

Off Campus Food Waste vs On Campus Food Waste

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Introduction

On BC's campus, there has been a focus on what dining facilities has done and the strides that they are making to shift towards a more sustainable model. However, these efforts have not taken into account what students off campus do.

We believe that students who live off campus are on their own for the first time in their lives, and consequently, the first time that many students are responsible for cooking their own meals. We hypothesize that this inexperience with cooking coupled with heavy work loads and packed social schedules leads to higher amounts of food going to waste as opposed to students who live on campus and eat at BC dining facilities.

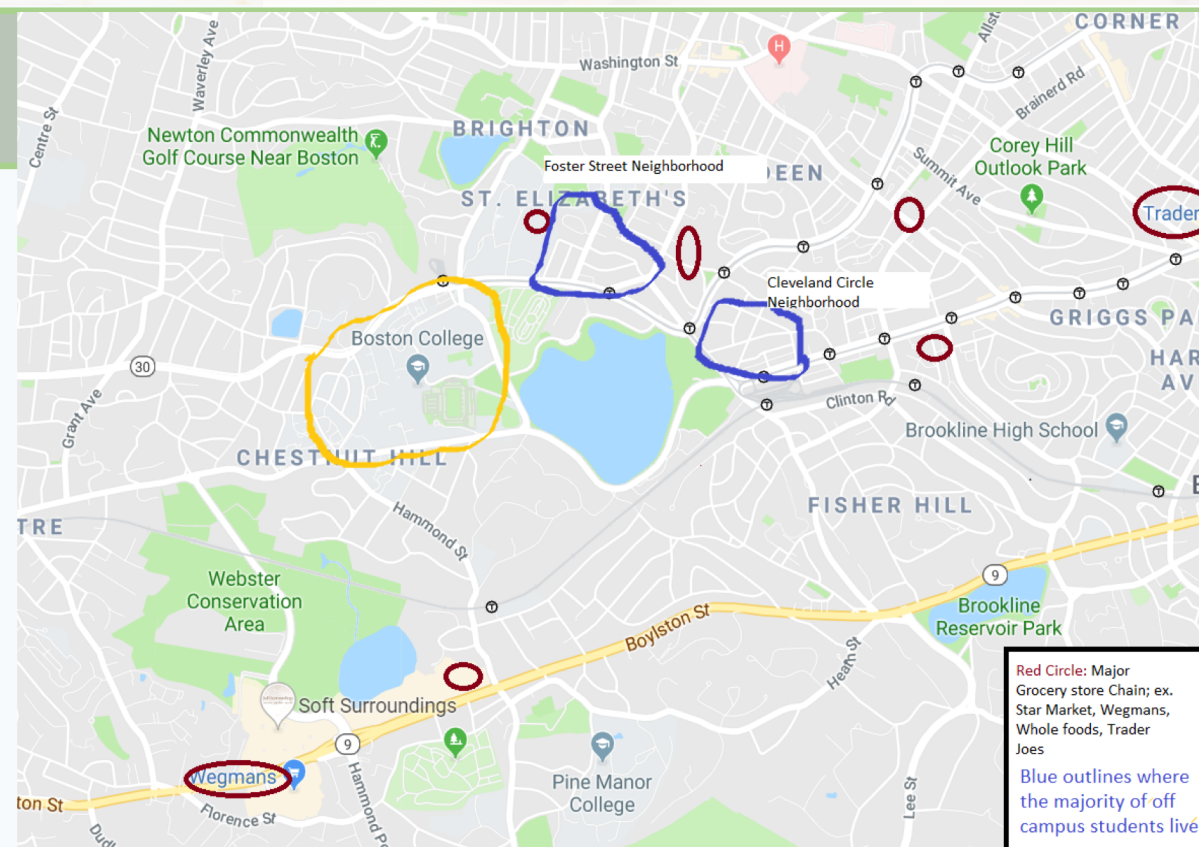
Background

By not looking into off campus food waste, BC is missing an opportunity to help reduce the problem. The world is in the midst of a food crisis with 805 million people worldwide not having adequate access to enough food to lead a healthy life, yet society is wasting up to 40% of it. This equates to roughly 133 billion pounds of food and \$161 billion in 2010. Growing crops and raising livestock for consumption is a very resource intensive process, especially for livestock because water and resource have to be used to grow the feed as well. By wasting food that required fertilizers and pesticides to grow, we are ruining land in addition to throwing food out. Livestock is a major contributor to climate change while nitrogen runoff leads to toxic algal blooms, both of which are starting to cause large biome-level tragedies through climate change and anoxic zones.

