



Channel Islands

CALIFORNIA STATE UNIVERSITY

Sustainability Report | Third Quarter

FY 2016 – 2017

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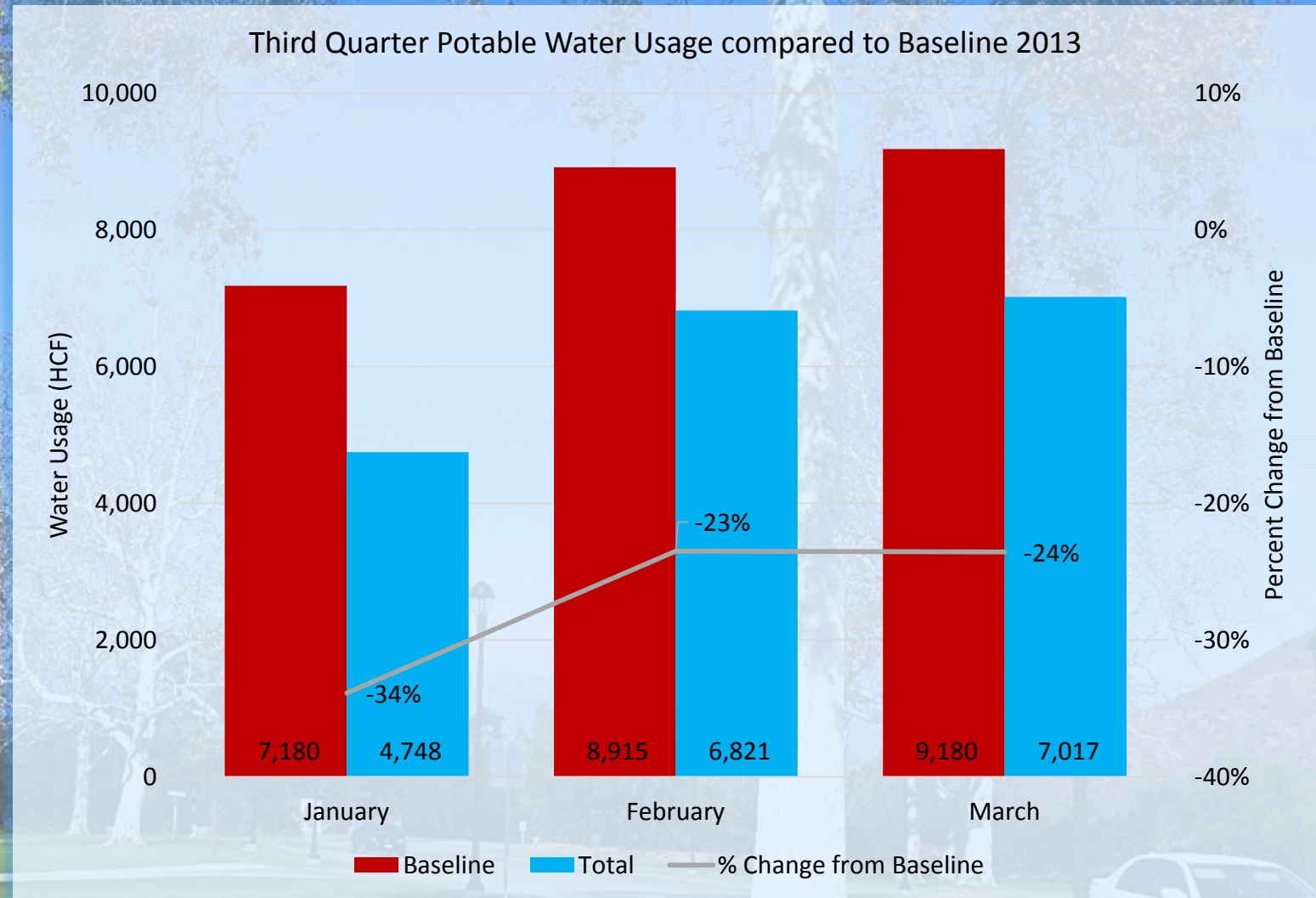
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- FTES: Full Time Equivalent Students
- GSF: Gross Square Feet
- HCF: Hundred Cubic Feet
- kWh: kiloWatt hour
- BTU: British Thermal Unit
- Potable Water: Drinking water
- Recycled Water: Water that has been recycled from waste water that we use for irrigation
- Baseline: the year, or years, we compare our usage to (for water we use 2013, for everything else we use the average of 2008-2010)

