Foodservice Best Practices

(Restaurants, Schools, Universities, Event Venues, Stadiums, Correctional Facilities)

for identifying and measuring food waste

1 Introduction

After conducting multiple food waste studies at medium to large NY food waste generators (hospitals, grocers, universities, and catering event venues), New York State Pollution Prevention Institute (NYSP2I) developed a 12-step Food Waste Self-Assessment How-to Guide (How-to Guide). To address the unique needs of foodservice operations in **restaurants, schools, universities, event venues, stadiums, and correctional facilities**, NYSP2I developed three (3) additional resources; a printable **Foodservice Log Sheet** to use during the assessment, this **Foodservice Best Practices** document, and a Microsoft Excel **Foodservice Results** file.

This Foodservice Best Practices document expands upon the How-to Guide by providing:

- Guidance for successfully using the **Foodservice Log Sheet**, including examples.
- Food waste study **best practices** for restaurants, cafeterias, and event venues.
- Instruction and examples on how the **Foodservice Results** file may be successfully used.

2 Why conduct a food waste self-assessment?

- Knowing the source, loss reason, and amount of food waste helps identify opportunities to reduce the waste and purchasing / disposal costs.
- Food waste that cannot be reduced could otherwise be diverted from landfill. Surplus (overproduction) food may be donated, bringing possible tax benefits and increasing community relations. Food scraps may be recycled by composting or anaerobic digestion, turning the waste into useful products such as fertilizer or electricity. Resources and information are available on the Divert page of the NYSP2I Food Systems Sustainability Clearinghouse (http://bit.ly/NYSP2IFood), about how, what, and where to donate surplus food or recycle food scraps.
- Sustainable business practices provide an opportunity to attract and retain environmentally conscious customers.

3 Foodservice Log Sheets – Guidance and Examples

Studying Foodservice food waste requires different approaches for pre- and post-consumer waste. Pre-consumer waste is both generated and handled by staff (e.g. serving or plating lines, prep kitchen). Post-consumer waste is generated by restaurant, cafeteria and catering customers, and is handled by staff in the dining area or tray/dish room. In addition, post-consumer waste is often mixed with non-food waste (e.g. packaging, napkins). NYSP2I developed two separate log sheets after pilot studies at three restaurants and event venues. This section details how to successfully use the separate pre-consumer and the post-consumer **Foodservice Log Sheets** in a study. The file with both pre- and post-consumer waste logs is available for download at http://bit.ly/NYSP2IFoodStudy.

3.1 Foodservice Pre-consumer waste Log – example

The first page in the **Foodservice Log Sheet file** is the **Pre-consumer Waste Log**, and is used to record the pre-consumer prep waste, pan scrapes, expired, quality (E.g. burned), and surplus food. In the Figure 1 example, the facility serves both catering meals and cafeteria customer meals at breakfast, lunch and dinner. Note that the dinner waste is saved from the night before, and is measured first in the example.

Pre-consumer Waste Log

Facility Name: College Town Cafeteria & Catering Date: 10/21 Observers Name(s): T. Jones, M. Evans

Meal Service / Time - Breakfast - 2:00PM - B, L, D - L 11:30 (Lunch)	**Timeframe (hrs.)** - 12 hrs - 72 hrs - may leave blank if 24 hours	**Source Location** -kitchen -other1 -other2	**Disposal Method** - donation - animal feed - rendering - anaerobic digestion - compost - landfill - other	**Loss Reason** - prep waste - expired - surplus - quality - other	**Food Description** -What is it? -E.g. Lettuce, vegetable mix, apples, turkey burgers, cheddar cheese, etc.	**Empty Container Weight (lbs.)** - Tare Weight of container	**Total Weight (lbs.)** - Weight of food and container together	**Notes -Any additional information or observations** - If item could be donated or composted - Production information, e.g. cold prep is done twice per day, before 9am & before 3pm. - Soups are prepped for both catering meals and cafeteria serving line
Dinner 8:15		Kitchen	Compost	Prep waste	Vegetable trimmings	2	104.8	Dinner from last night
D 8:30		Kitchen	Compost	Surplus	Steamed rice and veggie mix	2	25.6	Contaminated on the line; cannot donate.
Breakfast 9:15		Kitchen	Compost	Prep waste	Waffle batter, fruit trimmings, rinds	1	66	
B 11:30		Kitchen	Donation	Surplus	Breakfast pizza	2	17.6	
Lunch 1:15	48	Kitchen	Landfill	Surplus	Pre-made sandwiches	2	26	Past sell-by date
L 2:30		Kitchen	Compost	Prep waste	Fruit and vegetable trimmings	2	120.2	
L 3:00		Sushi (Other1)	Compost	Prep waste	Vegetable / seafood trimmings	1	30.4	Prep waste from sushi bar
Lunch		Catering (Other2)	Compost	Prep waste	Pan scrapes / leftovers from buffet line - rice, chicken	2	38.7	Catered lunch in conference room 1

 http://bit.ly/NYSP2IFoodStudy Foodservice Log Sheet Pg. 1 of 2

Figure 1: Example Pre-consumer Waste Log

3.2 Post-consumer Plate Waste Log & Customer Count – example

The most effective way to measure post-consumer food (plate) waste is to take a representative sample and then scale the results. NYSP2I created the second page in the **Foodservice Log Sheet file**, the **Post-consumer Plate Waste Log & Customer Count** sheet, to record this study data. Use the top section **Representative Sample** to record plate scrapes and returns. Use the bottom section **Total Meals Served - Assessment Day** to record the number of meals served to cafeteria customers, coffee bar customers, etc. (Figure 2). **Section 3.7** also provides additional details about how to perform and record a representative sample of post-consumer waste.

Post-consumer Plate Waste Log & Customer Count

Facility Name: College Town Cafeteria & Catering Date: 10/21 Observers Name(s): T. Jones, M. Evans

Representative Sample - Measuring less than 100% of the customers that were served

	Meal Service / Time - Breakfast - 2:00PM - B, L, D - L 11:30 (Lunch waste at 11:30)	Source Location - dining area1 - dining area2 - dining area3	Disposal Method - donation - animal feed - rendering - anaerobic digestion - compost - landfill - other	Loss Reason - plate waste	Food Description - What is it? - E.g. Lettuce, vegetable mix, apples, turkey burgers, cheddar cheese, etc.	Empty Container Weight (lbs.) - Tare Weight of container	Total Weight (lbs.) - Weight of food and container together	Diners Counted/Notes - E.g. 42 plates counted
1	Breakfast	College Town	landfill	plate waste	Waffles, breakfast sandwiches	2	13.8	41 plates
2	Lunch	College Town	landfill	plate waste	Fruit	2	5	82 plates counted for lunch
3	L 11:45	College Town	landfill	plate waste	Pizza, chicken wings, chicken tenders	2	17.6	
4	L 1:30	College Town	landfill	plate waste	Salad, sandwiches	2	7	
5	Dinner	College Town	landfill	plate waste	Broccoli, seafood	2	7.2	96 plates counted for dinner
6	Dinner	College Town	landfill	plate waste	Chicken, pasta salad	2	11.2	
7	Dinner	College Town	landfill	plate waste	Burgers, French fries, pizza	2	24.5	
8	Other	College Town	landfill	plate waste	Cookies, brownies, cake	2	5.1	Buffet dessert - afternoon snack 26 plates
9	Breakfast	Coffee Bar	landfill	plate waste	Croissants, bagels, donuts, breakfast sandwich	2	9.6	20 customers
10	Lunch	Catered Buffet	landfill	plate waste	Rolls, salad, rice, chicken	2	32.3	65 customers
11				plate waste				
12				plate waste				

Top section = study data

Total Meals Served - Assessment Day

	Dining Area1: College Town	Dining Area2: Coffee Bar	Dining Area3: Catered Lunch
Breakfast	659	80	
Lunch	688	56	65
Dinner	522	43	
Other Meal (Optional)	110		

Bottom section = customer counts

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Figure 2: Example Post-consumer Waste Log & Customer Count

3.3 Log Sheet – Meal Service Details

Record the meal service type (i.e. breakfast, lunch, or dinner) in the left most column of the log sheet. The approximate time in which the data is recorded is also important. If there are issues that come up about the data later on, the timestamp can help your team recall what happened during the period in question. In the example, the kitchen has breakfast, lunch and dinner waste. Note the dinner waste is from the night before and is weighed first – at 8:15am. In addition, the example uses shorthand for Breakfast (B), Lunch (L) and Dinner (D). The **Foodservice Results** file is also shown, which has a drop-down menu for selecting the Meal Service, as seen in Figure 3.

