

Enhancing UCLA Athletic Event Sustainability Through
Development of Comprehensive Green Templates
2019 Midterm Report

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Abstract

With masses of people filling large venues, athletic events provide both unique challenges and opportunities to sustainability efforts. The Green Games SAR team aims to create policy recommendations and guides to incorporate aspects of sustainability into UCLA Athletics. These guides to event planning will target multifaceted sustainability goals. Current Pac-12 Green Games provide us with an opportunity to gather data and assess effective methods that can be implemented. The Green Games team has identified areas of possible improvement through waste audits and surveys. Waste generated by concessions is one area in particular that the team will be focusing on. Sustainability is a group effort, so encouraging audience and athlete participation is critical to spread awareness and achieve desired results. With this research and data, the Green Games team will outline step by step procedures and recommend specific policy that can be implemented to improve sustainability at athletic events.

Introduction

With the vast amount of resources and opportunities that our university provides, there is massive potential for large-scale movements towards a more sustainable institution that fosters sustainable practices and sustainable lifestyles. One of UCLA's most notable aspects as a university, its storied athletics program, is an intuitive medium through which we could exemplify how much we can do to positively impact the attitude and performance of sustainability. We start with Pauley Pavilion, which plays host to hundreds of events a year, where change at just one event has a significant impact on our carbon footprint. To continue combatting the waste that Pauley Pavilion produces, we will attempt to implement policy such as

donations of leftover food to food banks and going through the appropriate motions to allow the selling of souvenir cups inside of the facility.

As we start the second half this program, we look to alter parts of the standard routine of student-athletes during practices, tournaments, matches, training, etc. to create a overarching template that outlines routines of how individual sports teams on campus are capable of performing more sustainably. In recent news, we have student-athletes that are interested in our mission who are willing and eager to help us reach our goals from the inside. Outside of this, we are actively extending our target audience to not only varsity sports, but UCLA Club Sports as well.

UCLA is not the first to tackle the problem of athletic event-related sustainability. Many other colleges and sporting venues have implemented sustainable practices, from which we can draw inspiration and knowledge. Ohio State has a comprehensive program available for all students to use that promotes zero-waste at events, even those not related to sports. This has stemmed from a push for a more eco-friendly framework inside of their athletics department with programs such as Soles for Souls, where student athletes encourages students attending games to donate old shoes to those that are in need [“Zero Waste at Ohio State Stadium”]. The university’s new “green” facility built with sustainable materials, water-saving technologies, and energy efficient operations has set just one example of the possibilities that we as an institution and we as community are capable of.

Methodology

PAC-12 Zero Waste Challenge and UCLA Men's Basketball Waste Audit

On February 6, 2019, our team participated in the Zero Waste Men's Basketball Game. This event, part of the Pac-12 Zero Waste Challenge, gave us the opportunity to conduct research on the waste produced at Pauley Pavilion during a UCLA basketball game. Our team developed a plan and set of objectives for the game in line with our stakeholder's goals. The overall goal of this event was to divert as much waste as possible, ideally having only 10% or less of the waste produced sent to the landfill. In addition to upholding this target diversion rate, we also wanted to use this game as a starting point in our team's data collection.

After collaborating with our stakeholder and holding several team meetings, we decided to implement a system of manned and unmanned waste stations at the game so we could analyze the effectiveness of having volunteers at waste bins to help with sorting. We would then, after the game, determine the percentage of contamination in trash cans with volunteers and compare it to the contamination percentage in trash cans that were left alone, with no volunteers at the stations. We believed this data collection would, along with helping us determine the efficiency of having volunteers, give us insight into consumers' knowledge of and regard for trash sorting. Additionally, we planned a waste audit at the end of the game to both achieve higher rates of diversion and analyze the nature of the waste that athletic events in Pauley Pavillion typically produce.

On the day of the game, our team arrived two hours early to set up for our data collection. We designated two random waste stations on the eastern side of the stadium, where we believed most of fans would be seated, to be unmanned, marking the trash bags in these bins to help us

distinguish them from the other bags at the end of the game. Then, we randomly selected two other stations on the eastern side to be always manned with volunteers, and proceeded to mark these bags. After marking the stations, we then had the job of training the volunteers on how to sort the trash. We gave each volunteer a “cheat sheet” we created the night before that illustrated what bins to throw various trash items into, and then explained what our expectations were for the volunteers at the “always manned” waste stations.

