

FY-16-17 Summary

UNC Waste Composition Study

Purpose and Use: Orange County contracted Kessler Consulting, Inc. to conduct a waste composition study (WCS). The purpose of the study was to understand the percentages of various materials, including recyclable materials, currently being landfilled within the County. UNC Chapel Hill was invited to participate in the study. The results of samples taken from five areas of the campus have been compiled in this report. Use of these results in major planning decisions is cautioned, due to the limited number and size of samples analyzed.

Sampling Summary: Samples of approximately 100 pounds each were chosen from five generator areas. These included:

1. Residence Halls (traditional residence halls) such as Morrison, Hinton James, Craige, Koury, Avery, Connor, Joyner, McIver, Spencer, etc.
2. Apartment-style Residence Halls such as Baity Hill, Ram Village, Taylor Hall, etc.
3. Academic/Administration/Library Buildings such as Davis Library, Steele/Bynum, Carr/Caldwell, Phillips, Peabody, Administrative Office Building, 1700 Airport Rd., etc.
4. Research Areas such as Genome Sciences, Dental School, Thurston Bowles, Genetic Medicine, Taylor, MBRB, etc.
5. Event Space and Multi-Use Areas which include event spaces and multi-use buildings that host events such as Student Union, Stone Center, Friday Center, McColl, Loudermilk, Knapp-Sanders, etc.

Kessler conducted a sorting event in the fall and in the spring to account for seasonal variability. The first sorting event occurred during the week of October 24-28, 2016. The second sorting event occurred the week of April 3-7, 2017.

All samples were hand-sorted into the previously defined material categories. After the entire sample was sorted, one of the KCI supervisors weighed and recorded the net weights of each material category on a data recording form. Two samples from each UNC generator sector, one from each season, were sorted during the two-season study.

Note: Dining halls were not included in the sampling. While sampling the waste from our dining halls would have been interesting, we were limited to five sample areas. We know that our dining halls are currently diverting 68-73% of their waste through recycling and composting activities.

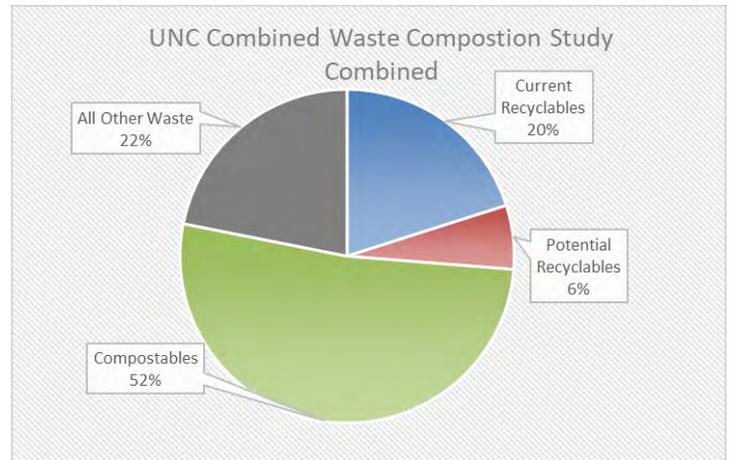
Categorization Summary: All results are expressed in percentage by weight. For the purpose of discussion and analysis, materials were grouped into these broad categories:

Program recyclables: These are materials that are accepted in UNC's recycling programs.

Potential recyclables/reusables: These are materials that are not typically associated with UNC's single stream recycling program. Note: These materials can be diverted from disposal through other programs, such as hazardous waste collection programs, clothing donations, scrap metal recycling, etc.

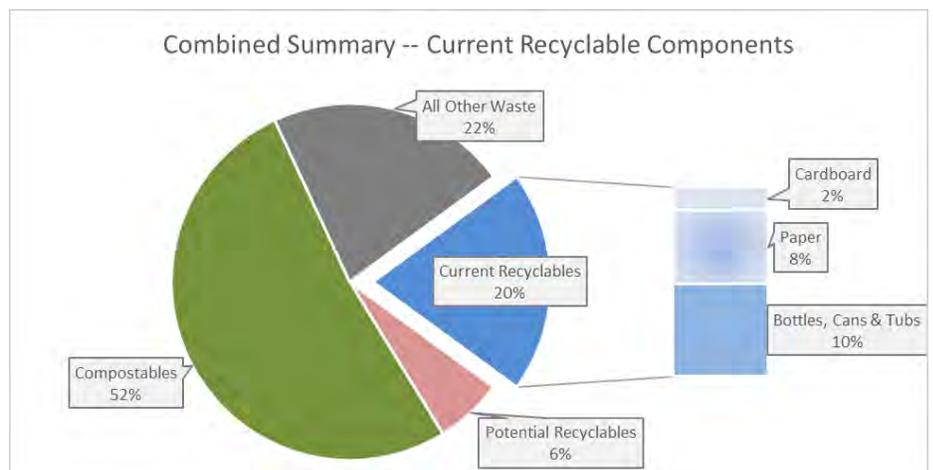
Compostables: These materials could potentially be composted through a food scraps/organic composting program. (Note: This includes packaged food waste, which would require some processing to de-package the material and remove the non-compostable components.)

