

# 2021 Waste Characterization Study Results

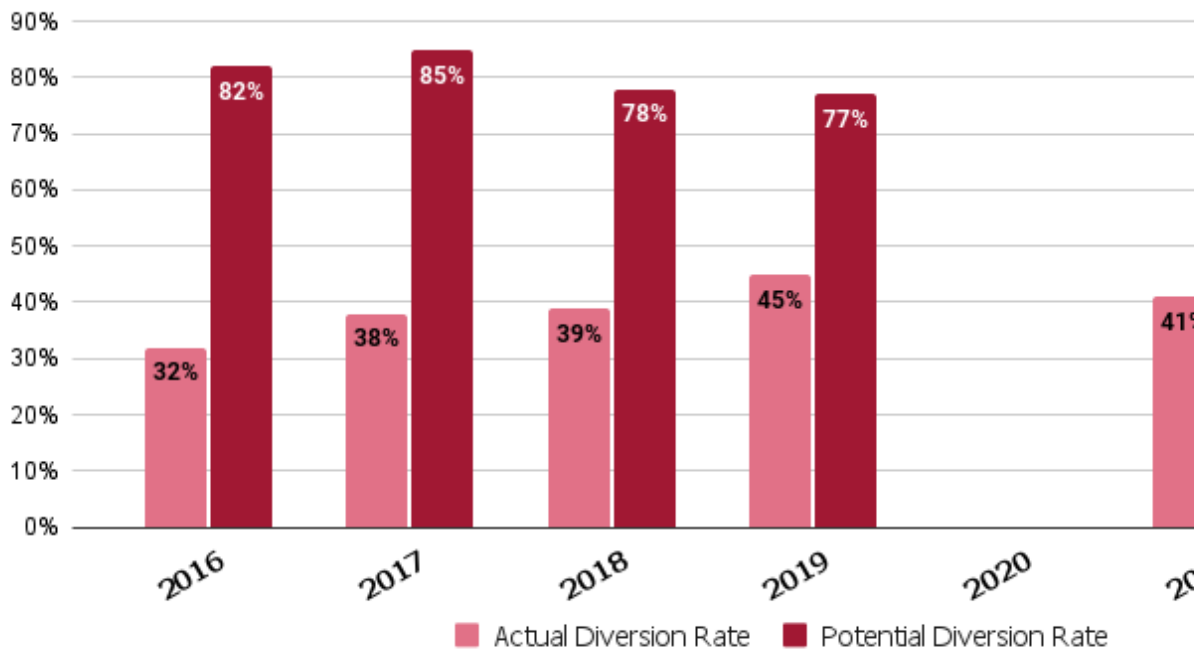
Office of Sustainability | Swarthmore College | December 2022

## Overview:

Swarthmore College conducted their fifth annual waste characterization study on October 29th, 2021. These studies help the college understand how waste is being disposed of on campus by analyzing the waste streams of buildings that represent our main building types on campus. Three days of waste, totaling 1,262.5 pounds, was collected from the Science Commons, NPPR, Parrish 1st Floor, and Willets Hall. Due to time constraints, Willet's hall was not fully sorted and therefore, not included in the analysis. The remaining buildings represented 723.7 pounds of waste fully sorted.