Despite the effort we put into setting up this system of data collection, we found out at the end of the game that our data would be skewed because some of the volunteers at the “always manned” stations would leave for large spans of time without telling us. Unfortunately, we were therefore unable to use the data we collected. While this was discouraging, we still were able to run a successful waste audit of Pauley Pavilion. At the end of the first quarter of the game, we started sorting through the trash bags of waste from the game, collecting the single-use beverage cups for us to weigh and analyze later. The sorting was a long process, lasting long into the night. Though most of our team had to leave around 11:00 pm because of midterms, our stakeholder Kayla Shirley, Associate Athletic Director Derek Doolittle, and a few other helpers continued sorting until 3:00 am.

At the Zero Waste Men’s Basketball Game, we ended up diverting 94.7% of Pauley Pavilion’s waste from the landfill. Over 1,500 pounds of waste was generated at the game, meaning that only 80 pounds of this waste could not be composted or recycled. Though the waste diversion efforts was a success, we were still discouraged by the amount of food waste and single-use ware that we found in the trash. We ended up collecting roughly 40 pounds of single-use coke cups, along with a large amount of food such as hot pretzels, hot dogs, and

pre-baked pizza shells, from concessions. Our research findings were eye-opening and gave us insight on the amount and type of waste produced at UCLA athletic events. This event provided a foundation of research for us to build upon throughout the rest of the quarter and next quarter, giving us clear objectives to focus on throughout the rest of the year.

UCLA Athletic Event Sustainability Survey

In order to evaluate student interest in athletic event sustainability, our team also created and distributed a survey. The survey contained the following five questions:

1. How many sporting events do you attend (as an audience member) per year?
2. How concerned are you about the environmental impact of sporting events on a scale of 1-5 (1 = not at all, 5 = extremely)?
3. How interested are you in seeing the implementation of more “green” initiatives/sustainable practices at UCLA athletic events?
4. How much extra would you be willing to pay per concession item to have environmentally-friendly packaging?
5. Which of the following waste-reduction strategies interest you?

The survey was distributed at the UCLA vs. USC basketball game on February 28, 2019, before various classes, on UCLA-affiliated Facebook groups, and to different organizations that our team members are also a part of (e.g. T.E.A.C.H., UCLA Residential Halls, UCLA Men’s Rowing, Club Tennis, etc.). As of March 22, 2019, we have received over 200 responses to the survey have been collected and preliminary results have been drawn.

The first question was created to obtain an understanding of the relative carbon footprint impact of our respondents. According to research conducted at the 2014 FIFA World Cup in Brazil, an individual's carbon footprint can be up to 7x higher when attending a sporting event. Although students for the majority seem to attend somewhere between 0-4 sporting events per year, when considered in this statistical context, these numbers spark greater concern for the environmental impact of athletic events. The second question was added in order to survey student awareness regarding this FIFA statistic as well. As noted by a median value of 4 (somewhat concerned) and a mean value of 3.75, it is clear that students are mildly concerned about the environmental impact of athletic events but still lack a deeper understanding of the amount of waste produced. The third question examined the main purpose of this survey on a five-point Likert scale: according to the current results, 91.9% of students are interested or extremely interested in seeing increased sustainability in UCLA Athletic events. The fourth question was added in order to address underpinning economic interests to change the concessions supply chain -- by asking how much extra (\$0 to \$4) students would be willing to pay *per item* at concessions in order to have environmentally-friendly packaging our team discovered that 91.9% of students would be willing to pay *at least* \$1 extra. The final question was added in order to determine student interest in potential spring quarter goals for our team. We provided three predetermined responses to the question (reusable concession items [e.g. souvenir cups], biodegradable concession packaging, and composting) but also provided a write-in option. Students were the most interested in biodegradable concession packaging and reusable items; furthermore, a good number of respondents wrote in asking to change the policy preventing them from bringing in clear, reusable water bottles.