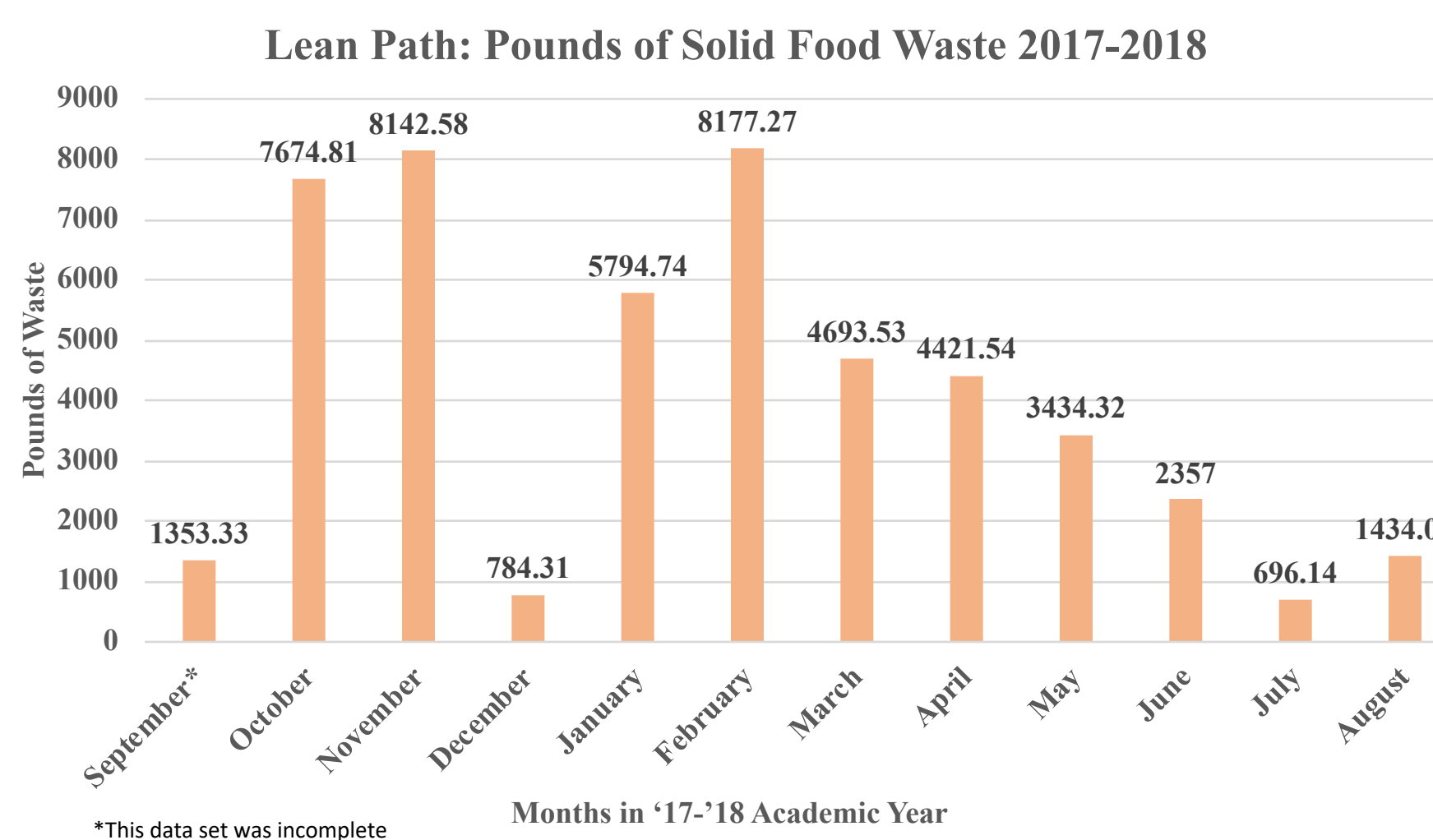
Methods

BC Dining provided the date for on campus food waste and annual transactions at one of their locations: Corcoran Commons. The total poundage was calculated and divided by the total number of transactions in order to get the amount of food waste associated with each transaction.

