

# LOCAL FOOD AND FOOD WASTE

## Newcomb Waste Audit

Global Sustainability, Fall 2011

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### I. ABSTRACT

One of the objectives of the Newcomb Dining Hall Waste Audit Project was to quantify food waste produced by students in the Newcomb Dining Hall at the University of Virginia. The efforts for disseminating our results were intended to heighten awareness among the student body in an attempt to reduce the amount of waste produced in a non-invasive or accusatory manner. We also aimed to work in conjunction with UVA Dining and Kendall Singleton, our community partner in an effort to improve food sustainability at the university. We hoped that by encouraging the reduction of student food waste in Newcomb Dining Hall, UVA Dining would be able to benefit economically.

Our first step was to perform the waste audit, which was conducted on October 27, 2011. We set up our station to measure both liquid and solid food wasted by students during Newcomb's lunch hour, from 11am-1:15pm. We found that in a little over two hours, students at Newcomb threw out just over 100 pounds of food solid waste. This included both edible food as well as non-edible, such as apple cores and banana peels. There were a total of 665 people that entered the dining hall during this time period, which averages at .15 pounds of waste per person. We utilized these figures to come up with an informative sign that would encourage students to reduce the amount of food wasted. We also planned a day to table at Newcomb Dining Hall to promote the use of reusable to-go containers. We were able to successfully work in conjunction with UVA Dining in order to carry out our objectives.

At the end of the semester we have successfully performed a dining hall waste audit, promoted waste reduction by way of informative signs and tabling, and we have formed a relationship with UVA dining in order to heighten sustainability efforts. We hope that future Global Sustainability classes will be able to learn from our project, and improve efficiency in any future endeavors conducted with UVA Green Dining.

### II. INTRODUCTION

In 2008, the Environmental Protection Agency determined that the average American generates 4.5 pounds of waste per day (1). Of that 4.5 pounds, a projected 66.8% is sent to landfills, where it sits for years and produces pollutants that harm the environment.

At the University of Virginia, UVA Dining provides thousands of meals each day to students, faculty, and visitors at the school's three dining halls: Newcomb, O-Hill, and Runk. The University of Virginia has multiple programs geared towards being as sustainable a campus as possible (2). A central factor to being a sustainable university lies in considering dining practices. UVA Dining has already been honored for their sustainable practices, specifically for "reducing its use of water and electricity, increasing emphasis on student education and instituting a composting program, which received the 2010 Governor's Environmental Excellence Award" (3). This compost system is in place at two out of the three dining halls, Newcomb and Observatory Hill. Both of these dining halls have pulping systems that they use to break down compostable waste. This waste is then sent to Panorama Farms, where compost and composted mulch are produced and distributed to farmers and gardeners around the Charlottesville area. This composting program significantly reduces the amount of waste that is transported to landfills.

While the composting system in place offers an environmentally friendly way to deal with waste, it would not be as necessary if that compostable waste was not produced to begin with. In this light, our goal for this semester involved conducting a waste audit at Newcomb Dining Hall in order to determine the amount of food waste produced through that facility on a given day. We accomplished this by partnering with UVA Dining, specifically Kendall Singleton (Sustainability Coordinator), Erik Kunze (Newcomb Manager) Nicole Jackson (UVA Dining Manager), and Amber Wilson (Marketing Assistant). In addition, to be thorough, we collaborated with audit groups working with O-Hill Dining Hall and Runk Dining Hall to ensure efforts were being made at all dining halls on Grounds.

With the information recorded, we hoped to reach out to UVA Dining constituents: to educate them not only on the negative effects of food waste, but also to encourage them to practice more sustainable habits overall at Newcomb Hall and across Grounds at UVA.