3.4 Log Sheet – Timeframe Details

Timeframe is the hours of production studied for the **pre-consumer waste**. In Figure 3, the cafeteria sells "grab and go" pre-made sandwiches, which are made every other day. In the example, surplus sandwiches that have reached their "sell-by dates" and remain unsold are sent to landfill, the timeframe for these log sheet entries is 48 hours (2 days).

Meal Service / Time - Breakfast - 2:00PM - B, L, D - L 11:30 (Lunch)	Timeframe (hrs.) - 12 hrs - 72 hrs - may leave blank if 24 hours	Source Location -kitchen -other1 -other2	Disposal Method - donation - animal feed - rendering - anaerobic digestion - compost - landfill - other	Loss Reason - prep waste - expired - surplus - quality - other	Food Description -What is it? -E.g. Lettuce, vegetable mix, apples, turkey burgers, cheddar cheese, etc.
Dinner 8:15		Kitchen	Compost	Prep waste	Vegetable trimmings
D 8:30		Kitchen	Compost	Surplus	Steamed rice and veggie mix
Breakfast 9:15		Kitchen	Compost	Prep waste	Waffle batter, fruit trimmings, rinds
B 11:30		Kitchen	Donation	Surplus	Breakfast pizza
Lunch 1:15	48	Kitchen	Landfill	Surplus	Pre-made sandwiches

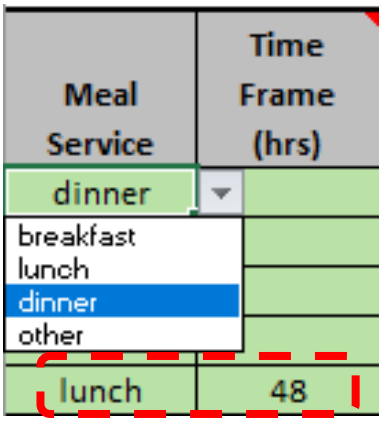

Figure 3: Pre-consumer Waste Log (Left); Results File – Log Sheet Tab (Right)

Note about donations: Weigh and record items for donation where they are stored to maintain food safety. ***Do not*** *de-package them. Clean the scale before weighing donated items.*

3.5 Log Sheet – Source Location Details

The **Source Locations** recorded on the log sheet include typical locations for foodservice operators:

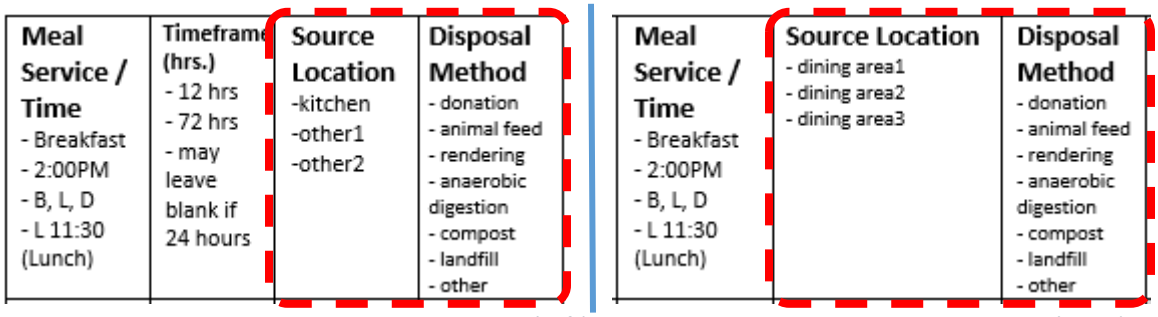

Figure 4: Pre-consumer Foodservice Log Sheet (Left) and Post-consumer Foodservice Log Sheet (Right)

As shown in Figure 4, the **Foodservice Results** file is set up to record and work with up to three (3) unique dining areas under the Post-consumer source location. Besides the kitchen, there is an 'other1' and 'other2' option. Use the 'other1' and 'other2' source location to identify:

- A specific cafeteria / restaurant area such as the Salad Bar or Pizza Station.
- Catering event (E.g. staff luncheon, holiday party, etc.) food scraps and surplus food.
- Any other source that is not already on the list.

3.6 Log Sheet – Disposal Method Guidance

The **Disposal Method** column is used to record how the food waste is disposed of. This information is used to identify what is donated, landfilled and recycled (Figure 4). Recycling includes rendering, compost and anaerobic digestion.

3.7 Log Sheet – Recording post-consumer waste – taking a representative sample.

Start with an empty trash bag and count trays, plates or customers as the waste is emptied into it, then sort and measure the food waste. See the How-to Guide (Section 6a) for more information.

The sheet shown in Figure 5 is used to measure the post-consumer plate waste areas: the eat-in dining areas. There are three dining area options to allow for up to three different sources of plate waste. If the areas are open a different number of days per week, they must be treated as separate assessments and ran in individual results files.

Post-consumer Plate Waste Log & Customer Count

Facility Name: College Town Cafeteria & Catering Date: 10/21 Observers Name(s): T. Jones, M. Evans

Representative Sample - Measuring less than 100% of the customers that were served

	Meal Service / Time - Breakfast - 2:00PM - B, L, D - L 11:30 (Lunch)	Source Location - dining area1 - dining area2 - dining area3	Disposal Method - donation - animal feed - rendering - anaerobic digestion - compost - landfill - other	Loss Reason - plate waste	Food Description - What is it? - E.g. Lettuce, vegetable mix, apples, turkey burgers, cheddar cheese, etc.	Empty Container Weight (lbs.) - Tare Weight of container	Total Weight (lbs.) - Weight of food and container together	Diners Counted/Notes - E.g. 42 plates counted
1	Breakfast	College Town	landfill	plate waste	Waffles, breakfast sandwiches	2	13.8	41 plates
2	Lunch	College Town	landfill	plate waste	Fruit	2	5	82 plates counted for lunch
3	L 11:45	College Town	landfill	plate waste	Pizza, chicken wings, chicken tenders	2	17.6	
4	L 1:30	College Town	landfill	plate waste	Salad, sandwiches	2	7	
5	Dinner	College Town	landfill	plate waste	Broccoli, seafood	2	7.2	96 plates counted for dinner
6	Dinner	College Town	landfill	plate waste	Chicken, pasta salad	2	11.2	
7	Dinner	College Town	landfill	plate waste	Burgers, French fries, pizza	2	24.5	
8	Other	College Town	landfill	plate waste	Cookies, brownies, cake	2	5.1	Buffet dessert - afternoon snack 26 plates
9	Breakfast	Coffee Bar	landfill	plate waste	Croissants, bagels, donuts, breakfast sandwich	2	9.6	20 customers
10	Lunch	Catered Buffet	landfill	plate waste	Rolls, salad, rice, chicken	2	32.3	65 customers
11				plate waste				
12				plate waste				