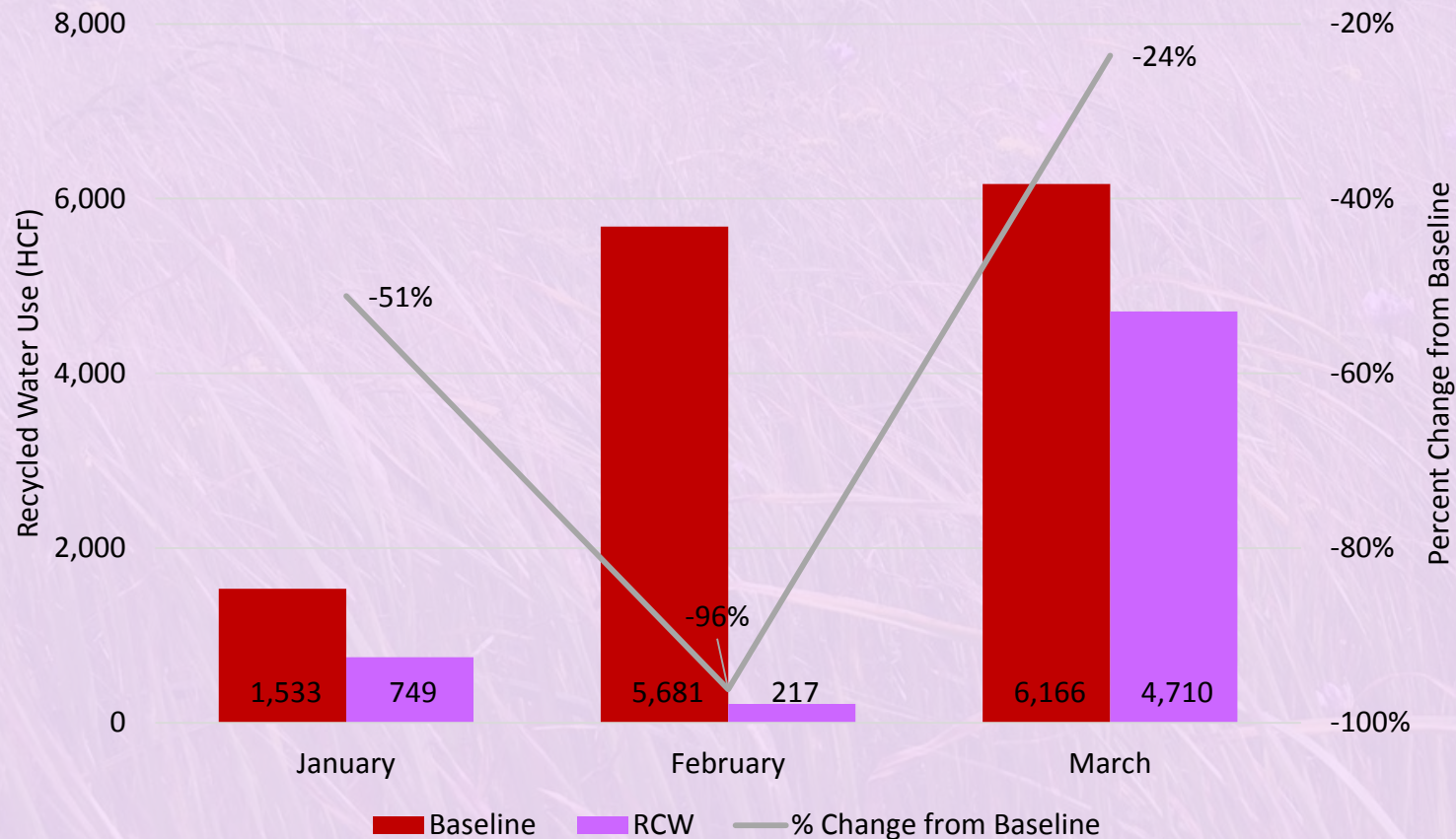
Potable Water

Potable water is always going to be a limited resource even as the drought has improved, so our goal of a 15% reduction still stands. We are meeting this goal by utilizing low water equipment and recycled water when possible.



