



## University of Wisconsin-Madison 2022 Campus Race to Zero Waste Case Study

### **Contact info**

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### **Focus of Case study**

The Office of Sustainability Green Athletics team conducted waste audits at UW-Madison soccer games to assess the effectiveness of intervention methods on contamination rates.

### **Detailed description of campaign or effort:**

In Fall 2021, student interns in the Office of Sustainability Green Athletics team conducted a waste audit case study of UW-Madison women's soccer games at the McClimon Track/Soccer Complex. The purpose of the study was to (1) understand how post-consumer municipal solid waste is managed at UW-Madison sporting events and (2) quantitatively assess contamination rates for both landfill and recycling streams. Prior to conducting waste audits, the Green Athletics team made initial observations of the state of waste collection at a women's soccer game in late September. At this initial scouting trip, the team observed receptacle locations at the field and whether there was adequate signage for fans and players to properly separate their waste into the correct streams. After this first trip the team conducted two waste audits, each following a soccer game on a separate date. The first game was considered the "business as usual" audit, in which interns did not interfere in the waste management before completing the audit. At the second game, interns conducted another waste audit after stationing themselves at each bin location available to fans. During the game, interns provided verbal suggestions and visual cues to help fans correctly place their discarded material in the appropriate bin. The audit following this intervention showed contamination rate reductions of 9.2% in the landfill stream and 18.6% in the recycling stream as compared to the "business as usual" audit. Despite this improvement, the Green Athletics team recommended site-specific signage and bin consistency rather than stationing people at each bin location. The results of the study will be further used to improve best practices as a step toward the larger goal of hosting zero waste football game days at UW-Madison.

### **Planning steps & timeline to implement:**

- Early September 2021: Identify UW-Madison sports team of intended scale and interest in participation.



- Early September 2021: Secure approval from the UW-Madison McClimon Track/Soccer Complex to hold audits.
- Mid-September 2021: Select two dates for waste audits – one business-as-usual and one with bin staffing.
- September 30, 2021: Scout out selected venue for layout and composition of waste stations.
- October 3, 2021: During business-as-usual game, attend game but do not intervene in sorting waste.
  - After the game, conduct a waste audit, sorting trash from recyclables to determine contamination rates of landfill and recycling streams.
- October 24, 2021: Attend game and staff each waste station, helping fans to correctly dispose of their waste in landfill or recycling bins.
  - After the game, conduct a waste audit, sorting trash from recyclables to determine contamination rates of landfill and recycling streams.
- November 2021 - Jan 2022: Compile observations, analyze results, and develop recommendations for venue staff.
- Early February 2022: Share executive summary of waste audit case study and recommendations for improvement with venue staff.

**Resources and stakeholders involved**

The waste audits required minimal equipment, all of which was provided by the Office of Sustainability. The equipment included Tyvek suits, gloves, safety glasses, and a digital scale. The stadium’s Building & Grounds Manager, the UW-Madison Athletics Assistant Director of Events, and the custodial staff at the McClimon Complex supported the case study by providing tables and space to conduct the audits. Green Athletics interns at the Office of Sustainability and one student-athlete volunteer staffed the bins and conducted the audits. This project was overseen by the Office of Sustainability Intern Program Manager and the Campus Resource Coordinator.

**Describe the Results of this campaign component**

In conducting the waste audit case study, the Green Athletics team successfully developed and shared an executive summary accompanied by a list of recommendations that was well-received by Athletics facilities staff. They plan to implement the recommendations during the next season, and Green Athletics interns will be there to assist as necessary throughout that process. Information about the audit also was shared on both the Athletic program’s UWForward360 Instagram page and the Office of Sustainability’s social media platforms, as seen in the supplementary documents.

**Contamination Rate of Each Stream**

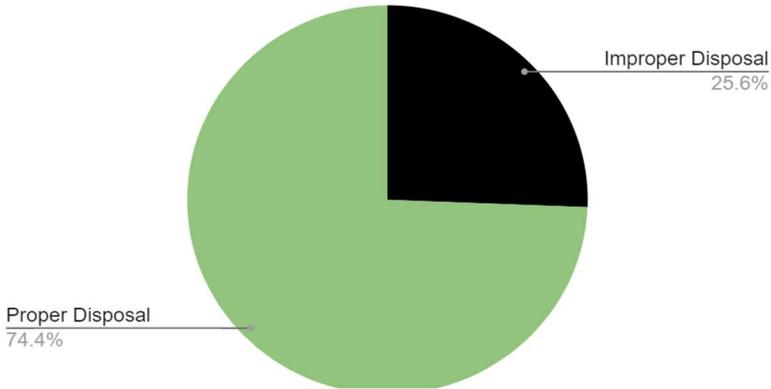
Material Stream	Business as Usual	Staff Intervention	Difference
Trash	25.6%	16.4%	9.2% reduction