Total Meals Served - Assessment Day

	Dining Area1: College Town	Dining Area2: Coffee Bar	Dining Area3: Catered Lunch
Breakfast	659	80	
Lunch	688	56	65
Dinner	522	43	
Other Meal (Optional)	110		

 http://bit.ly/NYSP2IFoodStudy Foodservice Log Sheet Pg. 2 of 2

Figure 5: Example of post-consumer waste log sheet - representative sample

The key metric for post-consumer waste is **waste per person**. Once the waste per person is known through taking a sample, the total waste for the day, and year may be calculated for the average customer count. For the Figure 5 example, the breakfast waste calculations are as follows:

- Line Item 1: College Town Cafeteria waste (dining area1) = 13.8 – 2 = 11.8 lbs.
  - 41 plates counted and measured (eat-in customer waste)
  - Waste per person = 11.8 lbs. / 41 = 0.29 lbs. / person
  - For 659 customers, waste per week = 0.29 x 659 x 7 = 1,328 lbs.

- Line Item 9: Coffee Bar waste (dining area2) = 9.6 – 2 = 7.6 lbs.
    - 20 customers waste was measured (small dining area, mostly grab-n-go customers)
    - Waste per person = 7.6 lbs. / 20 = 0.38 lbs. / person
    - For 80 customers, waste per week = 0.38 x 80 x 7 = 213 lbs.

These calculations are automatically performed in the **Foodservice Results** file. The only thing that needs to be entered into the file is the base assessment sample information as shown in Figure 5. See **Sections 6.1** and **6.2** for how customer information is entered into the **Foodservice Results** file.

4 Foodservice Food Waste studies – best practices

The following sections describe the best practices for assessment logistics. These guidelines directly relate to **Step 2: Define Assessment Logistics** within the How-to Guide. The titles of each section provide reference to the corresponding step number within the guide, e.g. **Section 4.1 Logistics – Assessment Length** is related to **Step 2a** in the **How-to Guide**.

4.1 Logistics – Assessment length (2a)

Typical assessments will take 3-8 hours to capture 24 hours of waste. Not all of this is active time; staff may work on other activities in between measurements. A best practice is to hold the previous evening's waste, sorting and measuring it during the assessment day.

4.2 Logistics – Collection plan (2b)

Note all pre-consumer waste locations that will need to be assessed. Assigning responsibility of certain trash bins to workers and using brightly colored tags and signs to alert staff are best practices to have a successful food waste assessment. To collect post-consumer waste (plate waste) as a sample, staff will have to be present to count plates/trays as they are emptied into the sample collection bag and to bring the bag to the assessment location determined in (2c).

4.3 Logistics - Locating space for the assessment (2c)

The assessment location should ideally be set-up near the compactor or another trash collection area. This is convenient as well as reduces the chance that food waste is disposed of before measurement. It may be more convenient to find space to perform the assessment outside in a shaded area near the trash collection area, weather permitting.

4.4 Logistics – Schedule (2d)

Coordinate with staff to identify drop-off or pick up times for the waste by source. There will be pre and post-consumer food waste for each meal service. Kitchen prep waste and plate waste are typically the largest sources of food waste due to large volumes of prepared food and customers not finishing their food.

4.5 Logistics - Determining number of people (2e)

Generally, 2-3 people are required to sort, record, and weigh waste. More details are available in the How-to Guide.

5 Foodservice Results File

The **Foodservice Results File** is available for download at http://bit.ly/NYSP2IFoodStudy. The file is used to calculate food waste averages and to identify trends and focus areas for improvement efforts. To obtain results, enter customer and assessment information and the file will do the rest.

The file is broken up into several Tabs that are shown in the following sections.

5.1 Instructions tab

The **Instructions** tab provides step-by-step instructions on using the file (Figure 6).

Figure 6: Foodservice Results File Instructions Tab

6 Foodservice Results – Entering the assessment information

The Foodservice Results has two tabs for data entry and the remainder to summarize the results. The two tabs to enter information onto are the **Customer Info** and **Log Sheet** tabs.

6.1 Customer Info tab

Facility and customer volume information is required to calculate the results, and is entered onto the **Customer Info** tab. Required entries are colored green as seen in Figure 8. The information contained within the remaining tables and figures, starting with Figure 7, were generated from the content in the Log Sheet Example from Figure 1 and Figure 2 from **Section 3**.