For the off-campus portion, a survey was sent out on BC's class pages as well as friends who lived off campus. The survey collected information on students who lived off campus in a house, apartment, or Reservoir Apartments. Students who had previously lived off campus for at least a semester were also allowed to take the survey. The questions that were asked collected information on the students diets, frequency of grocery trips, how much of their groceries they ate. Lastly, the two sides are compared on a per capita level.

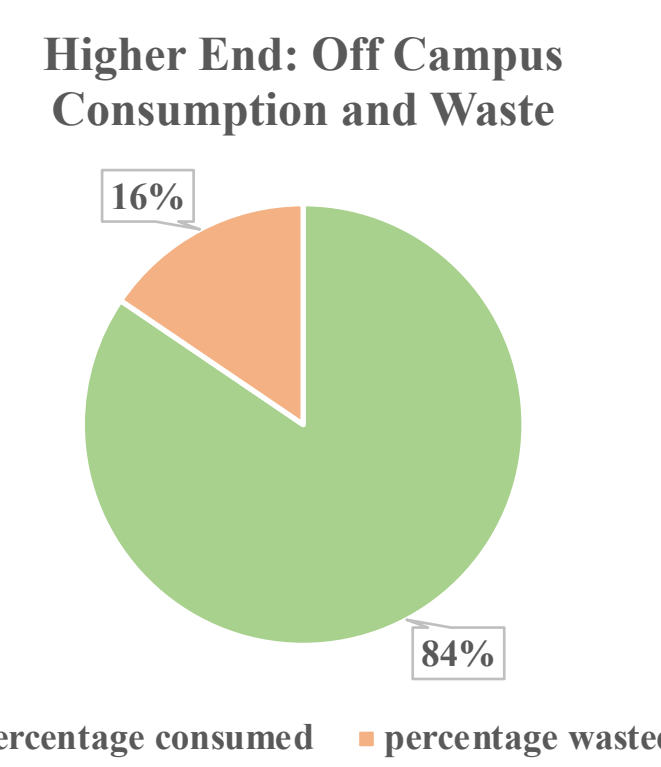
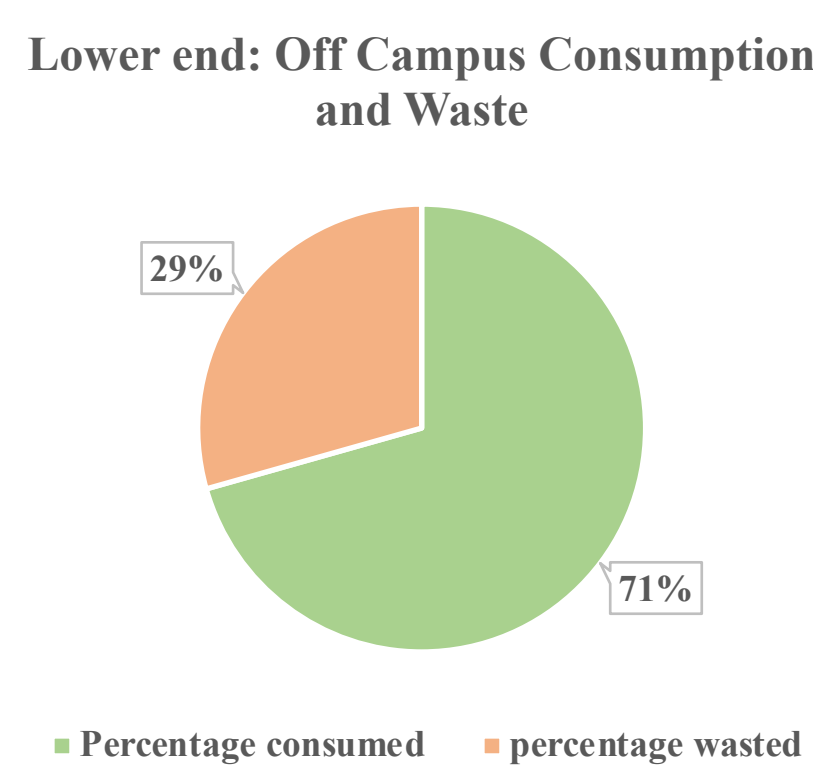
