Too Much Compost in the Trash: Understanding Waste Allocation

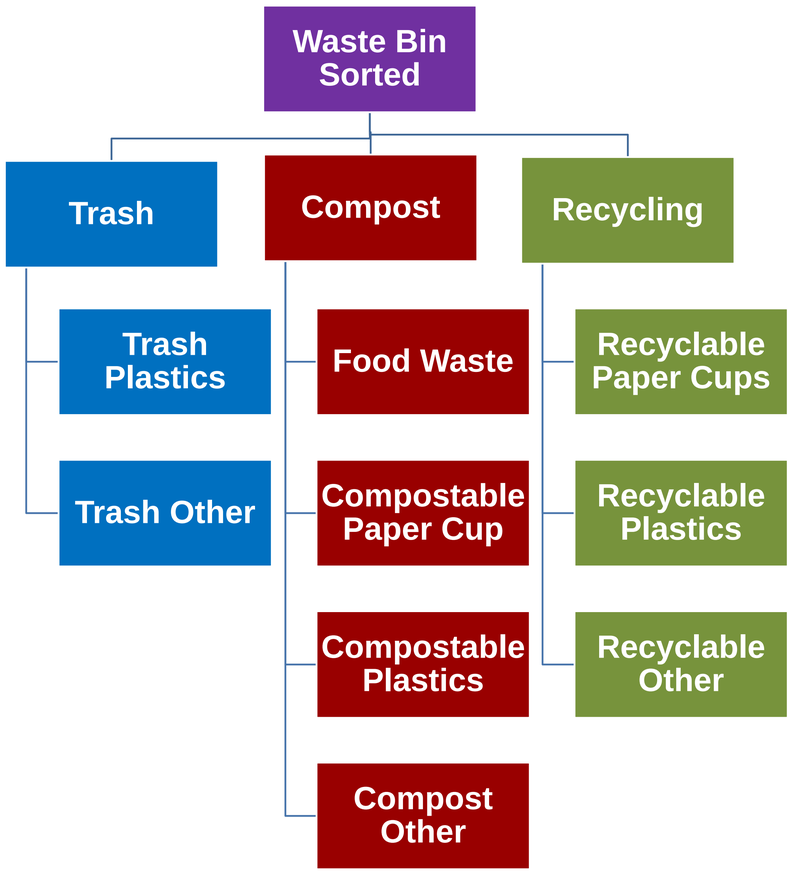
Megan Rue [1,2] & Jack Johnson[1], [1]Department of Anthropology, [2]Department of Biology, University of Washington

Abstract

The history of *Homo* is characterized by increasing technological complexity, sufficient today to allow people to live in almost any environment. Recently, this penchant for complex technology has become focused on products that are disposable. These throwaway items have created an environmental challenge for human society. Although global efforts to reduce the amount of waste that people produce are ongoing, a significant amount could be recycled or composted, but is not. The purpose of this initial study is to understand how waste is allocated when individuals are offered options.

We compared the composition of items in trash, recycling, and compost bins, six bins total, on the University of Washington campus. The waste in each bin was sorted by type (trash, recycling, and compost) and the mass of improperly allocated waste (contamination) in each bin was determined. We found that the average trash bin contained 12% trash, the rest was contamination which could have been recycled or composted. Recycling bins contained 61% recyclable material and waste in compost bins was 93% compostable.

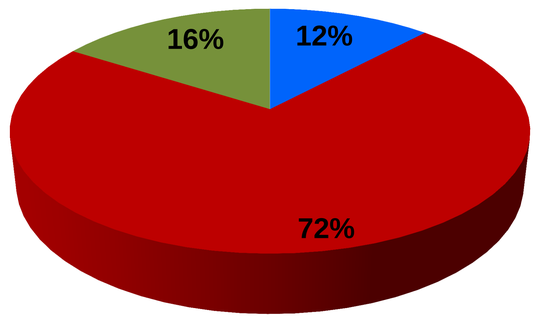
Our results indicate that individuals who compost know what to compost; yet compost is still the single largest contaminant in trash (72%) and recycling (36%) bins. Food and liquid were most often displaced, followed by compostable food and drink containers. We are left with many questions that require future exploration: Are individuals cognizant of how incorrectly they dispose of waste? Do individuals recognize that their incorrect allocation of waste causes environmental deterioration that threatens our species's ability to thrive?



