

**TEAM\_NAME**  
**ACTION RESEARCH TEAM**



**Team Co-Leaders:**

Brittney Laver  
Ricky Bates

**Team Members:**

Julie Kelleher  
Brianna Lawrence  
Serena Lomonico

**Lead Stakeholders:**

Rich Mylin, Associate Director, UCLA Recreation

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## EXECUTIVE SUMMARY

As the Recreation Sustainability Team, our main focuses are sustainability, energy efficiency, and resource conservation at the John Wooden Center. Over the span of two quarters we implemented several projects focusing on sustainable efforts, and ultimately improving the well being for students and faculty at the gym. Our first project, the Collins Court Light Renovation, focused on reducing energy costs by switching to lower-wattage, more efficient light fixtures that not only improve the aesthetics of Collins Court, but ultimately have a high return of investment in utility costs. These longer lasting, low-wattage lamps will be installed in the gym Summer 2011. The 78 bulbs we purchased with our funding will save the gym approximately \$13,228.03 annually. Our second project, the Tanks 4 Towels Campaign, also focused on reducing utility costs as well as conserving water. Every Tuesday of Spring Quarter we offered students and faculty free tank tops in exchange for bringing their own workout towel to the gym. The Tanks 4 Towels Campaign was a great way to reduce the amount of washer and drier loads, receive feedback for our survey, and ultimately spread the sustainable message to gym goers. Our calculated savings from this project are 25,000 gallons of water, 2,500 kWh of energy, and about \$400 annually. For our final project, Green Well Being, we swapped out all the fake plastic plants located throughout the entire gym in exchange for all natural better looking plants that improve the air quality and the overall gym atmosphere. This is the third consecutive year having an action research team at the Wooden Center and we hope our projects have had a long lasting sustainable influence on students, faculty, and future action research teams to come.

## **OVERVIEW/PROJECT GOALS**

The John Wooden Center is a huge facility that runs every day of the week for many hours and serves the energy, water, and resource needs of thousands of students, faculty, and staff members. With successful ART projects in the past and plenty of room for improvement, there was an obvious need to continue the Recreation Sustainability Team this year. Initially, our team's main goal was the installation of an Eco-Roof. However, this was determined to be monetarily and structurally unfeasible, so instead we directed our attention to projects with goals that could be accomplished within our two-quarter timeline. After brainstorming and researching, we decided upon our three main areas of interest: electricity and water conservation, live plant installation, and education.

## **BACKGROUND**

The Recreation Sustainability team employed the Action Research methodology to build on previous projects, create goals, and ultimately implement permanent changes to improve the sustainability of the UCLA gymnasium. The project had personal significance to its members, all of whom enjoy the gymnasium and wished to create a more environmentally friendly facility for the entire UCLA community to take pride in. On a larger scale, the Recreation Sustainability Action Research Team took inspiration from the UCLA Climate Action Plan, a comprehensive discussion of UCLA's commitment to sustainability and mitigating anthropogenic climate change. Lessening

the Wooden Center's environmental impact would ultimately aid in achieving the larger goals that UCLA has set for the future. With these motivations, the Recreation Sustainability Team set out to comprehensively survey the gymnasium through analyzing past Action Research Team projects and noting the current situation of the gym in order to determine the areas we wished to focus upon.

## **INITIAL CONDITIONS**

### **Green Well-Being**

The Wooden Center has never had live indoor plants. Five fake plants were located in the Games Lounge and upstairs area of the Wooden Center. They were dusty, cracked, and extremely outdated. Live Plants increase the aesthetic value of an indoor space, as well as improve air quality. We researched plants with pots that would hold air fresheners to be placed in the Weight and Circuit Rooms, but decided against these installations due to spatial constraints.

### **Collins Court Renovations**

The price per kiloWatt hour (kWh) at the John Wooden Center is \$0.0876, which can add up extremely quickly in a facility of this size. Also, the Wooden Center is open seven days a week for up to 19 hours, and requires a massive amount of energy to support. Collins Court is one the most highly trafficked and popular areas of the gymnasium, used for recreation, but also special events held at the Wooden Center. Implementing sustainable lighting would drastically decrease the electric bill, as well as be a significant progress point in overall campus energy consciousness.

