

# This presentation premiered at WaterSmart Innovations

[watersmartinnovations.com](http://watersmartinnovations.com)



# **Leveraging Advanced Meters For Leak Detection**

- Renee Davis, Fort Collins Utilities

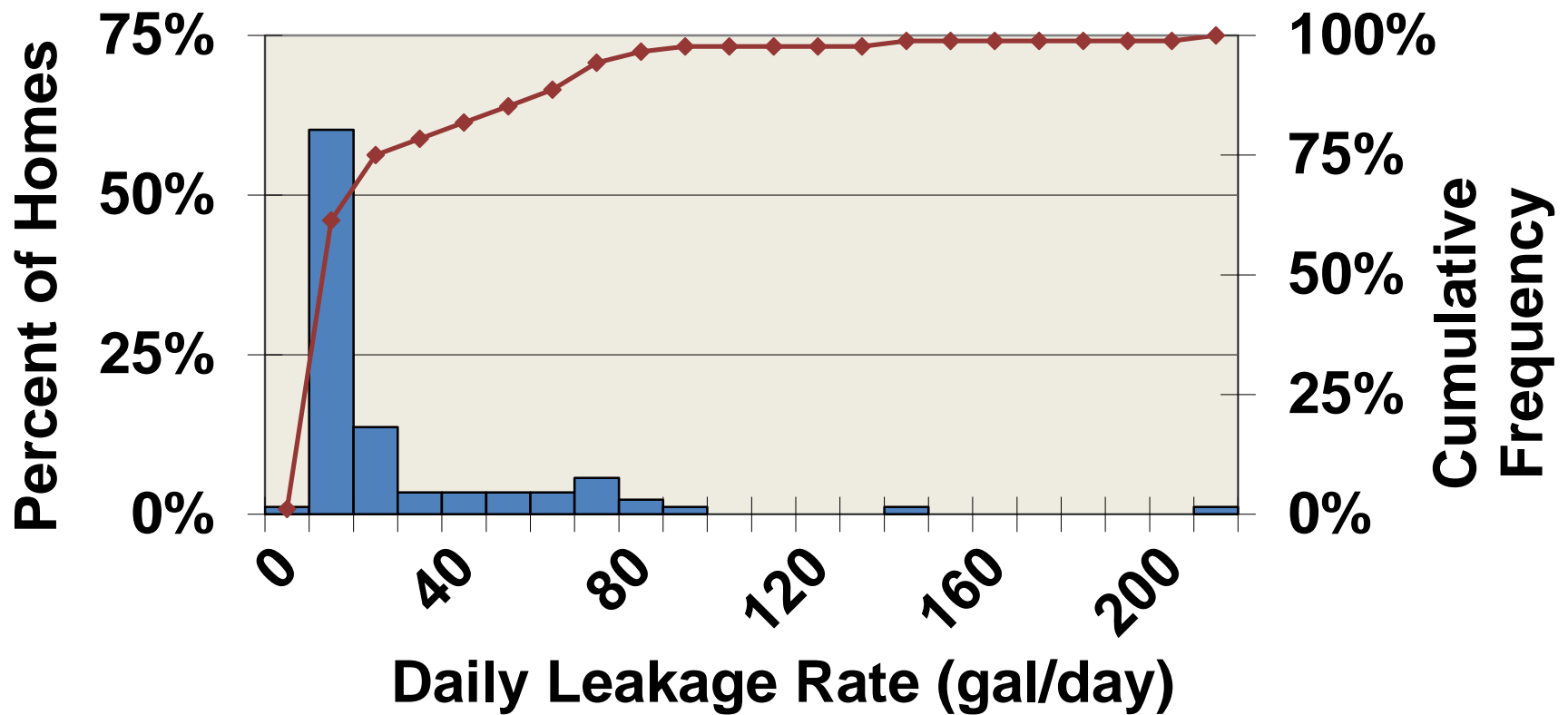
# Intro

- Single family residential
- Advanced meter infrastructure (AMI) tools
- Customer service

# What we know about leaks – end use data

Big leaks matter – 2% of homes leaked at 120 gal/day

AMI can help us find those leaks



# How we're using advanced meters to find leaking homes:

- Query reports list of homes without zero use.
  - Includes customer data such as account number and contact information
  - Ranked by average hourly use
    - We contact only customers who average more than 60 gal/hour.

