California State University, Sacramento Sustainability Report 2012 - 2014



California State University, Sacramento 6000 J Street Sacramento, CA 95819





1.	Introduction	<u>5</u>
2.	Academics 2.1. <u>Sustainable Technology Optimization Research Center (STORC)</u> 2.1.1. <u>Aquaponics</u> 2.1.2. <u>Biodiesel Production System (BPS)</u> 2.1.3. <u>Storm Water Pre-Discharge Treatment/Filtering</u> 2.1.4. <u>Food Waste Composter</u> 2.1.5. <u>Biodegrader Composting Toilet</u> 2.1.6. <u>Solar Powered Water Purification Systems</u> 2.1.7. <u>Solar Powered Convection Space Heaters</u> 2.2. <u>One World Initiative</u>	<u>6</u>
3.	Dining Services 3.1. <u>Farmer's Market</u> 3.2. <u>Sustainable Dining Renovations</u>	<u>7</u>
4.	Energy 4.1. <u>Smart Grid Project</u> 4.1.1. <u>High Voltage Smart Electric Switches</u> 4.1.2. <u>Smart Electric Meters</u> 4.1.3. <u>Energy Management and Control Systems (EMCS)</u> 4.1.4. <u>Electric Vehicle Charging Stations</u> 4.2. <u>Renewable Energy Projects - Photovoltaic (PV)</u> 4.3. <u>Lighting Projects</u> 4.3.1. <u>Gym LED Lighting Retrofit</u> 4.3.2. <u>Pathway Lighting Project</u> 4.3.3. <u>LED Street Lighting Project</u>	<u>8</u>
5.	Environmental Health & Safety 5.1. <u>Environmental Hazardous Recycling</u>	<u>10</u>
6.	Landscape 6.1. <u>Sustainable Landscape Replacement</u> 6.2. <u>Tree Campus USA</u>	<u>10</u>
7.	Procurement 7.1. <u>Stero Dishwasher Purchase</u> 7.2. <u>Xerox Print Management</u> 7.3. <u>Procurement Green Revolution</u>	<u>11</u>
8.	 Planning, New Construction, and Building Renewal 8.1. Sustainable Building Renewal – Campus 8.2. Sustainable Renovations – Residential Housing 8.2.1. Picnic Table Replacement Project 8.2.2. Sierra Hall Renovation 	<u>11</u>

	8.2.3. Sutter Hall Renovation/Refresh	
	8.2.4. Draper Hall Renovation	
	8.2.5. Exterior Building Lighting Project	
	8.3. Planning for Sustainability	
9.	Recycling/Waste Diversion	13
	9.1. Department Recycling Days	
	9.2. Don't Rush to Flush	
	9.3. Exterior Recycle Collection Program	
	9.4. Grounds to Grounds	
	9.5. Sac State Diversion Rate	
	9.6. Take-Back Program	
	9.7. Recycle It All at Sac State	
	9.8. E-Waste Recycling	
	9.9. HP Indigo 5500 Graphic Printer	
	9.10.Water Bottle Refill Stations	
	J.10. Water Dottle Kenn Stations	
10	Transportation	<u>16</u>
10.	10.1.Hornet Express Shuttle Program's CNG Biogas Fuel Use	10
	10.2. <u>Alternative Transportation</u>	
	10.2.1. Sacramento Regional Transit (RT) Bus/Light Rail Commuter Passes	
	10.2.2. <u>Guaranteed Ride Home Program</u>	
	10.2.3. <u>Zip Car</u>	
	10.2.4. Campus Bicycling Expansion Project	
	10.3. <u>Prius Department Vehicles</u>	
	Weber Concernation	10
11.	Water Conservation	<u>18</u>
	11.1. Low Flush Toilet Replacement	
	11.2. <u>Sink Aerators</u>	
	11.3. Irrigation Piping Replacement	
	11.4. Overall Campus Water Usage	
	11.5. Well Water Irrigation Use Reduction	
	11.6. Water Education and Awareness	
12.	Sustainability Office/Facilities Management	<u>20</u>
	12.1. Outreach & Promotions	
	12.1.1. <u>Earth Day</u>	
	12.1.2. <u>May is Bike Month</u>	
	12.1.3. Energy Conservation Awareness Day	
	12.1.4. <u>River Clean-ups</u>	
	12.1.5. <u>Mulching Mania</u>	
	12.1.6. Water Conservation Awareness Day	
	12.1.7. <u>Sustainability Logo</u>	
	12.1.8. Web & Social Media	
13.	Appendix	<u>23</u>
	13.1. Awards, Recognition & Grants	
	13.1.1. Office of Water Programs	