These findings were important because different contributors to UCLA Athletic events claim that student fans are uninterested in sustainable practices as a rationalization for inaction. This survey, though still in its incipient stages, illustrates that this is not the consensus amongst students.

Future Plans

The Green Games team's plans have evolved considerably since the beginning of winter quarter. Initially, our sole goal was to create sport-specific templates for different UCLA athletic events; however, after conducting our waste audit, our plans also expanded to include other elements of the PAC 12 Zero Waste Challenge including waste diversion, fan and athletic involvement, and sustainable partnerships. For spring quarter, we desire to work with ASUCLA to initiate a change in their concessions supply chain, gather more responses to the student survey, partner with UCLA student athletes to expand our scope of influence and awareness, and establish avenues to manage leftover food. We will be pitching a policy recommendation to ASUCLA to present our proposals based off data from our audit and survey which include:

1. Requiring vendors to provide exclusively compostable or recyclable products at concession stands to target one of the largest sources of waste from games
2. Implementing souvenir cups to cut down waste from single-use cups and encourage audience participation in sustainability
3. Composting and or donating leftover food from concessions

We have also met and will continue to hold meetings with Erinn McMhann from Recreation to involve UCLA Club Sports in our efforts. In addition, we are going to meet with

Chidera Izuchukwu, UCLA Basic Needs Manager, to discuss avenues to redirect leftover food. We will also partner with student athletes to initiate their own sustainability ideas and messages, particularly regarding sorting of trash, reduction of saran wrap ice packs, and Acosta Training Center improvements. We have plans to continue and further our previous data collection by conducting more audits and sending the student survey out from the Den with an incentive (e.g. raffle for an item) to get more respondents.

Challenges

The immense scope of our project has led us to attempt to take on multiple different projects to address the many facets of sustainability. For example, we have conducted audits, are in the process of making a policy recommendation for ASUCLA concessionaires to reduce waste, exploring and coordinating on-site composting locations, developing comprehensive templates, working with athletes, etc. Our team needed a way to divide up this work and assure that we could effectively follow through on all the projects we set out to complete. Thus, we organized into subcommittees responsible for taking on individual tasks. While this worked for a few weeks, some issues arose in terms of who was responsible for what due to the interconnections of issues between the subcommittees. Therefore, next quarter we will explore different options to both have a strategic division of labor and also retain our sense of cohesiveness as a team.

Another challenge we faced is pinpointing the flaws and strengths of our data collection methods and learning how to properly interpret our results. While we were able to receive over 200 survey responses, this sample size is clearly not representative of the overall undergraduate

student population. Additionally, the survey was not required to be taken by all UCLA students, but rather it had an opt-in nature. There must have been a percentage of respondents that had some level of sustainability interest prior to taking the survey, potentially leading to skewed data. And while this data is still valuable to our research, we have to use it with caution and develop strategies to help mitigate against potential biases. Obtaining a higher number of respondents is one way to help maximize getting more accurate data. We can also add a question in future surveys about previous interests and knowledge in sustainability to get a better picture of our audience. Improving our ability to collect and analyze data will be important to our research in the coming months.

Working with different institutions, such as ASUCLA, on campus has also presented a variety of complications throughout the previous quarter. We have enlisted the assistance of UCLA's Deputy Chief Sustainability Officer, Bonny Bentzin, when developing our policy recommendation to help us achieve desired outcomes. Rather than trying to impose a set of policy changes on ASUCLA, we wanted to start a dialogue with them about their general policies. UCLA's contracts with different companies, such as Frito Lay and Coke, have made certain products and practices harder to change than others under ASUCLA jurisdiction. Thus, it has been challenging to navigate through these restrictions, and figuring out what we can realistically do to help reduce waste within ASUCLA concessions at sporting events. Hopefully, as we meet and discuss a plan of action with representatives from ASUCLA, we will clear up this information and be prepared to help them incorporate more sustainable values into their practices.