### III. BODY

#### i. Waste Audit Preparation

In terms of the actual auditing process, we did not feel that we needed to consider alternatives. Kendall had successfully conducted waste audits at UVA dining halls in the past and we felt that her method, with a couple of tweaks due to Newcomb's renovation, would work the best. We decided to conduct the audit at Newcomb on October 27<sup>th</sup>, 2011. A week before this date, we met with Kendall at Newcomb for a run-through of the auditing process. She suggested that we run the audit from 11:00am until 1:15pm, during the lunch rush, introduced us to Erik Kunze, who would be with us on and off during the audit, and showed us the tools that we would be working with. We were also told what could and what could not be collected as compostable food waste.

Due to Newcomb's current renovation, we realized that we would not be able to set up our audit station by the tray return. The temporary tray disposal at Newcomb currently involves students placing their dirty dishes in tray carts. Once filled, those carts are taken to the back of the dining hall to be washed. Therefore, we needed to plan to conduct our audit in a spot where the tray carts could be brought to us, where we would then remove the food waste from the trays and send the dirty dish carts to the kitchen to be cleaned. We wanted to be in a location where diners would be able to see what we were doing, but also in a location that would not interfere with the regular flow of the dining hall. We decided to set up by the wall in the "Newcomb To-Go" dining room close to the exit. Further preparation involved the decision to measure the food waste in specific time increments, to gauge the amount of time with the most diner traffic and to ensure

that we would be able to lift each bag filled with waste so that it could be weighed accurately. We decided to weigh from 11:00-11:45am, when we thought the number of diners would be fewest, 11:45am-12:15pm, 12:15-12:45pm, and 12:45-1:15pm. The forethought that we put into our project made us confident in our ability to conduct the audit successfully.

## ii. Conducting the Audit

On Thursday, October 27<sup>th</sup>, we arrived at Newcomb at 10:30am to set up our audit station. Upon arrival, Erik Kunze had already set up tables in the predetermined audit location, as well as the first two trash bags that we would fill with food waste and bucket where we could dump liquid waste. Shortly after we arrived, we were able to find the scale to weigh the waste, as well as rubber gloves and aprons to wear while conducting the waste. Before the audit began, we decided to label the trash bags with our predetermined time increments so that we would remember which bag matched which time frame.

We began the audit at 11am, and did not receive the first tray cart until around 11:15am. From then until 1:15pm, we had a steady flow of carts coming in, with only a few lulls. Each time we received a tray cart, we removed the dishes from the trays, removed the food from the dishes and placed it into the bags, keeping in mind that we had to separate any non-compostable liquid waste by draining it into the liquid bucket. After each time increment ended, we sealed the marked trash bag, weighed it, recorded the results, and began using the bag for the next time frame (Image 12). By 1:15pm, 665 people had swiped in at Newcomb and we had collected over 100 pounds of food waste, represented in Image 1. The amount of food waste produced per person averaged out to .15 pounds.

## iii. Logistical Errors

One discrepancy that we noticed in our audit was that we saw some students who threw away some of their food waste into trash cans before disposing of their dishes into the tray carts. This, of course, decreased the amount of waste we were able to collect. We tried to combat this problem immediately by placing signs near the trashcans asking diners to bring all of their leftovers to our audit station (Image 10).

We were also only able to measure the food wasted in the front of the house (by the diners) for our audit. The preparation of food at Newcomb also leads to food waste in scraps and mistakes. This also lessened our accuracy in determining the amount of food waste produced on a given day at Newcomb. Lastly, due to scheduling conflicts, we were not able to stay for the entirety of a normal lunch rush (11:00am-2:00pm). If we had been able to stay past 1:15pm, we certainly would have collected more waste.

## iv. Schedule

**September 8, 2011:** Introduced to community partner, Kendall Singleton, during Global Sustainability workshop

**September 19, 2011:** Met to write Project Definition.

**October 1, 2011:** Met with waste audit group to plan Conceptual Design layout and strategize before meeting with Kendall.

**October 3, 2011:** Met with Kendall Singleton at Observatory Hill Dining Hall to discuss the process behind the waste audit and to set a specific date.

