



## **KIBBIE DOME WASTE CHARACTERIZATION STUDY**

September 27, 2014

### **Goals and Objectives**

The goals of this waste characterization study were to evaluate the efficiency of the Game Day Recycling program and measure the quantity of food waste generated in concessions during a typical Vandal football game. The first objective was to assess how well the recently implemented recycling bins capture recyclable materials and how many recyclables are placed in trash bins. The second objective was to determine whether the amount of food waste generated in concessions waste stream is large enough to suggest expanding the Food and Farm composting program to the Kibbie Dome for large public events such as Vandal football games.

### **Methods**

Waste was collected from all bins used by the general public and two concessions stands during the September 27<sup>th</sup> 2014 game day.

The materials were collected from all public garbage bins and public recycling bins and half of concession's waste bins. Public garbage bins were sorted into landfill, recycling and compostable materials. Waste generated in the Lighthouse center was categorized as public waste for this study. Recycling waste bins were sorted into landfill and recycling, then recyclable materials were further subcategorized into aluminum and plastic. Concessions waste was categorized into compostable and landfill waste materials.

After the study, concessions and public waste was disposed of in the landfill and the recyclable waste was sent to Moscow recycling.

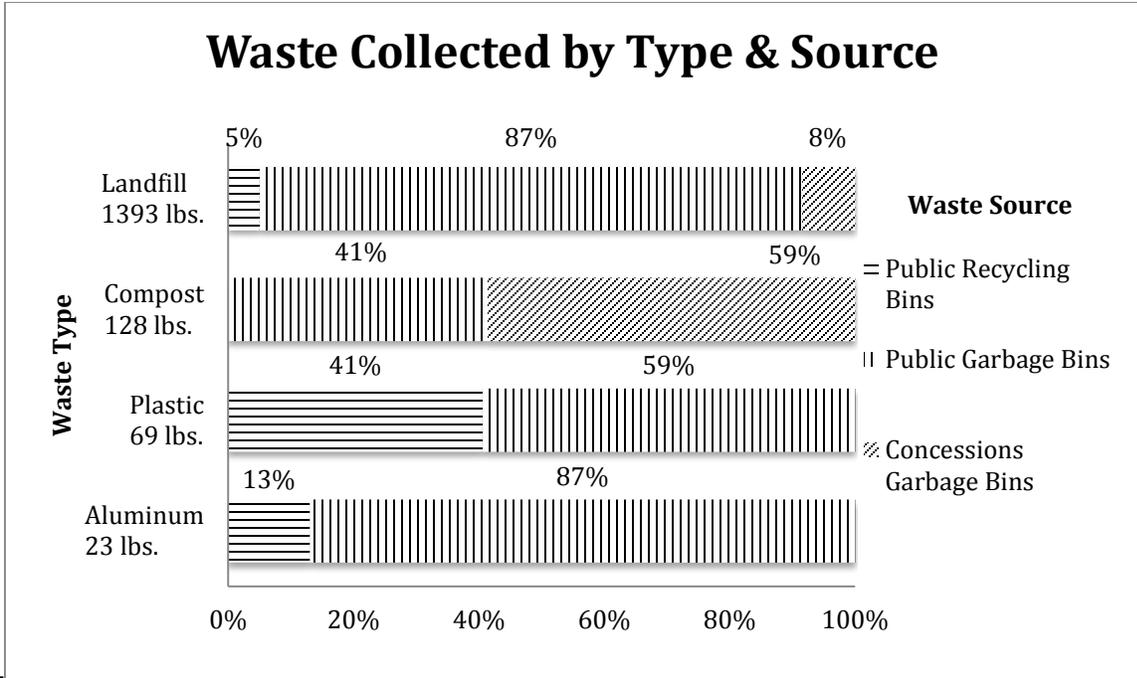


Figure 1. Waste Collected by Type and Source- Pounds and percentage of each waste type collected from each source.

Figure 1 shows the general overview of materials collected, sorted and weighed during the study. Of the total material collected (1733 lbs.), 23 lbs. was aluminum, 69 lbs. was plastic, 128 lbs. was compost, and the remaining 1393 lbs. was landfill material. This figure also shows that there was more plastic and aluminum in garbage bins than in recycling bins. Compostable materials were found in both public and concessions garbage bins.