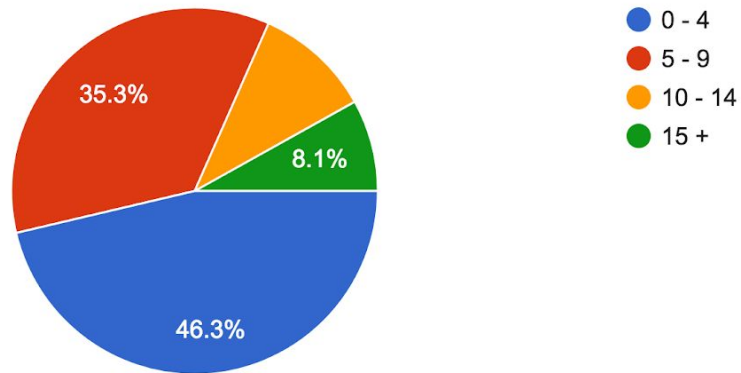
Conclusion

Using data from our waste audit and surveys this quarter, we have identified possible areas of improvement in the waste production and management at UCLA athletic events. As we move into spring quarter, we have developed specific objectives to govern our course of action. After a successful quarter of research, we now know we want to emphasize the importance of audience and athlete participation in promoting waste reduction, target the food waste generated by concessions at sports games, and consolidate our findings into a recommendation of policy that can be implemented to make athletic events more sustainable. We hope that, through collaboration and commitment, we can make tangible change for the better in UCLA Athletic's sustainability.

Appendix

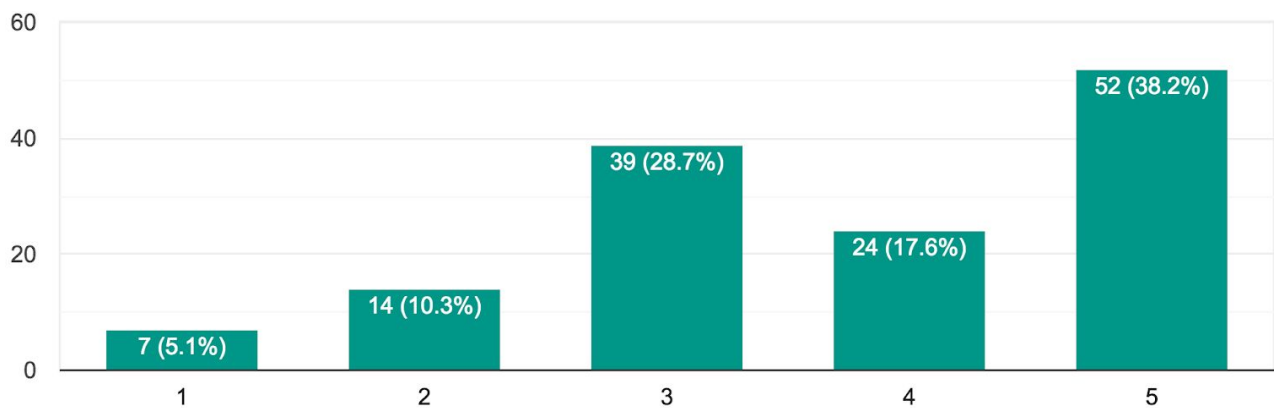
How many sporting events do you attend (as an audience member) per year?

136 responses



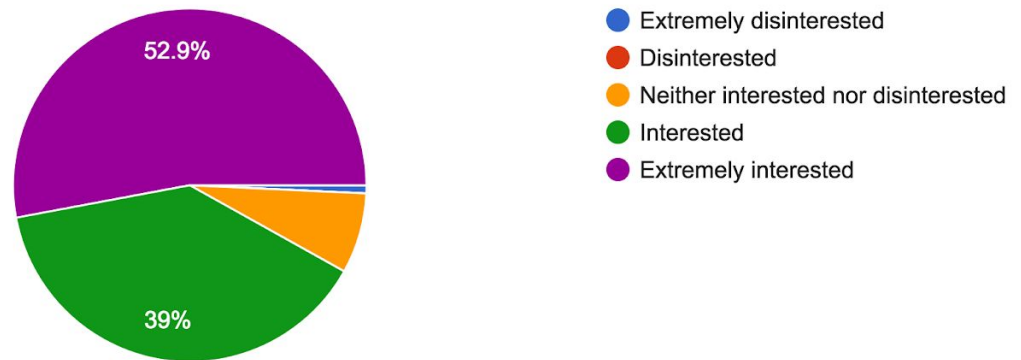
How concerned are you about the environmental impact of sporting events on a scale of 1-5 (1 = not at all, 5 = extremely)?