Recycled Water

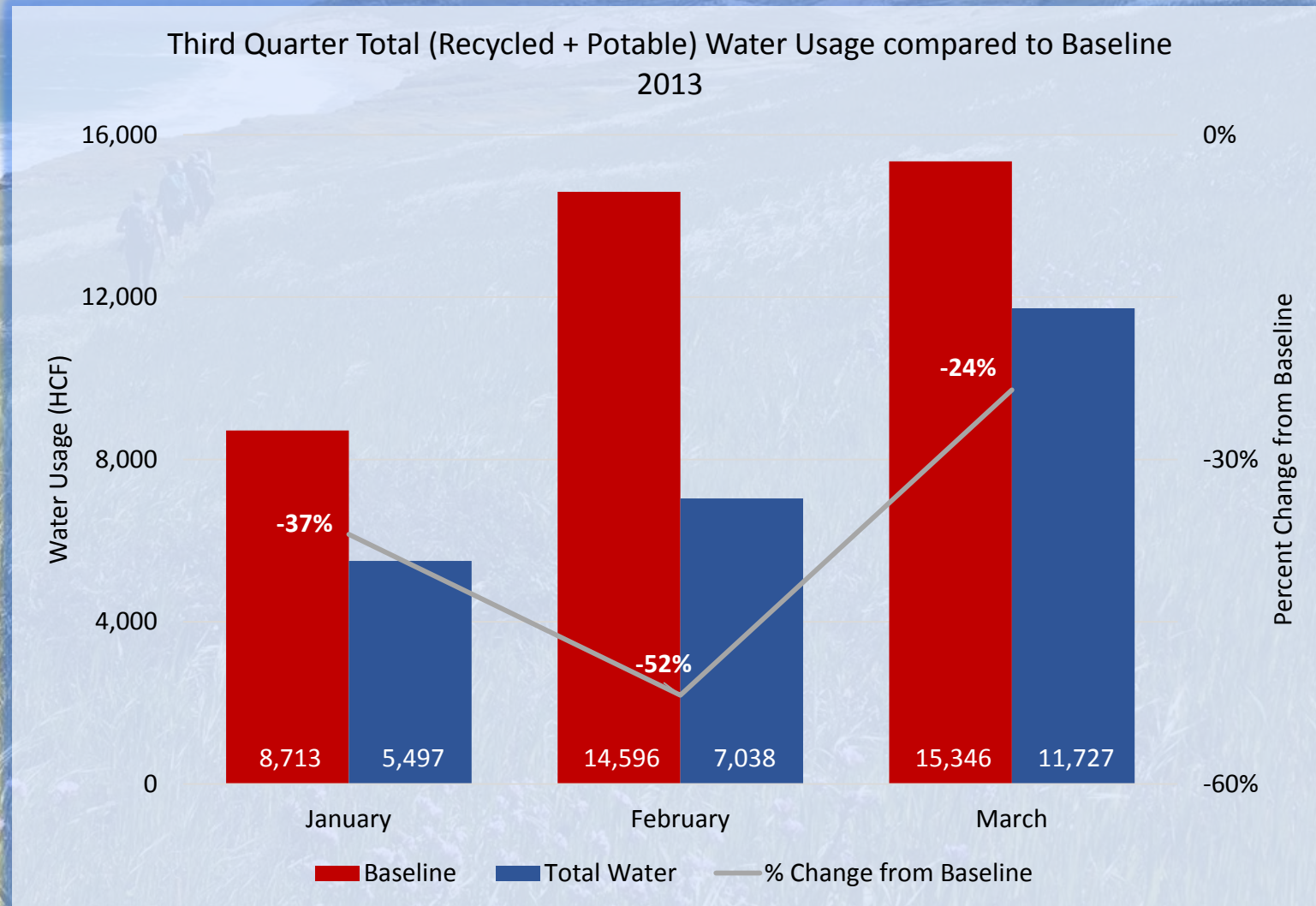
Third Quarter Recycled Water Usage



Fortunately, we experienced heavy rainfall this winter and spring which allowed us to almost completely stop irrigating for long time periods in January and February. This resulted in large recycled water savings, thus saving money as well. This reduction has greatly improved the outlook on our Total Water goal. Recycled water use has also significantly decreased compared to our baseline of 2013.

Total Water

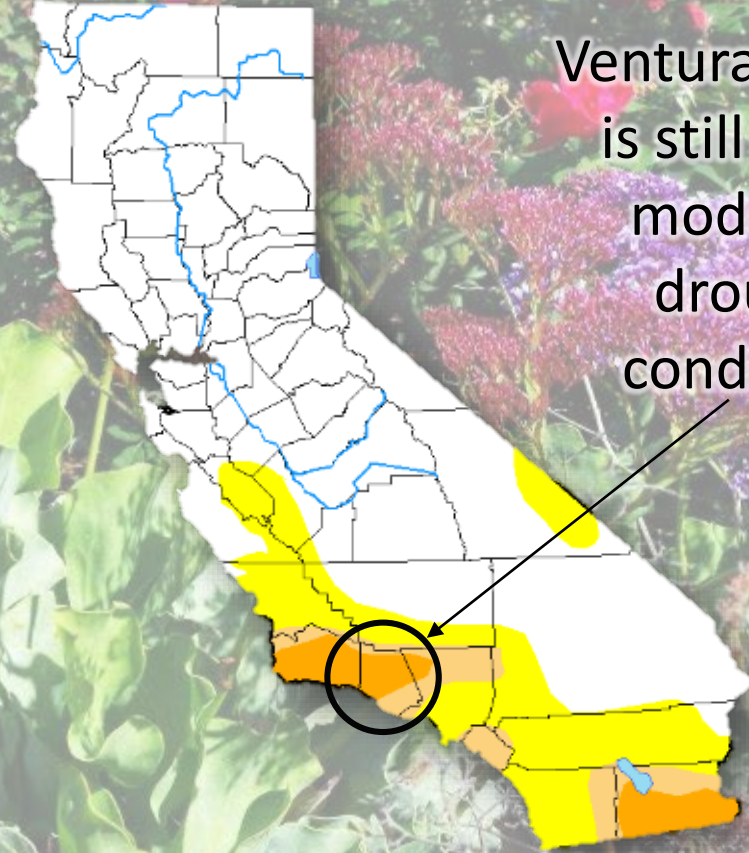
Total water is comprised of potable (drinking water) and recycled water (that is used for irrigation) on campus. We receive both supplies from Camrosa Water District. Our goal is a 20% reduction based on 2013 data, which we have met for this quarter.



Water Conservation Tips

- Continue to conserve even as the drought improves!
- If you notice water leaks on campus, call 805-437-8461 to notify Facilities Services
- Only run dishwasher or washing machine when full
- Use pitchers of tap water and refrigerate them instead of running the tap for cold water
- Plan ahead: don't thaw meat with running water
- Be aware of the amount of water that goes into producing the food you eat
- Every drop you save counts on and off campus!

