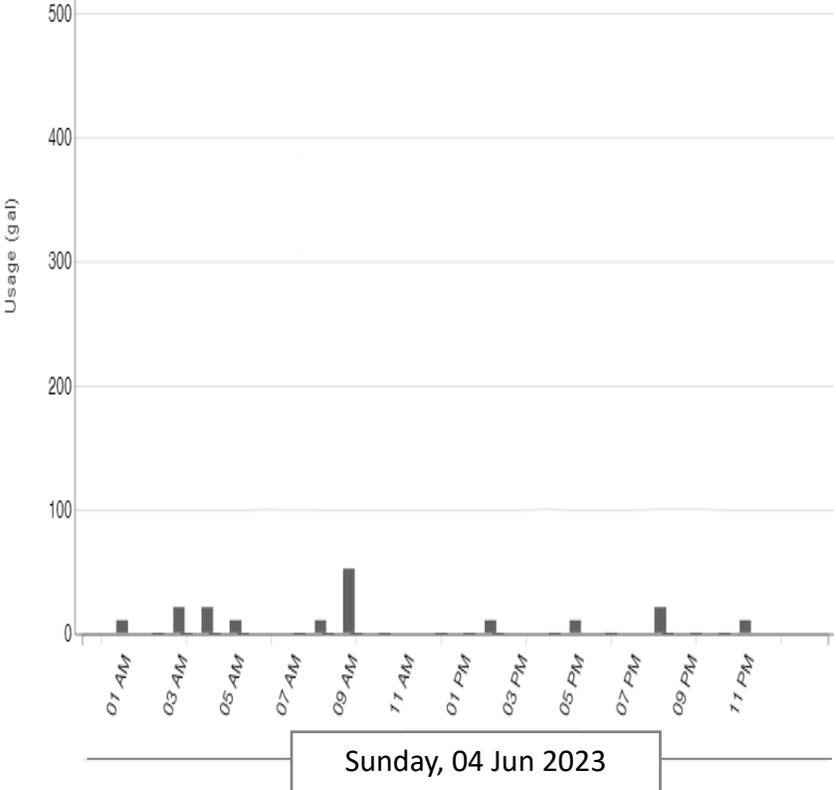
**Sprinkler systems are typically designed to deliver ~15 gallons a minute, or 900 gallons over a full hour.**

**Based upon this usage pattern, the customer is either significantly overwatering or has a break/leak within the irrigation system**



# METER DATA - Hourly

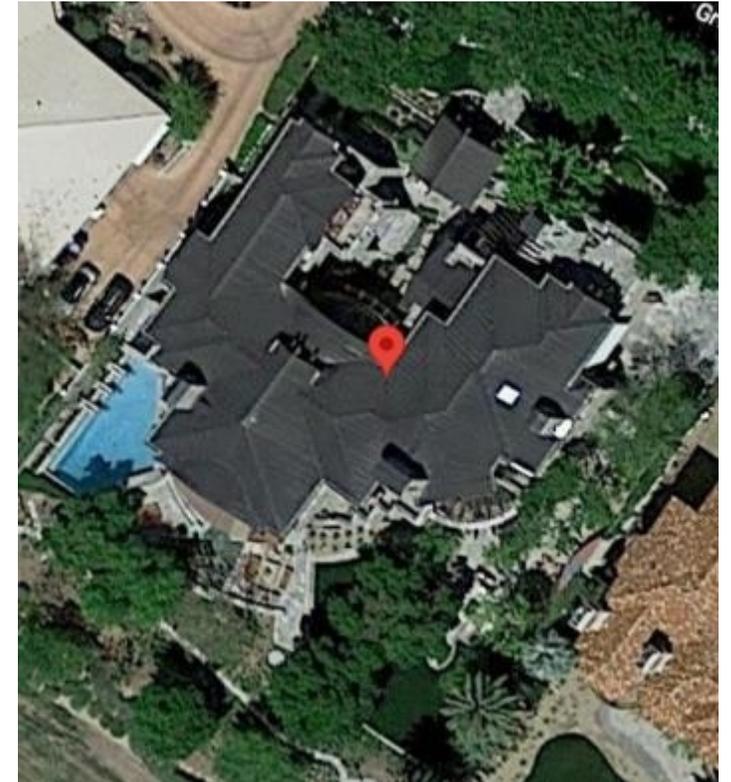
**Consecutive days of similar usage patterns demonstrate this is a scheduled irrigation event.**