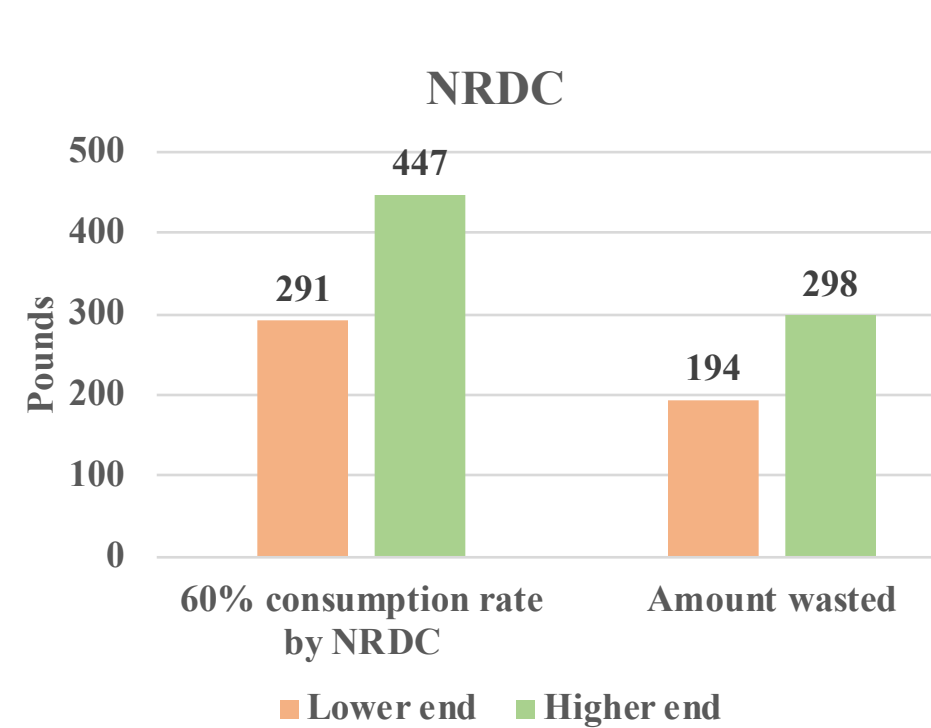
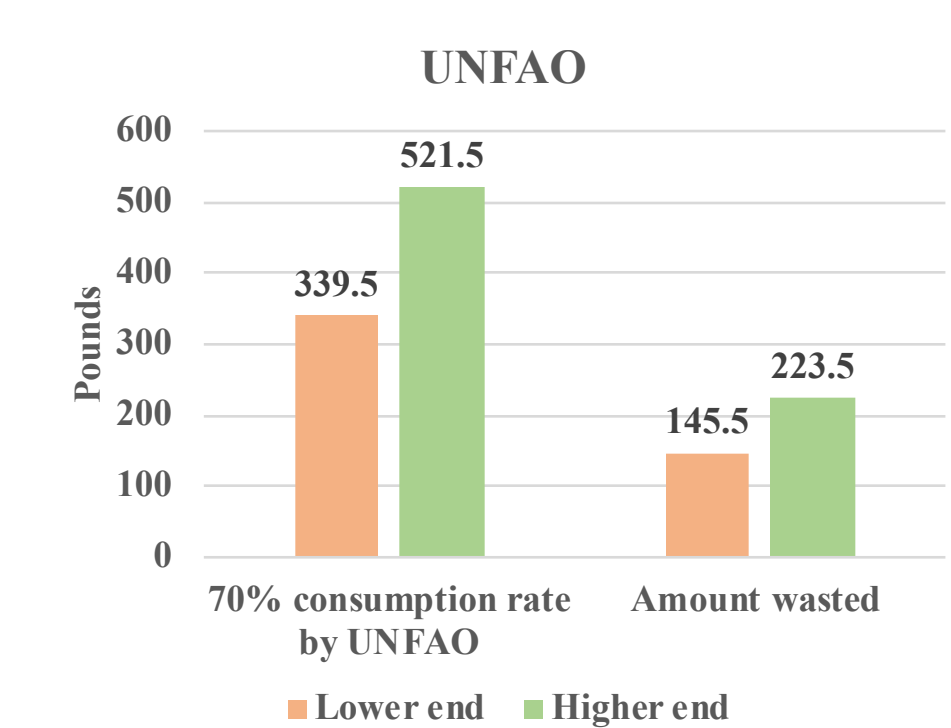
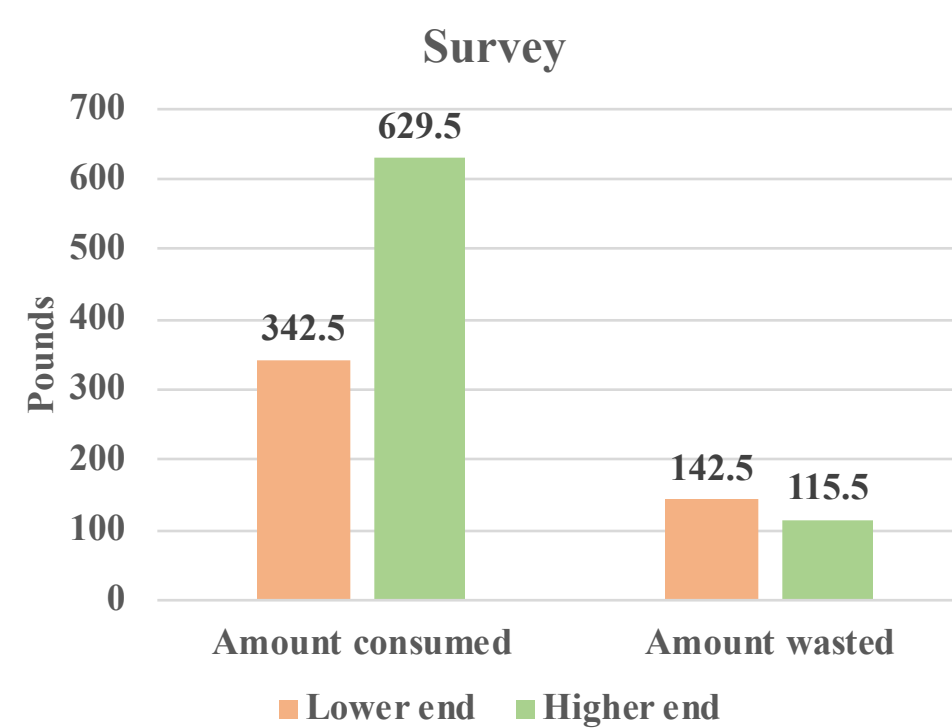
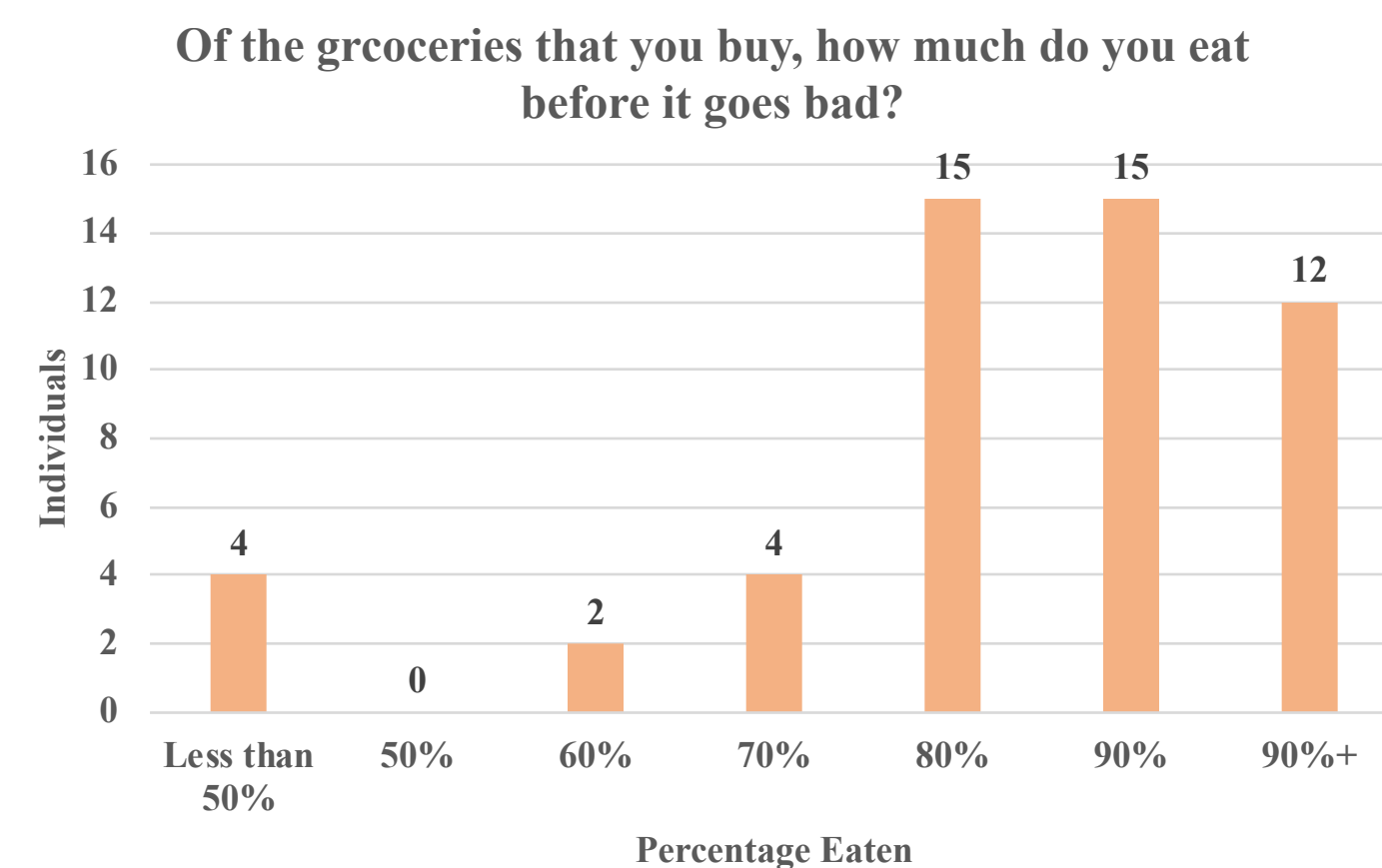
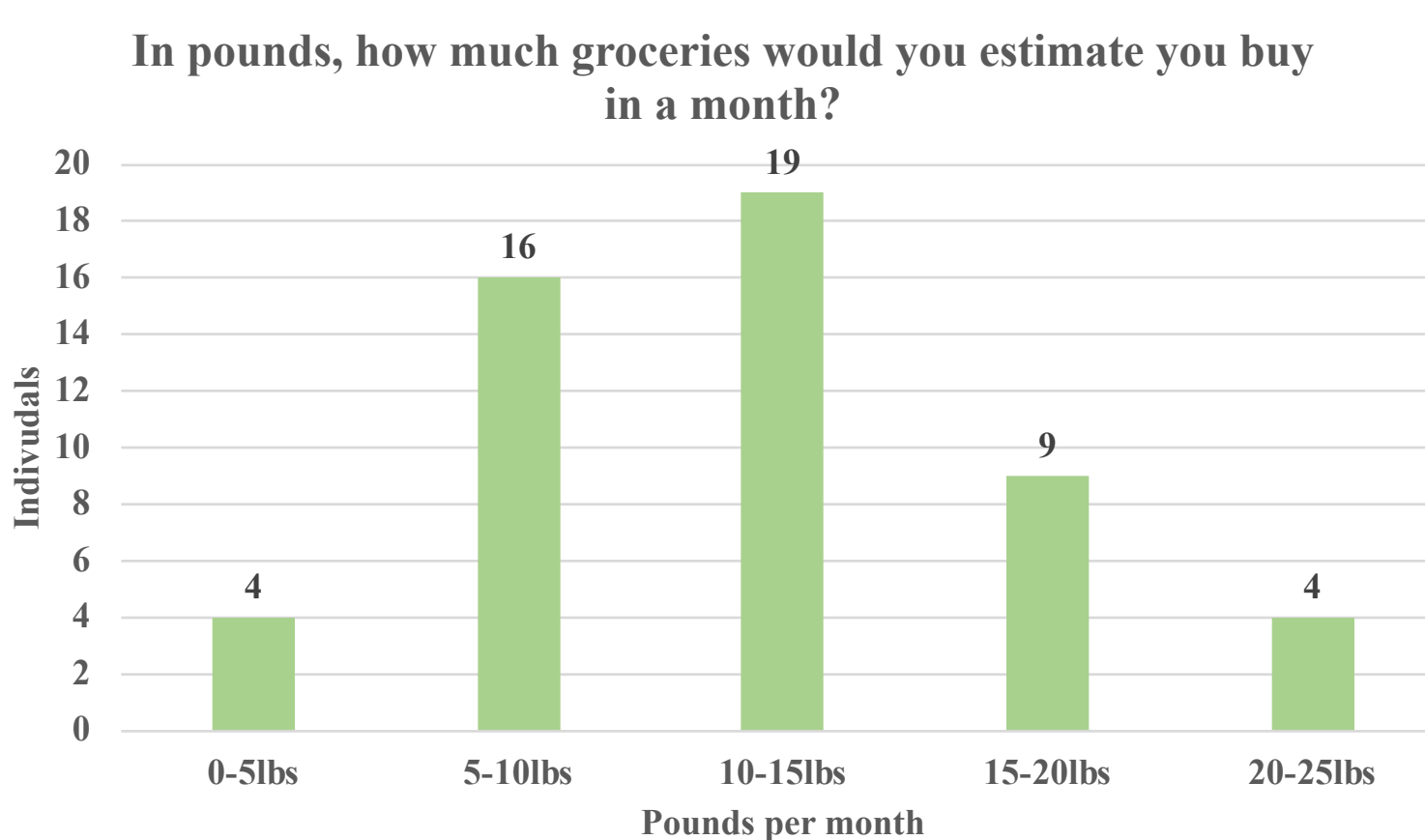


