

Water Conservation at SCU: On-Campus Fixture Audit

By Dylan O'Reilly & Gabriella Carne

California, including Santa Clara and the Bay Area, is currently in the midst of one of the worst droughts on record. In order to remediate the effects of the drought and to preserve water in case of future droughts, it is imperative that SCU do all it can to limit its potable water usage.



Objectives

“Continue to reduce potable water usage in campus buildings”

Gather a better understanding on Santa Clara's on-campus water usage

Uncover areas of fixture weaknesses on campus

Propose suggestions to Facilities to better improve
on-campus water efficiency

Met with Facilities &
targeted older and at-
risk buildings



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Gathered assumed
gallons per minute
(GPM) data from
initial sites



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Gathered actual GPM data from initial sites



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Calculated found
GPM



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Gathered assumed gallons per minute (GPM) data from initial sites



Gathered actual GPM data from initial sites



Calculated found GPM



Conducted “mini audits” on additional on-campus buildings



Met with Facilities & targeted older and at-risk buildings



Gathered assumed gallons per minute (GPM) data from initial sites



Gathered actual GPM data from initial sites



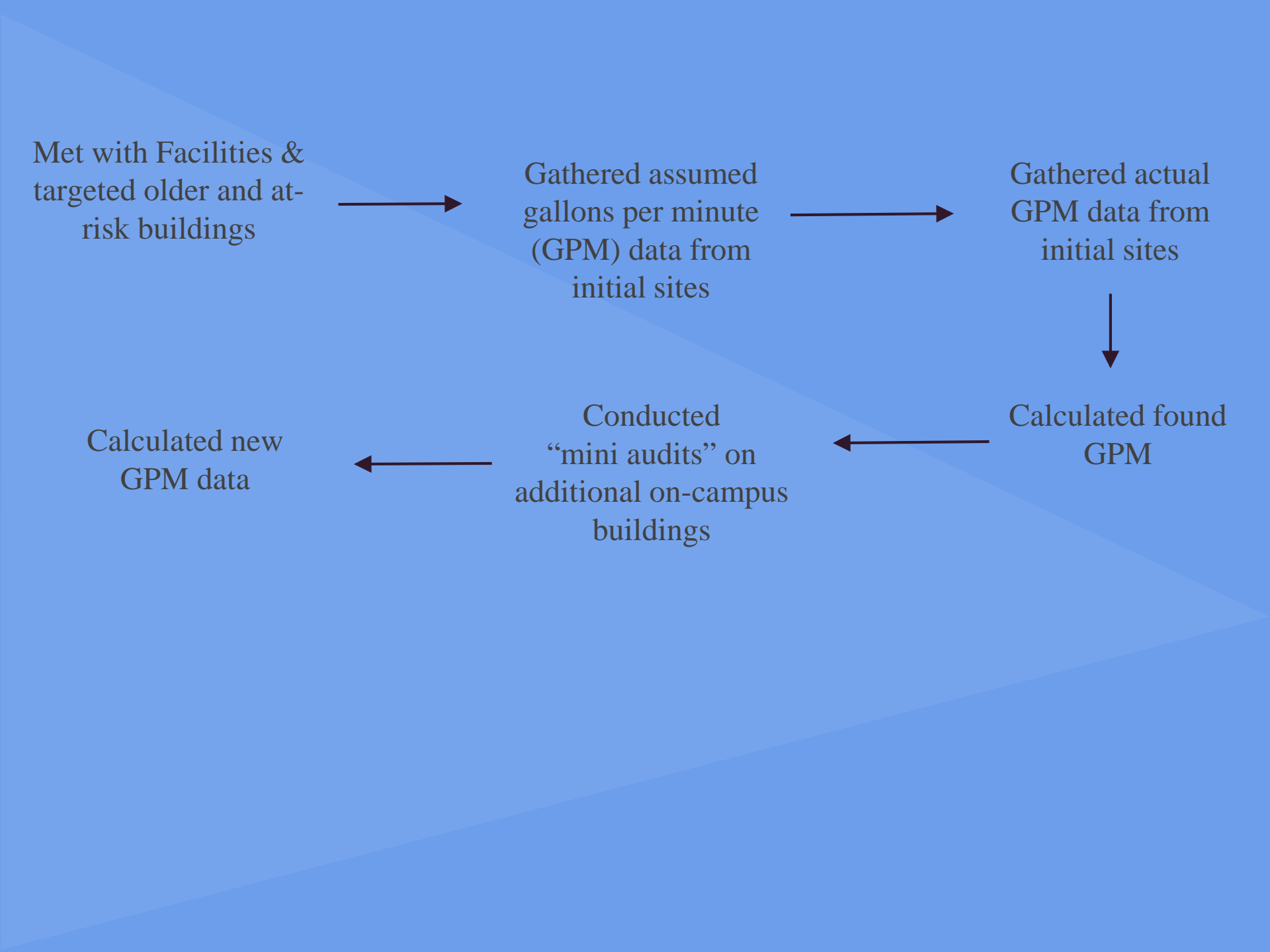
Calculated found GPM



Conducted “mini audits” on additional on-campus buildings



Calculated new GPM data



Met with Facilities & targeted older and at-risk buildings



