Perch food waste audit report

Sodexo Dining Services at the University of Pittsburgh, Spring 2016

OVERVIEW

The first step in reducing food waste is to measure and track the amount, type of, and the source of food waste. A food waste audit serves as the foundation for reduction efforts. The food waste audits conducted at the Perch on Monday, March 28th and Tuesday, April 5, 2016 measured pre- and post-consumer food waste and surplus food in hourly increments to paint a picture of what the food waste stream at the Perch looks like on an average day. More than 25 student volunteers assisted in the audit including volunteers from Free the Planet, Students for Sustainability, and Alpha Phi Omega by separating and measuring food waste in the Perch kitchen, prep areas, and dish room. Another audit will take place in a year's time to compare year-over-year food waste data and determine the impact of food waste reduction strategies that will be developed using this data.

METHODOLOGY

Food waste was measured hourly by category of food waste. Post-consumer food waste (uneaten food on students' plates) was collected and sorted into four categories:

1. Carbohydrates (bread, pasta, potatoes, rice)
2. Animal products (meat, cheese, eggs, ice cream)
3. Organic materials (vegetables, fruit)
4. Inedibles (peels, rinds, bones)

Pre-consumer waste was also measured hourly but not categorized. This type of waste consists of spoiled food as well as food that was produced but not served to customers (surplus). Notes were made to indicate the source of surplus food and whether or not it would be considered recoverable surplus food.

In order to collect feedback from students as to why they created food waste a small table with an informal survey was set up to collect written comments and poll data. We collected 23 comments and received 616 responses to our poll.