13.1.2. Energy Conservation

13.1.3. Water Conservation

13.1.4. CSU Facilities Management Conference

13.1.5. Recycling

Introduction

California State University, Sacramento seeks leadership and excellence in sustainable practices throughout the campus. We will integrate innovative technologies that conserve resources with sensitivity for the surrounding eco-system, and encourage environmental stewardship in our daily lives.

Consistent with The CSU System and State of California conservation and environmental policies, we will pursue sustainability in the areas of Academics; Dining Services; Energy; Environmental Health & Safety; Landscape; Planning, New Construction, Renewal; Procurement; Recycle/Waste Management; Transportation; Water Conservation.

Creating a culture of sustainability at Sac State demands involvement of students, faculty, and staff alike, across departments and areas of specialization, partnered with the leadership of the Sustainability Steering Committee, with the purpose of integrating sustainability in everything we do. Everyone and every department play a vital role. Sac State has a significant impact on the surrounding community; therefore we must be a leader in sustainability and foster partnerships with other advocates to achieve a greener community and campus. Each department's achievements, large and small, constitute the strides Sac State is taking toward greater sustainable awareness.

The following graphic depicts the interactive structure and relationship of the vital campus sustainability stakeholders:



Academics

2.1. Sustainable Technology Optimization Research Center (STORC):



The STORC project began in 2012 and houses and promotes sustainable and supplemental technology research for students, faculty, and staff, by encouraging real-world experimental learning. STORC's fundamental objective is to promote and encourage multidiscipline interaction in developing, designing, and constructing sustainable technologies. In 2014, STORC was officially granted "Center" status. As a Category II Center, STORC can officially seek

funding opportunities and build community partnerships on behalf of the University. The following technologies are currently housed at STORC:

2.1.1. Aquaponics:

The simplest definition is the joining of aquaculture (raising fish) and hydroponics (the soil-less process of growing plants) that grows fish and plants together in one integrated system.





• Sac State student Nelson Mmbando presented his personal aquaponics project at the 2014 This Way to Sustainability conference at Chico State and won the first place Greenie Award for Innovation.

2.1.2. Biodiesel Production System (BPS):

The goal is to convert kitchen waste vegetable oil, produced by campus eateries, to biodiesel for

powering Facilities' grounds maintenance equipment. The process has recently produced its first output of Biodiesel, and it is currently being tested to determine quality level.

2.1.3. Storm Water Pre-Discharge Treatment/Filtering:

This project is part of campus efforts to comply with recently promulgated Water Resources Board regulations. This process tests the filter capability of soils and impact of storm water on plant life.



2.1.4. Food Waste Composter: With the goal of reducing the amount of food waste being sent to the landfill, a food waste composter is the process of converting food waste into a natural fertilizer that can be used to help enrich soil throughout the campus. A portion of the food collected for the composter comes from our campus' Children's Center. Once the compostable product is ready, a portion is then returned to the Children's Center to be spread in its raised garden boxes, a learning tool for the center's young students.

2.1.5. Biodegrader Composting Toilet:

The composting system uses a dry toilet design which requires no water to flush.

2.1.6. Solar Powered Water Purification Systems:

Uses solar energy to pump, filter, and pasteurize water for human use/consumption.

2.1.7. Solar Powered Convection Space Heaters:

Uses solar energy to heat air within a closed system.

2.2. One World Initiative:

Initiated by the Provost's Advisory Committee on Curricular Global Engagement, Sacramento State's One World Initiative is a campus-wide initiative intended to bring together and highlight the many global

engagement opportunities at Sacramento State, both within the curriculum and within the broader campus environment.

In 2012-13 the theme was "Global Perspectives on Water". The initiative was a huge success with faculty from many disciplines including the theme in their courses and generating a rich calendar of water-themed events throughout the academic year. The campus then explored issues surrounding migration in 2013-14 through the theme "Global Perspectives on Migration."