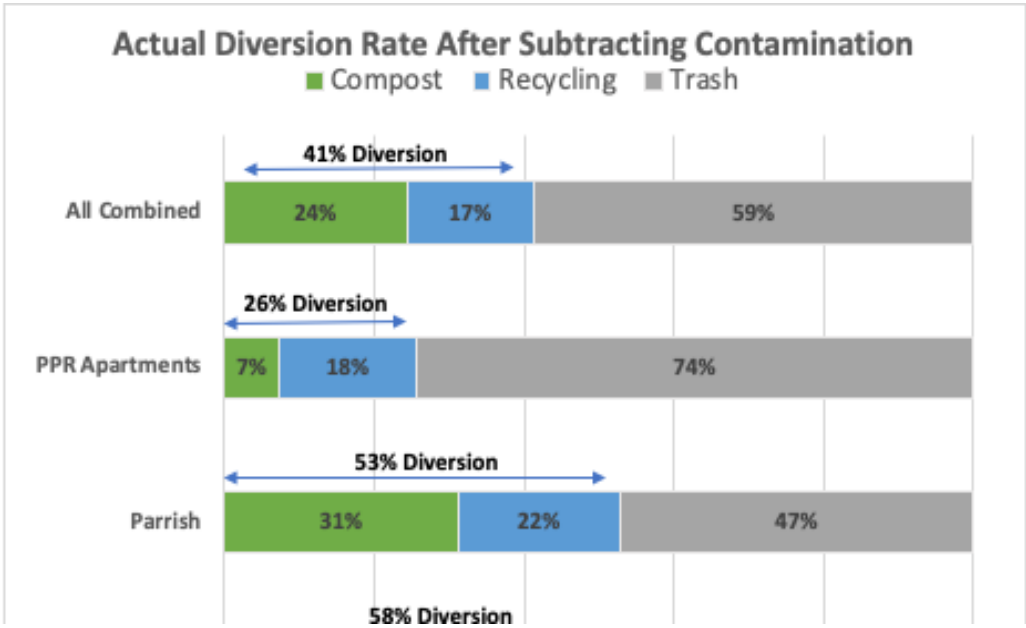
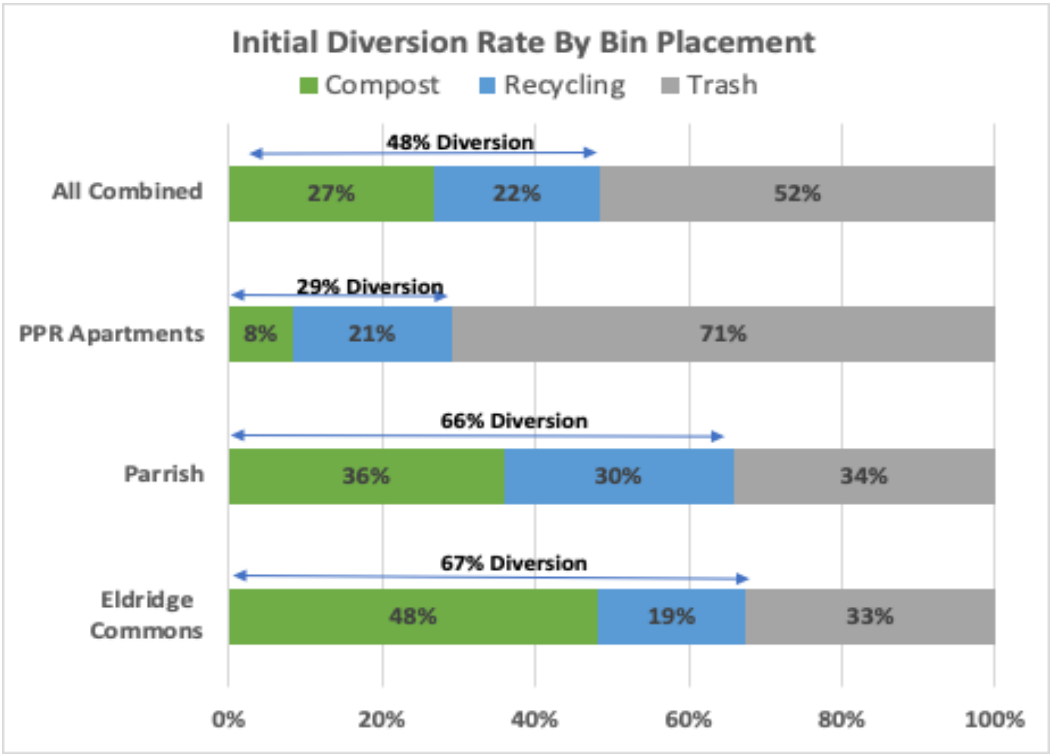
**Diversion Rate:** In 2021, the amount of properly sorted recycling and composting diverted from the waste stream was 41%. While this is a decrease from the previous 45% diversion rate in 2019, it reflects the increased use of disposals and limited opportunities for in-person education and training during the pandemic, and tracks with national trends on waste.