All Other Waste: These are materials for which recycling, recovery, or reuse options are not readily feasible or available at the University.

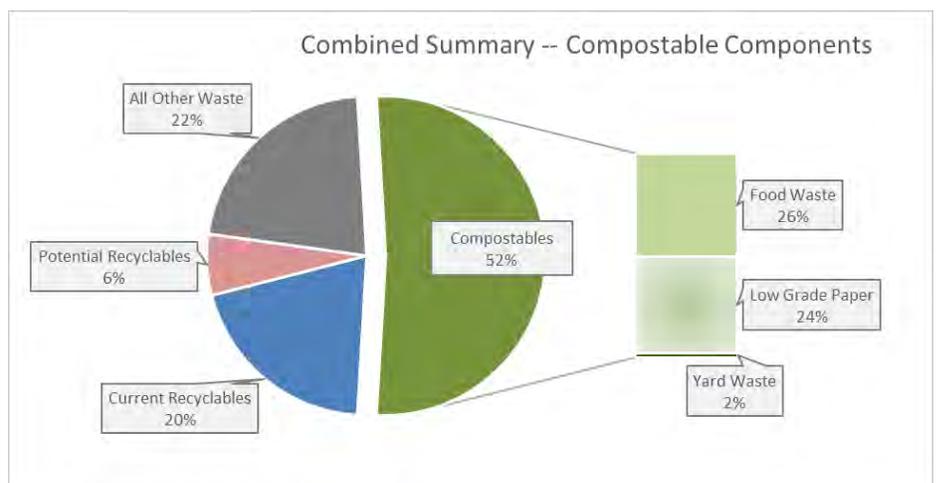


Results Summary and Meaning: The graphs below are a summary of the data found in the full report. When reviewing this information, it is important to remember that UNC Chapel Hill has a current diversion rate of 45%. That means that a significant amount of recyclable and compostable material has already been removed from our waste stream. Thus, leaving a “condensed” residual waste that may be high in materials for which campus-wide programs do not yet exist. For instance, a review of campus dining’s landfill-bound waste should show a much lower percentage of food waste due to a long-standing composting program.

Based on the samples studied, the combined results show that approximately 20% of waste destined for landfills from the areas sampled could be recycled in campus recycling programs—cardboard 2%, paper 8%, and bottles/cans/tubs 10%. Thus, there is still significant work to be done to promote and expand participation in our existing recycling programs.