Results



Corcoran Commons (Lower) Solid Food waste per transaction	
Total Pounds of Solid Food Waste*	47610.28
Total Transactions*	21000
Pounds per transaction	2.27

*This data was provided by BC Dining



	Waste Per Student Per Month	
	Lower consumption end (lbs)	Higher consumption end (lbs)
Survey	2.74	2.22
UNFAO ²	2.80	4.30
NRDC ³	3.73	5.73

For on campus, Corcoran Commons produced 47610.28 lbs of waste with 21000 total transactions in the 2017-2018 academic year. This means that each transaction at Corcoran Commons was associated with 2.27 pounds of waste per month. Off campus, students assumed that they eat 71%-84% of the food that they buy ever month. When compared to the 70% and 40% consumption rate by the UNFAO and NRDC respectively, BC off campus students think that they are good at eating a majority of the food that they purchase.

References

- Schanes, Karin. Et al. "Food Waste Matters - A Systematic Review of Household Food Waste Practices and Their Policy Implications." *Journal of Cleaner Production*, Elsevier, 8 Feb. 2018
- Jenny Gustavsson. Et al. "Global Food Losses and Food Waste" UNFAO. 2011 <https://www.nrdc.org/issues/food-waste>
- <https://www.nrdc.org/issues/food-waste>
- <https://recyclingworksma.com/food-waste-estimation-guide/#jump01>

Discussion

While we calculated that each transaction at Corcoran Commons is associated with 2.27lbs of waste, this is not the true value and we were unable to compare this to the off campus surveys. This is because the total transactions include beverages such as coffee and tea while the total pounds of waste is only for solid food. Another limitation of our data is that we were unable to calculate the total amount of food that Corcoran commons bought in a year and how much was wasted. Lean path only reflects the food that is overproduced or is put into the trash wall at Lower. Many students take the food that they buy from Lower and bring it to other locations to consume. BC does compost, but only the food that is in the trash wall. In order to capture the food that leaves, BC needs to implement an on campus composting initiative in the dorm rooms. The average residential college student contributes 142lbs to food waste every year, which is considerably higher than the 33lbs contributed by an off campus BC student. However, the average non-residential student only produces 37.8 lbs of food waste a year.⁴ In order to get a more accurate picture of the off campus food situation, we are conducting an additional study where we measure how much food we produce in a week in order to complement the survey data that we collected.

Recommendations

For recommendations we have immediate, short term, mid term and long term recommendations that Boston College can implement in order to reduce the amount of food waste students produce when living in off campus housing.

Immediate: An informational pamphlet attached to off-campus email blast from ResLife at the beginning of each semester that outlines the basics of composting to educate students on how they can take simple steps to compost

Long Term:
 -An online resource center for students living off campus, an extension of the immediate action pamphlet.
 -A garden established behind the Reservoir Apartments.
 -A farmers market sourced from the community garden fueled by off campus compost collection.

Short Term: Students volunteer to bike to off campus residences with a bike trailer and collect compost for a community garden. To enter into the off campus composting program students would pay a \$5 deposit and receive a bucket and be included on the route for weekly pickups which could be done on foot, bike, or in a vehicle. Getting compost buckets into apartments and houses will increase the likelihood that students compost.