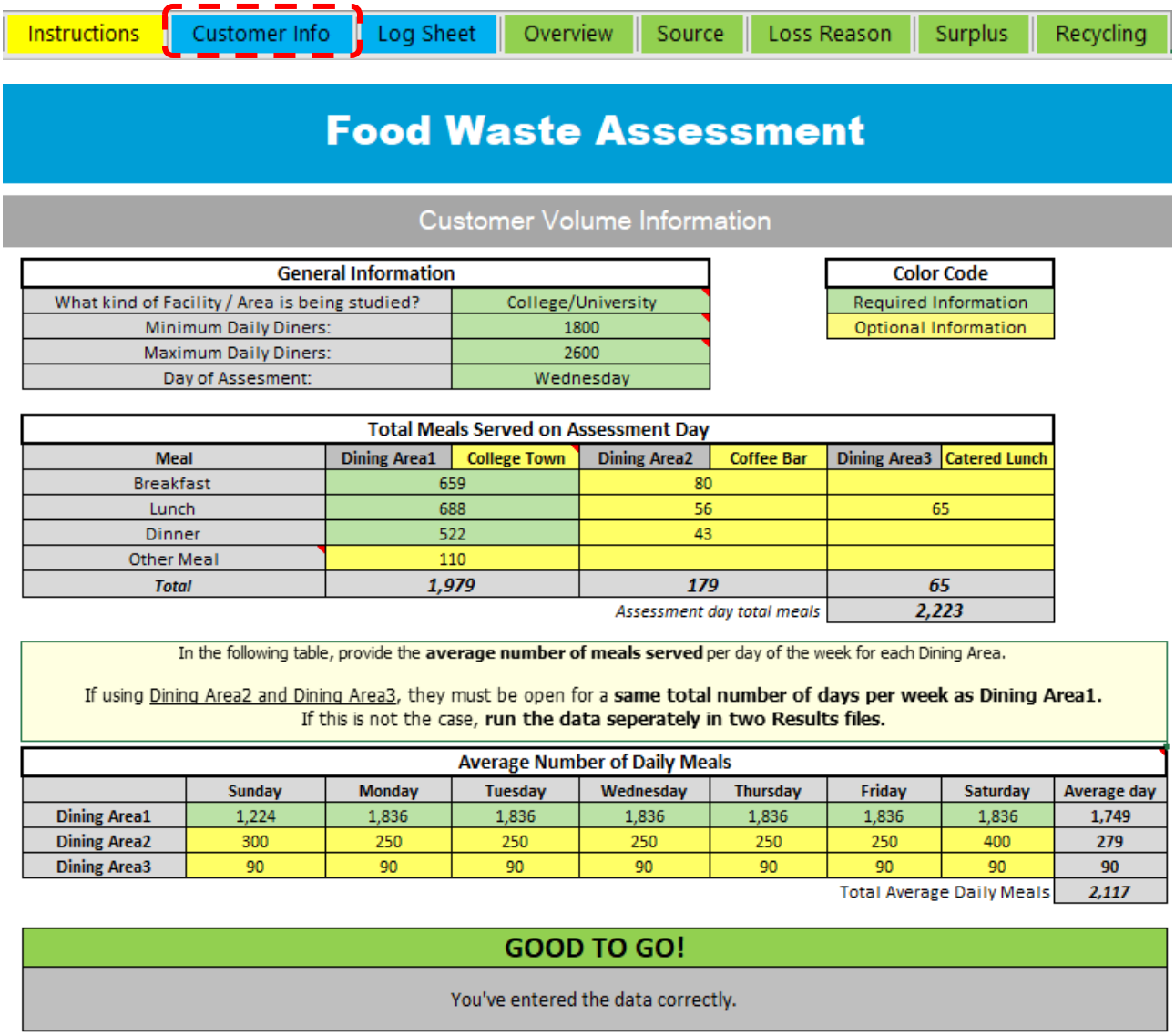

Figure 7: Customer Info Tab

At the bottom of that page there is a message that will verify if the information has been entered correctly. If there has been data entered that indicated the Dining Areas are open different number of days per week, the message will read "STOP!" It does not matter which days of the week are open as long as it is the same total number.

6.2 Log Sheet tab

The Log Sheet tab has two sections for the study information (Figure 8). The top section, **Section B: TRAY/PLATE WASTE SAMPLE COUNTS,** is where the number of post-consumer trays/customers measured is entered**.** The information in Section B is very important as it is used to scale the results. **Section A – LOG SHEET** is for all the pre- and post-consumer measurements.

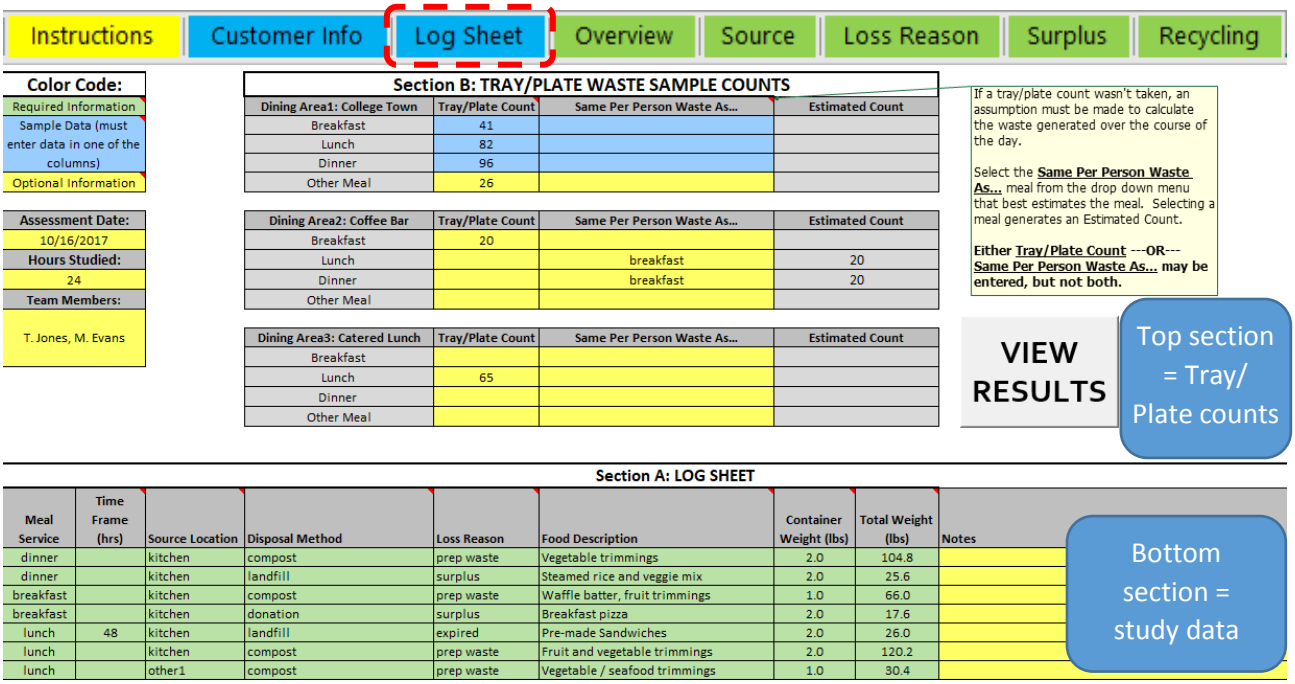

Figure 8: Results File - Log Sheet Tab to enter data

Note that the Meal Service, Source Location, Disposal Method and Loss Reason columns have drop-downs boxes, an example drop-down on the **Log Sheet** tab (Figure 9):

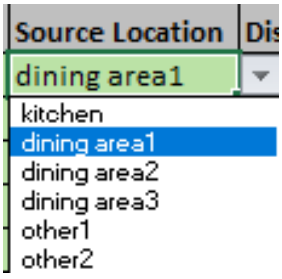

Figure 9: Example drop-down

Section B – Post-consumer waste - number of trays measured

On the top of the tab, enter the number of trays/plates measured for each dining area studied. If any of the meals were missed or omitted in the study, select the meal that most closely resembles it and enter it using the drop-down menu in the "**Same per Person Waste As…**" column. This will create an **Estimated Count** and an approximate value for the meal which will be shown in the results.

In the example, **Coffee Bar** breakfast was the only meal studied. The breakfast data is used to estimate the lunch and dinner waste by entering **"breakfast"** into the **"Same per Person Waste As…"** column, as seen in Figure 10.

Representative Sample - Measuring less than 100% of the customers that were served

	Meal Service / Time - Breakfast - 2:00PM - B, L, D - L 11:30 (Lunch)	Source Location - dining area1 - dining area2 - dining area3	Disposal Method - donation - animal feed - rendering - anaerobic digestion - compost - landfill - other	Loss Reason - plate waste	Food Description - What is it? - E.g. Lettuce, vegetable mix, apples, turkey burgers, cheddar cheese, etc.	Empty Container Weight (lbs.) - Tare Weight of container	Total Weight (lbs.) - Weight of food and container together	Diners Counted/Notes - E.g. 42 plates counted
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5	Dinner	College Town	landfill	plate waste	Broccoli, seafood	2	7.2	96 plates counted for dinner
6	Dinner	College Town	landfill	plate waste	Chicken, pasta salad	2	11.2	
7	Dinner	College Town	landfill	plate waste	Burgers, French fries, pizza	2	24.5	
8	Other	College Town	landfill	plate waste	Cookies, brownies, cake	2	5.1	Buffet dessert - afternoon snack 26 plates
9	Breakfast	Coffee Bar	landfill	plate waste	Croissants, bagels, donuts, breakfast sandwich	2	9.6	20 customers
10	Lunch	Catered Buffet	landfill	plate waste	Rolls, salad, rice, chicken	2	32.3	65 customers

Section B: TRAY/PLATE WASTE SAMPLE COUNTS

Dining Area1: College Town	Tray/Plate Count	Same Per Person Waste As...	Estimated Count
Breakfast	41		
Lunch	82		
Dinner	96		
Other Meal	26		

Dining Area2: Coffee Bar	Tray/Plate Count	Same Per Person Waste As...	Estimated Count
Breakfast	20		
Lunch		breakfast	20
Dinner		breakfast	20
Other Meal			

Dining Area3: Catered Lunch	Tray/Plate Count	Same Per Person Waste As...	Estimated Count
Breakfast			
Lunch	65		
Dinner			
Other Meal			

Figure 10: Printable Log Sheet data (Top) and Result File (Bottom)

7 Foodservice Results - Viewing results

After you enter the assessment data in the **Log Sheet** tab, the **Overview** tab (Figure 11) provides the bulk of the results.

