

Addressing the state's water challenges by improving water efficiency through diverse community connections, innovative solutions and valuable member resources.

Welcome to the 2020 Water Conservation Symposium

We will get started in a couple minutes.

Who is CWW?

- Colorado WaterWise is addressing the state's water challenges by improving water efficiency through diverse community connections, innovative solutions and valuable member resources.
- We offer educational tools, events and resources to our members and the public to allow you to make a difference.

2020 Symposium Sessions

- **Oct. 13 1 p.m.** - System-wide technologies: real-world review of AMI and Leak Detection systems
- **Oct. 15 10 a.m.** - Managing water in the headwaters of Colorado
- **Oct. 20 10 a.m.** - Supporting water resources through alternative water supplies
- **Oct. 22 1 p.m.** - Introduction to landscape and irrigation certification programs in Colorado
- **Oct. 27 2 p.m.** - Understanding water conservation efforts across Colorado
- **Oct. 29 10 a.m.** - Advancing Water Efficient Landscape Ordinances: What's been done and where do we go next?

Thank you to our 2020 sponsors



colorado
waterwise



JOIN US!

COLORADO WATERWISE

SYMPOSIUM

HALLOWEEN

HAPPY HOUR

COSTUME
CONTEST!

OCTOBER 27 | 4 TO 5:30 PM
ZOOM

2020 Colorado Water Wise Symposium

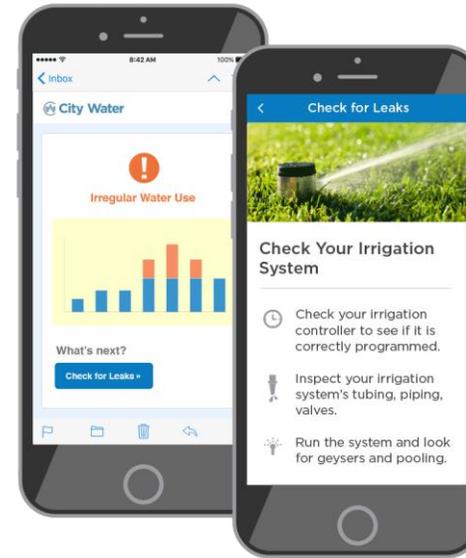
System-wide technologies: Real-world review of AMI and Leak Detection systems

Peter Mayer, P.E., WaterDM
Dana Haasz, WaterSmart Software
Clay Kraus, Flume
Paul Vacquier, Flo by Moen



Crossing Over the Meter Dividing Line

- The water meter is the traditional dividing line between water provider and water customer.
- Modern utilities are crossing this line to directly interact with and assist customers and to influence water demand
- The three technologies on the panel today offer unique and different approaches.
- AMI is NOT mandatory for any of these technologies.



Monitor Water Use Inside and Out
Without Cutting Pipes



Utility Scale and Customer Scale Solutions

- Consumption data and water use information forms the basis of these technologies.
- **WaterSmart** leverages data directly from existing utility meters (monthly and hourly) to alert and resolve customers' irregular water usage.
- **Flume** installs directly on an existing water meter and provides high resolution data to the customer (and potentially the utility).
- **Flo** installs on a home's water supply line and offers usage information and the ability to shut off water in case of a leak, emergency, or natural disaster.



vertexoneTM

+

colorado
waterwise

Real World Review of AMI and Leak Detection and Resolution

Dana Haasz

Dana.haasz@vertexone.net



October 13, 2020

About VertexOne™

With 30 years experience serving the utility and public sector, VertexOne™ provides a suite of enhanced meter-to-cash software-as-a-service solutions to electric, gas, water, and wastewater utilities and municipalities across North America.

With our VertexOne Complete™ delivery model and our refined implementation approach, we provide an offering that eliminates risk, protects utility investments and ensures a high level of service for the utility and end customers.

UTILITIES



200+ Utilities | 34 states
4M+ Accounts | 13M End-use customers

PARTNERS



Platform partners



Electronic payments



Advanced Metering Infrastructure



TEAM

VertexOne™ dedicates itself to execution, delivering on 100% of our implementations, meeting and exceeding SLAs



Household Leaks – Why Are They Important?

EPA stats:

- 10% of homes have leaks that waste at least 90 gpd
- Household leaks waste up to 1 trillion gallons/year in US
- Fixing leaks can reduce water bills by about 10%

- WS has found that over the course of a year, almost every account has one leak event

Leaks cost everybody:

- Customers – water bills, property damage
- Utilities – resource constraints, customer satisfaction and support, staff time, revenue (forgiveness programs)

Leak Parameters Reflect Utility Characteristics

Frequency, Duration and Communication methods are all variables.