# Making the phone call

## What we say:

We see something odd so we're giving you a call.

We're here to help.

Let's talk about the meter.

What do you think?

## What we convey:

**It's a service.**

**It's all carrot, no stick.**

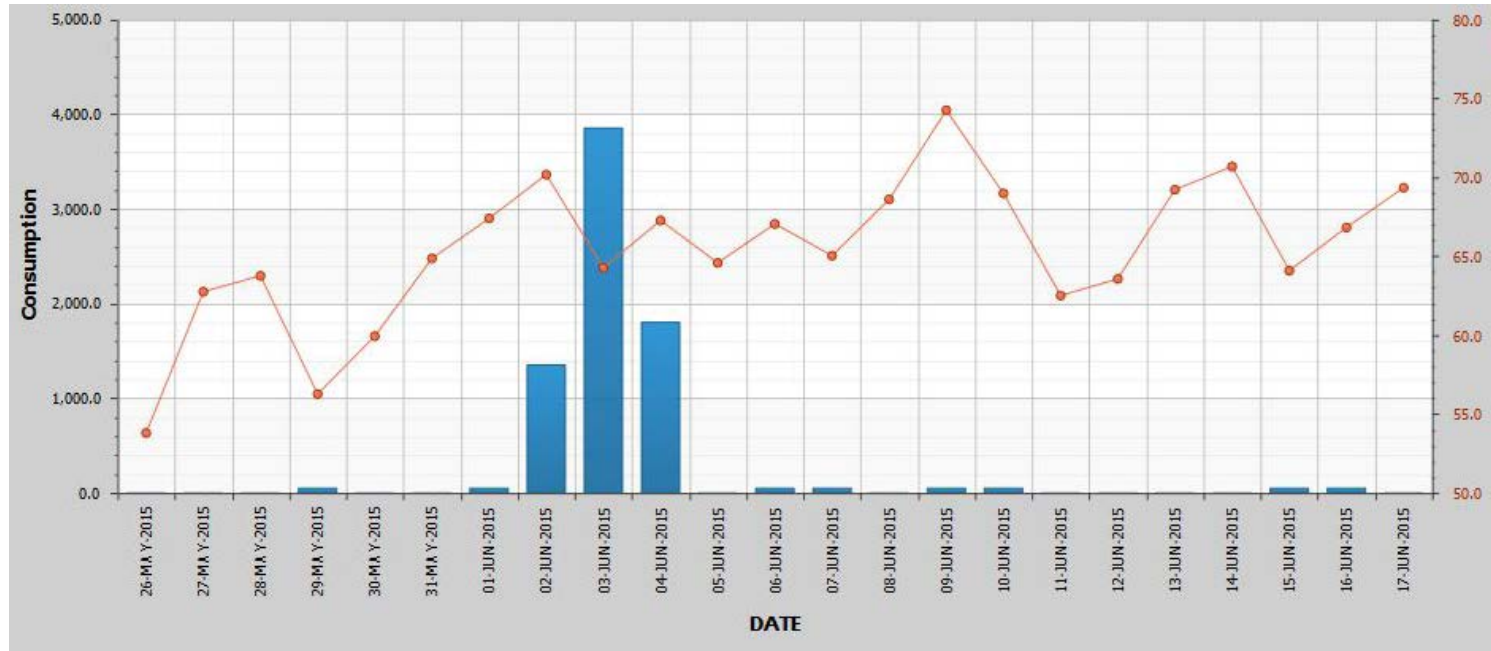
**Data is how we're going to help.**

**Get to sleuthing.**

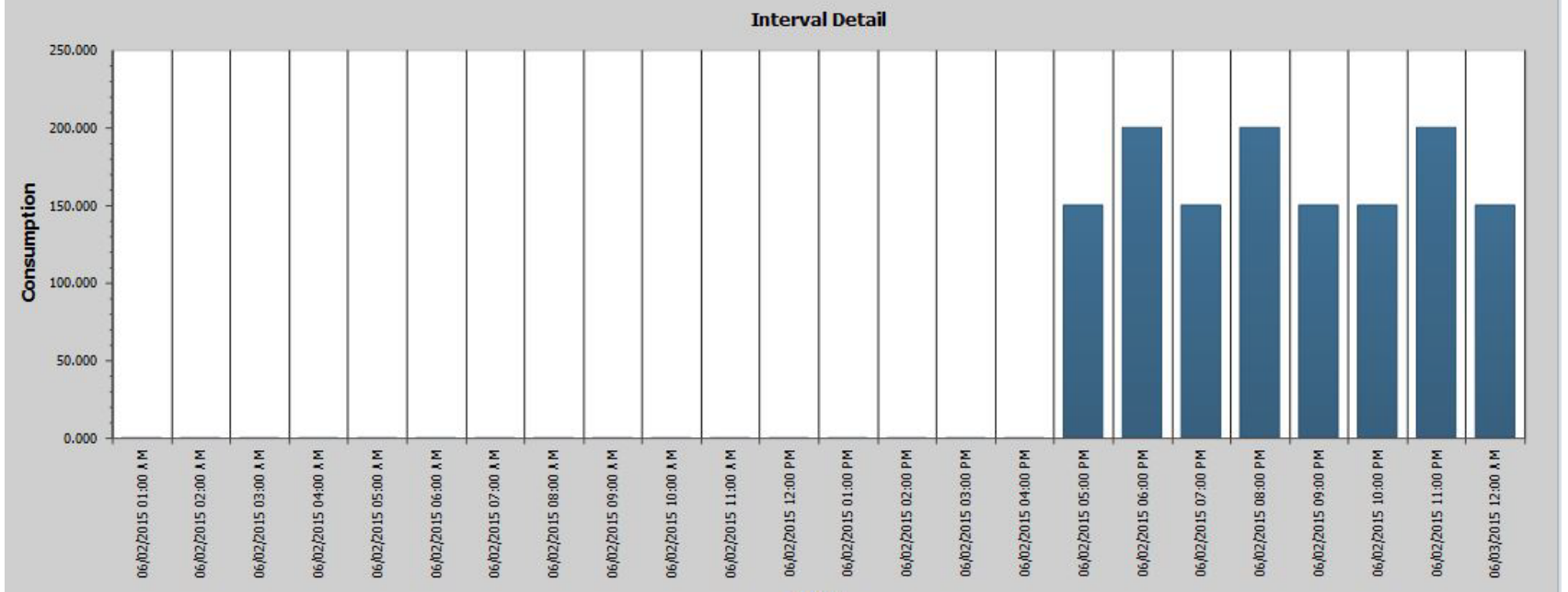
**Finding and fixing leaks is their responsibility.**

