



A progressive water district in Castle Rock, Colorado implemented a demand-side leak detection and irrigation efficiency program in the latter part of 2011. As a result of the program, the district was able to:

- Prevent the loss of more than 2.9 million gallons of water (8.9 acre-feet)
- Save \$180,000 in avoided water costs (purchase, treatment, and distribution expenses)
- Identify and fix a wide variety of leaks and over-irrigation caused by: broken toilets, leaking irrigation lines, improperly programmed irrigation clocks, pipe breaks, and more
- Enhance the level of service to customers by proactively notifying them of problems and preventing costly property damage

A “POOR MAN’S” FIXED NETWORK SAVES MILLIONS OF GALLONS OF WATER



UNDETECTED LEAKS RUN FOR DAYS

The district serves a community of 4,400 people and manages nearly 1,700 water meters. Meters are read every thirty days using a mobile “drive-by” Automatic Meter Reading (AMR) system. Prior to implementing the program, if a resident suffered a leak, it wasn’t uncommon for the problem to go unnoticed for days or weeks. In many cases, these leaks caused extensive and expensive property damage.

A water leak occurring on the 15th day of the billing cycle could run undetected by the district or the resident, until bills were mailed 16-20 days later.

IMPROVING THE FEEDBACK LOOP

The district recognized that the key issue was substantial delay or latency in the feedback loop. This latency was leading to significant and costly water losses. The organization decided to partner with American Conservation & Billing Solutions, Inc. (AmCoBi) and implement a “poor-man’s” fixed network.

By reading meters on a biweekly basis and using statistical data analysis to evaluate the consumption data—**AquaHawk Alerting**—the district was able to quickly identify water-wasting problems and then notify homeowners. In some cases, residents were away from their homes. The district would dispatch an employee to inspect the properties and shutoff the water when necessary.

A variety of problems were discovered including:

- A pipe break in a crawl space that was running undetected
- A water softener with an auto-fill valve stuck open
- Several irrigation clocks that were set to run for extended periods of time in the early morning
- Perforated irrigation lines and more

PROACTIVELY NOTIFYING CUSTOMERS GENERATES WATER-SAVING RESULTS

By gathering usage data on a more frequent basis and thereby reducing system latency, the district was able to help its customers fix problems quickly, minimize unnecessary irrigation, and save millions of gallons of water.

OTHER BENEFITS

- Identified accounts that were candidates for conservation assistance and performance-based rebate programs
- Showed customers when they were applying more water to their landscapes than what was needed based on irrigation requirements



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