Considerations include:

- Service area characteristics
- Seasonal characteristics
- Utility capacity

Finding the right settings can be an iterative process

Algorithms are somewhat “smart”



Meet Customers Where They're At

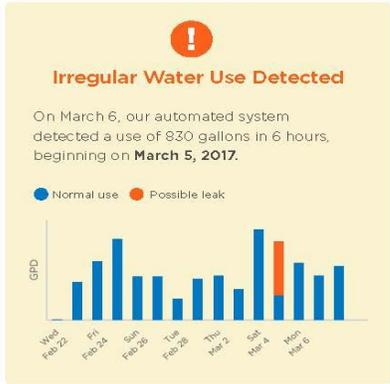
City Water WaterSmart Program
123 Main St.
Anytown, USA

SERVICE ADDRESS: 456 Washington St.
ACCOUNT NUMBER: 2387324-01

VIEW YOUR WATER USE
citywater.watersmart.com

415.555.5555 info@citywater.com

RECIPIENT ADDRESS
WILL AUTOMATICALLY
BE PRINTED
IN THIS POSITION

GET FASTER ALERTS

citywater.watersmart.com

Account Number: XYZXYZ
Zip Code: 98765

Register on the WaterSmart Portal and we'll email you the next time we spot irregular use. Text messaging is also available.

Insert variable text about leak response information. Insert variable text about leak response info. Insert variable text about response info.

LEAKS 101

The most common causes of irregular water use are easy to find and fix. For more detailed tips, log on to watersmart.com/LeakCheck.



Running Toilets

Listen for running water or do a dye test. Check the flapper and the float valve.



Irrigation

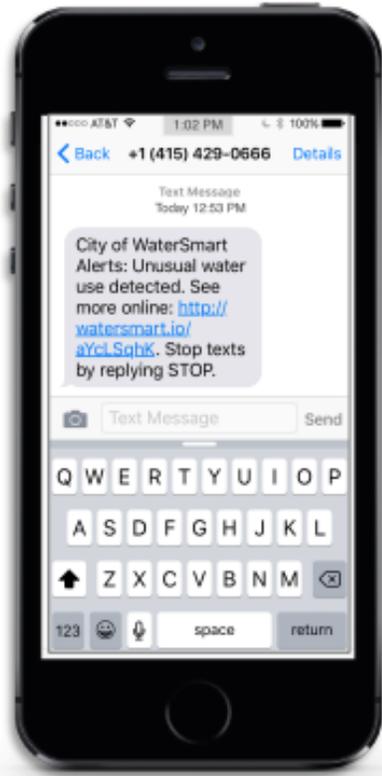
Check your controller settings. Inspect your system for breaks or excessively damp areas.



Pipes & Fix

Look for water near your showerhead or water heat behind appliances.

A free service offered by your water utility and powered by WaterSmart Software®



SUBJECT: Irregular Water Use: You may have a leak

City Water

WaterSmart Program

1 Wintermist Ct.
000-123456-456

Irregular Water Use

Your water has been running continuously since 11am on Thursday, May 1st, 2014.

[Investigate possible leak »](#)

Continuous use is often an indication of a running toilet or leaky irrigation valve.

ESTIMATED GALLONS LOST: **9,372**

ESTIMATED DURATION: **6 days**

% OF YOUR TOTAL USE: **23%**

What's Next?

- Check for leaks. [Here's how »](#)
- Tell us what you found. [I found a leak »](#) [This was not a leak »](#)

This is an automated message from the Park City Water Department, based on the data from the water meter at 3300 Meadows Dr. The links above will direct you to the Park City Water Department's WaterSmart website.

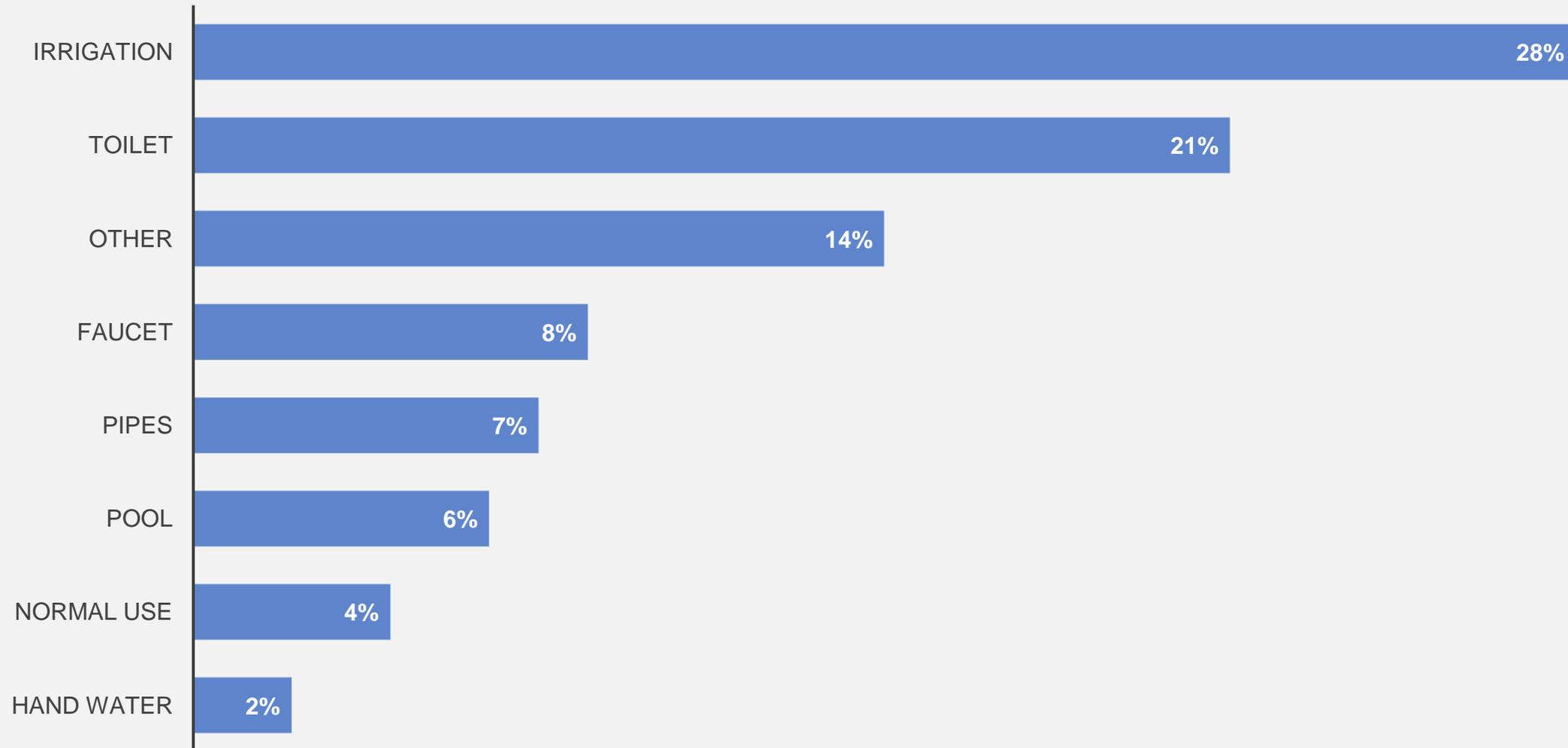
These notifications are a free service. [Change your communication preferences](#) or [Unsubscribe](#).