Dining Services

3.1. Farmers' Market:

Sponsored by Associated Students, Inc., farmers' markets occur on select Thursdays in Serna Plaza. The market is regularly attended by several local County of Sacramento certified farms selling fresh fruits, vegetables, jams, breads, etc.

3.2. Sustainable Dining Renovations:

- All of the lighting installed in Riverfront Center is energy-saving LED lighting.
- Chairs in Round Table Pizza are made from 100% recycled aluminum cans and plastic bottles.

• All floor coverings used in the Riverfront Center renovation are derived from recycled carpet and bamboo.





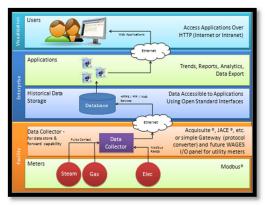
Energy

4.1. Smart Grid Project:

The Department of Energy awarded the grant to SMUD in fall of 2009 to help fund the Smart Grid project. In May 2013, Sac State completed the four major components of the Smart Grid Grant project which included:

4.1.1. High Voltage Smart Electric Switches:

Four switches are in use to allow for automated rerouting of power on the campus owned 12,000 volt electric circuits.



4.1.2. Smart Electric Meters:

Installation of 58 smart electric meters was completed in campus buildings (including non-State buildings); these meters report to an Energy Information System software.

4.1.3. Energy Management and Control Systems (EMCS):

Replacement of the old and outdated EMCS occurred in 38 buildings with nearly 37,000 monitoring and control points. This allowed for central real time monitoring and control of environmental conditions within each of the buildings and the ability to control and minimize energy consumption.

4.1.4. Electric Vehicle Charging Stations:

Installation of 14 electric vehicle charging stations was completed on campus and is also available for public use. There are four stations located in Parking Structure 1, seven located in Parking Structure 2, and three located in Parking Lot 1.





4.2. Renewable Energy Projects - Photovoltaic (PV):

Sac State implemented two PV solar panel projects totaling a maximum capacity of 500 kW. They were both roof mounted PV systems located on the Library (272 kW) and The WELL (228 kW). Both projects were completed in March 2013 as Power Purchase Agreements.





4.3. Lighting Projects:

4.3.1. Gym LED Lighting Retrofit:

Sac State replaced 30 existing High Pressure Sodium lights in Yosemite Hall's North Gym with 20 LED lamps with individual occupancy sensors that resulted in 73% energy savings, reduced maintenance cost due to longer lamp life, and better lighting quality.





4.3.2. Pathway Lighting Project:

Sac State has an ongoing project to replace the existing High Pressure Sodium pathway lights with Induction lamps, which has resulted in 43% energy savings and reduced maintenance costs due to longer lamp life.

4.3.3. LED Street Lighting Project:

Sac State has replaced the existing High Pressure Sodium cobra head street lighting fixtures with energy efficient LED street lights. The project has resulted in 54% energy savings, reduced maintenance costs, and better lighting quality and color.



Environmental Health & Safety

5.1. Environmental Hazardous Recycling:

- Utilized the Paint Care California program to recycle latex paints at no direct cost to the University.
- Participated in the nationwide Call-2-Recycle program to recycle rechargeable batteries at no cost to the University.
 - 299 pounds in 2012, 471 pounds in 2013 and 229 pounds in 2014.
- Recycled Universal Waste:
 - Alkaline batteries (1,061 lbs. in 2012, 1,431 lbs. in 2013, and 2,023 lbs. in 2014).
 - Fluorescent lamps (27,865 ft. in 2012, 32,524 in 2013, and 36,135 in 2014).



Landscape

6.1. Sustainable Landscape Replacement:

Beginning in Fall 2012, drought-tolerant plant materials installed throughout campus are more sustainable—requiring less water and less pruning—thus generating less green waste. Currently Sac State aerates approximately 30 acres of campus lawn with research showing up to a 25% savings in water usage possible if done regularly.







6.2. Tree Campus USA:

For the first time on November 14, 2012, Sac State was recognized by the national Arbor Day Foundation as a Tree Campus USA. Sac State was awarded this designation for the 2nd year in a row in 2013.

Procurement

7.1. Stero Dishwasher Purchase:

Procurement of a new Stero dishwasher for Residential Housing will help reduce water consumption from 300 gallons per hour to 99 gallons per hour.