**October 13, 2011:** Presented brief introduction of the waste audit process to Global Sustainability classmates.

**October 20, 2011:** Met with Kendall and the Newcomb Dining staff to discuss specific location of the audit and materials needed for the audit process.

**October 27, 2011:** Conducted the Newcomb waste audit from 11am-1:15pm in the "Newcomb To-Go" room.

**October 28, 2011:** Met with waste audit group to outline and write Preliminary Report.

**November 3, 2011:** Met with Kendall to go over waste audit and discuss dissemination ideas.

**November 10, 2011:** Compared data and coordinated publicity efforts with waste audit groups from the other dining halls.

**November 17, 2011:** Created a Facebook event, along with the O-Hill waste audit group, asking our classmates to change their Facebook profile pictures on the following Monday to an image to graphically represent our findings and help us raise awareness about everyday food waste.

**November 21, 2011:** Changed Facebook profile pictures to campaign graphic.

**December 9, 2011:** Met with waste audit group to discuss Final Report and Presentation. Hung up approved sign around Newcomb Dining Hall.

**December 12, 2011:** Final presentations.

**December 13, 2011:** Will table at Newcomb Dining Hall to encourage the use of reusable to-go containers. Class reflections due.

## v. Budget and Funding

Fortunately, we have not had significant monetary costs so far during this project out of pocket. UVA Dining provided us with all of the materials necessary for the waste audit (gloves, aprons, the scale), covered the cost of printing out our signs, and will give us all of the information and materials we need for tabling free of charge. While we see no need for a budget in our specific project, a viable option for future Global Sustainability students to find monetary support is the Student Council GIFT (Green Initiative for Tomorrow) Committee. The GIFT Committee is a promising solution to financial needs, distributing a sum of \$20,000 amongst applicants who initiate sustainable practices around grounds. The application process is open to any faculty, staff or student of the University of Virginia.

## IV. CONCLUSION

### i. Dissemination Efforts

With the audit completed, we began to brainstorm ways to effectively educate Newcomb diners about our findings. We came up with multiple advertising approaches.

One idea was to discuss alternative production methods with management at Newcomb, specifically trying to figure out ways to change the swipe system. By changing the swipe system from buffet style to one swipe per plate of food, we figured that students would be discouraged to take multiple plates of food, and therefore reduce the amount of food left over, since they would be paying for each plate. However, this idea proved to be ineffective. Changing the swipe system at UVA Dining facilities is not feasible because of contracting issues.

We also discussed the possibility of adding notes to each food station and hanging signs around Newcomb encouraging students to take less food. We met with Kendall the second week of November and were able to relay this idea and gauge the feasibility of it coming to fruition. Kendall emphasized the freedom for us to create whatever types of signs we deemed fit. Between the meeting with Kendall and the beginning of December, we created digital mock-ups of signs to hang up around Newcomb Dining Hall (Image 2, 3, 4, 5). We submitted these designs to Nicole Jackson, and they were unfortunately rejected. She advised us to create less invasive messages so as not to insult any diners. Due to the fact that diners pay for their meal plans, it would be unreasonable to tell them how much food they are allowed to take despite the amount of food they waste. With help from Nicole, we decided to create a sign that we would instead focus on simply relaying our findings rather than tell diners how to act (Image 6). That way, diners have information about what is going on the dining halls and can make the decision whether to change their ways or not based on their own volition. We sent that sign to Nicole and it was approved. They are currently hanging up around Newcomb: near the swipe in entrance, in "Newcomb To-Go," and by the disposal tray carts (Image 7, 8, 9).

As another way to advertise our findings, we worked with O-Hill to advertise our collective findings on Facebook. We figured because most college students check their Facebooks at least once a day, this would be an effective way to relay our findings to many of the UVA students who eat at dining halls. We all changed our Facebook profile pictures to an image created by the O-Hill waste audit group detailing their findings (Image 11). The image was linked to an event with all of our findings included, sharing our data with hundreds of UVA students.