Awareness Is Not The End Of The Story

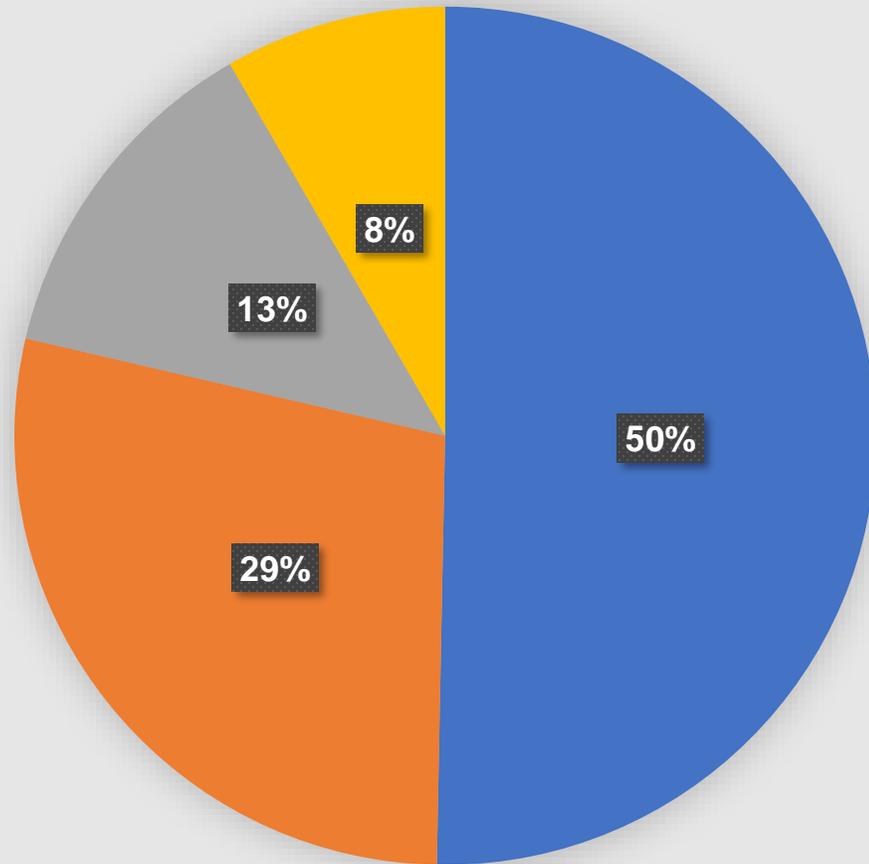
The screenshot shows a mobile application interface for 'City Water WaterSmart Program'. At the top, there is a navigation bar with 'Toilets', 'Fixtures', 'Irrigation', and 'Other' tabs. The 'Toilets' tab is selected. Below the navigation bar, there is a section titled 'Check Your Toilets' with the following text: 'Running toilets are a common source of household leaks, and are easy to fix.' Below this text are three bullet points: 'Locate a leak by listening for running water or doing a dye test.', 'When the tank is full, check that the water level stops about one inch below the top of the overflow tube.', and 'If the water is too high, adjust the...'. At the bottom of this section are two buttons: 'Found a Leak' and 'Step 2: Fixtures'. To the right of the text is a video player showing a person's hand pouring dye into a toilet tank, with a 'PLAY' button overlaid on the video. The background of the app shows a dashboard with a home icon, a notification card, a 'Hourly' section, and a bar chart showing water usage in gallons.

