UCSC-BEACON:
WATER METERING FOR THE 21ST CENTURY

July 28, 2017
- History
- Challenges
- Solutions
- Successes
- Opportunities
- Leak Detection

Help Out—We’re in a Drought!

cityofsantacruz.com/drought

Still
Average daily water consumption by each residential customer

About 58.4% of water consumption in the City Of Santa Cruz is residential. The average daily gallons used by each residential customer decreased 17.17 percent in April 2017 compared to April 2016, according to the State Water Resources Control Board.

37.91 average daily gallons used by each residential customer for April 2017

45.76 average daily gallons used by each residential customer for April 2016

Legend:
- Residential water use, gallons per capita per day (gpcd)
- Population millions
- Hydrologic Region
UCSC Total Water Usage all 3 Campuses in Mgal

<table>
<thead>
<tr>
<th></th>
<th>JUN</th>
<th>JUL</th>
<th>AUG</th>
<th>SEP</th>
<th>OCT</th>
<th>NOV</th>
<th>DEC</th>
<th>JAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAGE 3 REDUCTION TARGET</td>
<td>18.00</td>
<td>13.33</td>
<td>11.67</td>
<td>10.11</td>
<td>11.53</td>
<td>16.07</td>
<td>10.94</td>
<td>10.02</td>
</tr>
<tr>
<td>Actual Reduction (Goal 20%)</td>
<td>28.1%</td>
<td>29.7%</td>
<td>10.1%</td>
<td>26.8%</td>
<td>-3.1%</td>
<td>21.0%</td>
<td>-1.8%</td>
<td>40.7%</td>
</tr>
<tr>
<td>Running total % Reduction</td>
<td>28.1%</td>
<td>28.8%</td>
<td>23.7%</td>
<td>24.3%</td>
<td>19.4%</td>
<td>19.7%</td>
<td>17.1%</td>
<td>19.5%</td>
</tr>
</tbody>
</table>

24.75 MGAL
$279,926*
CHALLENGES

- Data Collection
  - Hand-holds
  - VGB Unit
  - Ubuntu

- Reporting and Analytics
  - Multipliers
  - Data gatekeeper
  - Granularity
SOLUTIONS

- Data Collection
  - Cell phone/ google drive
  - Existing cell network
  - Remote server storage, web accessible
  - Csv download

- Reporting and Analytics
  - Installation provides opportunity for audit
  - Web accessible with login
  - Hourly data
Hydration Games
- Saved 350k gallons & $9,090 over 3 weeks

Staff Engagement
- ~75 Facilities Coordinators have an account
- Over 100 leak alerts set up

Leak Detection
- The Farm and Arboretum I47901
- Baskin Arts P&N

Time saved
- 8-16 hours per month
- 30-60 minutes per report

SUCCESSES
- Addressed
  - Batch Updates
  - Primary/Terminal Relationships

- Ongoing
  - Communication Errors
  - Training Staff
  - Organizational Structure

- Requested
  - Greater Intervals
  - Quicker Communication
  - Multiple Selections

OPPORTUNITIES
LEAK ALERT

Map: Satellite

Leak detected: 3.0 Cubic Feet per hour.

Add Note | Hide Other Meters
February 9th 2016

February 9th 2017
- 226k gallons and $2,200/ month
- 2.6 Million gallons and $26k/ year