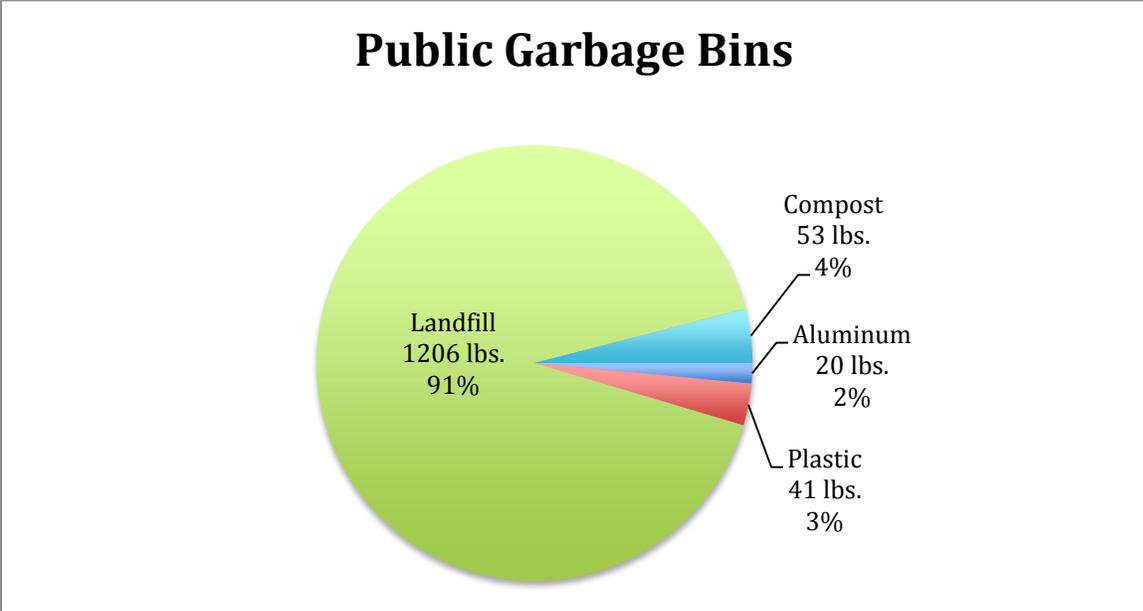
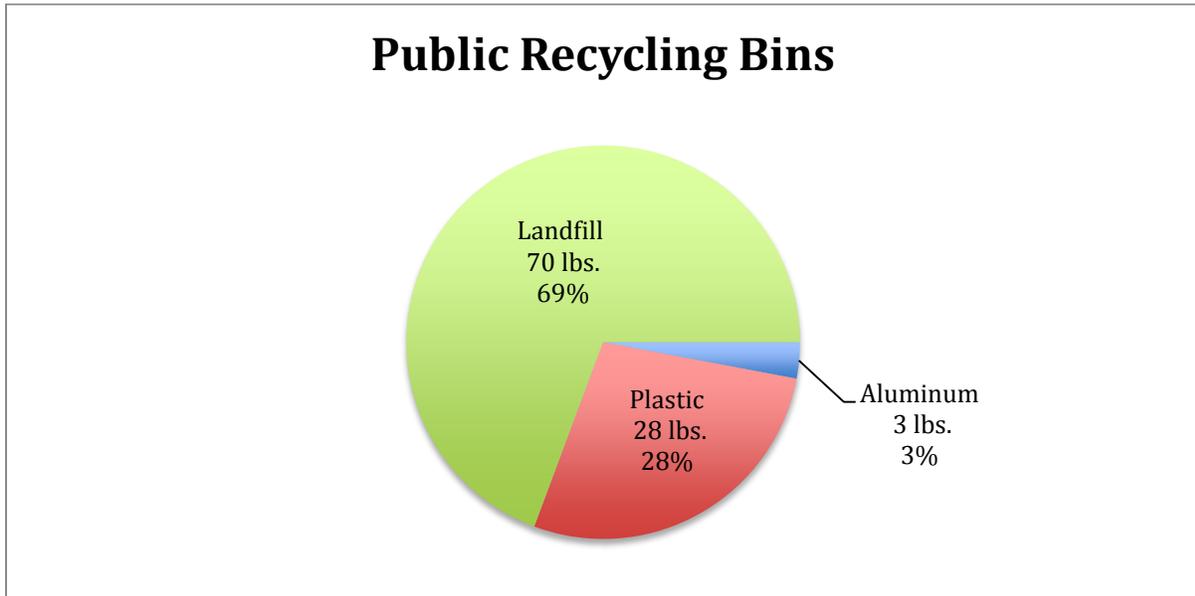


Figure 2 Public Garbage Bins- Weight and percentage of total material collected from public garbage bins by waste type.

The public garbage bins consisted primarily (91%) of landfill materials. The 41 lbs. of plastic and 20 lbs. of aluminum found in public garbage bins could have been recycled. The 53 lbs. of compostable material was found in the public garbage bins in the Lighthouse area where special catering services are provided to public game attendees. This compostable waste could be diverted from the landfill through the Food and Farm composting program.