Informing Future Efforts

Sources of Irregular Water Use Identified by Customers



Building A New Relationship



Was this alert about...

- A leak you were not aware of
- Water use that was not a leak
- A leak you were already aware of
- Not sure

Customers Are Typically Grateful For The Notification

"Hey, I found the leak. Moose chewed through the valves. I really like this alerting service. Thanks!"



"The hose in the front yard was left unattended overnight. It was quickly remedied the next morning after I turned it off and put my husband in time out."



The Modern Customer's Expectations

Your recent FICO Credit Score is available at Wells Fargo

Wells Fargo Online <alerts@notify.wellsfargo.com>
to me

Add to Salesforce Tracking Follow-up

 wellsfargo.com

View your recent FICO® Score

Your FICO® Score is now available to view for educational purposes. One of the simplest ways to understand credit scores is to view your FICO® Score regularly. Remember, viewing will not impact your score.

To see if your score has changed, [sign on](#) and select **View Your FICO® Credit Score** to access:

- Your FICO® Score
- Up to 5 Score Factors
- Your Score History
- Credit Education

Thank you for banking with Wells Fargo.
Wells Fargo Online Customer Service

wellsfargo.com | [Fraud Information Center](#)

Please do not reply to this automated email. Sign on t

Alerts@adtpulse.com
to me

Add to Salesforce Tracking Follow-up

4/16 10:00 AM
BURGLARY ALARM. Proceed with caution.
Sensor: Back Door (Zone 4)

To: Chase

SMS with 242-73
10/7/20, 7:00 AM

Chase CC Acct 1791: bal \$5,075.38 exceeds max bal in your Alerts settings.

Beyond leaks: Meeting Those Expectations

High Use Notifications

You will be notified when your daily use is over **2X** times your normal seasonal use.

1X 3X 5X

**Typical Seasonal Use: 161 GPD*

- Email
- Text Message
- Voice Message

Bill Forecast Notifications

You will be notified if your use in the current period is on track to exceed **\$50 more** than your normal seasonal bill. We will only contact you a maximum of once per billing period.

\$ 50

more than your typical bill

- Email
- Text Message
- Voice Message

Unplanned Use Notifications

You will be notified when use from your property exceeds your Daily Threshold setting.

Daily Threshold (Gallons)

0

Starts on

Ends on

Never

- Email
- Text Message
- Voice Message

AMI Data is Good to Have But Not Necessary

Dear SAWS Customer,

Summer is approaching and water use is on the rise. It's time to think about how you can keep your water utility bills low and avoid costly leaks both inside and outside your home. Wouldn't it be great if there was a device that did that for you? Introducing the Flume Smart Home Water Monitor:



- Flume's Smart Water Monitor **tracks your water use** down to the minute giving you real-time water use insights through the Flume mobile app and provides you valuable data to make decisions on your water use, reduce waste and even lower your water bill
- Flume is always on guard with **24/7 home & irrigation leak detection** alerting you to possible leaks before they cause expensive water damage
- Flume **installs in minutes**, no plumber required

Through June 15, Flume is temporarily reducing its water monitor's price, making it **FREE** when combined with the [SAWS Water Flow Sensor Rebate](#) of \$150.

The logo for Vertexone, featuring the word "vertexone" in a sans-serif font. The "v", "e", "r", "t", "e", and "x" are in blue, while the "o", "n", and "e" are in grey. A small "TM" trademark symbol is positioned to the upper right of the "e".

vertexone™

Thank You!

Dana Haasz

Dana.haasz@vertexone.net



Flume Water Management

Prepared for: Colorado WaterWise



You can't manage what you don't measure. At Flume, our mission is to empower people and communities to understand how we use water by liberating and digitizing the data behind it.



We're digitizing water.