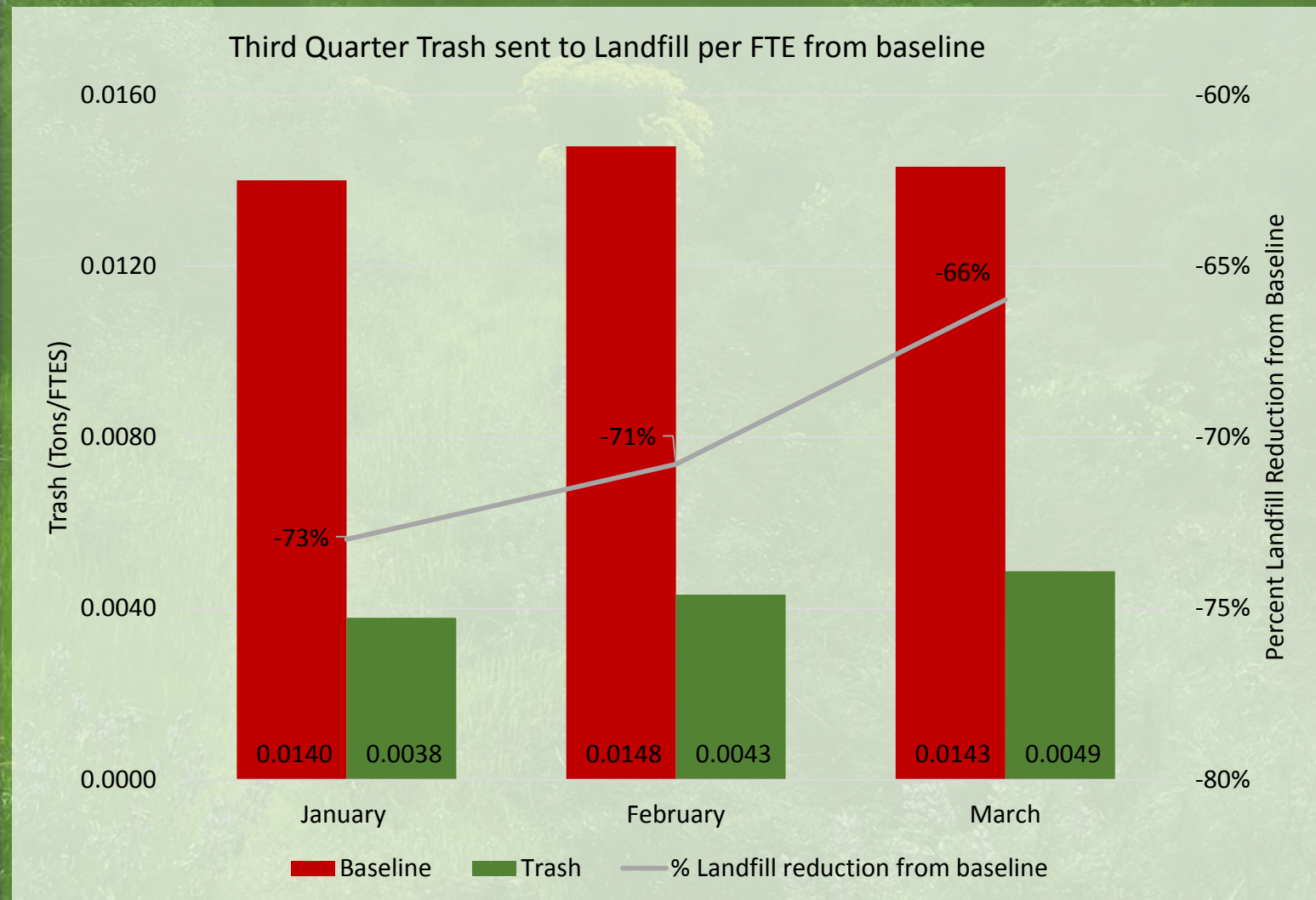
Status as of February 28th, 2017



Ventura County
is still under
moderate
drought
conditions

Waste

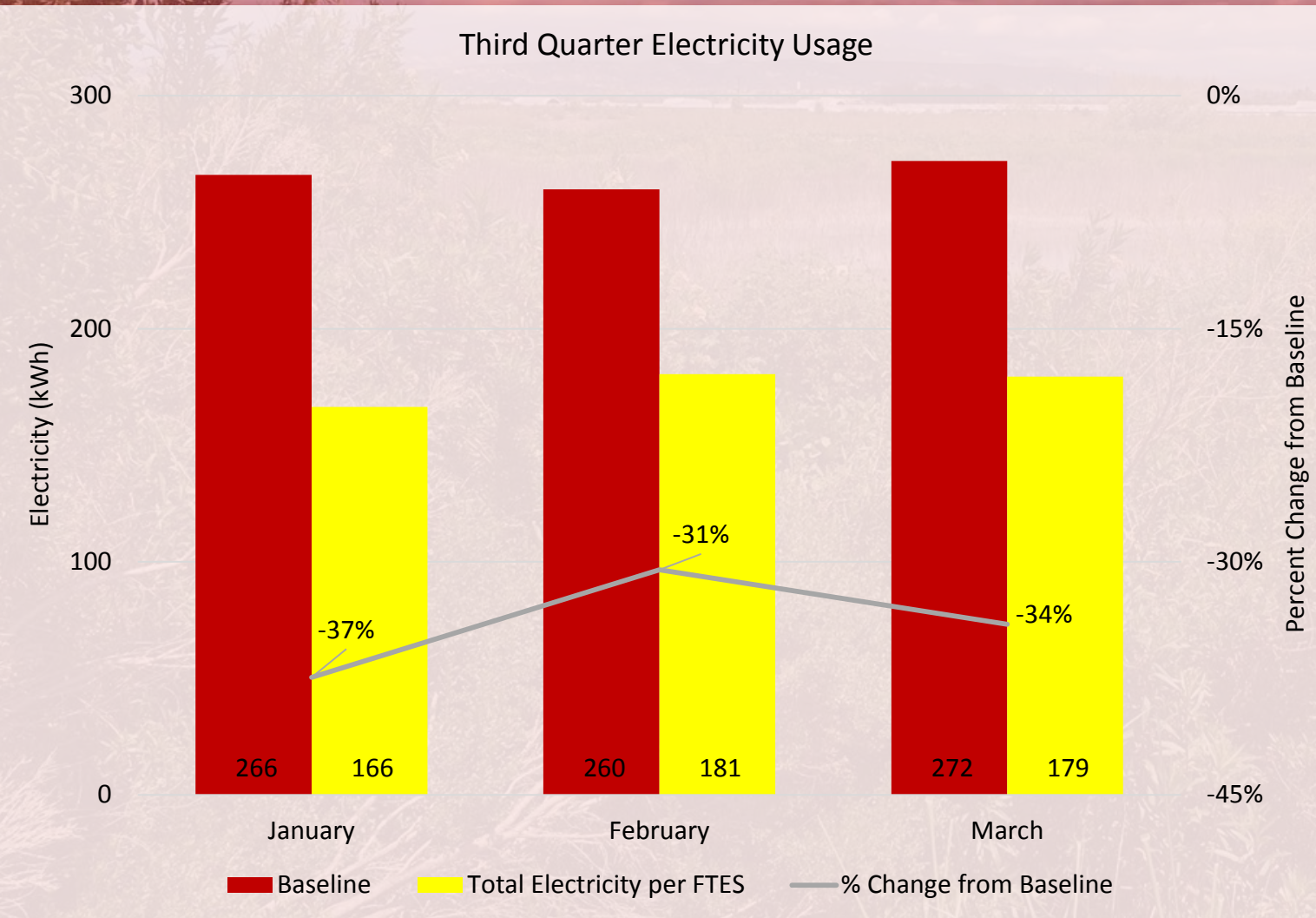
We are on track to meet our goal of an 80% reduction to landfill by 2020 compared to our baseline (average of 2008-09 and 2009-10). This is a campus wide effort that must be integrated with all university community members and conscious effort.