Gathered assumed gallons per minute (GPM) data from initial sites



Gathered actual GPM data from initial sites



Calculated found GPM



Conducted “mini audits” on additional on-campus buildings

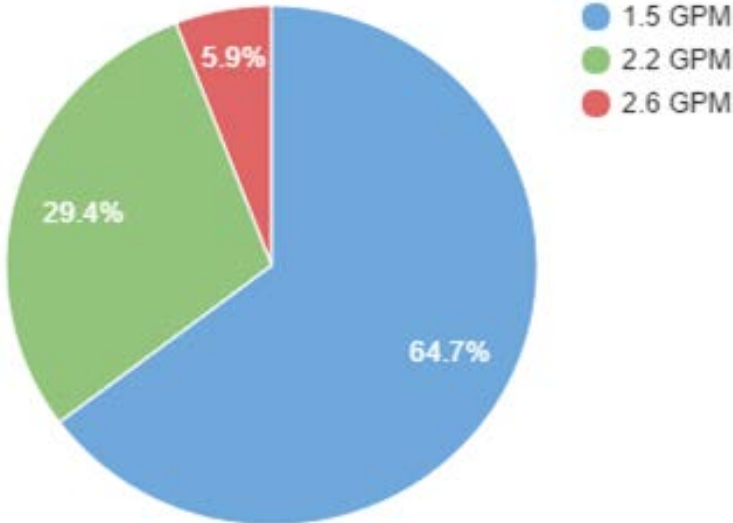


Calculated new GPM data

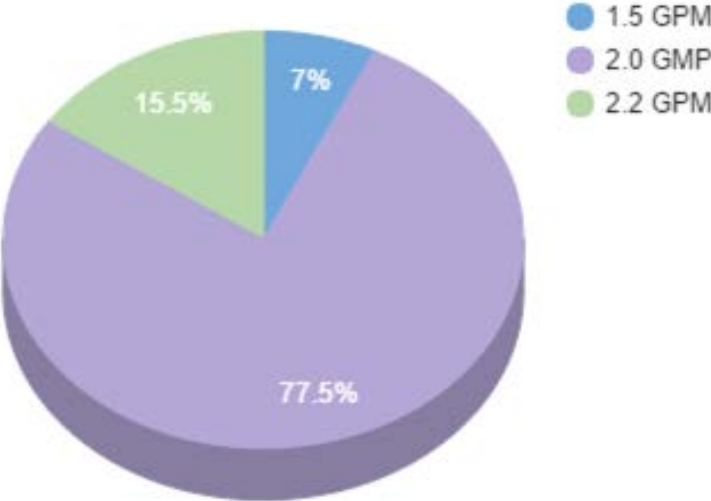
Target areas of weakness and establish recommendations for future SLURP projects & Facilities action

Results

Kenna Aerator Measurements

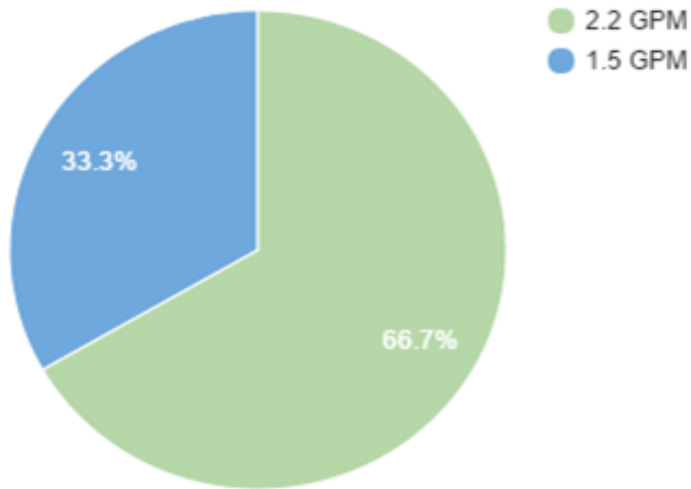


San Filippo Aerator Measurements

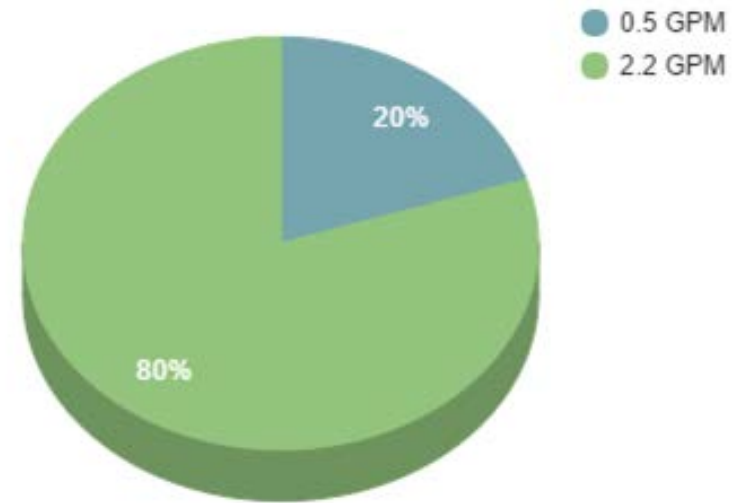


Results

O'Connor Aerator Measurements



St. Joseph's Aerator Measurements



What we found: 88% of aerators work at or below marked GPM.

Final Calculations

Assumptions

- ❑ Each person washes their hands at least twice a day
- ❑ Each person washes their hands for approximately 20 seconds
- ❑ Approximately 34% of aerators are 1.5, 34% are 2.2, and 27% are 2.0 based on full scale auditing of certain academic and residential buildings

Final Findings

How Much Can We Save?

5,800 gallons/day

1.5 million gallons/year



**That's 2% of SCU's
Potable Water Use!**

What else can we do?

Recommendations

- Future SLURP projects looking at the following:
 - Resident Hall shower fixtures and toilets
 - The behavior behind a SCU student's water consumption
- Facilities:
 - Target areas of fixture weakness by installing 1.0 GPM fixtures
 - Where to focus:
 - Sanfilippo, Kenna, Alumni Science
 - Other residence halls and personal sinks in rooms
 - Gather student support for installation with campus campaigning

Acknowledgements

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