## **Tanks for Towels**

The Team agreed that educating the gymnasium patrons about sustainability and increasing environmental consciousness was an extremely important aspect of our plan. Knowledge is often a limiting factor in the pursuit of a more sustainable campus, and we aimed to educate in a fun and engaging manner. We decided to create a “Tanks for Towels Tuesdays Campaign” in order to promote personal towel usage instead of using the towels provided by the Wooden Center. During a certain time slot each Tuesday, patrons who brought their own towel to the gym would be given a Tank Top as an incentive. Before our project, gym patrons were encouraged to “rent” a towel for their workout period, returning it to be washed when finished. The Wooden Center uses large amounts of water and detergents to replenish these towels; approximately 20 loads of 50 towels each are run daily. It was our hope that students would begin to bring their own towels, lessening the Wooden Center’s water usage, and that our campaign would raise awareness about sustainability.

## **RESEARCH METHODOLOGY**

### **Green Well-Being**

Choosing affordable plants that do not require too much maintenance, light, or water was very important during the planning of our project. Plant expert Diego Prada from Plant Republic conducted two walkthroughs of the John Wooden Center and provided his recommendations for plant types and locations. After following his advice as well as the interests of JWC employee and Stakeholder Rich Mylin, the following plant species/quantities were chosen: 2 chamaedora seifrizii bamboo palms, 2 ficus monique

topiaries, 2 dracaena michicos, 1 Lisa dracina, and 3 Janet Craig dracinas. The new plants are in the same locations as the old plastic plants and a few additional plants were added near the front entrance to enhance the lobby and also in a conference room upstairs.

### **Collins Court Renovations**

Initially, research was conducted to determine how much energy could be saved by switching from 32 watt fixtures to 28 watt fixtures throughout the John Wooden Center, but our project specifically would focus on the four main upstairs rooms—the Gold room, the Blue room, the Pyramid room, and the Dynasty room. Bobby Hong from Sylvania Lighting services did a walkthrough of the building and composed an estimate of how much a complete lighting renovation would cost. For the entire gym, Sylvania estimated the cost to be \$93,708 which includes materials, recycling, and labor. However, monetary savings from reduced energy consumption would yield a payback period of approximately one year.

Currently, the John Wooden Center is undergoing a project to replace the old lighting with new energy saving bulbs in Collins Court, a large gymnasium consisting of three basketball courts. To aide this project, we decided to use the \$6,095 received from TGIF to help purchase the new bulbs for Collins Court. The current bulbs use 455 Watts each; the new bulbs will only use 234 Watts each. This is a saving of 221 Watts per bulb and of 17,238 Watts/Hour of usage.

### **Tanks for Towels**

The “Tanks for Towels” project relied on marketing, design, and distribution. All team members contributed to the design of the tank by researching popular John Wooden

Quotes and helping fine tune the appearance of the Earth character displayed on the front of each tank. It was important for the tank to be unisex and attractive to all age groups. With only 250 tanks, it was also very important to properly apportion the tank tops into sizes ranging from small to extra large. The sizes were broken down as follows; small: 77; medium: 87; large: 81; extra large: 10. To accommodate the various schedules of gym attendees the tank tops were distributed at different times each Tuesday for the last seven weeks of spring quarter between 11 AM to 7 PM. Advertisements on Facebook and the John Wooden Center Recreation website were used to maximize interest and awareness of the campaign.

## **KEY FINDINGS**

### **Green Well-Being**

Looking around the gym on one of our first run-throughs, we noticed that all of the plants in the John Wooden Center were fake, plastic plants. As a result of all the physical activity, the gym can at times get very musty and un-pleasant smelling. After some research, we determined that indoor plants would help alleviate some of this odor, provide better aesthetics, and naturally purify the air of the gym. We met with Plant Republic to discuss the best indoor plants for the different areas of the gym, and installed 10 plants, which can now be found placed through out the John Wooden Center.

### **Collins Court Renovations**

For our project that focused on renovating lighting, we used some of the information that last year's recreation team collected on lighting costs, hours used, and

the projects they completed. Through this we were able to narrow down our focus to new, more efficient light bulbs or to daylight harvesting in rooms where it would be applicable and effective. As UCLA Recreation was already committed to mass renovations for Collins Court in the John Wooden Center, we put forward our allocation from TGIF to cover replacing the T9 fixtures for lower wattage, more efficient T5 light fixtures. After meeting with Bobby Hong of Sylvania Lighting Services, he was able to advise us that changing to these more efficient bulbs would offer a short payback period and very efficient lighting that would be bright enough for the activities conducted on Collins Court.