Recycling	52.8%	34.2%	18.6% reduction
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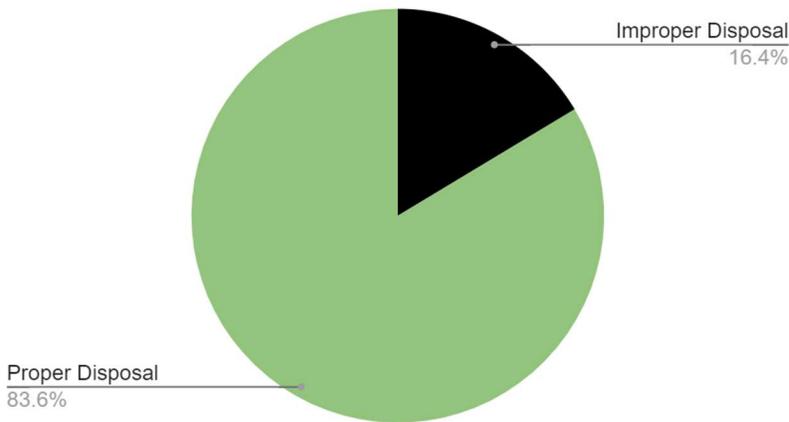
### Trash Contamination Rates

#### Trash Contamination Rate Game Day 1



**Figure 1.** Contamination rate of all trash collected at 10/3/21 audit. Over 25% of the stream was composed of materials that could have been recycled (cans, glass, plastic, and paper).

#### Trash Contamination Rate Game Day 2

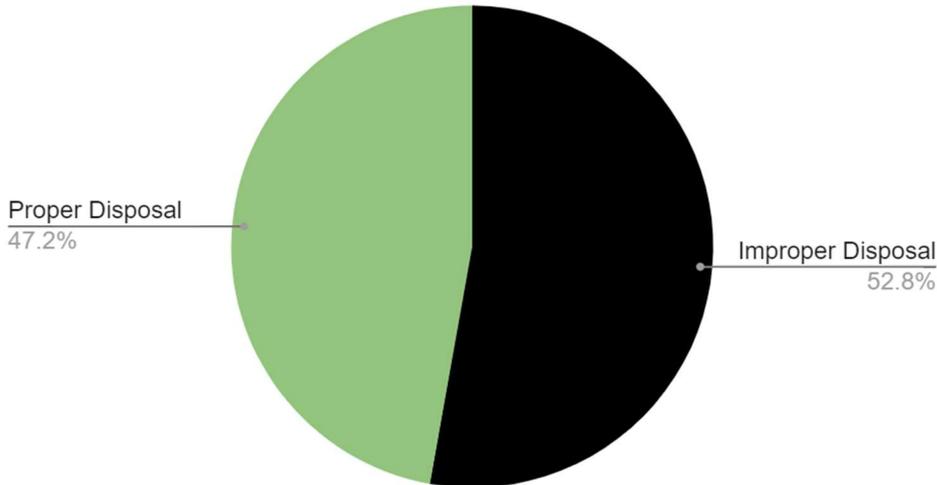


**Figure 2.** Contamination rate of all trash collected at 10/24/21 audit. There was a 9.2% reduction in contamination rates between the 2 games.