**Potential Diversion Rate:** Based on the findings of the study, 72% of all discards on campus are potentially recyclable or compostable in the current system. This decrease shows that the packaging in our waste stream is becoming more challenging to divert to recycling or compost streams. 31% of our discards were placed in the wrong waste stream and could be diverted away from the incinerator if properly sorted. This underscores the importance of proper sorting between compost, recycling, and trash in order to meet our zero waste goals.



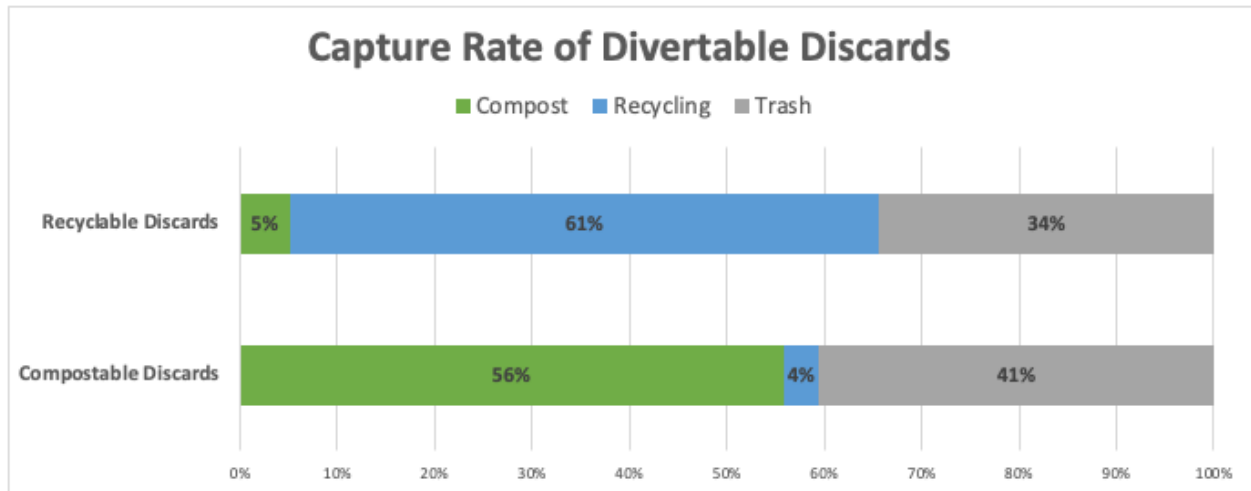
**Diversion Details by Building:**

The chart below on the left shows the "Initial Diversion Rate by Bin Placement." This reflects the percent of material placed into each bin by community members, regardless of contamination (i.e. material that is placed in the wrong bin). The initial diversion rate ranged from 67% at Eldridge Commons to 29% at PPR apartments, for a combined overall total of 48%.