7.2. Xerox Print Management:

Changes in Xerox print management has and will continue to aid in reducing the number of devices by optimization across campus departments like ABA, HR, and IRT resulting in the following changes:

- Currently:
 - 8,316,264 pages printed per year
 - 5,458 equivalent trees per year
 - Currently approx. 5% of all print is duplex
- Future:
 - \circ 50% projected to be duplex
 - Savings 3,950,225 pages or 2,583 trees



7.3. Procurement Green Revolution:

Procurement awarded to the following California State Certified Small Business Suppliers to support more sustainable purchasing for the University:

• Biologic (Bio Hazardous Waste Disposal), Ingenium Inc. (Asbestos/Lead disposal Services), Viking Shred (Paper Shredding and Recycling), North State Environmental (Hazardous Materials Removal/Disposal).

Planning, New Construction and Building Renewal

8.1. Sustainable Building Renewal - Campus:

• Facilities Management will select more energy efficient fixtures, techniques and materials when an option exists.

- Examples: Library 1001 for Global Education (under construction), various "Smart" classrooms around the campus.
- Whenever practical, projects reuse materials such as ceiling tiles and carpeting to minimize amount of materials being thrown away needlessly.
 - Example: California Department of Public Health (2nd floor of Folsom Hall), carpet tiles & ceiling tiles reused along with furniture partitions.
- Current projects use LED lighting with motion sensors to reduce energy use for lighting
 - o Example: Library 1001 for Global Education (under construction)

8.2. Sustainable Renovations – Residential Housing:

8.2.1. Picnic Table Replacement Project - December 2012:

Seven wood picnic tables were recycled and replaced with seven eco-friendly tables made out of 100% recycled plastics.

8.2.2. Sierra Hall Renovation – Summer 2012:

- Replacement of all corridor 13 watt compact fluorescent lamps with motion sensor LED fixtures.
- Replaced old plumbing fixtures with low flow fixtures.

8.2.3. Sutter Hall Renovation/Refresh – Summer 2013:

- Replacement of all 13 watt compact fluorescent corridor lamps with motion sensor LED fixtures.
- Replaced old plumbing fixtures with low flow fixtures.
- Utilized 22 ADA compliant wardrobes made out of reclaimed oak.
- Recycled 220 mattresses.
- Recycled 250 wood study chairs, and lounge furniture.
- 37,800 lbs. of furniture was collected for reuse or recycling during Summer 2013.

8.2.4. Draper Hall Renovation – Summer 2014:

- Refurbished 240 student room chairs.
- Replaced old plumbing fixtures with low flow fixtures.

8.2.5. Exterior Building Lighting Project – Fall 2014:

Replacement of 37 existing high pressure sodium and metal halide light fixtures with LED fixtures was completed on the exterior walls of all traditional residence halls.







8.3. Planning for Sustainability:

- Future projects will have regulated receptacles that can be turned off, for use with devices that use always on "Wall Warts" to charge batteries in devices.
- Future projects will employ daylight sensors to dim lighting when daylight provides sufficient light in the room.
- Where practical, large projects will include either photovoltaic power or solar water heating to offset energy requirements.
- The campus is exploring overall replacement of existing fluorescent fixtures with LED fixtures to reduce energy use on campus and delay installation of new utility electrical supply to the campus.

Recycling/Waste Diversion

9.1. Department Recycling Days:

This program opens up some of the University's recycling avenues to the staff and faculty of the Sac State community. The Recycling department collects certain materials from campus offices and even some personal items brought from home for recycling. The event allows for departments to de-clutter their work environment.

9.2. Don't Rush to Flush:

This campaign was designed to reduce the opportunity for unused or expired medications from being flushed down the toilet, thus polluting the local water supply. Via a grant from the Rose Foundation, a coalition comprised of The WELL Pharmacy, the California Product stewardship Council, The Office of Environmental Health and Safety and Sac State Recycling has partnered to obtain an official Don't Rush to Flush receptacle to collect the medications in question. The receptacle, which is housed in The WELL Pharmacy, can also accept pet medications and is open for public use. Sac State was only the second entity in the entire Sacramento region to obtain one of these receptacles.