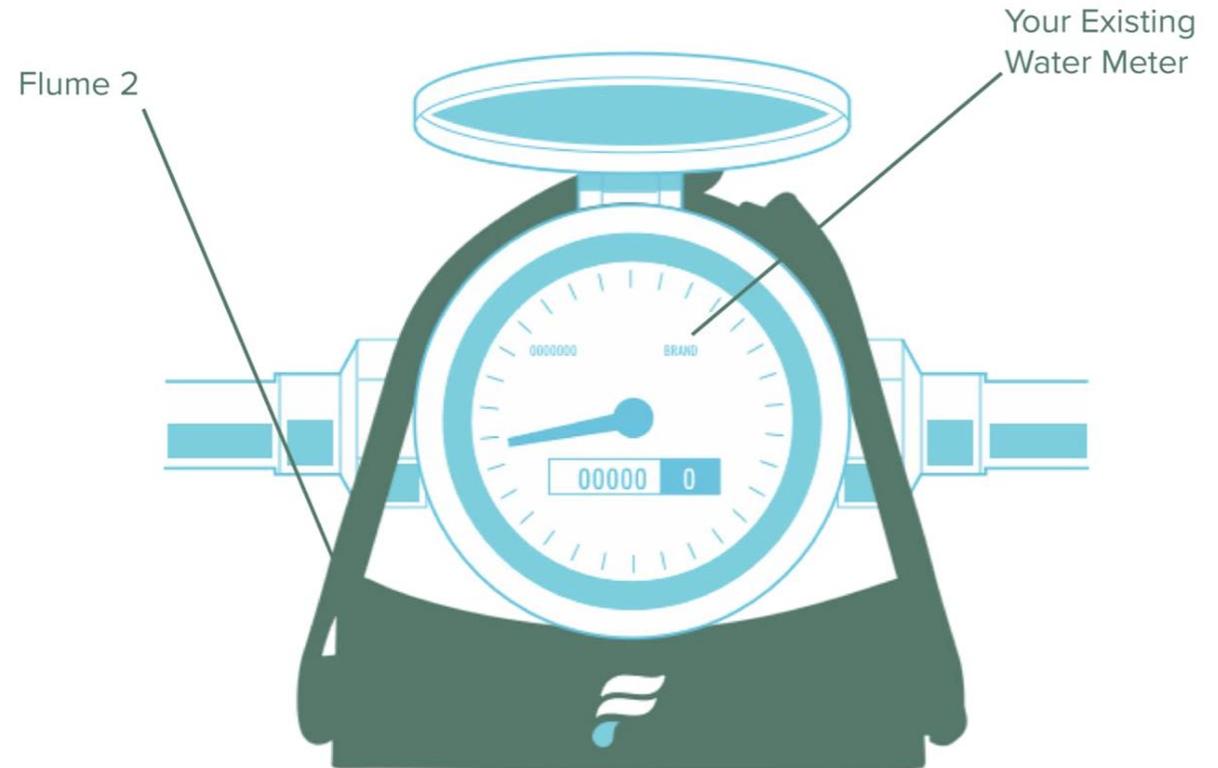
We were born in the middle of
a record drought.

And despite messages from our
water utility asking us to conserve,
we didn't know where to start.



So, we created a smart water monitor.

A plug-and-play system designed to help homeowners easily understand and manage their use.





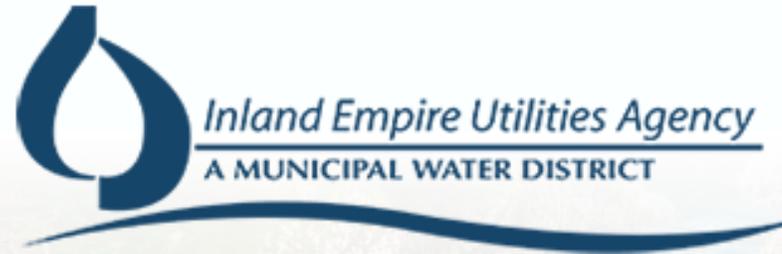
Flume captures water use down to the minute, inside and outside the home.

This empowers homeowners to set water budgets tailored to their household, and detect leaks before they're catastrophic.

Utilities are leveraging Flume to better understand and manage residential end-use, improve forecasting, and advance planning capacity.



Some of Flume's Utility Partners





Some of the Results

Flume reduces high water bills.

San Antonio Water System saw an **18%** reduction in consumption among high water users.

Flume increases customer satisfaction through real-time leak alerts.

More than **66%** of Contra Costa Water District customers discovered leaks.

Flume improves efficiency and clarifies water use.

88% of Rainbow Municipal Water District customers reported a change in their water use.





RAINBOW
MUNICIPAL WATER DISTRICT
Committed to Excellence



Overview of Rainbow

- 8,000+ connections
- Sunny, arid climate
- Rapid residential growth
- High outdoor water demand



The Challenge

- Customer receive water bills every 30 days
- Needed real-time access to customer water use data
- Out-of-sight leaks
- Surprise high water bills



AMI as a Potential Solution



Large Capital Investment

Requires extensive infrastructure upgrades

Locational Issues and Limitations

Low Customer Uptake

Multi-year Outlook

Flume as a Solution



**Zero Changes to
Infrastructure**

Cost-Competitive

**Easy and Timely
Roll Out**

**Better Data in Real
Time**

**Low Administrative
Burden**



Simple, Effective, Equitable Opt-In

Flume provided RMWD with a dedicated landing page offering **instant rebates, eligibility verification and data-sharing opt-in, avoiding unnecessary paperwork for both customers and RMWD.**

This also provides a more equitable means for customers to opt-in with no refund delay.

San Antonio Water System & Flume

Special Offer for SAWS Customers ONLY. Get Flume for just \$22 after Rebate!

Limited quantities available.

