



PARTNER STORY

# Right-Sizing Budgets with Analytics

The City of Greeley, Colorado is located in a semi-arid climate, receiving 12-14 inches of precipitation per year. During the drought of 2002, Ruth Quade, Greeley's Water Conservation Coordinator, needed to come up with the right solution to stimulate greater drought awareness and conservation actions on the part of ratepayers. After exploring several options, Ruth and her Greeley colleagues decided to implement a water budget system.



## Greeley Water & Sewer Department

LOCATION  
Greeley, CO

POPULATION  
96,539

MILES OF PIPELINE  
500

ANNUAL PRECIPITATION  
14.67 inches

ACCOUNTS SERVED  
BY WATERSMART  
21,000

# Greeley, Colorado

## THE CHALLENGE: COMMUNICATE EFFICIENCY

Water budgets are a calculated amount of water a household will require each month, based on the size of the family, number and types of fixtures, and landscape needs. When facing supply constraints, water budgets are an increasingly popular tool for utilities interested in sending conservation messages to their customers. As Ruth explained, “Metering tells us, and the customer, how much they are using. Budgets tell how much they *should* be using.”

Setting budgets and deciding how to implement them is often challenging, and can be logistically and politically fraught. What is the “right” usage limit to set for your customers? How does one strike a balance between budgets that community leaders and constituents will accept, and those that will manage demand?

## STRIKING A BALANCE

The City Council was reluctant to make budgets too strict as they primarily wanted to target the least efficient users. To address this, the utility proposed setting the budgets based on an assumed increase in the average

number of people in a household from 2.8 to four.

This allocation structure would only impact people who were substantially over their water budgets. It would also give residents room to improve their water-use efficiency without penalization. The budgets turned out to be technically difficult to administer, but finally, in 2011, Greeley launched their water budget program.

## GETTING THE WORD OUT

In the early phases of the program, Ruth and her colleagues observed that most people weren’t reading, or didn’t understand, the budget information provided on the water bills. This is a common communication challenge for water providers, as consumers frequently do not take the time to read their often difficult-to-understand utility bills. In 2013, Greeley partnered with WaterSmart Software to help address this issue.

Greeley worked with WaterSmart to better communicate water consumption and budgets, and to specifically target users who had not taken advantage of rebates for efficiency appliances or other conservation programs. To achieve this, they presented the water budget information on Home Water Reports.

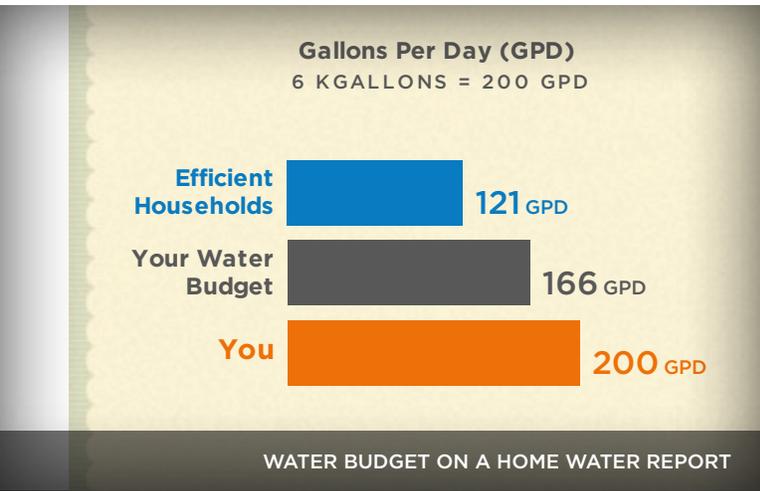


“Metering tells us, and the customer, how much they are using. Budgets tell how much they should be using.”

RUTH QUADE, WATER CONSERVATION COORDINATOR

Customers were more likely to pay attention to the water budget program in this form because the reports were easy-to-read, aesthetically appealing, and sent separately from the water bill. In addition, customers on

of the messaging. It was a nuanced issue that no one had considered until WaterSmart's Utility Analytics Dashboard revealed it. Recall how, at the onset the program, Greeley constructed the water budgets based on a four-person-per-household average occupancy assumption. While this softened the stringency of the budgets, it led to a misinterpretation of residents' water consumption. The high occupancy assumption resulted in Home Water Report savings recommendations that focused on indoor use throughout the year, which didn't address the reality of outdoor irrigation during the summer. "Surprisingly" Ruth states, "residents actually



electronic billing—who didn't regularly see their bills or receive inserts on conservation programs—received the Home Water Reports.

Through this outreach process, Greeley took advantage of WaterSmart's technology and services as a customer communication tactic, and also as a powerful analytical tool to help refine data accuracy and improve water-use efficiency. Ruth and her team discovered that WaterSmart was able to significantly increase the impact of the water budget program by providing more accurate water consumption information to Greeley households.

### FINE-TUNING THE MODEL

While this modified communication method improved customer response to the water budget program, there were still discrepancies surrounding the content

WaterSmart's Utility Analytics Dashboard helped Greeley modify broad assumptions by providing deep, precise data on customers' consumption behavior and household sizes.

wanted greater accuracy. Many went as far as to self-report occupancy numbers lower than our assumptions, even though the impact was to reduce their water budget.” WaterSmart Software identified that the overly generous budgets were giving the wrong signal to households about their use and ways they could save.

The original water budgets that Greeley developed were designed to selectively target high consumers. With the use of WaterSmart’s Utility Analytics Dashboard, and the support of WaterSmart’s Client Services staff, Greeley discovered that these budgets were negatively impacting conservation efforts. A significant number of customers were under their water budgets each period, and thus, were not receiving additional signals to conserve.

Customers who receive the modified Home Water Reports show a high degree of budget compliance.

### **ANALYTICS WITH IMPACT**

Armed with improved data accuracy provided by WaterSmart, Ruth and her team were able to go back to the City Council and make the case for more restrictive budget allocations. Greeley agreed to adjust the occupancy estimates and lower the water budgets. That decision led to more relevant messaging

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RUTH QUADE, GREELEY

and increased conservation performance based on verified data about residents’ actual behavior. During summertime, Home Water Report messaging strongly emphasized outdoor irrigation, the major source of summer water usage. The result: within six months of this change, customers who received the Home Water Reports showed increased responsiveness to rebates, higher degrees of budget compliance and water-use efficiency improvements of 4.1%

Ruth says, “If our entire community continues to be responsible with their consumption, then we’ll have plenty of supply and be prepared during the next drought.”

### **FOR MORE INFORMATION**

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