9.3. Exterior Recycle Collection Program:

Two Facilities Management team members known as the Recyclers make daily collection rounds of all the recycling and waste receptacles on campus—sometimes twice a day in some of the waste hot-spots. This keeps the campus cleaner looking and free of unsightliness. These two individuals are charged with assessing the collection needs across the campus and generating recommendations for optimizing the



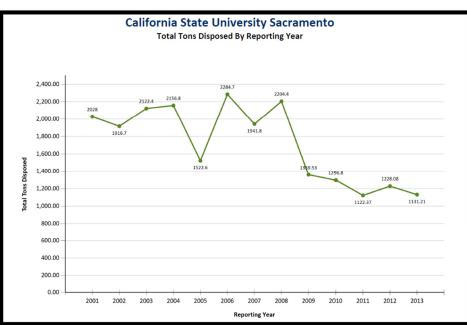
recycling program and improving the appearance of the campus. Additionally in the Summer of 2014, Sac State Sustainability introduced new hover-style dome lids. These lids have a dome that helps to create an umbrella-like effect, keeping out the accumulation of rainwater which could otherwise increase hauling rates. These domes also serve as the perfect canvas for fun graphics that indicate which waste items go into which receptacles.

9.4. Grounds to Grounds:

This is a waste diversion program which unites the efforts of Dining Services, Facilities Management's Grounds and Landscaping department, STORC, and Sac State Sustainability. Beginning in March 2014, the Recycling Department began collecting used coffee grounds from four of the University's coffee houses. The grounds are then added to Landscaping's mulch/compost pile adjacent the University Arboretum and a weekly delivery to the STORC Aquaponics vermiculture project. This process helps to develop nutrient rich compost.

9.5. Sac State Diversion Rate:

The University's Diversion Rate is calculated annually to infer the percentage of Sac State's waste streams that are diverted from landfills. The calculation is based upon the campus' expected refuse output as weighed against both employee and nonemployee populations on both the main campus as well as the University's satellite locations.



- Diversion rates for the year 2012:
 - **Employee Population: 78.9%** Non-Employee Population: 75.8% Total Diversion Rate: 77.4%
- Diversion rates for the year 2013:

Employee Population: 84.6% Non-Employee Population: 81.7% Total Diversion Rate: 83.2%



0

9.6. Take-Back Program:

In the Fall of 2013, Sac State Sustainability launched the Take-Back program. The program is a conglomerate of agencies from throughout the campus that have opportunities for recycling which have no cost to the University. Currently Sac State (Facilities Management, Dining Services, EH&S and other entities) diverts the following streams from the landfill:

- Car Batteries
- Latex Paints
- Plastics
- Bottles and Cans
- Expanded Polystyrene Foam (Styrofoam)
- Pallets
- Green Waste
- Used Coffee Grounds
- Scrap Metal
- Precious Metals
- Electronic Waste
- Toner Cartridges
- Ink Cartridges
- Paper (Including shredding of confidential files)
- Cardboard
- Used Cooking Oil
- Tires
- Inert Materials (concrete, asphalt, clay, etc.)
- Furniture
- Select unused or expired medications (including pet medications)
- Construction waste
- Fabrics (used clothing)

9.7. Recycle It All at Sac State:







The Recycle It All at Sac State event was a success on many different levels. Aside from the obvious fact that over 900 lbs worth of materials were diverted from the landfill, it afforded the Sac State students, faculty and staff an opportunity to learn how much our recycling program had expanded and all the new materials we could accept. Also, because the event was coordinated in conjunction with America Recycles Day, we were able to work with outside agencies that promoted and participated in the event by conducting collections the school would not normally do such as hangers and clothing & shoes. The end result was a simple message: whatever you've got, Recycle It All at Sac State!

9.8. E-Waste Recycling:

Sac State recycled over 63,000 lbs. of e-waste in 2014 with our sustainability partner CEAR. That's over 31 tons of products that were diverted from the landfill. Residential Housing coordinates an e-waste collection at the end of each semester, helping students during move-outs responsibly divert their electronics from the landfill.

