



Putting WaterSense® to Work

California Campus Cooks Up Kitchen Water Savings

Sector: Universities; Focus: Commercial Kitchen Equipment

Project Summary

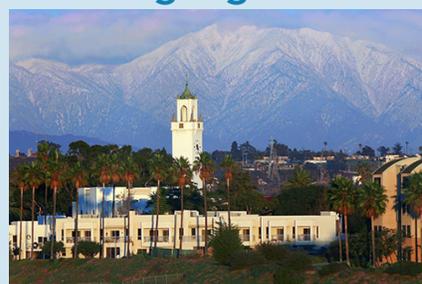
In 2014, California entered its third consecutive year of statewide drought conditions, with water and sewer costs in Los Angeles expected to increase by 8 percent annually over the next five years. For institutions of higher education, these cost increases can affect tuition rates and other student expenses. Loyola Marymount University in Los Angeles has worked to curb water waste and cut utility costs by instituting best management practices in one of its major sources of water use: commercial kitchens. The university operates four commercial kitchens and approximately 14 satellite venues, collectively serving 45,000 customers per week. The Lair Marketplace, Loyola Marymount's largest dining hall, serves 25,000 guests in one week alone.

Encouraged by environmentally conscious students, faculty, and staff, Loyola Marymount specifically addressed water use in its commercial kitchens by targeting dish rooms, three compartment sinks, hand-washing sinks, food preparation and disposal areas, water fountains, and cleaning and sanitation systems. In addition, the university's dining facilities procure ENERGY STAR® qualified equipment whenever possible, ensuring that retrofits and replacements are both water- and energy-efficient. Loyola Marymount's sustainable dining efforts earned Lair Marketplace a four-star Green Restaurant Association certification, making Loyola Marymount one of only two universities to receive this designation as of August 2014. Accounting for its water-efficient upgrades in its commercial kitchens alone, Loyola Marymount saved more than 4.7 million gallons of water per year, which translates to more than \$50,000 in water and sewer costs.

Disposing of Inefficient Practices

To boost water efficiency in its food disposal system, Loyola Marymount removed garbage disposals in all of its kitchens, opting instead to use food pulpers—a water-efficient disposal alternative. Commercial kitchens often use a garbage disposal and food grinder to dispose of food scraps, with water running continuously to prevent damage to grinder blades. Loyola Marymount has installed capture baskets to both capture food and recycle water in a pulper. Food pulpers crush food and send the pulp waste to a bin for disposal or composting. At the same time, the system extracts excess water from the pulp and can recycle as much as 75 percent of the water used for the food disposal process.

Case Study Highlights



- **University:** Loyola Marymount University
- **Location:** Los Angeles, California
- **Number of occupants:** Approximately 8,000 students and 2,000 employees
- **Kitchen volume:** 45,000 customers per week
- **Water savings:** Reduced water consumption by more than 4.7 million gallons of water per year
- **Cost savings:** More than \$50,000 annually in water and sewer costs



Water efficiency upgrades to the Lair Marketplace have helped save Loyola Marymount approximately 4.7 million gallons of water per year.

Washing Smarter With a FOG Tank

A three-compartment sink—consisting of wash, rinse, and sanitizer compartments—requires approximately 100 gallons of water to fill, in addition to flushing and refilling. To take pressure off of the Lair Marketplace’s three compartment sinks, Loyola Marymount added a fats, oils, and grease (FOG) tank, which decarbonizes pots and pans and eliminates the need for scrubbing. With 40 gallons of water and a mixed solution poured into the FOG tank, employees only need to rinse dishes, saving a trip through the dishwasher. By adding a FOG tank, Loyola Marymount has saved more than 740,000 gallons of water per year.

Retrofitting and Replacing

Throughout the campus, Loyola Marymount installed approximately 100 high-efficiency faucet aerators, bringing flow rates down from 2.2 gallons of water per minute (gpm) to approximately 1.0 gpm. These high-efficiency aerators save more than 2 million gallons of water per year. The university also installed high-efficiency commercial pre-rinse spray valves that have amounted to more than 1 million gallons of annual water savings. To develop a culture of environmental stewardship, the university trained employees on using these new fixtures and adhering to sustainability practices.

Since commercial dishwashers are one of the largest water users in commercial kitchens, Loyola Marymount replaced its large, industrial flight-type washing machines with ENERGY STAR qualified commercial dishwashers. While the flight-type machines used 352 gallons of water per rinse cycle, the new dishwashers require only 98 gallons of water per rinse cycle and use 25 percent less energy. The dishwasher upgrade saved the university more than 500,000 gallons of water in just one year. Loyola Marymount also reduced its water use by replacing its air-cooled ice machines with ENERGY STAR qualified models, which are certified to use 15 percent less energy and 10 percent less water than standard, air-cooled ice machines.



Water-efficient fixtures help the Lair Marketplace save water when serving its 25,000 guests each week.

Acknowledgements

The U.S. Environmental Protection Agency’s (EPA’s) WaterSense program acknowledges Loyola Marymount University Associate Vice President of Auxiliary Management Services Ray Dennis for providing information for this case study.

Learn More

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