# EXCESSIVE USE CHARGE – Affected Properties

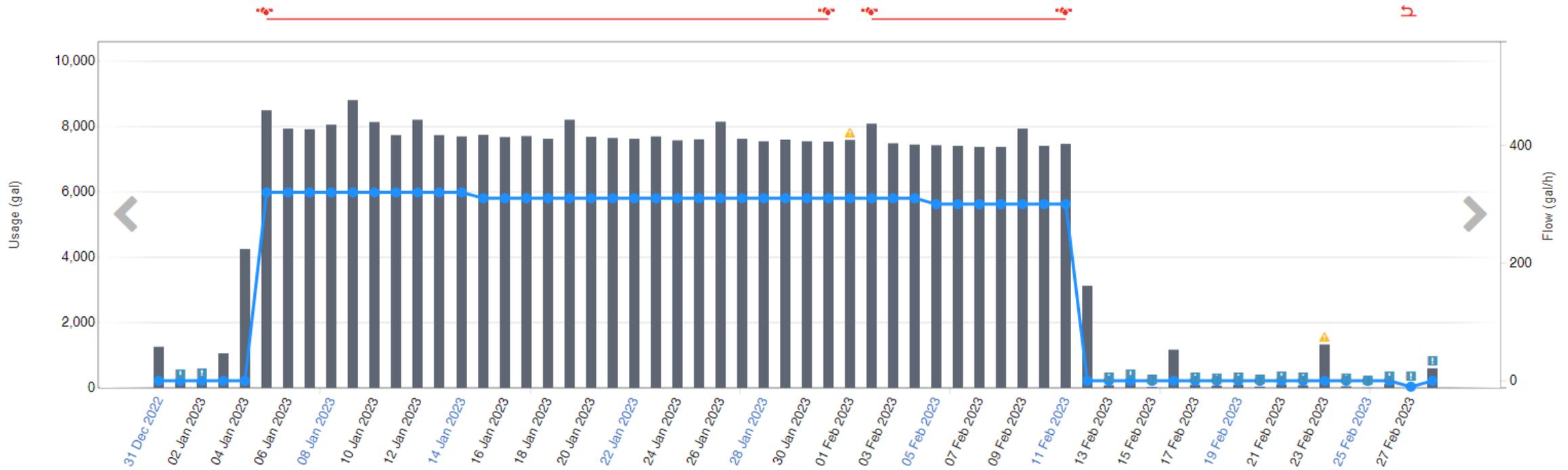
**Some properties are receiving the Excessive Use Charge due to unresolved leaks rather than irrigation.**

**In January, the property on the left used *more* than the property on the right (250,000+ gallons) due to constant usage, for which they received numerous excessive leak and water waste notifications.**



# METER DATA - Leak

Leaks are typically readily apparent on meter data.



# METER DATA

**Landscape choices, but even more so irrigation habits, are the primary drivers for water usage.**



**LEFT PROPERTY: 34,000 gallons in May**  
**Grass in front and rear, several trees, no pool**

**RIGHT PROPERTY: 29,000 gallons in May**  
**Grass surrounding pool (artificial turf possible), trees, bushes**

# METER DATA

**In comparison, water use can vary drastically among similar properties with seemingly similar landscapes due to irrigation habits.**



**LEFT PROPERTY: 113,000 gallons last month**  
**Some grass, pool, half of property landscaped.**

**RIGHT PROPERTY: 70,000 gallons last month**  
**Desert landscaping in the front, backyard is a mix of hardscape, grass, artificial turf, and trees**

# EXCESSIVE USE CHARGE – Results (August 2023)

- In September, only 5.1% of single-family residential meters surpassed the Excessive Use Charge thresholds. *(Year to date average: 5.7%)*
- About half of customers receiving the Excessive Use Charge for the first time in September were 5,000 gallons or less over the threshold (<\$45).