GET OFFER

San Antonio Water System

Today: 185 gallons (40% of daily average)

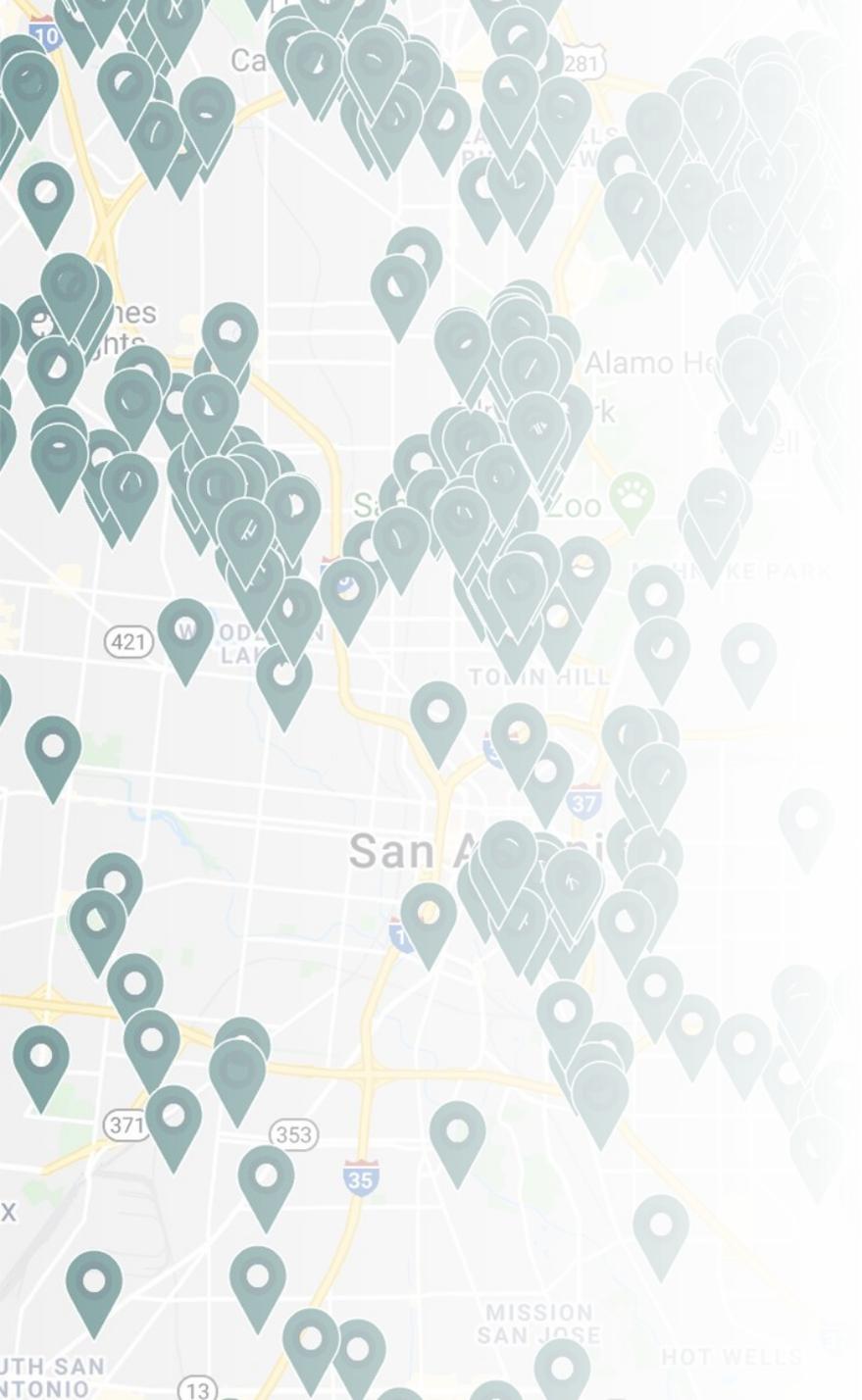
Water Status: 2.3 gallons (Water Running)

Last 24hrs: 200 gallons

Time	Usage (gallons)
10:00am	7
11:00am	21
12:00pm	5
1:00pm	11
2:00pm	10
3:00pm	8
4:00pm	14

August Irrigation: 6,000 / 7,000 gallons (85% of Overall Usage for August)

flume



Hands-off Fulfillment, Distribution and Installation

Once ordered, Flume is shipped directly to the customer for a 10-minute DIY installation. No pipe cutting. No wiring. No plumbers. No verification appointments.