7.1 Overview Tab

The first section shows the daily and yearly food waste generation amounts in units of pounds (lbs.).

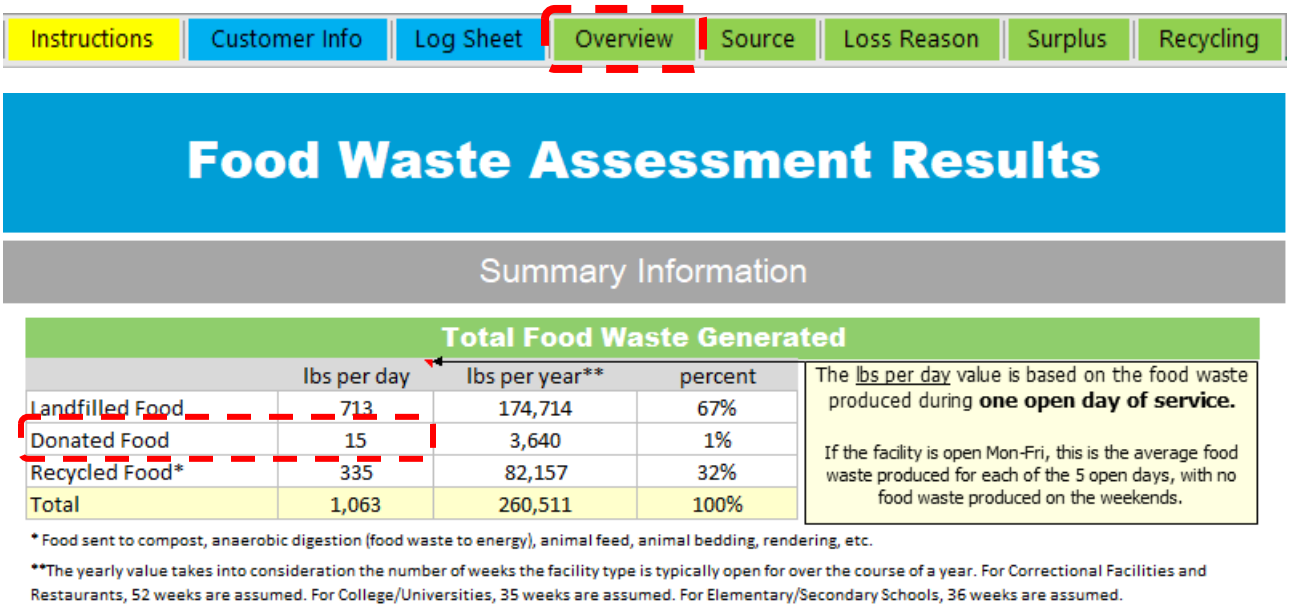


Figure 11: Results from Overview Tab

Below is an example of how the total daily amount of food is scaled in Figure 11 (donated food amount):

- In the kitchen donates, **15.6 lbs.** of surplus breakfast pizza is donated to a food bank on the day of the study – 17.6 lbs. total weight and 2 lbs. container weight.
- The study day had **2,223** meals served; the average day has **2,117** meals served (Figure 7).
- This information is used to scale the results using this equation:
    - Weight from study x (average meals per day / actual meals on study day)
- The average donated food per day = **15.6 x (2,117 / 2,223) = 14.9 lbs.**
- This scaling works based on waste per person, which does not depend on the number of meals:
    - Actual weight / actual meals on study day = **15.6 / 2,223 = 0.007 lbs. / person**
    - Average food weight / average number of meals = **14.9 / 2,117 = 0.007 lbs. / person**
    - The only thing that changes from the observed (15.6 lbs.) to the daily average (14.9 lbs.) is the patient/cafeteria customer volume

Along with the total waste amounts, the waste by source location, meal service and loss reason are calculated and summarized as shown in Figure 12, Figure 13, and Figure 14. Additional summary charts and tables are included in the **Overview** tab. The figures below shows only a subset for illustrative purposes.

Total Food Waste Distribution by Source

Percent of Total	100%
Disposal Method	(Multiple Iten

Source Location	Food Weight (lbs/day)
dining area1	531.4
kitchen	321.1
dining area2	105.9
dining area3	42.0
other2	35.0
other1	28.0
Total	**1,063.3**

Dining Area1: College Town
Dining Area2: Coffee Bar
Dining Area3: Catered Lunch

See Source tab for details

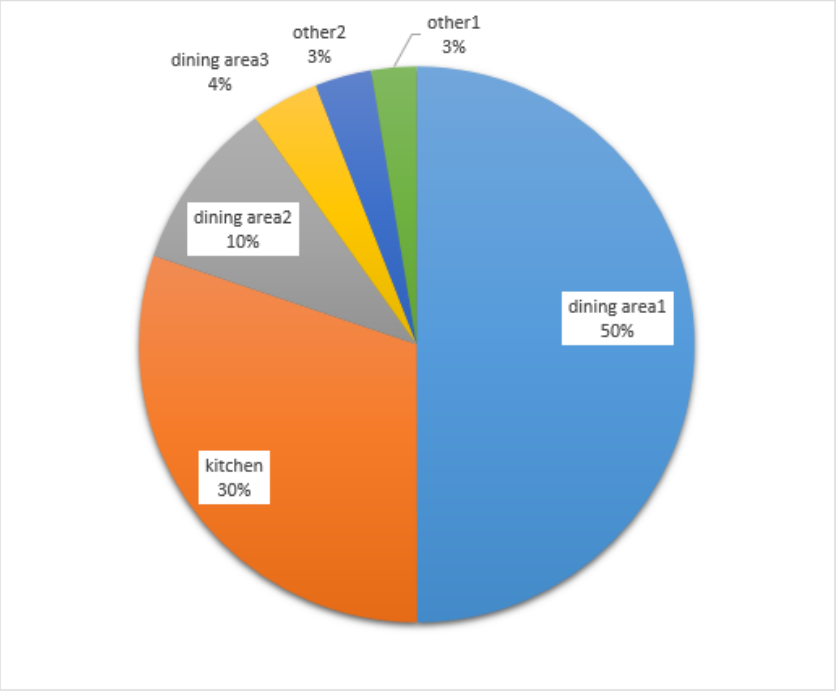


Figure 12: Waste by Source Location

Loss Reason Overview

Food Waste by Loss Reason

Source Location	Food Weight (lbs/day)
plate waste	679.2
prep waste	335.3
surplus	37.3
expired	11.4
quality	0.0
other	0.0
Total	**1063.3**