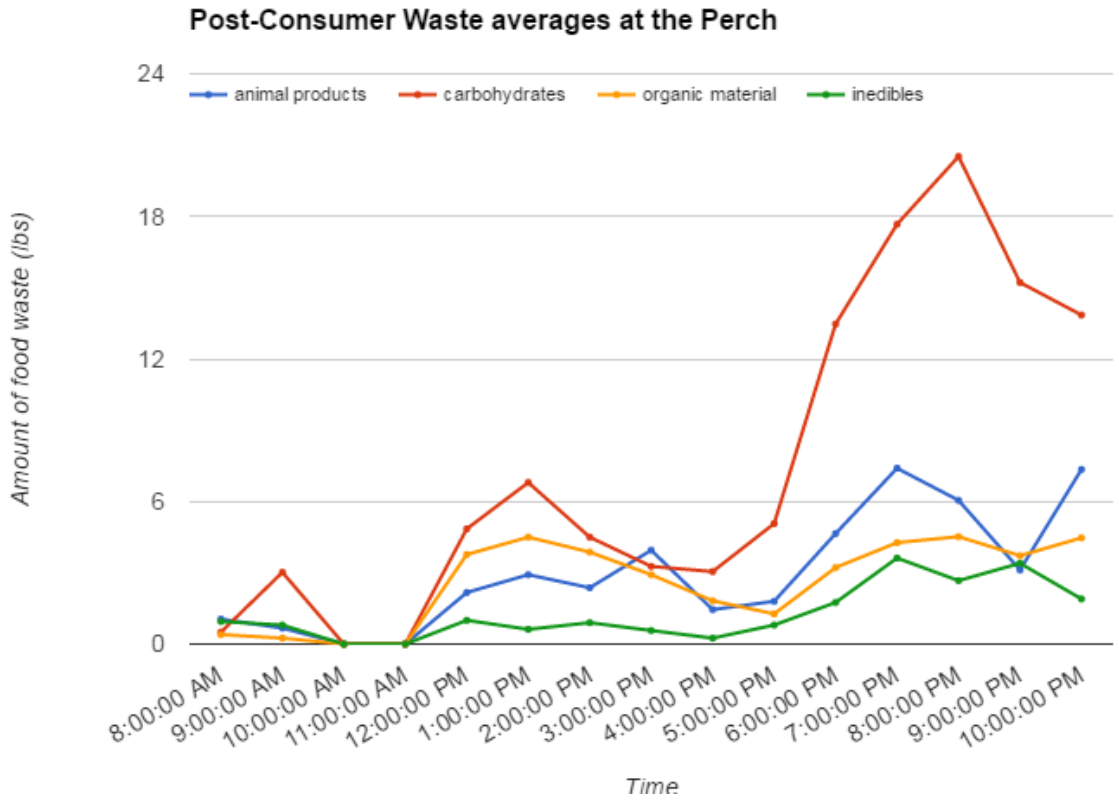
RESULTS

The data collected revealed that, on average, 338.8 lbs of food waste is generated from the Perch every day. Of the total food waste generated each day, 63% (214.97 lbs) is post-consumer waste while 37% (129.35 lbs) is pre-consumer waste. Of the pre-consumer waste, an estimated 71% (92 lbs) is recoverable surplus food.

Post-consumer waste averaged 214.97 lbs per day and consisted primarily of carbohydrates (52%). The second largest category of food waste was animal products (20%), followed by organic material (19%) and lastly inedibles (9%). Chart 1 details the average weight of food waste collected hourly (please note that the Perch is closed for two hours between breakfast and lunch). The column “edible total” reflects the total weight of food waste minus the weight of inedibles (bones, rinds, peels) and is considered preventable food waste since the food that is thrown out is perfectly edible but was wasted by choice.

Chart 1 - Post-Consumer Waste averages at the Perch

	animal products	carbohydrates	organic material	inedibles	**total**	**edible total**
8:00 AM	1.05	0.5	0.4	0.95	2.9	**1.95**
9:00 AM	0.67	3.02	0.25	0.8	4.74	**3.94**
10:00 AM	0	0	0	0	0	**0**
11:00 AM	0	0	0	0	0	**0**
12:00 PM	2.17	4.85	3.77	1	11.79	**10.79**
1:00 PM	2.92	6.8	4.5	0.62	14.84	**14.22**
2:00 PM	2.37	4.5	3.87	0.9	11.64	**10.74**
3:00 PM	3.95	3.27	2.92	0.57	10.71	**10.14**
4:00 PM	1.45	3.05	1.82	0.25	6.57	**6.32**
5:00 PM	1.8	5.07	1.27	0.8	8.94	**8.14**
6:00 PM	4.65	13.47	3.22	1.75	23.09	**21.34**
7:00 PM	7.4	17.67	4.27	3.62	32.96	**29.34**
8:00 PM	6.05	20.52	4.52	2.67	33.76	**31.09**
9:00 PM	3.12	15.22	3.72	3.4	25.46	**22.06**
10:00 PM	7.35	13.85	4.47	1.9	27.57	**25.67**
TOTALS	**44.95**	**111.79**	**39**	**19.23**	**214.97**	**195.74**



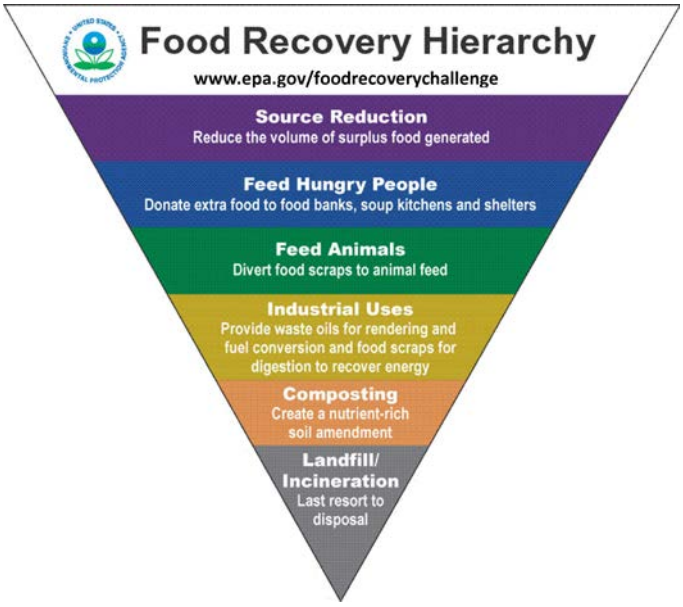
Daily averages:

- Number of customers: 1,094
- Waste/visitor: 0.15 lbs (0.13 lbs on March 28 & 0.19 lbs on April 5)
- Waste generated/day: 338.8 lbs
    a. Post-consumer: 214.97 lbs
        - Edible: 195.74 lbs (91% of post-consumer total)
    b. Pre-consumer: 129.35 lbs
        - Recoverable surplus food: 92 lbs (71% of pre-consumer waste)

Pre-consumer waste averaged 129.35 lbs per day and consisted primarily of surplus food (71%). Surplus food is expected in all-you-care-to-eat foodservice establishments in order to meet anticipated demand. Surplus food is essentially unavoidable due to customer service standards but surplus food is not food waste because it can be recovered to feed hungry people by organizations such as Food Recovery Heroes (more on this in the "conclusions" section).

CONCLUSION and RECOMMENDATIONS

Food waste data and feedback collected from students indicate that quality of food, amount of carbohydrates, and lack of awareness about food waste are the largest areas of improvement towards reducing food waste. The recommendations here follow the EPA's food recovery hierarchy which prioritizes Source Reduction followed by Feeding Hungry People, Feed Animals, Industrial Uses, and Composting over sending food to Landfill.



PRE-CONSUMER WASTE

- PREVENTION: Waste tracking and analytics provides chefs and kitchen staff with data on wasteful practices to inform behavior and operational changes. Systems include National Restaurant Association's Conserve program and the LeanPath scales and data reporting system.
- RECOVERY: An estimated 71% (92 lbs) of pre-consumer waste was surplus food that can be recovered. Over the course of a 14-week semester this current amount of wasted surplus food adds up to about 6,000 lbs of food that could be recovered and served to community members living in food insecurity.

- How to maximize surplus food recovery:
  - Switch to smaller serving pans: Surplus food cannot be recovered if it's been put out for service. The large, deep trays reduce the amount of surplus food that can be recovered. By switching to smaller serving trays the serving area can maintain the desired aesthetic while enabling more surplus food to be recovered by not serving such large amounts of food that may not be eaten.
  - Encourage staff to serve smaller portions and remind students that they can return for more food if they need it.

- VALUE ADDED PRODUCT: Surplus food such as leftover carrots or celery sticks from the hamburger bar can become value-added products when they are processed to enhance the value of the product by, for example, creating soup out of the ingredients. This provides an opportunity to capture a larger share of the food dollar while reducing waste.

POST-CONSUMER WASTE

- PREVENTION:
  - Encourage students to consider the food waste they generate through a food waste education campaign.
  - Waste tracking and analytics to provide chefs with data on wasteful practices and to inform behavior and operational changes.
  - Reduce serving size for carbohydrate side dishes.
  - Plate only main dish and make side carbohydrate dishes optional.
  - Reduce plate size.
  - Reduce size of serving utensils.
  - Train staff to make smaller sandwich wraps and use smaller diameter wraps.
  - Switch hamburger station to serve burgers and chicken patties separately from buns. We observed about 100 hamburger buns that were thrown out each day of the audit.
  - Encourage students to ask for samples of a dish before they commit to a dish.
  - Improve prepared food storage or reduce storage waiting time to reduce food quality loss.
- RECOVERY: Served food cannot be recovered due to health and safety concerns.

- ANIMAL FEED: Food scraps can be used as animal feed, especially on pork/hog farms. This requires additional waste storage considerations in order to safely preserve the food waste.
- COMPOSTING: The current food waste system where students scrape the food off their plates into a trash bin can be easily switched to a composting system. The trash bin can be replaced with a compost bin (with signage) and only requires staff to throw the bag into a compost bin. A compost bin would need to be able to accommodate up to 2,000 lbs of food waste per week at current levels. A composting system could divert 28,000 lbs of food waste from landfills every 14-week semester.

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