### Recycling Contamination Rates

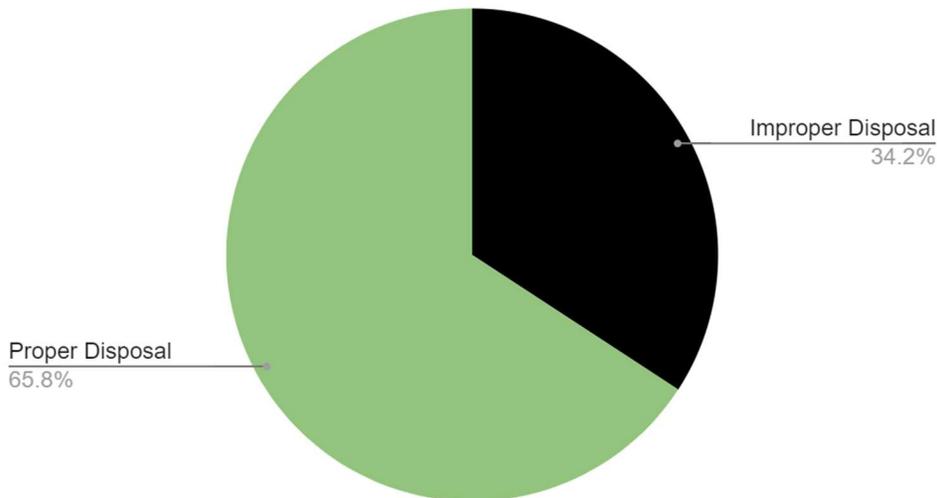


## Recycling Contamination Rate Game Day 1



**Figure 3.** Contamination rate of all recycling collected at 10/3/21 audit. Over 50% of the stream was composed of materials that cannot be recycled.

## Recycling Contamination Rate Game Day 2



**Figure 4.** Contamination rate of all recycling collected at 10/24 audit. There was an 18.6% reduction in contamination rates between the 2 games.

### What would you do differently in the future?

The business as usual audit on October 3rd occurred after both a men's soccer game and a women's soccer game. Because the two teams play in the same stadium, the waste audit included waste from both games. Since the data analysis is based on contamination rates as percentages of each stream, the increased volume theoretically should not have significantly impacted the results. However, it is possible that the fanbases for men's and women's soccer behave differently in terms of waste disposal. In the



future, Green Athletics interns would work to ensure consistency of setting when planning another waste audit intervention case study.

In preparation for the waste audits, Green Athletics interns arrived at the soccer complex as games began. While interns were on time for both games, arriving earlier on the day of the intervention would have allowed them to assist fans in properly disposing of waste as they entered the stadium. In the future, interns also would wear more official-looking clothing or vests to help improve perceptions of authority and clarify their role to the fans. Finally, it would be interesting to try advertising the event as a “Green Game Day” effort to see if that influences the results or behaviors of fans.

### **What advice would you give to another college that wanted to do a similar effort?**

One suggestion regarding gameday waste interventions would be to start small with the intention of scaling up. This was the rationale for choosing to audit soccer gameday waste as opposed to a football game. At first, Green Athletics interns had hopes of hosting a “Green Game Day” during a UW-Madison football game but quickly realized that the scale and resource demands were too large to implement successfully. By operating on a more reasonable scale, interns were able to assess all of the waste in a timely manner and generate accurate results. Another suggestion would be to avoid rainy days, as weather constraints and the accumulation of water in waste bins made the audits significantly more challenging.

### **Photos and Graphics**

*Social Media Posts:*



Posted by @uwforward360 on October 28, 2021 (Instagram)



**Caption:** Proud of our partners at the campus Office of Sustainability who conducted a waste audit at the Women's Soccer game on 10/3! The purpose of the audit was to see how much garbage and recycling ended up in the right place. Based on their findings, they will help with waste diversion by directing Badger fans to the right trash/recycling bin. [#onegreenteam](#) [#SALS](#) [#OS](#) [#wasteaudit](#) [#greengamedays](#)

**Photo Credit:** UW-Madison Office of Sustainability

Posted by @uwforward360 on November 12, 2021 (Instagram)



**Caption:** 📷 Update! The Office of Sustainability interns and SALS member Mick Santry conducted their second soccer game day waste audit. During the game, SALS members educated fans on the correct bin to put their trash in. Stay tuned for the results! [#SALS](#) [#greengameday](#) [#wasteaudit](#)

**Photo Credit:** UW-Madison Office of Sustainability

**Posted by** [@sustainuw](#) on November 2, 2021 (Instagram and Facebook)



**Caption:** After way too much virtual life, it's so good to see our interns out and about on campus again! Our Green Athletics team did a waste audit at a soccer game recently with help from Mick Santry of the men's rowing team. From left to right: Eliza Lindley, Mick Santry, Katherine Ackley, Nina Delgadillo, Morgan Barlin, Yvett Sanchez.

[#badgerslivesustainably](#) @badgermrowing

**Photo Credit:** UW-Madison Office of Sustainability