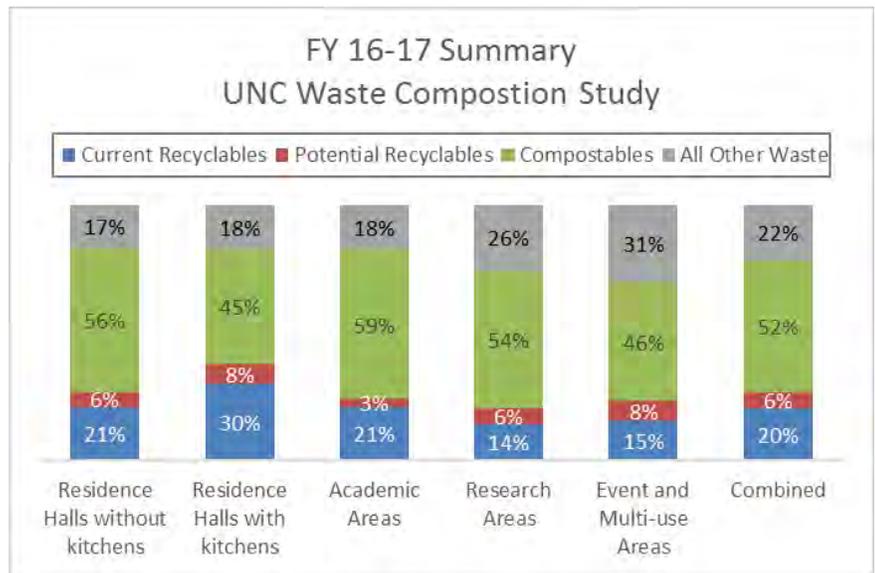


The next significant finding is that more than half of the waste we send to landfills from the sampled areas is compostable food waste (26%), low grade paper (24%) and yard waste (2%). It is worth noting that yard waste is banned from landfills. There was one sample (from a residence hall) that included yard waste. It is impossible to know if this was from campus operations, a neighbor, or contractor.

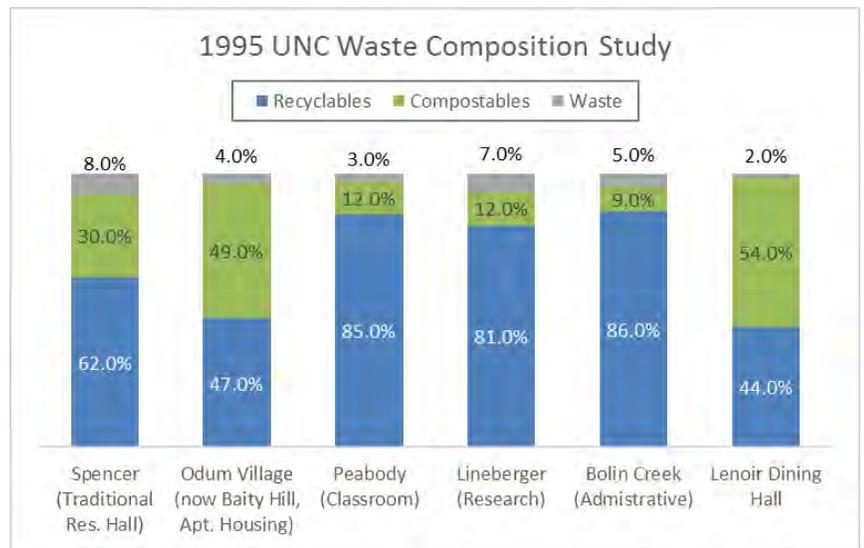


It is also interesting to look at the sample areas in detail. The highest amount of currently recyclable materials was in waste coming from traditional residence halls (30%). Apartment-style residence halls and academic areas both had 21% standard recyclables.

The three highest areas for compostables are academic areas, traditional residence halls, and research areas. Although composting was available to students in traditional residence halls at the time of the study, 56% of the waste sampled was compostable food or paper. Not surprisingly, residence halls with kitchens, such as apartments, had the highest percentage of actual food waste (31.5%) of all the areas. Compost programs had just become available to many of the apartment areas and are still not available to Baity Hill residents.



Next Steps: This data highlights where emphasis is needed to help UNC reach its zero waste goals. While there is still a significant quantity of regular recyclables in our waste stream, this study’s biggest take away is that more than half of what we throw away is compostable.



Since 2000, the University has been composting food waste from our two main dining halls and conference center. Over the years, several other dining operations have been added to that program. More than 16.7 million pounds of food waste have been composted. As we strive to reach zero waste, we cannot do so without addressing the “compostable elephant” in the room.

Composting has yet to become a part of our culture and cannot do so without a stable and sustainable collection infrastructure. Our recycling program has been in place since 1989—nearly 30 years. Our compost program is still developing and evolving. OWRR recently added a staff member whose focus area will be on developing new compost programs across campus.

The threshold for contamination in the composting process is much lower than recycling. A commitment to develop compost programs in high-yield, low contamination areas must be a priority. There are back-of-house dining and food prep areas that are not yet participating in campus composting programs. From there, working with facilities that regularly host events and helping them provide zero waste events as standard operating practice is a priority. Similarly, strengthening residential composting and expanding it to residents at Baity Hill, if possible, is also a priority. And while adding composting to academic buildings, research buildings, and retail operations is exciting and high-profile, it is lower on the priority list due to high-contamination and collection complexities.

As we build a culture of composting in these other areas, we are confident that campus composting programs will expand to day-to-day life for students, employees, and visitors to campus.