See Loss Reason Tab for details

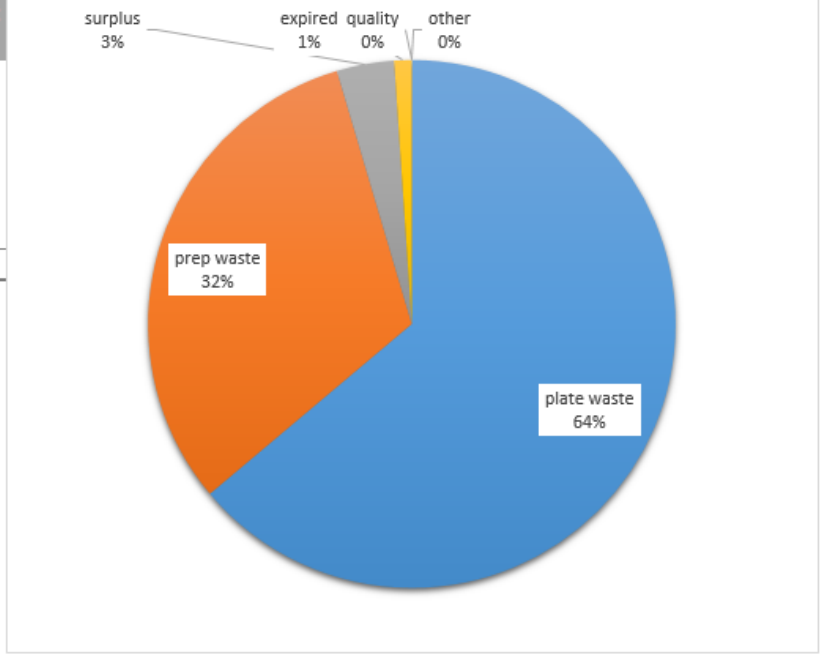


Figure 13: Waste by Loss Reason

Meal Service Overview

Food Waste by Meal Distribution

Source Location	Food Weight (lbs/day)
lunch	437.0
dinner	323.1
breakfast	291.7
other	11.6
Total	**1063.3**

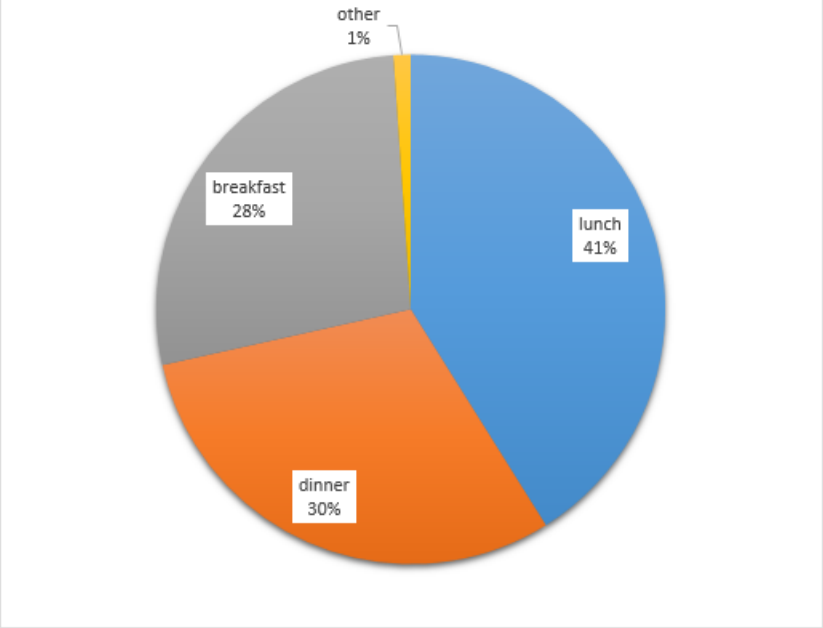


Figure 14: Waste by Meal Service

At the end of the **Overview** tab is a comparison of the facilities average food waste to the research-based estimated food waste for foodservice facilities. The estimate (Figure 15) utilizes the number of full-time employees and info from the NYSP2I Clearinghouse (http://www.rit.edu/affiliate/nysp2i/food/tools/food-waste-estimator) to make the comparison.

NYS Food System Sustainability Clearinghouse Estimation Tool

Food Waste - Actual vs. Estimate*

	Estimated (lbs/week)	Actual (lbs/week)	% Above
Min (1800 diners)	4,893	6,328	23%
Average (2117 diners)	5,755	7,443	
Max (2600 diners)	7,068	9,141	

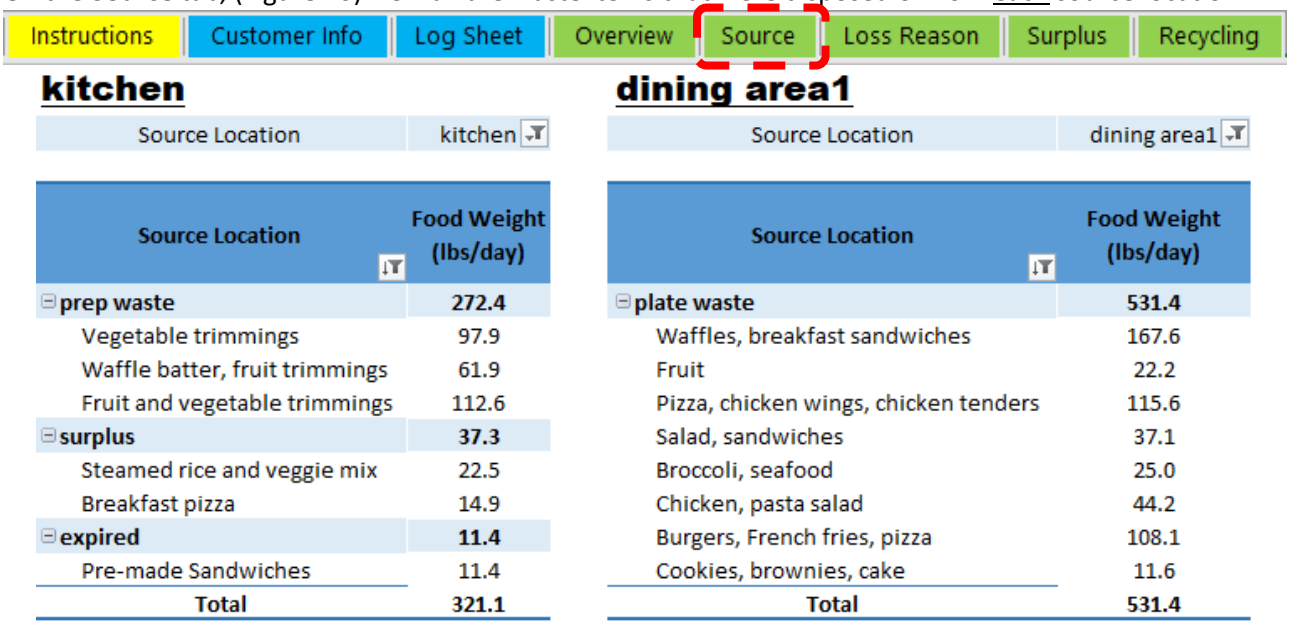
*http://www.rit.edu/affiliate/nysp2i/food/food-waste-estimator

Figure 15: Actual vs. Research-based estimated food waste

The **Source** and **Loss Reason** tabs go into the specific details of what items came from which source and why they were being disposed of. These tabs are useful to help you identify specific food waste reduction opportunities after reviewing the results for the **Overview** tab.

7.2 Source Tab

On the **Source** tab, (Figure 16) view all the waste items that were disposed of from each source location.