# EXCESSIVE USE CHARGE – Larger Lots (1/2 Acre)

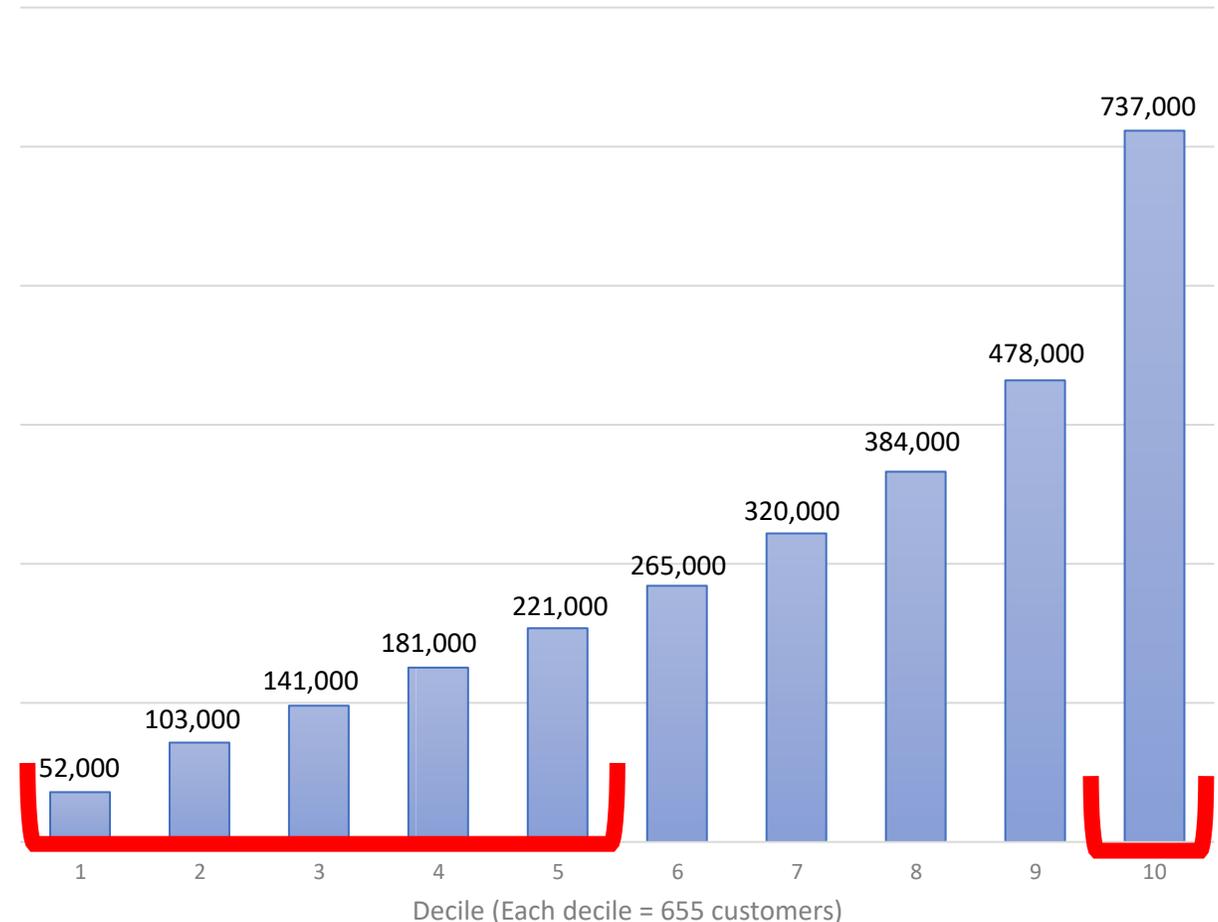
Some customers with large lots claim their thresholds should be set higher because excessive water use is unavoidable on larger properties.

However, if that were the case, usage should be relatively uniform among customers with larger lots.

To the contrary, customers with ½ -acre properties have the same usage disparity that occurs among all residential customers.

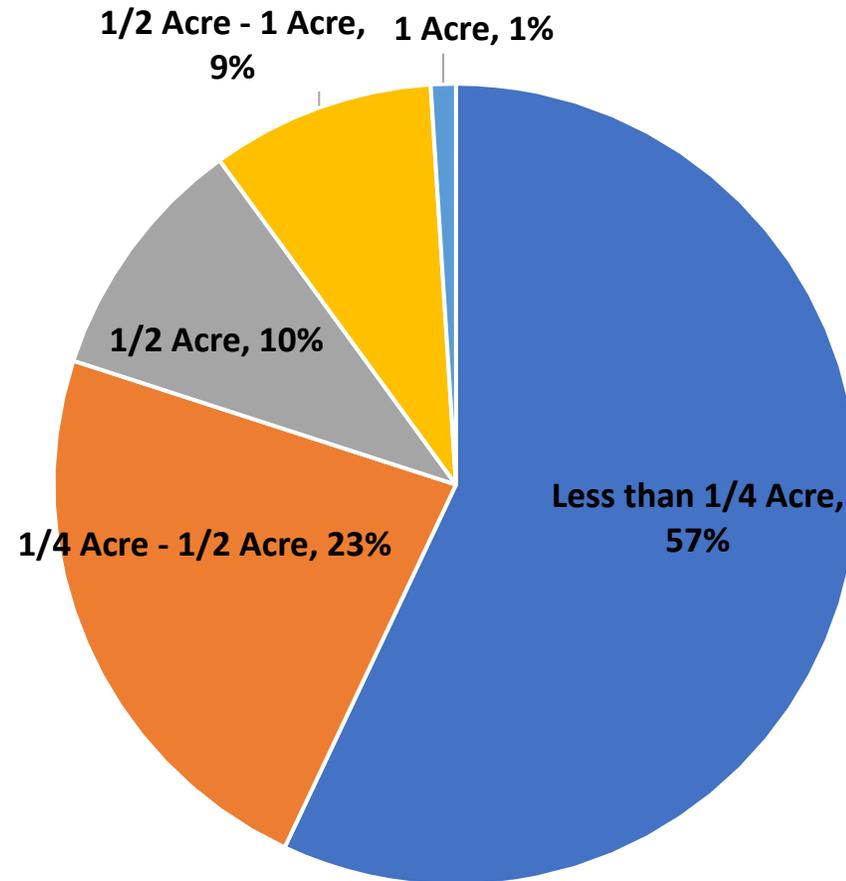
The large-lot customers most impacted by the Excessive Use Charge use three times more water than the median ½ -acre property