**Figure 3 Public Recycling Bins- Weight and percentage of total material collected from public recycling bins by waste type.**

Only 3 lbs. (13% of the total 23 lbs.) of aluminum were collected from public recycling bins. The majority of aluminum was placed in public garbage bins. This same trend was found for plastic, where 28 lbs. (41% of the total 69 lbs.) was found in public recycling bins. The majority of the materials found in public recycling bins were landfill materials or should have been placed in public garbage bins.

## Concessions Garbage Bins

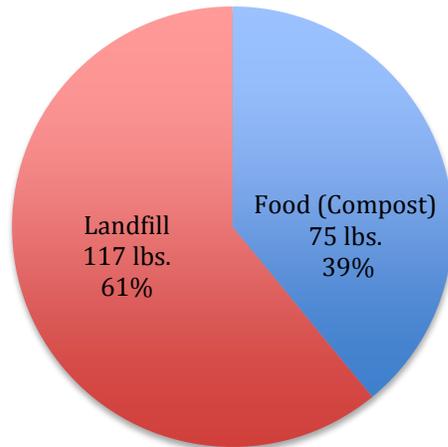


Figure 4 Concession Garbage Bins- Weight and percentage of total materials collected from concession garbage bins by waste type.

The food waste found in concessions was a result of collecting from only two of the four stands. The numbers generated during a single game day are nearly double than what was collected and weighed for this characterization. Food waste made up nearly 40% of the total concessions waste and shows great potential to be diverted from landfill to the Food and Farm composting program.

### Conclusion

Most of the recyclable materials were found in public garbage bins rather than the public recycling bins. This occurred despite having a one-to-one ratio of garbage bins to recycling bins in close proximity to each other. In addition, many landfill materials collected in public recycling bins were items that the public mistook as an acceptable recyclable material. This shows that the current signage is insufficient to inform the public about which materials are acceptable in recycling bins and garbage bins. The misplacement of materials is likely due to the lack of clear signage placed directly on bins as well as a lack of public education and general campus culture regarding recycling. Based on the total amount of recyclables collected, recycling in the Kibbie Dome may not be a huge source of cost savings. However, it provides a very important opportunity to contribute to public awareness and campus culture shift because of the large attendance at Vandal football games. It is important to note that cardboard is managed separately from the public recycling bins and appears to be adequately functional.

Due to the amount of compostable materials collected in concessions garbage bins, there is great potential for extending the Food and Farm composting program to the concessions waste stream at Kibbie Dome home games. The results obtained from concessions are from two of the four total concessions stands. Therefore, the composting potential is approximately double the figures reported. Since concessions waste bins are not used by the public, staff and volunteers can be easily trained in keeping compost bins free of contamination. However, if Food and Farm composting is implemented in the Lighthouse there may be a higher risk of contamination. Implementing Food and Farm composting provides another opportunity to further public education about the existing composting program on campus.

## Next Steps for Improving Recycling in the Kibbie Dome

- Bright, bold, engaging and user friendly signage attached to recycling bins is needed to inform patrons of accepted recyclable materials and to avoid contamination in recycling bins.
- Audio or video announcements during the game are potential methods of improving efficiency, as well as informing attendees of recycling efforts inside the Kibbie Dome.
- Discontinuing the use of plastic liners in public recycling bins could be considered to reduce recycling costs.

## Next Steps for Implementing Food and Farm Composting in the Kibbie Dome

- Expand Food and Farm program pick up schedule to the Kibbie Dome on vandal game days and other concessions heavy use days (e.g., Jazz Fest, Cowan Spectrum games, etc.).
- Train Sodexo concessions staff and volunteers on acceptable materials for composting bins in order to reduce contamination for Food and Farm composting bins.
- Include Food and Farm in audio and visual announcements about recycling in order to continue to enhance public awareness of composting opportunities on campus, such as composting at the UI Commons and Bob's Place.

## We would like to thank the following partners for their contributions to this project:

This report was written by Jordan Sanders, the UI Sustainability Center Recycling Coordinator. For more information about the University of Idaho's efforts to reduce greenhouse gas emissions, contact Jordan at [uisc-recycling@uidaho.edu](mailto:uisc-recycling@uidaho.edu) or you can contact the University of Idaho Sustainability Center Student Director at [uisc@uidaho.edu](mailto:uisc@uidaho.edu).

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Next time you're at a sporting event in the Kibbie Dome, look out for these recycling containers and if you're not sure what to do, refer to the signs for help.