Waste Reduction Tips

- Bring a reusable water bottle and utensils to school
- Only buy what - and how much - you really need
- Make sure you use the right receptacle, is that really recyclable?
- Buy local foods that require less travel and less packaging
- Buy in bulk to avoid more packaging, but make sure you'll use all of the product before it expires

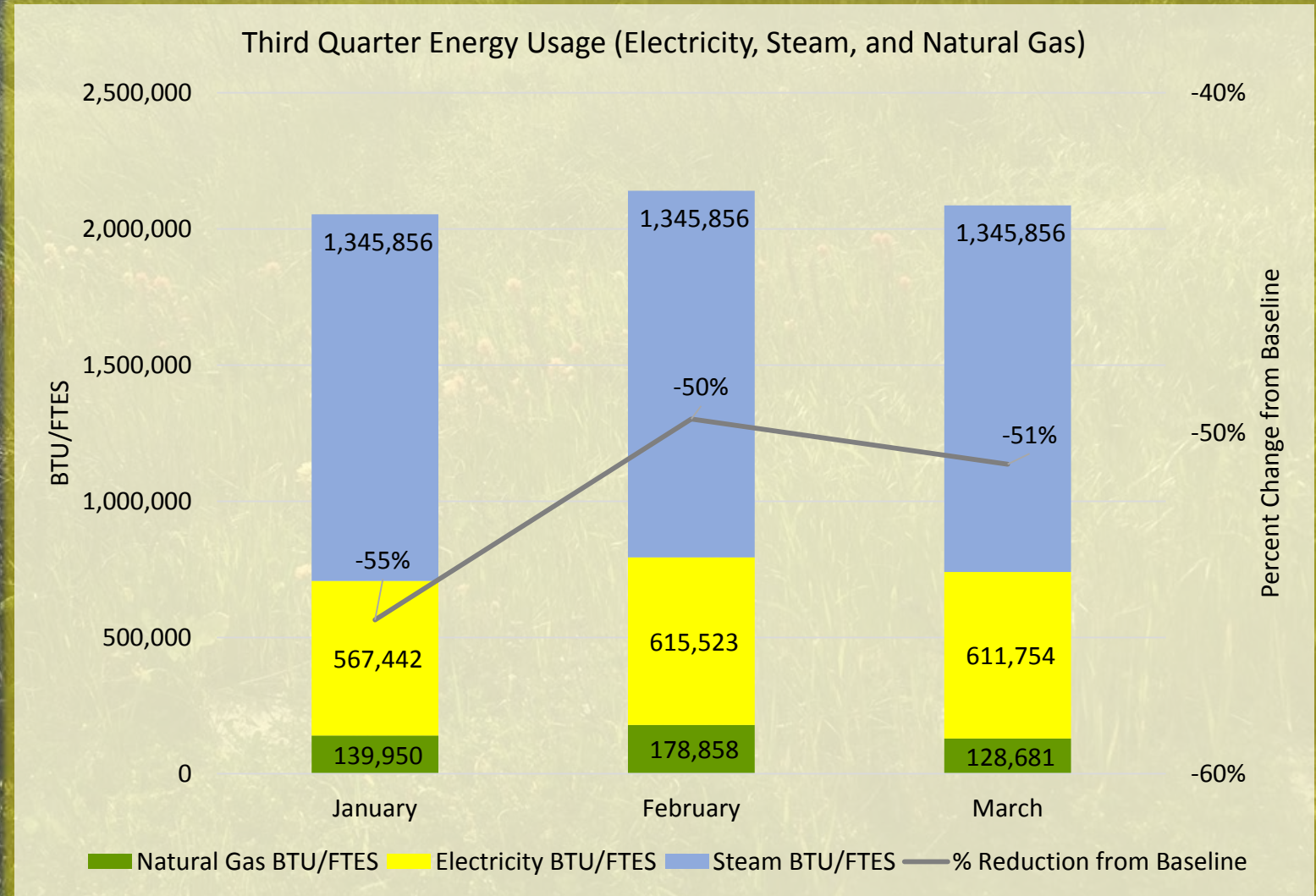
Total Electricity



Electricity is provided by the co-generation power plant and by Southern California Edison. As the campus grows our need for more electricity increases, but because we continue to innovate and utilize more efficient technologies, our overall electricity has decreased compared to our baseline (average 2008-09 and 2009-10). Our goal is a 25% reduction per FTES versus baseline; we have met this goal each month.

Total Energy

Total energy consumption on campus comprises electricity, steam, and natural gas. Steam makes up the most energy because it's used for the majority of heating hot and cold water along with space heating around CI after it's converted at our Central Plant. Electricity is used for lighting, plug loads, and various equipment around campus. Natural gas makes up the smallest amount because only a few buildings use gas for heating hot water, cooking, and space heating. Our goal is a 25% reduction per FTES versus baseline, which we are meeting.



Energy Reduction Tips

- Make sure all your light bulbs are efficient LED or fluorescent
- Wear layers and use blankets or fans instead of turning the thermostat up or down
- Make it a habit to turn off lights when you leave a room
- Open the blinds instead of turning on the lights
- Avoid letting your car idle: this not only saves gas, but also reduces emissions from vehicles

Electric Battery Powered Landscape Equipment

Thanks to Instructionally Related Activities (IRA) funds and student initiated projects, the Grounds Department now has electric battery powered equipment. We have six battery handheld tools and are getting more. Battery packs power equipment used around campus without burning gasoline. We'd like to thank Dr. Kahn's Chemistry class, IRA funding, Gina Matibag, and the Grounds Department for making this project happen.

Why Electric?

Reduces harmful, stinky fumes

Quieter, with the same amount of power