### **Tanks for Towels**

For our Tanks for Towels campaign, some of our main concerns were if people would understand the reasons we were encouraging them to bring their own towels and if they would keep bringing their own towels even when the incentive of a shirt was gone. Through patrons' questions and our short explanation as we were handing out shirts, we were able to push the importance of bring their own towel when they came to the gym, as it would help conserve water for the John Wooden Center and the general environmental benefits of re-using your towel. We were also able to explain the benefits of bringing in reusable water bottles to conserve plastic. Our survey showed that 92.5% of people who took this survey always or sometimes brought their own towel and/or reusable water bottle when they came to the gym, giving a promising statistic for the continuation of our goal. Also, 85% said they would be willing to bring their own water bottle to improve gym sustainability, 58.5% committed to bringing in their own towel, and 82.9% said they

would focus on turning off lights and equipment whenever possible. We, therefore, feel confident in the continuing influence of our project for conserving water and resources at the John Wooden Center.

## **DATA/COST ANALYSIS**

### **Green Well-Being**

Five pots from the plastic plants were salvaged and used for five of the new plants which helped reduce the overall cost of this portion of the project. The cost of the plants amounted to \$1,300, and this funding was supplied by the DART foundation. The breakdown by cost of plant type is as follows:

- 2 Ficus: \$190
- 3 Janet Craig Dracina: \$270
- 1 Lisa: \$90
- 2 Michicos: \$190
- 2 Chamadora palms: \$200

With the 5 pots, tax, and delivery, the total came to \$1300. No additional fees are necessary for maintenance of the plants, and their intake of water is minimal.

### **Collins Court Renovations**

Using the \$6,095 from TGIF, 78 new T5 High Bay bulbs (234 Watt) will be purchased to replace 78 old MHID bulbs (455 Watt). The new bulbs will save 17,238 Watts/Hour which yields a 48.5% increase electricity savings. The majority of the lights in the gym stay on 24 hours per day seven days a week due to business and cleaning needs. The cost per kWh is \$0.0876. Multiplying \$0.0876 by the 17.238 kWh saved by

the new 234 W bulbs yields \$1.51 in savings per hour. Over the span of a year the John Wooden Center will save approximately \$13,228.03 just from replacing these 78 light bulbs!

### **Tanks for Towels**

The 250 tank tops distributed in the “Tanks for Towels Tuesdays” campaign were purchased through Gorilla Marketing, which supplies the John Wooden Center with t-shirts and tanks for all recreation related activities. The tank tops cost \$6.25 per tank which amounted to a total cost of \$1,941.20 with screen set up charges and sales tax. TGIF funded \$1640 of this project, and Recreation generously covered the difference. Through the “Tanks for Towels” campaign approximately 200 people have begun bringing their own workout towel to the John Wooden Center. Assuming this group attends the gym around three times a week, 600 fewer towels will be used on a weekly basis. The typical load of laundry contains about 50 towels; thus, twelve less loads of laundry will be done each week. Each load of laundry uses about 40 gallons of water and 4 kWh. Over the span of the year our campaign will help save 25,000 gallons of water and 2,500 kWh of energy. At \$0.0069 per gallon of water and \$0.0876 per kWh, the overall monetary savings from resource conservation is approximately \$400 per year. With increased esteem and support this campaign has the potential to save a large chunk of the John Wooden Center’s resources and money! Over 40 people responded to the follow-up survey that was e-mailed to everyone that participated in the “Tank for Towels Tuesdays” campaign. Out of those responses, 85% were students, 7.5% were faculty members, and 7.5% had some other form of affiliation with the John Wooden Center. The