California State University, Sacramento E-Waste Report 2014 January 1, 2014 thru December 31, 2014

		CRT Devices		Electronic Devices (Excluding CRT Devices)				Others	
OrderNo	Arrival Date	CRT ByPcs	CRT ByWeight (Ibs)	NonCRT ByPcs	NonCRT ByWeight (lbs)	UWEDs ByPcs	UWEDs ByWeight (lbs)	Other ByPcs	Other ByWeight (lbs)
11400219	2/5/2014	27	2432	164	3370	105	5605	1	258
11400406	2/18/2014	1	59	15	461	2	830	0	0
11400751	4/4/2014	9	861	72	2004	64	7355	0	0
11401470	6/25/2014	17	1243	65	2026	98	5981	0	0
11402030	8/20/2014	17	1111	127	3087	112	5497	0	0
11402066	8/29/2014	25	1851	128	3552	88	4637	0	0
11403011	11/24/2014	20	1883	144	2742	150	6455	0	0
TOTAL		116	9440	715	17242	619	36360	1	258

9.9. HP Indigo 5500 Graphic Printer:

In Fall 2013, Sacramento State's Reprographics departments purchased an HP Indigo 5500 Graphic

Printer. This printer's deinking capacity is much higher meaning that ink applied for graphic prints can be more easily removed during the recycling process leading to a superior recycled product. The ink cartridge for the machine is also now fully recyclable.

9.10. Water Bottle Refill Stations:

In 2013, Residential Housing and Associated Students Incorporated (ASI) installed water bottle hydration stations to encourage the use of reusable water bottles on campus. All residential halls received hydration stations, as well as two located in the University Union.



Transportation

10.1. Hornet Express Shuttle Program's CNG Biogas Fuel Use:

Effective January 27, 2014, all five active shuttles now use Atlas ReFuel's compressed natural gas (CNG) biogas for fuel exclusively. Only the fuel from the non-fossil source of organics produced by Clean World's anaerobic bio-digester delivered and processed into renewable natural gas is considered carbon negative, which means the University has made the choice to purchase and use gas that essentially destroys carbon.

10.2. Alternative Transportation:

10.2.1. Sacramento Regional Transit (RT) Bus/Light Rail Commuter Passes:

Convenient discounts are offered for Sacramento Regional Transit (RT) bus/light rail commuter passes. An RT Basic Monthly Pass is \$100.00, however, employees at Sacramento State only pay \$80.00/year and students at Sacramento State pay \$35.00/year for the same service.

10.2.2. Guaranteed Ride Home Program:

The campus promotes carpooling and vanpooling. Both are attractive options for the Sacramento State community since the campus is known as a commuter school. As a participant in the carpool or vanpool program with Sacramento Transportation Management Association (TMA), two free emergency rides home via taxi or a rental car are provided free of charge. Carpooling takes more cars off the road and in turn helps improve outdoor air quality in the Sacramento region.

10.2.3. Zip Car:

Sacramento State and Zipcar have a partnership, allowing two Zipcars to be available at the campus Residential Housing year round. UTAPS' promotions of the use of Zipcars improves outdoor air quality because users of Zipcar can be encouraged to take public transit or their bicycle to school and then rent a Zipcar to get around as needed. Also, if a group of students, faculty, or staff rent a zip car to drive to a destination together, fewer cars will be used during that transit.

10.2.4 Campus Bicycling Expansion Project:

In Spring 2014 a Bicycle Task Force comprised of members of Facilities Management and University Transportation and Parking Services created a plan to transform Sac State into a more bicycle-friendly campus. These changes included three new bicycle compounds with over 400 new parking spots; two new skateboard towers capable of holding up to 40 skateboards and scooters; and new bicycle traffic lanes throughout campus consisting of designated "Pedestrians Only" zones to ensure the safe passage of both pedestrian and bicyclist.

10.3. Prius Department Vehicles:

In July 2014, UTAPS retired three aging enforcement trucks (90's Ford Ranger) due to age and condition. Rather than replace the trucks with more trucks, the









enforcement team reviewed their requirements and determined that a truck was no longer required for every day operations as long as the team lead had a truck. UTAPS consulted with various other parking enforcement agencies and decided to go green with the replacements. UTAPS has procured three plug-in Toyota Prius vehicles and outfitted them with safety lights and identifying labels. The new vehicles are more visible, approachable and are significantly more sustainable.

Water Conservation

11.1. Low Flush Toilet Replacement:

In Fall Semester 2014, Facilities Management completed replacement of all pre-1992 water closets and urinals (totaling 512) campus-wide. The old fixtures could exceed more than 4 gallons of water per flush depending on type and condition. The new water closets operate at 1.28 gallons and urinals at .5 gallons.