Instructions | Customer Info | Log Sheet | Overview | Source | Loss Reason | Surplus | Recycling

kitchen

Source Location	kitchen

Source Location	Food Weight (lbs/day)
prep waste	**272.4**
Vegetable trimmings	97.9
Waffle batter, fruit trimmings	61.9
Fruit and vegetable trimmings	112.6
surplus	**37.3**
Steamed rice and veggie mix	22.5
Breakfast pizza	14.9
expired	**11.4**
Pre-made Sandwiches	11.4
Total	**321.1**

dining area1

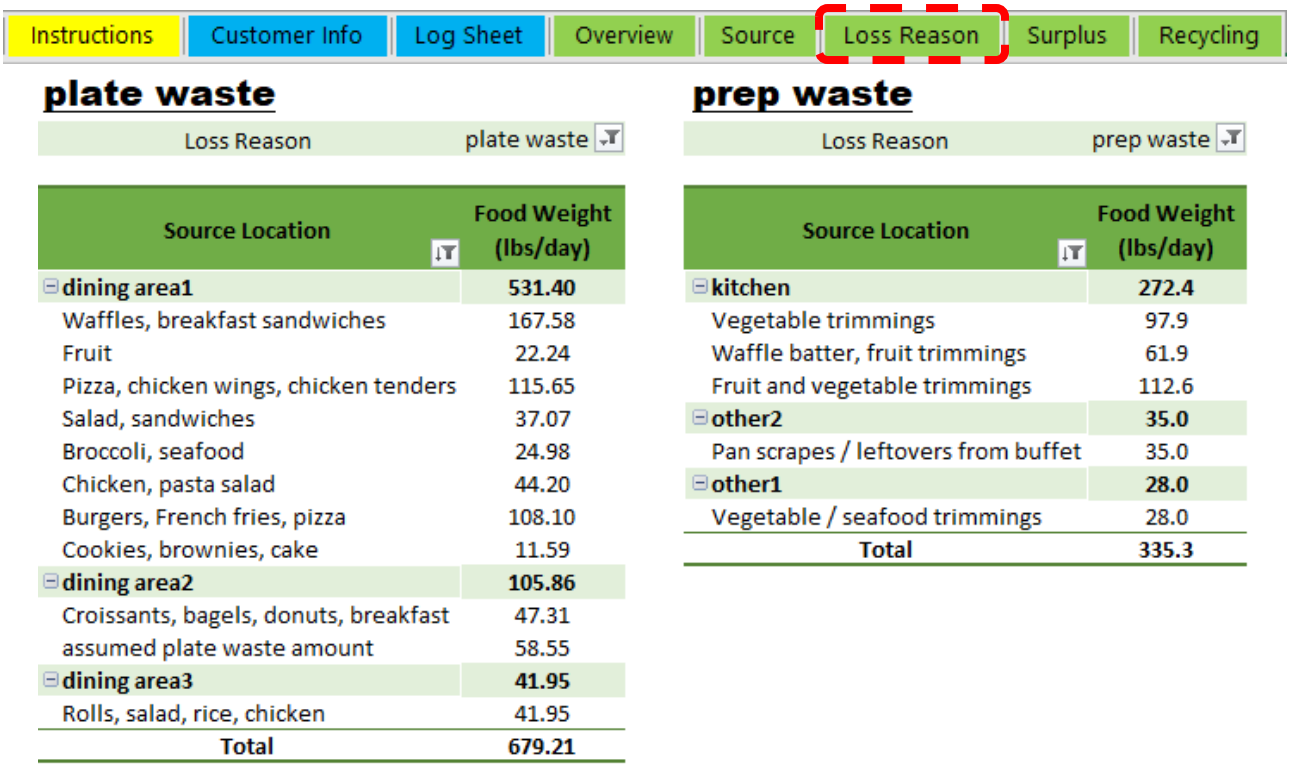
Source Location	dining area1

Source Location	Food Weight (lbs/day)
plate waste	**531.4**
Waffles, breakfast sandwiches	167.6
Fruit	22.2
Pizza, chicken wings, chicken tenders	115.6
Salad, sandwiches	37.1
Broccoli, seafood	25.0
Chicken, pasta salad	44.2
Burgers, French fries, pizza	108.1
Cookies, brownies, cake	11.6
Total	**531.4**

Figure 16: Source Tab

7.3 Loss Reason Tab

The **Loss Reason** tab, as seen in Figure 17, summarizes additional details on why there is waste, allowing focused improvement efforts to save money and reduce waste.



Instructions | Customer Info | Log Sheet | Overview | Source | Loss Reason | Surplus | Recycling

plate waste

Loss Reason	plate waste

Source Location	Food Weight (lbs/day)
dining area1	**531.40**
Waffles, breakfast sandwiches	167.58
Fruit	22.24
Pizza, chicken wings, chicken tenders	115.65
Salad, sandwiches	37.07
Broccoli, seafood	24.98
Chicken, pasta salad	44.20
Burgers, French fries, pizza	108.10
Cookies, brownies, cake	11.59
dining area2	**105.86**
Croissants, bagels, donuts, breakfast	47.31
assumed plate waste amount	58.55
dining area3	**41.95**
Rolls, salad, rice, chicken	41.95
Total	**679.21**

prep waste

Loss Reason	prep waste

Source Location	Food Weight (lbs/day)
kitchen	**272.4**
Vegetable trimmings	97.9
Waffle batter, fruit trimmings	61.9
Fruit and vegetable trimmings	112.6
other2	**35.0**
Pan scrapes / leftovers from buffet	35.0
other1	**28.0**
Vegetable / seafood trimmings	28.0
Total	**335.3**

Figure 17: Loss Reason Tab

7.4 Surplus tab

The **Surplus** (Figure 19 and Figure 20) tab provides detailed information on current surplus food, highlighting the importance of source reduction, and food donation, as well as identifying opportunities to reduce prep / kitchen labor, energy and purchasing costs. Educational information / web links about donating surplus that cannot be reduced are also included.

Reducing food waste at the source is the best method for both reducing waste and cost. This is because making less requires less prep / kitchen labor, energy and purchasing costs, in addition to reducing disposal and handling costs. The table below identifies specific areas to focus improvement efforts on or where the menu and prep quantities may be fine-tuned.

Surplus Food Details

Loss Reason	surplus

Source Location	Food Weight (lbs/day)
kitchen	37.3
Steamed rice and veggie mix	22.5
Breakfast pizza	14.9
Total	37.3