**2022 Average Annual Use by Decile**  
**For Half-Acre Properties**



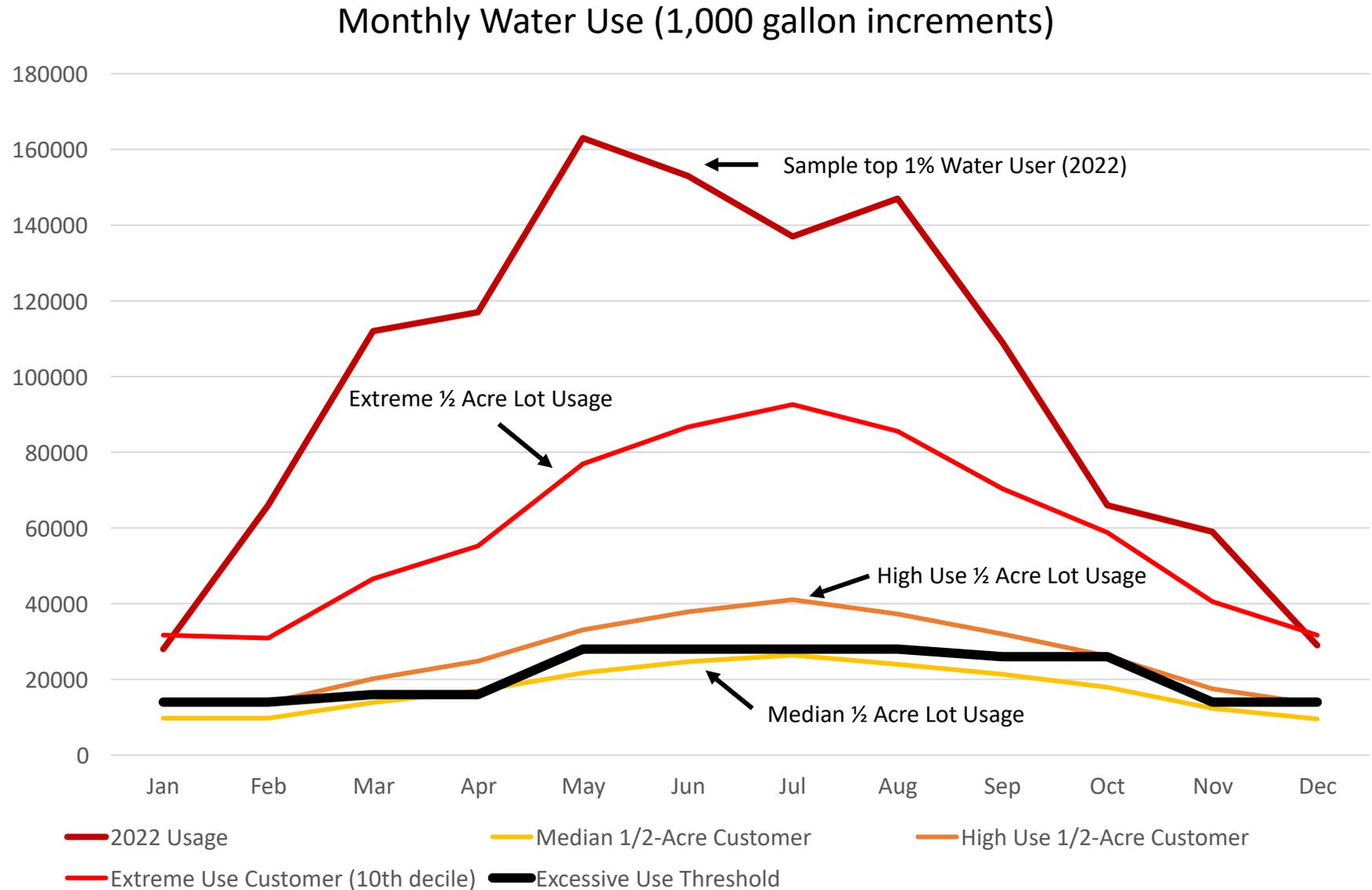
# EXCESSIVE USE CHARGE – Affected Customers

Most customers with recurring Excessive Use Charge have properties less than a quarter-acre.