students that responded represented numerous majors on campus from Italian Literature and Psychology to Business/Economics and Chemical Engineering. The survey results do not appear to be biased by a strong “Environmental Science” influence, and the entire student population is fairly represented in the survey results. Approximately half of respondents answered that they use the John Wooden Center at least three times per week, and 60% stated that they always bring their own work out towel and/or reusable water bottle. According to the survey, only 8% never bring either a reusable water bottle and/or towel. These results are positively surprising. When asked to choose two items that need improvement in the John Wooden Center with respect to sustainable practices the survey received varied responses; 61% chose energy conservation, 37% chose water conservation, 34% chose sustainability awareness, 22% chose recycling, and 20% chose resource consumption. Responses also varied from patrons when asked what they were willing to do to improve the gym’s (and their own) sustainable practices. A large majority stated they are willing to bring their own water bottle and turn off equipment/lights when possible; however, only approximately half of respondents said they are willing to bring their own workout and shower towels or minimize their use of restroom and cleaning supplies. The survey also received helpful comments at the end such as switching from automatic to manual flushing because of the highly sensitive motion sensors that lead to unnecessary flushing and also using the energy that people put into the machines to power the equipment/facility.

## RECOMMENDATIONS

Through our initial research we were able to come up with many potential areas of the gym where we could improve sustainability. Here are some recommendations we hope will show improvements in gym sustainability, as well as help conserve resources and costs:

- Install daylight harvesters in areas of the gym where they would be effective, including the upstairs rooms such as the Blue, Gold, Dynasty, and Pyramid rooms.
- Replace faulty, motion-sensor water fountains, such as the one by the upstairs offices, to reduce water loss due to leaks.
- Install energy efficient lighting in other rooms of the gym, replacing all ineffective fixtures with T5 fixtures.
- Install dual flush toilets.
- Look into the process by which the kinetic motion of work out equipment, such as treadmills, can provide power for the gym. This has been used for small power such as TVs in the gym, and can maybe be extrapolated for the whole gym.
- Install automatic, energy efficient hand dryers in locker rooms to cut down on paper waste of the gym.
- Add tint to windows to reduce the need for cooling from overexposure to sunlight.

At our exit meeting, our stakeholder Rich Mylin had many great suggestions for future Recreation Sustainability teams, including:

- Meeting before winter break in order to formulate projects ideas, then meet as early as possible with Rich so that he can allocate other staff members as stakeholders to increase involvement and efficiency.
- Expanding our projects to the Student Activities Center, Drake Stadium, and Sunset Recreation.
- Improving the recycling system throughout Wooden and SAC.
- Looking into replacing the grass at the North Athletic Field and the IM field with turf to reduce water and resource usage.
- Looking into getting pool covers at Spieker Aquatic Center to save money on water evaporation and cleaning chemicals.

## **CONCLUSION**

Through hard work and learning from mistakes and experiences, we pulled together as a team to reach our initial goals of reducing the John Wooden Center's environmental footprint through improvements in energy efficiency, utility use, and well-being. Knowing that the gym as a provider of many services to thousands of students, faculty members, and visitors for many hours a day is such a large consumer of resources, we chose three specific projects to target areas that we felt needed drastic improvements. Our projects not only produced great results and feedback, but also educated gym-goers on how they can help the gym be more sustainable and left room for UCLA Recreation and future Recreation Sustainability Teams to continue where we left off. We could not have made any of this happen without the enthusiastic support from our stakeholder Rich

Mylin or the help and consultations from Bill Aberbuch, the Recreation Marketing Director, Bobby Hong, the Sylvania Senior Lighting Consultant, and Diego Prada, the Plant Republic General Manager. The positive feedback since the installation of the plants and the high estimated cost savings of replacing current lighting fixtures with lower-wattage lighting fixtures in the rest of the gym has encouraged Rich and UCLA Recreation to continue to work with Plant Republic and Sylvania. The light fixtures will be installed by August, and Recreation plans to order more plants from Plant Republic and more fixtures from Sylvania to maximize energy and cost savings. We hope our efforts these past two quarters will be continued and that the John Wooden Center will stay on the path to a more sustainable future.