11.2. Sink Aerators:

Beginning in Summer 2014, Facilities Management began to add aerators to all of the campus' sinks decreasing the water output from an estimated two gallons per minute to only .5 GPM.

11.3. Irrigation Piping Replacement:

Inefficient sprinklers were replaced in Fall 2012 with low-gallon/minute sprinkler heads thus decreasing the amount of water waste. Work is in progress for changing sprinkler heads from pop-up to MP rotors or bubblers. MP rotors use about 30% less water than pop-ups.

11.4. Overall Campus Water Usage:

The campus water supply is derived from two distinct sources. Irrigation water is provided from five wells on our campus. Domestic water is

supplied by the City of Sacramento. The following is a profile of our water consumption for the campus in 2013:

	CCF – (Centum Cubic	Gallons	Percent of Total	
	Feet)			
Domestic	96,776	72,388,448	43.9	
Irrigation	123,662	92,499,176	56.1	
Total	220,438	164,887,624	100.0	





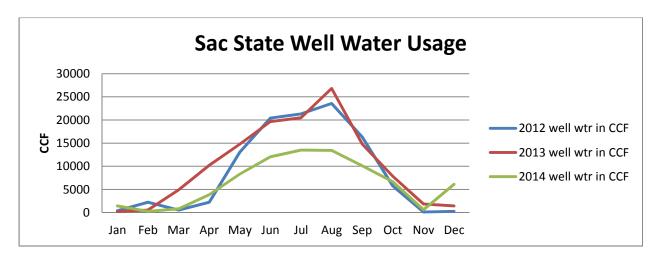


The following chart shows the changes in both domestic and irrigation water consumption for 2014 as compared to 2013:

	2013	2014	Percent Change
Domestic (CCF)	96,776	95,257	-1.56%
Irrigation (CCF)	123,662	77,210	-37.56%

11.5. Well Water Irrigation Use Reduction:

The campus realized a 37.56 % reduction in well water usage during the year for 2014 as compared to 2013. This decrease was partly achieved by lowering watering times by 25% on campus irrigation controllers. Well water is the only source of landscape irrigation for campus-wide watering. This achievement suits well for the severe drought and water conservation efforts needed on campus and throughout the state.



11.6. Water Education and Awareness:

As an educational institution, it is important that we use our water conservation efforts as an educational tool. In 2014, we enacted a number of methods to improve awareness and educate our campus community.

• Signs posted on mirrors of all campus restrooms and Residential Housing restrooms.



- Flyers in utility billing:
 - Each month flyers are included with campus utility billing for auxiliaries sharing information, tips, and strategies to lower water consumption.
- Social media tips:

- Bi-weekly postings on Sac State Sustainability Facebook Page provide tips and suggestions for water savings, as well as awareness of efforts we have underway on campus.
- Water saving tips and campus highlights placed on display monitors throughout campus:
 - We have a number of digital displays throughout our campus that can be used to promote awareness, campus actions, and understanding.

Sustainability Office/Facilities Management

12.1. Outreach & Promotions:

The goal of campus outreach and promotions is to engage, educate, facilitate, and partner with students, faculty, and staff about sustainability. Opportunities for volunteerism, both on and off campus, allows for a hands-on learning approach.

12.1.1. Earth Day:

Earth Day is celebrated worldwide on April 22nd. Celebrating Earth Day on campus is an important and collaborative event that



enables fun and promotes awareness around being green for faculty, students, and staff. Each year, the campus celebrates Earth Day within the month of April, inviting external vendors to booth and provides interactive activities such as campus sustainability tours, recycling drives, and tree planting/mulching.



12.1.2. May is Bike Month:

May is Bike Month is a nationally celebrated event, with heavy popularity in the Sacramento region. Activities surrounding this event promote bicycling as a valued green form of transportation and engage participants campus-wide.

• Sac State Sustainability and UTAPS partner each year to promote and provide interactive ways riders can celebrate their bikes.



12.1.3. Energy Conservation Awareness Day:

Energy Conservation Awareness Day is an annual event held since 2007 and celebrates the National Energy Awareness Month of October. This event engages and educates the campus community on energy reduction and conservation topics.