# EXCESSIVE USE CHARGE – Larger Lots (1/2 Acre)

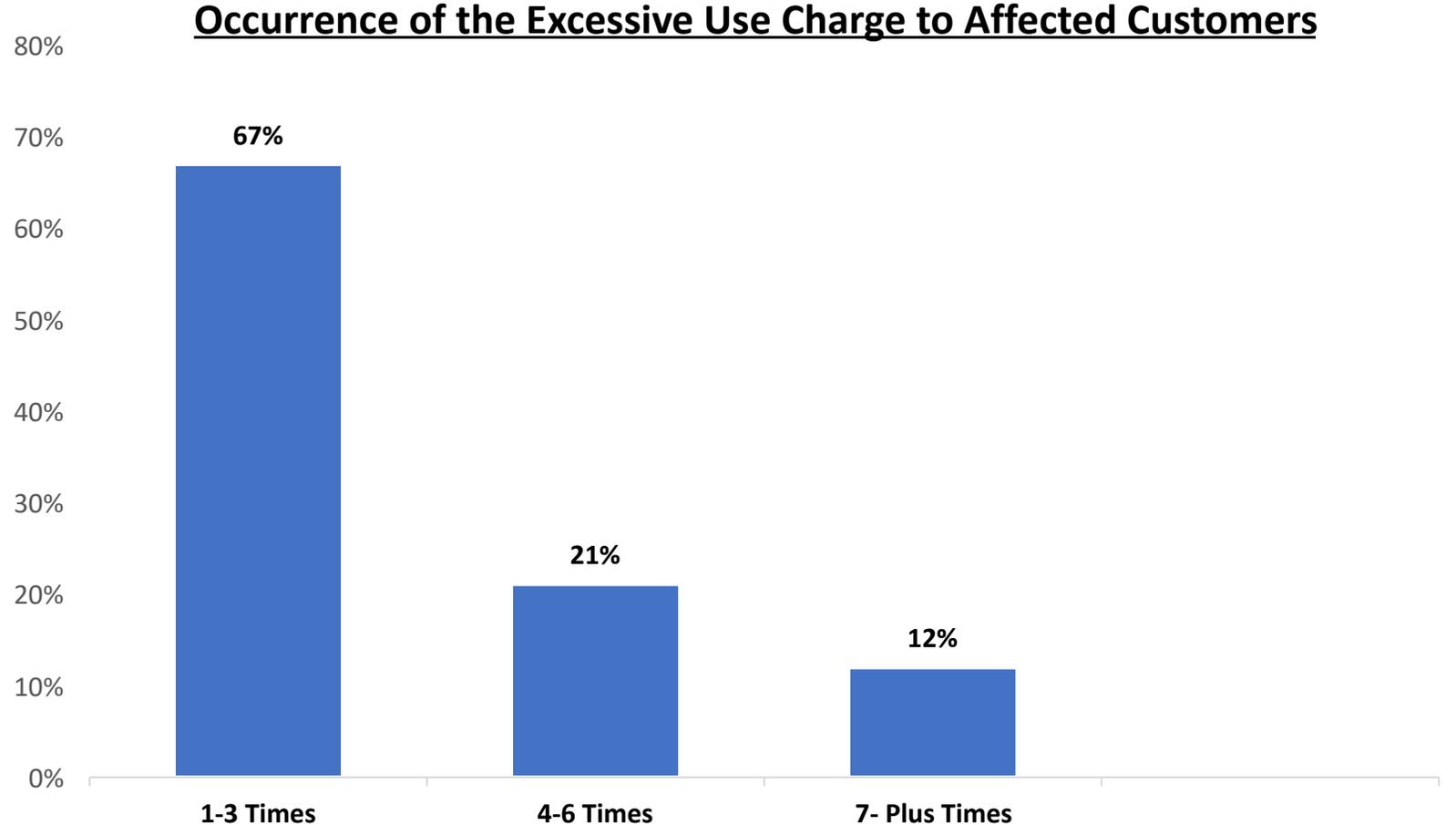
While larger lots do use more water than the typical home primarily due to a greater landscaped area, the majority of large lot customers stay within or near the Excessive Use threshold.



# EXCESSIVE USE CHARGE – Occurrences

Among customers affected by the Excessive Use Charge, two-thirds received it three or fewer times.