36 Volt Lithium Ion Batteries are rechargeable

Lowers maintenance costs

Power can come from renewable sources

Battery can be used with all Husqvarna electric tools

Brushless motor provides full torque with low revs



Noisy and smelly

Can cause respiratory damage to users



Why NOT Gas?

High potential for oil or gas leaks

EPA says gas blowers emit 93 pounds of CO2 per year!

2-cycle gas engines spew out lots of GHG emissions

Cities starting to ban gas powered equipment

Small engines aren't regulated yet



Thank
YOU,
from Chem
101
Fall 2016



Students Tour Facilities

Students from Prof. Kahn's Energy and Society Chemistry class toured the Channel Islands Power (CIP) co-generation plant adjacent to campus. This facility supplies CI with electricity and steam. Then they toured our Central Plant where steam is used to make heating hot water and cold water for campus infrastructure. This gave the students insight on how chemistry is applied to real world applications like providing human comfort and energy management.

Students from Prof. Soule's University 250 and Prof. Woo's ESRM 100 classes toured the Water Reclamation Facility of our local water supplier, Camrosa Water District. It is located adjacent to campus and provides CI with recycled water. This plant is important for sanitation and environmental considerations because it treats wastewater to a high quality so it can be used in place of potable water for applications such as irrigation.



Special thanks go out to Graham Moland (Camrosa), Jeff Smith (CIP), and Rich Paulson (Central Plant) for graciously leading tours of their facilities and answering all questions posed by the students!

* Photos are from students' tour at Camrosa



Acknowledgements

CSU Channel Islands is striving for a more sustainable campus community every day. Keep up to date between reports on our website: <http://www.csuci.edu/fs/sustainability/index.htm>

For questions, concerns, or ideas on new sustainability efforts, please email Coleen.Barsley@csuci.edu.

Appreciation goes out to the following contributors:

- **Department of Facilities Services**
- **Aspen Coty** Sustainability Student Assistant
- **Coleen Barsley** Sustainability and Operations Analyst
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* All photos were taken by Aspen Coty on campus and on Santa Rosa Island