12.1.4. River Clean-ups:

Sac State Sustainability has fostered a growing partnership with the American River Parkway Foundation by participating in their two annual river clean-ups: the Spring River Clean Up which occurs in April and the Great American River Clean Up which occurs in October. Sac State Sustainability helps to promote the event to our students and even cultivates a team of volunteers to participate in the event thus demonstrating the willingness of Sac State students to act as stewards of the environment for the Sacramento region as well. In Summer 2014, Sac State Sustainability adopted Mile 7 South of the American River parkway to act as river stewards with a responsibility to contribute a minimum number of volunteer clean-up hours each quarter. Mile 7 South has been unofficially named 'The Hornet Mile'.





12.1.5. Mulching Mania:

Mulching Mania is an annual student-led event at Sac State taking place every spring. The first annual Mulching Mania occurred in March 2013, with 21 volunteers spreading composted organic mulch to several flower beds and wood chips were added to the bases of over 20 young trees in the University's Main Quad. April 2014 brought the second annual Mulching Mania, with student volunteers spreading 15 cubic yards of mulch in the Library Quad. It not only supports the University's commitment to sustainable practices by enhancing the moisture retention values around our beautiful trees and plants, it also strengthens the overall awareness of our program by encouraging student participation in this unique event.





12.1.6. Water Conservation Awareness Day:

Water conservation is another important pillar of sustainable awareness and crucial in current times of drought and water scarcity. The Sustainability team hosted the first ever Water Conservation Awareness Day on campus on September 24, 2014. The event featured nearly a dozen campus and community organizations promoting what the campus is currently doing to save water, what the Sac State community can do to save water in their daily lives, and why water conservation is so important. Participants made pledges to the 'Every Drop Counts' campaign to make strides to reduce water use.



12.1.7. Sustainability Logo:

Consistency communicates reliability and consistency is crucial in branding. In November 2012, a logo was created for use as a branding tool to raise awareness of the presence and priority of campus sustainability.

12.1.8. Web & Social Media:

Development of the sustainability website and social media outlets resulted in many channels of communicating sustainability to the campus and beyond.

- Website www.csus.edu/sustainability
- Facebook https://www.facebook.com/SustainabilityatSacState
- Twitter http://twitter.com/GreenSacState
- Pinterest http://pinterest.com/greensacstate
- You Tube https://www.youtube.com/sustainabilitycsus

Appendix

13.1. Awards, Recognition & Grants:

13.1.1. Office of Water Programs:

Sacramento State's Office of Water Programs (OWP) and the City of Sacramento have been awarded \$3 million in Proposition 84 clean-water funding from the State Water Resources Control Board. The grant will be used to design, construct, and monitor low-impact development (LID) measures on the Sac State campus that will greatly reduce the impact of storm water runoff on the American River. Plans include new bioretention planters, rain gardens, compost-amended bioswales, roof-runoff disconnects and other infiltration enhancements across much of the campus. Expected completion is Fall of 2016.

13.1.2. Energy Conservation:

In 2010, the California Energy Commission awarded Sacramento State \$2 million to establish a campus center for smart grid research. The Energy Commission recently awarded the University's innovative California Smart Grid Center an additional \$1.4 million to pursue critical efficientenergy projects. Completion of the Smart Grid project under this grant was May 2013.



13.1.3. Water Conservation:

The Water-Energy Grant Program provides funds to implement water efficiency programs or projects that reduce greenhouse gas emissions, and reduce water and energy use. The funding for this program was approved by Governor Brown on March 1, 2014 through Senate Bill 103, Section 11, which appropriated funds from the Greenhouse Gas Reduction Fund to the



California Department of Water Resources to establish a grant program. The City of Sacramento, through the Department of Water Resources, awarded Sac State \$35,000 for replacement of water-efficient toilets, urinals, and valves.

13.1.4. CSU Facilities Management Conference:

institution of any size to win the award.

Sacramento State was the proud recipient of 2014 CSU Facilities Management Best Practices awards for efforts in two categories. Sac State's Smart Grid project won the Best Energy Retrofit Award and the Sustainable Technology Optimization Research Center (STORC) won the Best Practice in Sustainability Award.

13.1.5. Recycling:

Facilities Management, Dining Services, The WELL Pharmacy and Sac State Sustainability were the 2014 recipients of the California Product Stewardship Council's Infinity Arrow award for the Sac State Take-Back program. Sac State was one of four winners announced state-wide and the only academic