What we're seeing

# Toilet handle stuck



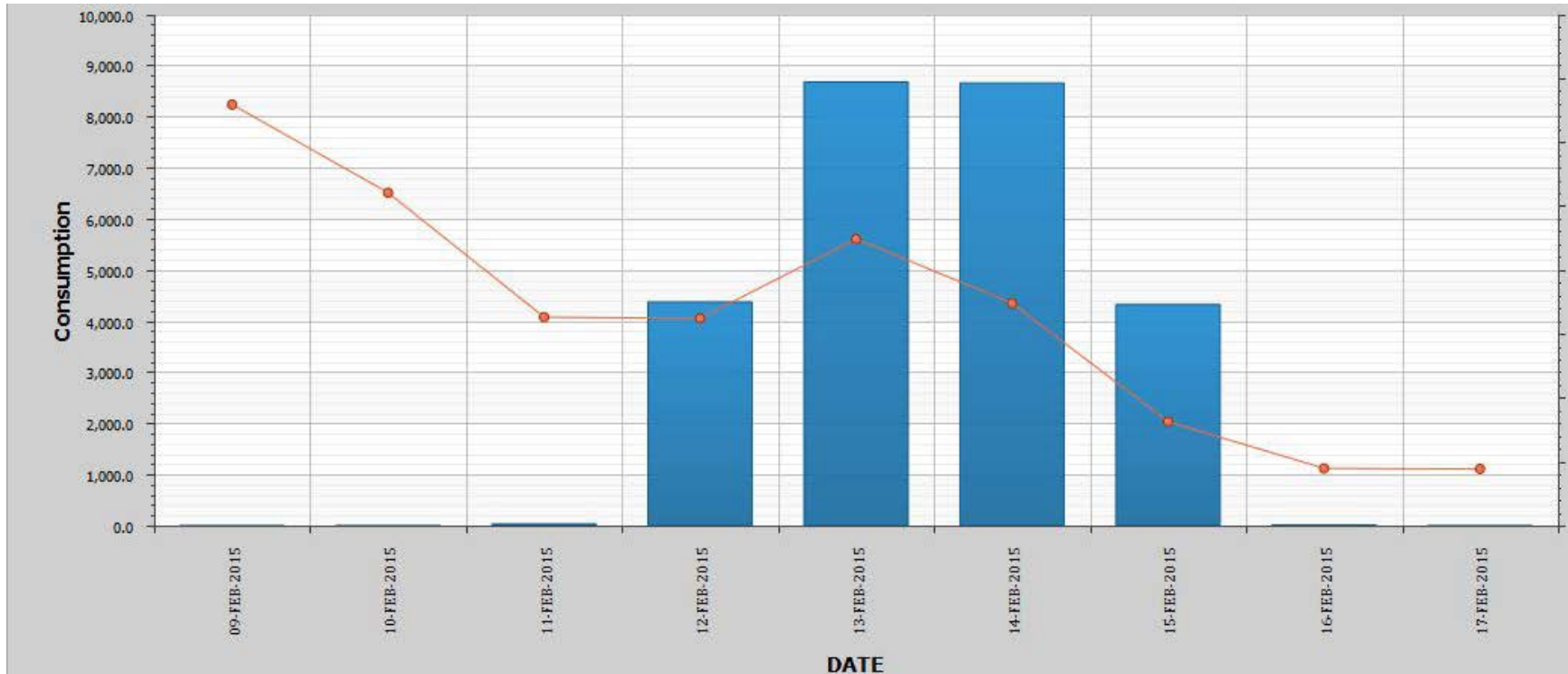
# Toilet handle stuck





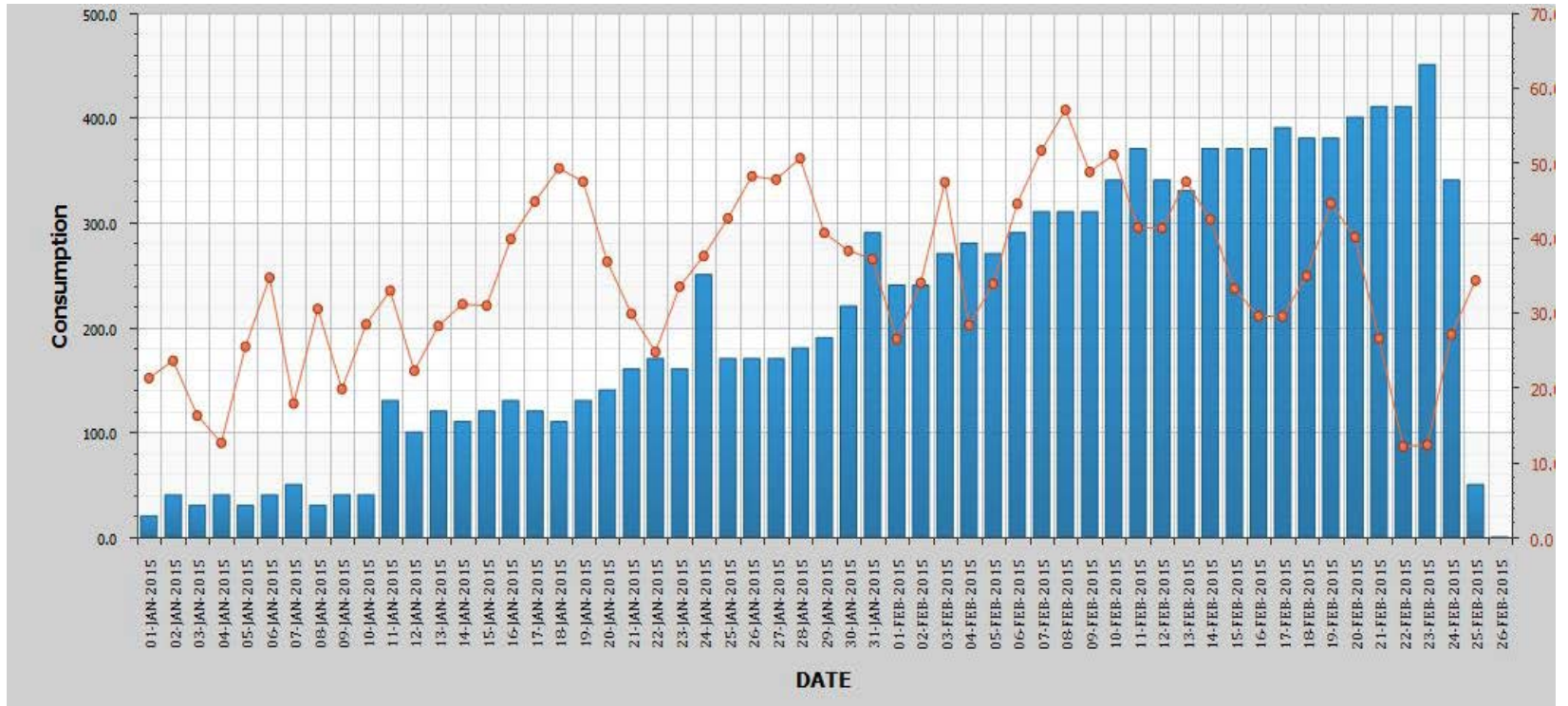
# Home inspector left water running

What we're seeing



What we're seeing

# Broken sprinkler line



# Program reach

- 847 customers contacted since April.
- Typically we contact 6 to 8 customers per day.
- A typical day has 127 premises on the list – but this includes low leakage rates.
- Leaks peak in summer.

# Estimated water volume – data from a sample of homes analyzed

- Looked at 25 homes from a two-week period in October
- October 2014 compared to October 2013.
  - Found that homes had an average increase of 10 kgal of use for that month.
  - At 95% confidence, the range is  $\pm 4.45$  kgal.

# Customer responses

We really appreciate that call because we called a plumber and found the problem and we wouldn't even have known about it if the city hadn't called us. So thank you. I think it's a wonderful service.

# Lessons learned

- Staff time is not trivial – the calls take time.
  - About a 0.5 FTE
- Meter shop was over-loaded.
- Summer increases probably warrant a different cut-off of average leak rate.

# Next steps

- Flow-trace style analysis to look at individual leak cases
- Survey customers who have been through program to find out about causes of leaks
- Evaluate average time on the list:
  - Before contact
  - After contact

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**QUESTIONS?**