136 responses



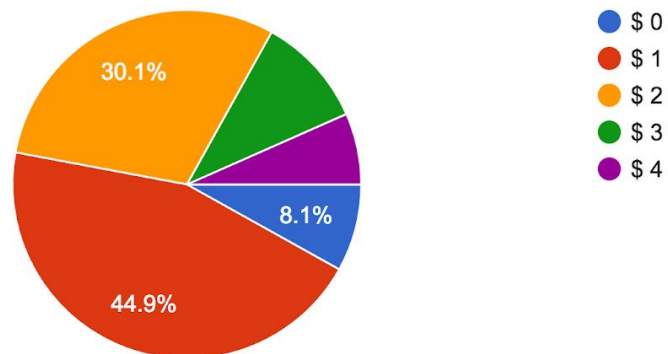
How interested are you in seeing the implementation of more “green” initiatives/sustainable practices at UCLA athletic events?

136 responses



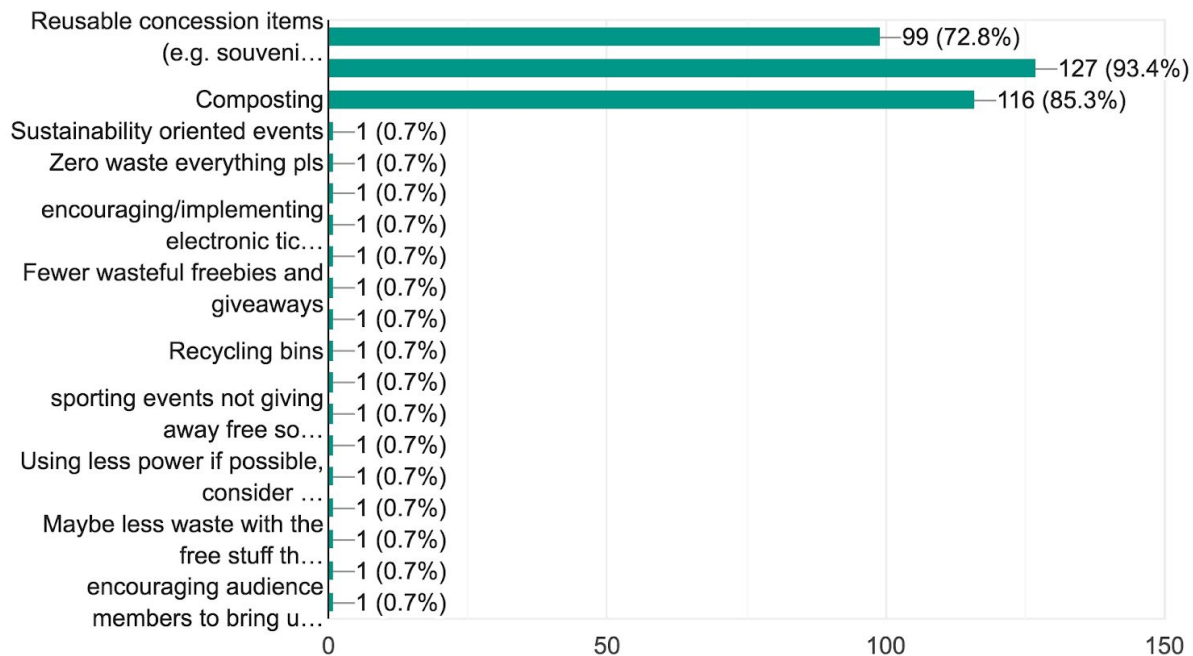
How much extra would you be willing to pay per concession item to have environmentally-friendly packaging?