**1,800+ units
deployed in less
than 4 weeks**

for San Antonio Water Systems

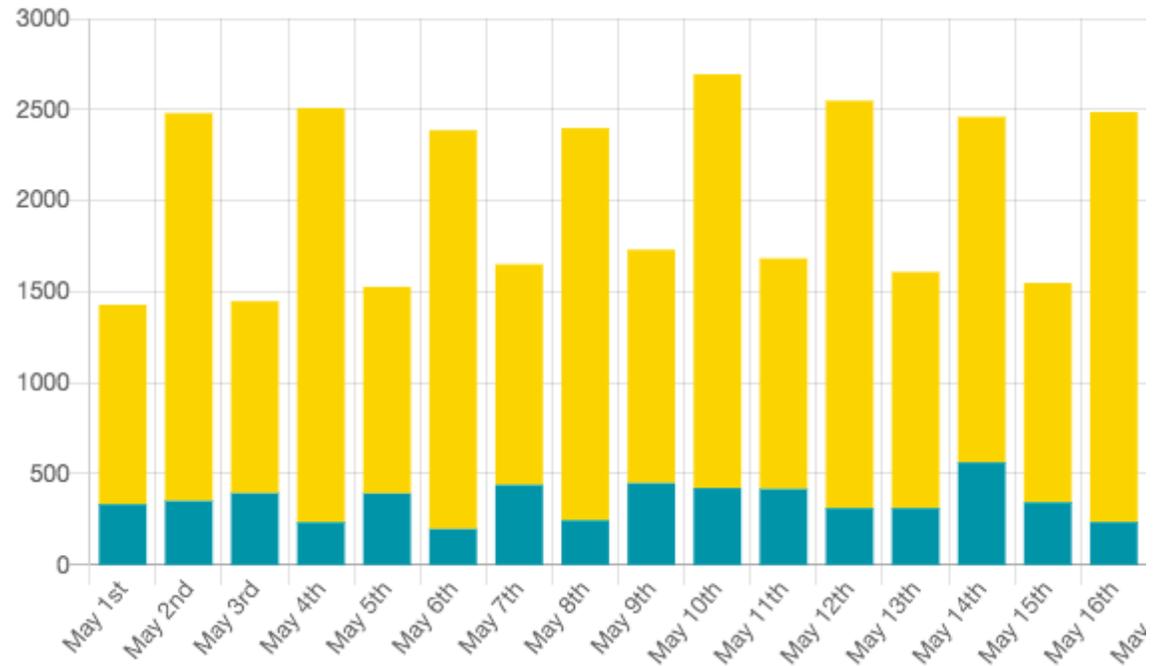
**400+ units deployed
in less than 48 hours**

for California American Water



Instant Access to Data

Immediately upon customer installation, Flume links customer water use data to a Utility Portal. This enables instant access to both service area and customer-specific aggregated flow, water use, and leak detection data, including indoor/outdoor disaggregation.





Increased Customer Satisfaction and Leak Resiliency

63% of RMWD customers **have discovered leaks.**

98% said that they **would recommend Flume to a friend.**

Reduced Water Demand Over the Long-Term

RMWD customers reduced consumption 36% (9% more than the control)

RMWD customers **save 41 gallons per day over a 12-month period.**

More Informed and Engaged Customers

88% of Flume customers **reported a change in water use.**

Customers check the Flume App **at least once every other day.**





Solution	Flume	AMI
Data Resolution and Immediacy	Down-to-the-minute, every 30 seconds	Hourly, 24 hours delayed
Cost per Endpoint	Up to \$150	\$728
Changes to, or additional infrastructure needed?	No (DIY)	Yes
Timeline for deployment	Several weeks	Several years
End-Use Disaggregation?	Yes	No



“We wanted to provide our customers the benefits of AMI but the high cost of traditional AMI and the low adoption rate among customers was a huge concern. Many of our peer agencies who did implement **AMI were seeing only about 20% of their customers actually use the data.** 80% of their investment was wasted.

We offer Flume to **our customers who want better information (every minute rather than every hour) at a very small fraction of the cost of traditional AMI.** Better yet, **we didn't have to increase staff** time telling people that they have leaks - Flume lets them know instantly.”

Tom Kennedy, General Manager
Rainbow Municipal Water District

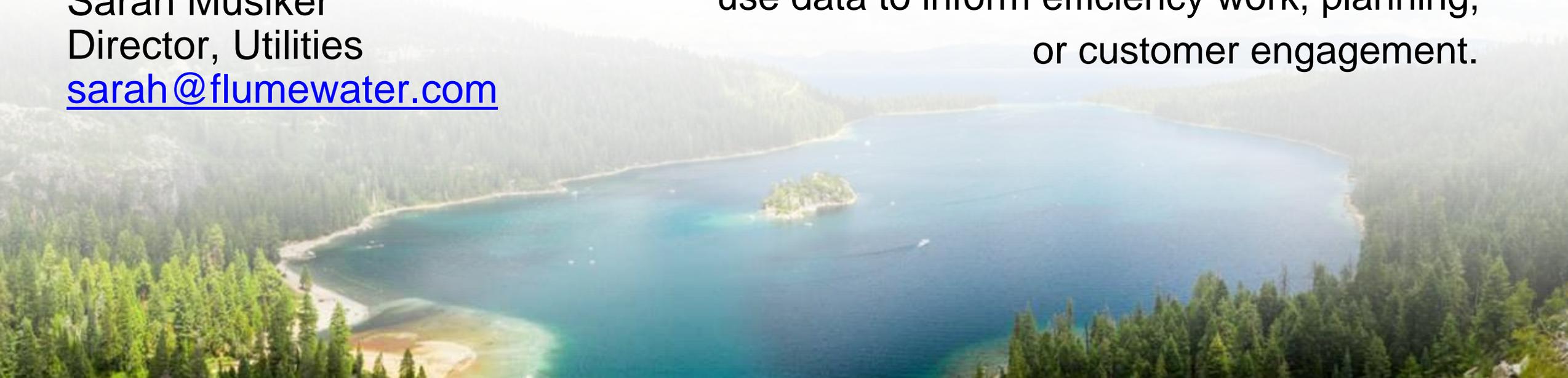


Clay Kraus
VP of Revenue
clay@flumewater.com

Sarah Musiker
Director, Utilities
sarah@flumewater.com

Interested in learning more?