During our aforementioned meeting with Kendall, she Kendall informed us that contrary to our understanding, the pulping machines at Newcomb were in fact not equipped to pulp to-go cartons. Although the containers are biodegradable, they are not compostable and end up in landfills. With the institution of "Newcomb To-Go" this semester, and the increased prevalence of to-go containers now used at Newcomb, we decided to make it a priority to urge diners to use reusable to-go containers. Kendall discussed the need for advertisement of the reusable to-go containers, and encouraged us to pursue this effort.

To complete this task, we received permission from Nicole Jackson to table in front of Newcomb. She put us in touch with her assistant, Amber Wilson, who gave us all of the necessary information needed to table. Students can sign up for the reusable to-go containers at any dining hall. They pay a five-dollar deposit when they sign up, and are given two key tags. These key tags are turned in when they want to use a reusable container and are handed back upon returning the container to any dining hall, like a check out system. Students receive their five-dollars back at the end of the semester if they are able to return the two key tags.

On Tuesday, December 13<sup>th</sup>, after the final presentation of our project, we will table at Newcomb from 11:00am until 2:00pm with "how-to" cards explaining how to access a reusable container, sign-up sheets and key tags, and other literature on how to act sustainably through UVA Dining. We also plan on tabling at the very beginning of next semester, due to the fact that many diners are currently preoccupied with exams and may not have time to go through the process of obtaining reusable containers immediately.

## ii. Future Work

For future students looking to continue our efforts to assess and reduce the amount of waste produced at UVA dining halls, we have a few suggestions.

While we believe that our audit was an important step in reducing the amount of waste produced at UVA dining halls, in order to truly determine an accurate measurement of food wasted regularly, periodic food audits should be conducted more frequently. We feel that audits should be conducted once a month in order to provide a wider range of data for stakeholders. With more data, trends in food waste at the three dining halls at UVA can be better determined, such as whether diners are more likely to waste food at the beginning, middle, or end of the semester, and better gauge how to reduce that waste. We believe that a once a month waste audit is feasible, especially if this task is taken on by students in one of the many sustainability CIOs at UVA. Moreover, the more frequent waste audits should be publicized to the point where results are visible to most frequent diners at Newcomb, O-Hill, and Runk. Then, reducing waste can be achieved by creating competition. This could involved a competition to see which dining hall can produce the least amount of waste every month, or could simply be a competition among students to see if they can reduce the waste produced each month.

## iii. Lessons Learned

Working with the management at Newcomb Dining Hall proved to serve some obstacles. We were challenged to find the balance between providing shocking information from our waste audit and how students could impact change, without being too assertive. We learned that creating messages that were educative instead of invasive were more likely to receive positive feedback.

We were not able to go through with our idea of creating a slide that would show across the monitors in Newcomb, as the dining administration does not have authority to change those. We planned a tabling day wherein our group will hand out reusable coffee mug stamp cards, and relay information to students regarding the reusable to-go containers in all the UVA dining facilities.

Furthermore, we learned that communication is key in performing a community-engaging project. It is essential that there be a constant dialogue between those carrying out the project and those in positions of authority. It is also important to realize the boundaries posed by logistics set in place by organizations and institutions; no matter how passionate one may be about a pertinent issue, it is important to not mix up "activism" with a community project.

## V. APPENDICES

### i. Graphics and Charts

Image 1:



Image 2:



Image 3:





Image 4:



Image 5:

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# **WHERE DO YOU THROW AWAY YOUR TRASH?**

**REDUCE. RECYCLE.**



Image 6:

**Did you know over 100 lbs of  
food waste was diverted to  
compost during a food audit in  
October performed by students  
in Global Sustainability?**

Image 7:



Image 8:



Image 9:



Image 10:



Image 11:

**ON OCT 20 2011  
AT O-HILL DINING  
UVA STUDENTS  
WASTED  
173  
POUNDS  
OF EDIBLE FOOD  
IN THREE HOURS**

According to a waste audit performed by the Global Sustainability class taught by Phoebe Crisman.

Image 12:



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### iii. Acknowledgements

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