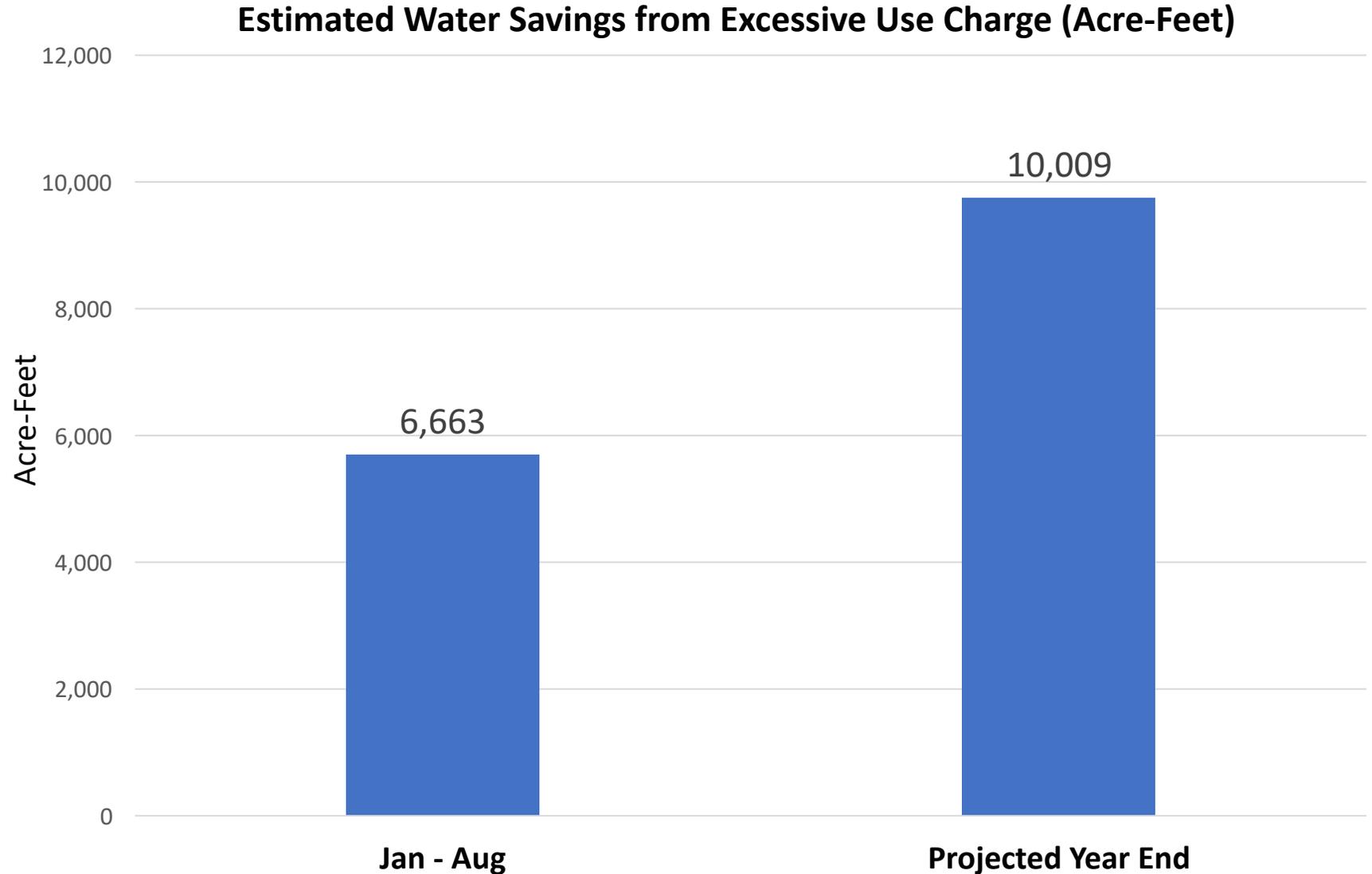
Of the entire Single-Family Residential customer base of ~370,000, only one-half of 1 percent have received it every month.