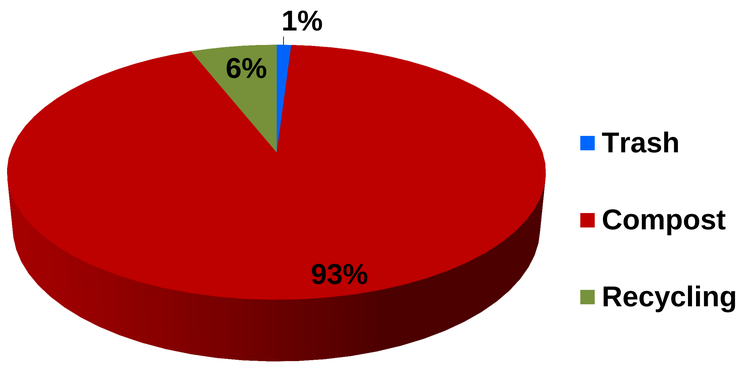
Results

Overall compost was the largest category that was incorrectly allocated. Compostable items accounted for 71% of the average waste stream. Food waste, which is comprised of solid foods and consumable liquids is the most prevalent form of waste in the overall average daily waste stream accounting for 46.1% of the average daily composition.

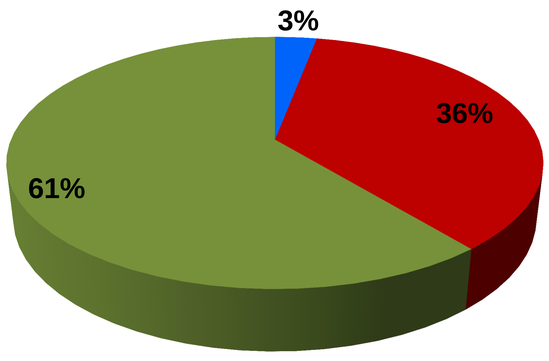
Average Trash Bin Composition



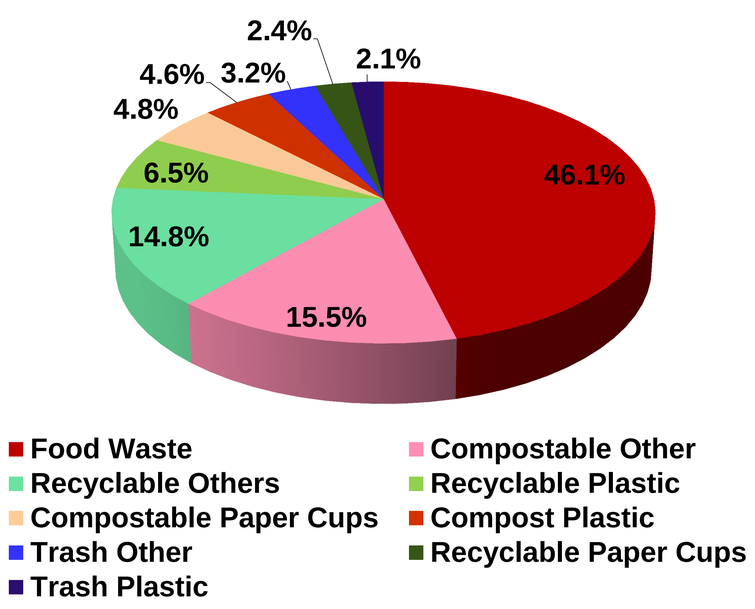
Average Compost Bin Composition



Average Recycling Bin Composition



Average Daily Waste Composition



Methods

Two locations were sampled, both utilized solar kiosk bins. Trash, recycling and compost solar kiosk bins were present at both locations. Waste was collected on each Wednesday at the same time. All bins were emptied on Mondays prior to the Wednesday collection to ensure equal accumulation times between the two locations. Samples were collected for five weeks. We resorted each waste type from both locations into the correct category (trash, recycling or compost). These three categories were further subdivided into nine subcategories. (See flow chart.) The subcategories were designed to determine if specific items were frequently misallocated. After the resorting of each waste type and correct allocation to one of the aforementioned categories, all waste subtypes were weighed (in grams) and each weight was recorded.

Conclusions

Overall, compost seems to be the most problematic waste for individuals to correctly allocate. Bin availability seems not to be the source of confusion in this scenario, since all three bin types were available in both locations. Among the subcategories, food waste (which is comprised of foods and consumable liquids) was most often misplaced, followed by compostable other (which is mainly comprised of food and drink containers).

Future Research

A new study, the McMahon Hall Research Project, is a two part study designed to assess individuals actual waste behavior versus their perceived waste behavior. In the first portion of the study this winter, the waste stream of two floors was collected every Wednesday for seven weeks and then resorted. McMahon Residence Hall is a dormitory with recycling and trash bins readily available to residents. Compost bins are maintained in individual dorm rooms and dumped semi-weekly at the discretion of the residents.

In the second portion of the study, residents of the two floors will be asked to participate in a survey, designed to test the participant's knowledge by asking them to specifically allocate commonly misplaced waste items. In the survey, individuals assess their own waste behavior, as well as the waste behavior of their fellow residents living on their floor. This study allows us to document the actual behavior of a cohort and compare this to their perceived waste behavior.