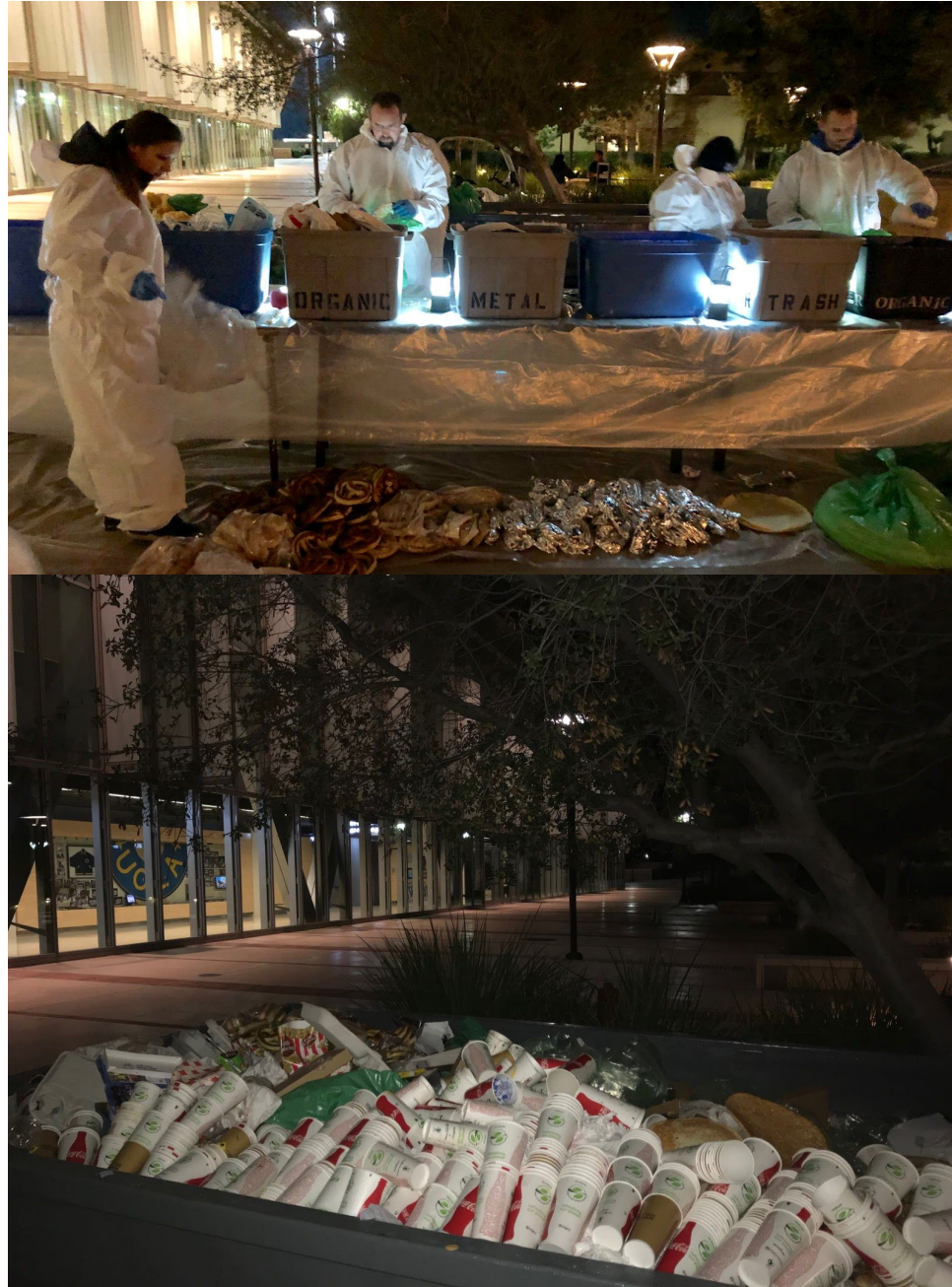
136 responses



Which of the following waste-reduction strategies interest you (select all that apply):

136 responses





Pictures from the PAC-12 Zero Waste Basketball Game waste audit highlighting concessions waste from leftover food and single-use cups

Works Cited

“Zero Waste at Ohio Stadium.” Zero Waste at Ohio Stadium | Facilities Operations and Development, fod.osu.edu/sustainability/zero-waste/zero-waste-ohio-stadium.