# ESTIMATED WATER SAVINGS

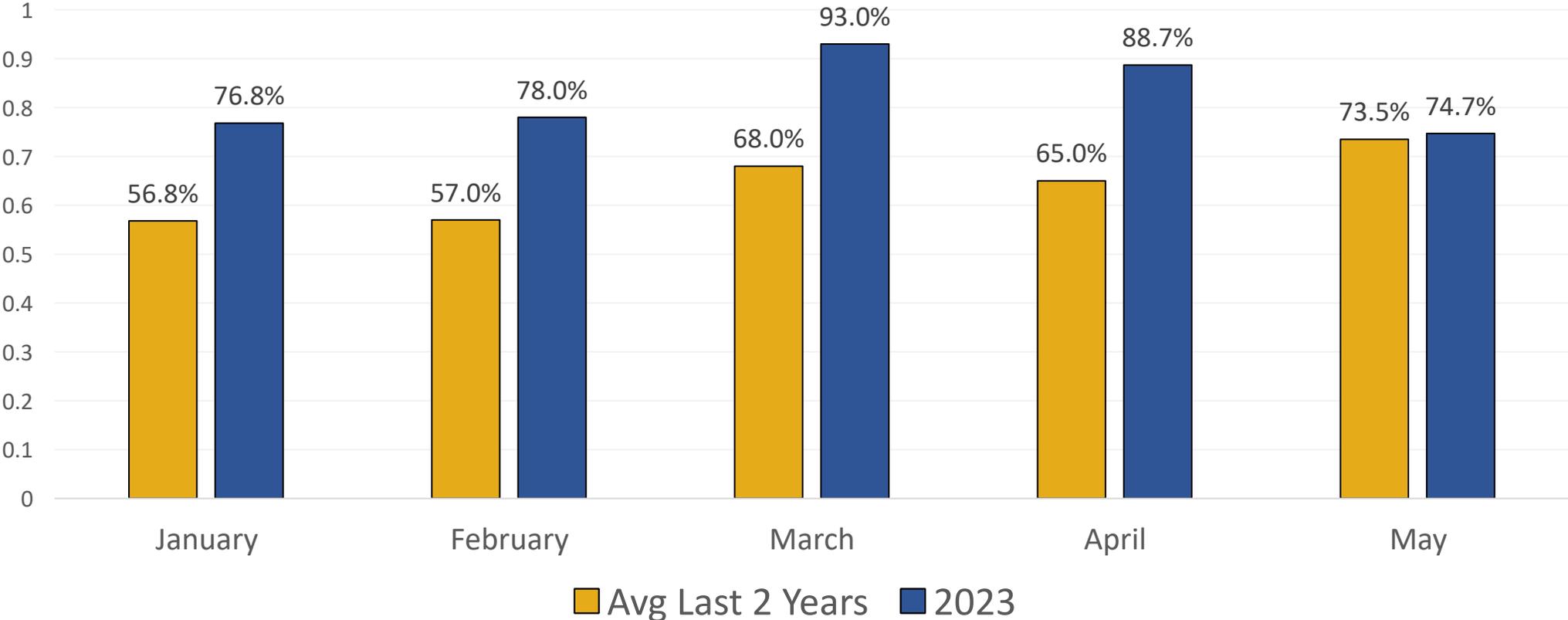
**As a conservation tool, the Excessive Use Charge has generated large water savings.**

**Invisible to most customers, the charge has induced the highest-use customers to consciously manage their water use**



# COMPLIANCE

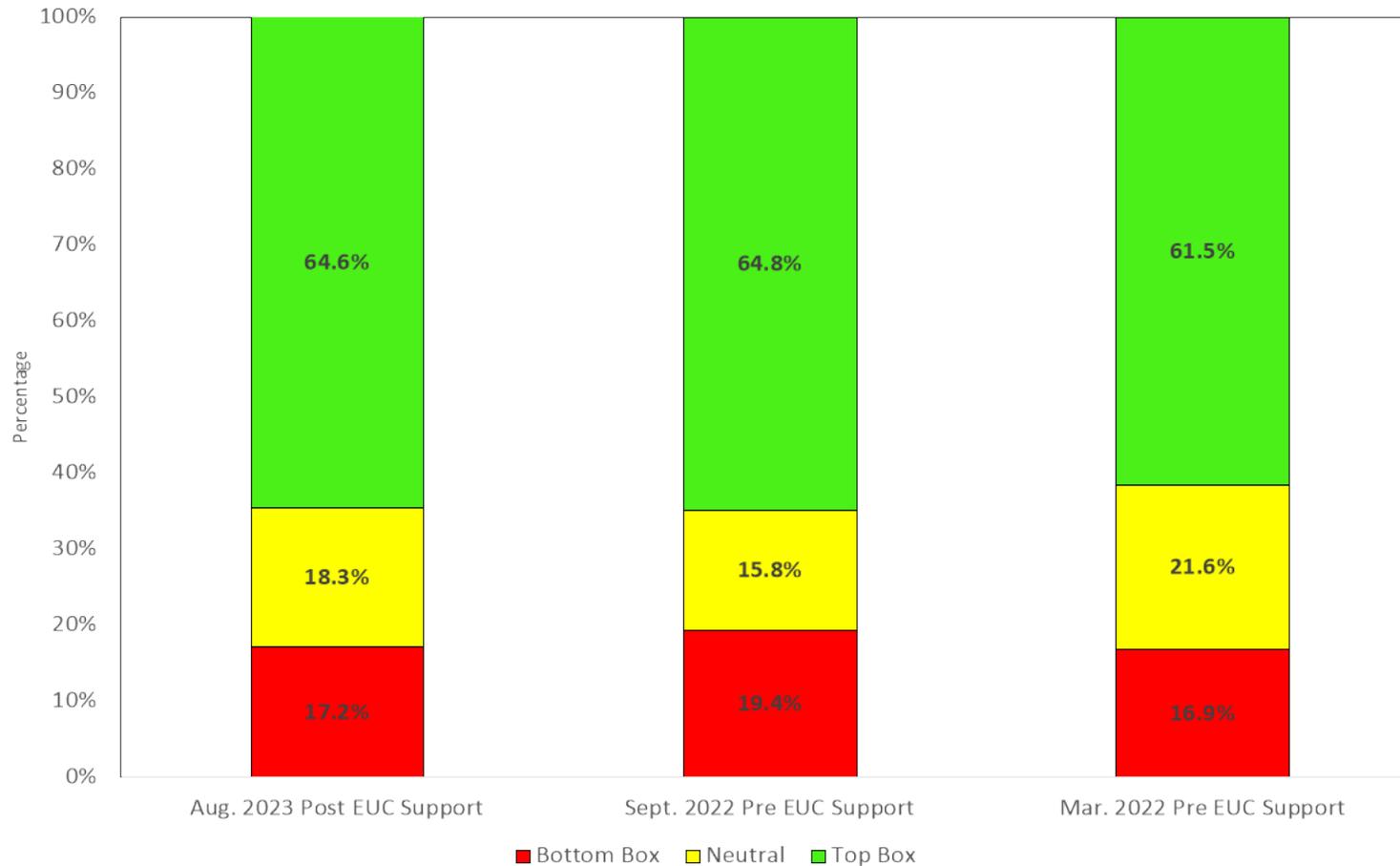
## Compliance Results: Single Family Residential Average Weekly Seasonal Compliance