## **REFERENCES**

Plant Republic

<http://www.plantrepublic.net/>

Sylvania Lighting Services

[www.sylvania.com](http://www.sylvania.com)

How You Can Benefit With Plants

<http://www.actionindoorplants.com.au/benefits.htm>

## APPENDICES

Method: Screen Print  
Imprint Area: 12"W  
Color: PMS 319,360,293, Black



IMPRINT NOT TO SCALE OR EXACT DEPENDS ON FABRIC



Project: UCLA- Wooden Center  
 Location: 221 Westwood Plaza, Los Angeles, CA 90095  
 Date: 1/28/2011  
 Presented by: Bobby Hong



## Project Summary

Lighting Retrofit Costs	
Retrofit Cost including Material, Recycling & Labor	\$ 112,432
Less: Estimated Rebate:	\$ 18,724
<b>Net Customer Cost</b>	<b>\$ 93,708</b>

Savings	
Lighting Savings	\$ 62,792
HVAC	\$ 20,597
Maintenance	\$ 3,855
<b>Total savings (annual estimate)</b>	<b>\$ 87,244</b>

Simple Payback	
Net Customer Cost	\$ 93,708
Savings (annual estimate)	\$ 87,244
<b>Payback Period, Years</b>	<b>1.07</b>

<b>Savings Per Day</b>	<b>\$ 239</b>
<b>Savings Per Month</b>	<b>\$ 7,171</b>
<b>Savings Per Year</b>	<b>\$ 87,244</b>



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**[Exit this survey](#)**

# Recreation Sustainability Team Survey

What is your affiliation with UCLA?

Student

Faculty

Visitor

Other

What is your major if applicable?

How many times per week do you go to the John Wooden Center?

Once

2-3

3+

How regularly do you bring a personal workout towel and/or reusable water bottle with you?

Always

Sometimes

Never

Where do you see the most need for general sustainability improvement at the John Wooden Center? (Pick up to 2)

Energy Conservation

Water Conservation

Resource Consumption

Recycling

Sustainability Awareness

What would you be willing to do to improve gym's sustainability and/or your own?

Bring personal workout towel

Bring reusable water bottle

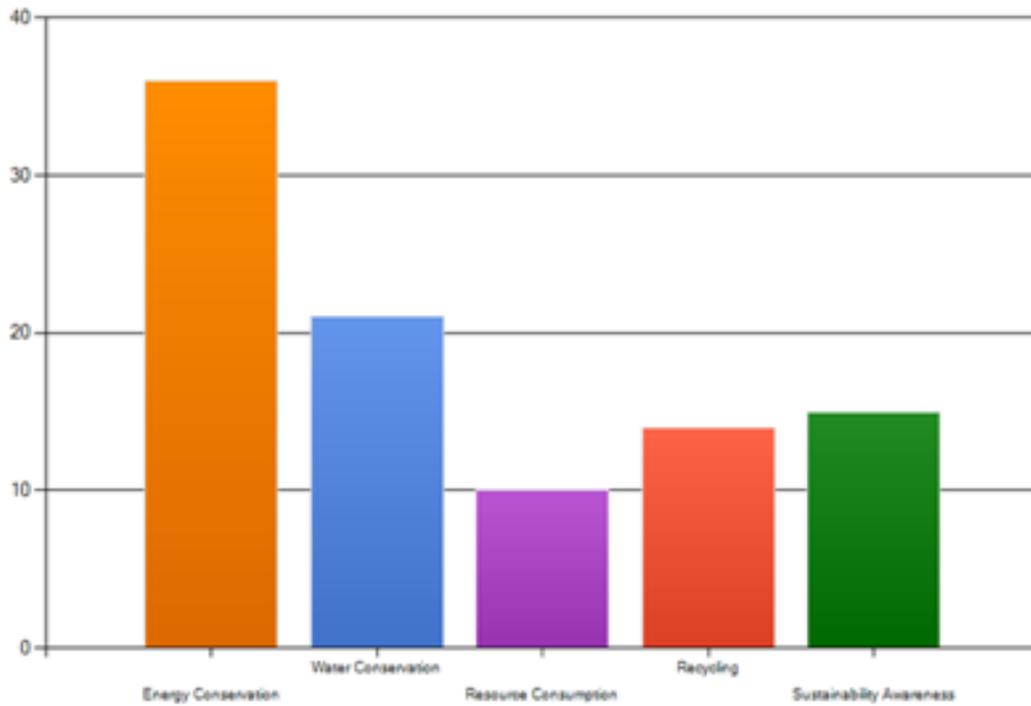
Minimize use of bathroom and cleaning supplies

Turn off lights and equipment when possible

Additional comments/questions/concerns

Powered by **SurveyMonkey**  
Create your own [free online survey](#) now!

Where do you see the most need for general sustainability improvement at the John Wooden Center? (Pick up to 2)



What would you be willing to do to improve gym's sustainability and/or your own?