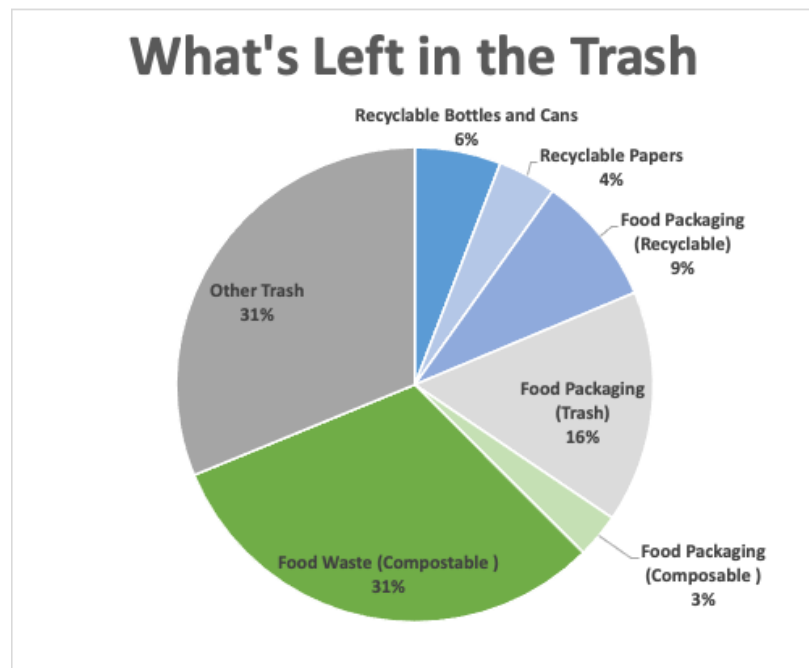


The chart above on the right shows the “Actual Diversion Rate After Subtracting Contamination” after each stream was sorted to subtract out the contamination and materials placed in the wrong container. The overall diversion rate ranged from 26% in PPR apartments to 58% in Eldridge commons for a combined overall total of 41% diversion.

**Capture Rate:** The “capture rate” is the % of discards that ends up in the proper stream to facilitate diversion. The chart below shows that for all the material collected across buildings, 61% of potentially recyclable material was in the recycling while 56% of the overall compostable material was in the compost.



**What’s Left in the Trash:** Over half of the discards currently in the trash could be diverted to recycling or composting. 28% of the trash is made up of single-use food packaging and only 12% of the food packaging in the waste stream is able to be diverted (3% to compost and 9% to recycling). Food packaging also represents the primary source of contamination in the recycling and composting streams. This data shows the limits of diversion alone as a zero waste strategy and points to the need to replace the non-recyclable or compostable products on campus with reusable products, and minimize single use packaging.



## Recommendations

- Using reusable containers like reusable takeaway containers, utensil sets, water bottles and coffee mugs are all excellent ways to divert waste from the waste stream and provide the greatest greenhouse gas reductions as they reduce the need to extract resources upstream. Single-use PLA utensils are no longer accepted by our community composter and must go into the trash. Use reusable whenever possible, and remember to remove your single-use PLA utensils from your compostable take-out containers and place them in the trash. \*
- For items that cannot be reduced or reused, one of the most impactful ways to improve our waste diversion rate is simply by placing items in the right bin. If all items were correctly sorted, without making any new changes to our waste system infrastructure, we would already be at a 72% diversion rate. If you have questions about where waste goes you can review our signage on our tri-bins across campus, or review our [waste disposal guide](#). If an item is not included in the waste disposal guide email [zerowaste@swarthmore.edu](mailto:zerowaste@swarthmore.edu).
- There seems to be confusion about recycling and between different types of recyclable containers. Recyclable plastics are those with a 1, 2, and 5. Numbers 3, 4, 6, or 7 or unnumbered plastics, are not recyclable. Black plastic labeled #5 is also not recyclable. While there were disruptions in the recycling markets over the last several years, they have recovered and markets for properly sorted items in 2021 were very strong with material in demand by manufacturers. We will be working to update signage across campus with this information when other significant changes to signage occur.

\*Starting Fall 2022 compostable wooden utensils can be found at all Dining Services locations, including Campus Catering, and can be placed in the compost bins.

More information on our annual Waste Characterization study or zero waste at Swarthmore College can be found on the Office of Sustainability website. Please email [zerowaste@swarthmore.edu](mailto:zerowaste@swarthmore.edu) with requests for information or additional information.