# COMMUNITY SUPPORT

## Survey of residential customers shows broad support for the Excessive Use Charge

How strongly do/would you support LVVWD implementing the "excessive use" fee to the top 10% of high-water use customers?



# ADDITIONAL INFORMATION

- **In August, the median (50<sup>th</sup> percentile) bill for those customers affected by the Excessive Use Charge was \$314.92**
- **The average for that month, driven up by the most excessive users, was \$442.38**
- **Even among Excessive Use Charge recipients, the vast majority recognize that their high water use is an issue and seek advice on reducing it**
- **The LVVWD and SNWA have numerous assistance measures designed to help these customers, and more are in development**

# MAINTAINING LANDSCAPES



## Staying under the Excessive Use Charge:

- Follow the seasonal watering schedule
- Check for and fix leaks
- Convert spray irrigation for plants/trees to drip irrigation
- Utilize weather-driven “smart” irrigation clocks (rebates available)
- Understand your irrigation system (zones, cycles, running times, etc.)
- Convert unused grass

# MAINTAINING LANDSCAPES



- **Property owners are ultimately responsible for landscaping choices and irrigation habits**
- **While SNWA has a good relationship with the landscape community, property owners must know how their landscape is being irrigated**
- **When effectively irrigated, landscapes that reflect the beauty of our natural landscape are not receiving the Excessive Use Charge – including those with many mature trees**



# PROTECTING TREES

**Hundreds of communities throughout Southern Nevada and tens of thousands of individual property owners have successfully completed grass conversions and protected trees.**

**Green Valley South Owners Association  
(84,482 sq. ft. conversion, 2008)**



**Peccole Ranch Community Association  
(5,537 sq. ft. conversion, 2010)**



# TREE HEALTH

**Several often-planted tree species are unsuited to desert conditions and are near or beyond their maximum heat tolerance. Current and changing climate conditions play a key role in tree survival.**

## **At a Glance:**

- Several at-risk tree species are already showing signs of decline in our community.
- These trees are planted in significant numbers in all areas of the community.
- SNWA has communicated with nurseries and landscape companies; updated the Regional Plant list in 2021.

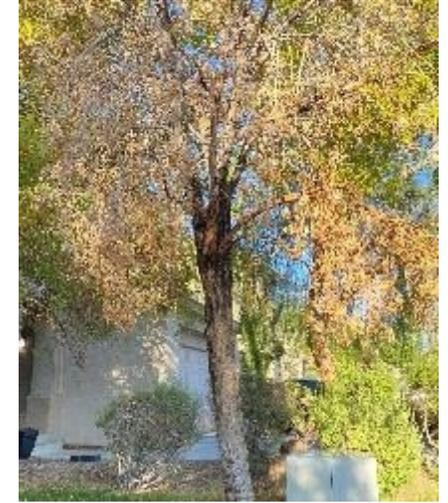
**Purple Leaf Plum**



**Afghan Pine**



**Ash Tree**



***New trees are needed to mitigate unavoidable tree loss due to climate change and address urban heat island.***

# TREE RESOURCES

**Local agencies, including the LVVWD and the Southern Nevada Water Authority, are committed to protecting our community's trees.**

**At the July SNWA Board meeting, the Board approved new programs and partnerships to increase our community's tree canopy coverage and improve resilience to urban heat island impacts:**

- New rebate enhancement program increased the incentive for more canopy coverage from trees for SNWA Water Smart Landscapes program participants
- New partnership with ImpactNV will focus tree placement efforts in areas where populations are vulnerable to extreme heat, targeting high use areas





**LAS VEGAS VALLEY  
WATER DISTRICT®**