Contact us if you're interested in using end-use data to inform efficiency work, planning, or customer engagement.



Thank You





Meet

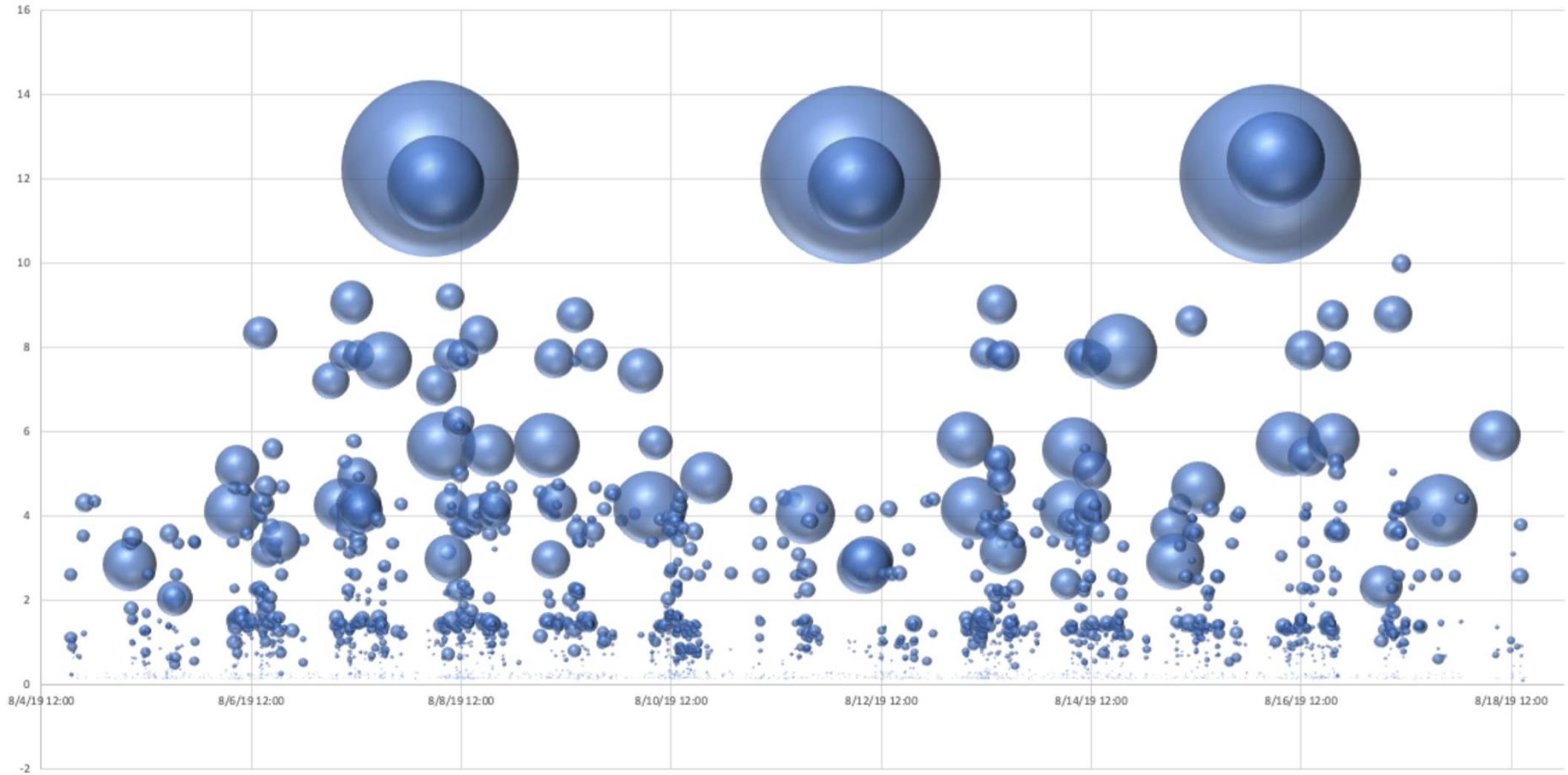
flo BY MOEN™

Secure. Conserve. Protect.

Works with



Gabe's 2 week timeline



Flo by Moen

- Flo's mission is to "Prevent loss, one drip at a time."
- A LexisNexis commissioned study found a **96% reduction in claim frequency** and a **76% decrease in severity**

96%



reduction in water damage claims!

Flo by Moen & LADWP

- After 45 days of device installation, average **daily usage decreased ~35 gallons and average daily pressure decreased ~2 PSI.**
- In 90 days of usage, there was a **4.1% increase in 'passed' health tests.**
- In **83% of the incidents** in which the Flo by Moen device automatically shut off the valve, **water consumption decreased 24 hours after the abnormal water usage was detected.**

Discussion and Questions?

- Please type your questions into the Q&A box. We will get to as many questions from attendees as we can.
- Thank you to our speakers today!



- Join us Thursday for “Managing water in the headwaters of Colorado” at 10 a.m.