Surplus Food Impact

37	lbs/day
13,627	lbs/year

Figure 18: Surplus Tab – Source Reduction

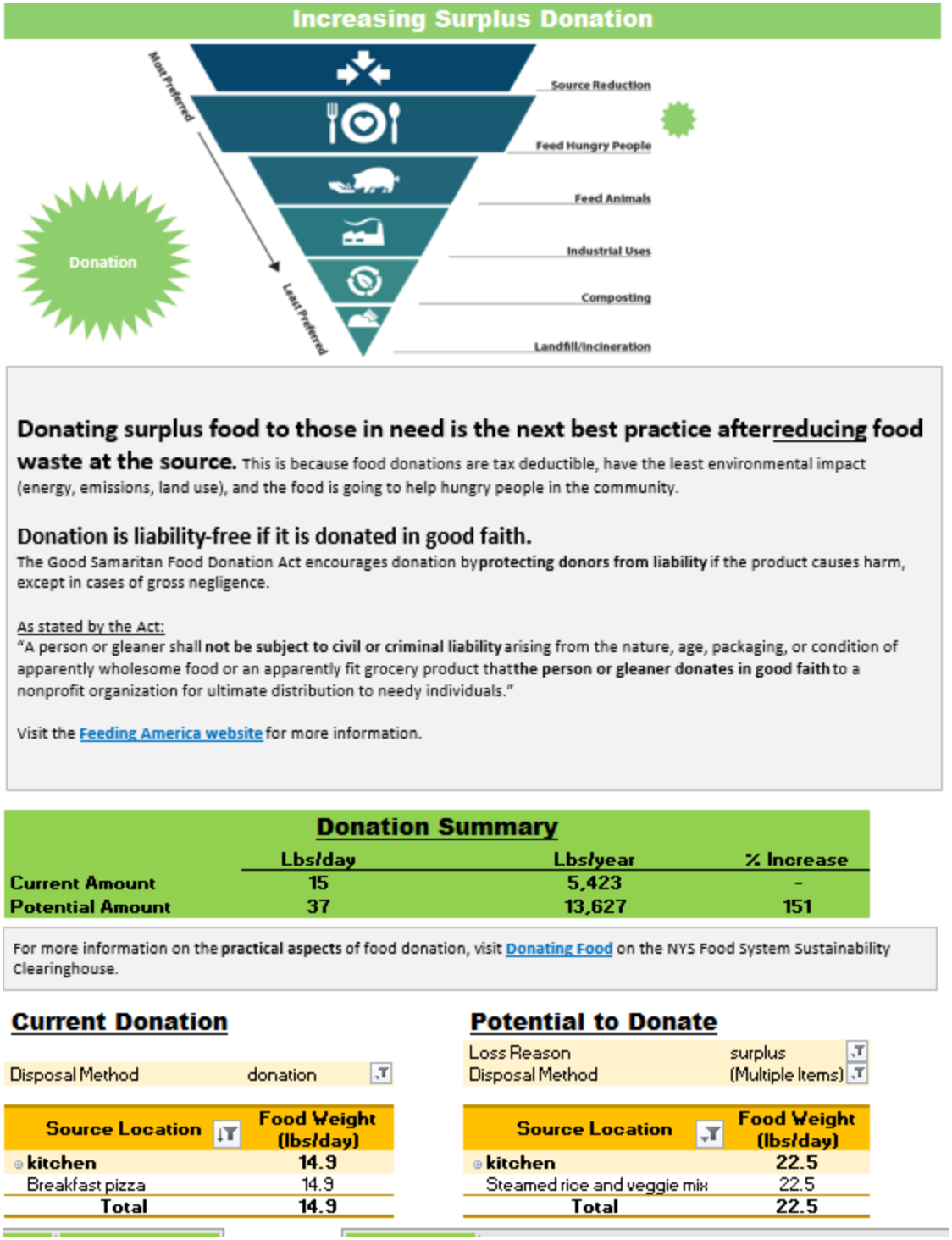


Figure 19: Surplus Tab – Donation

7.5 Recycling tab

The **Recycling** tab (Figure 21) provides information on how much could be recycled (food scraps) compared to the current state. Educational information / web links about recycling food are also included.

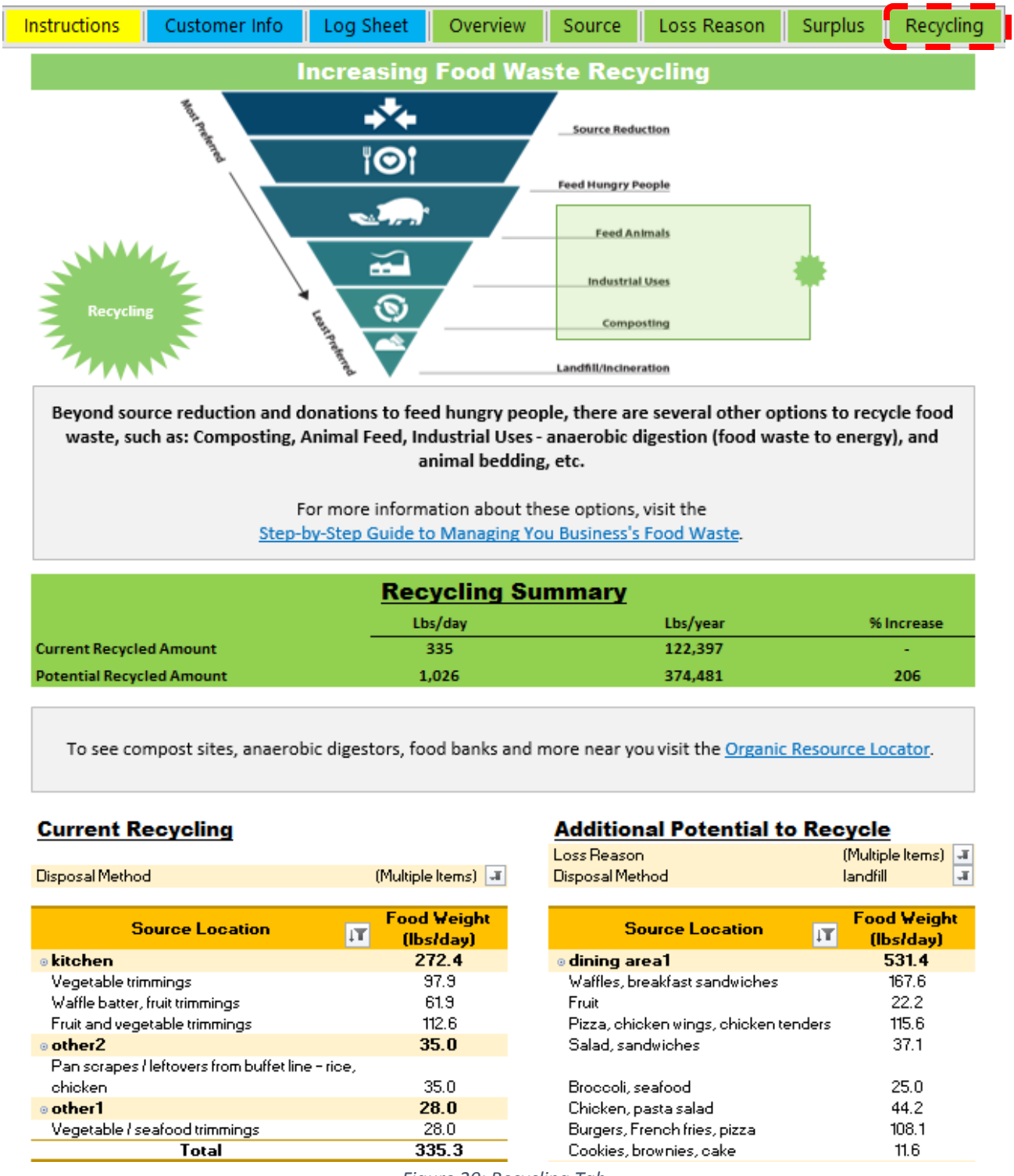


Figure 20: Recycling Tab

8 Conclusions and Next Steps

This document provided you the best practices for conducting a food waste self-assessment at your business. An example, carried throughout, walked you through how to perform the assessment and the synergy between the systematic **How-to Guide**, the assessment day **Log Sheet**, and the **Results** file. All of files included in the Toolbox were put together based on hands on food waste assessment experience in your sector. NYSP2I is available to review the assessment results and identify potential areas in which to provide assistance.

Additional resources sited throughout included:

- **Food System Sustainability Clearinghouse** (http://bit.ly/NYSP2IFood): Hub of information and resources put together by NYSP2I to help you reduce and divert your food waste
- **Self-Assessment Toolbox** (http://bit.ly/NYSP2IFoodStudy): Section within the Clearinghouse where all self-assessment tools are stored, including the **How-to Guide** and all sector-specific (**Grocers**, **Healthcare**, and **Foodservice**) supporting documentation (**Log Sheets**, **Best Practices**, and **Results** files)
- **Food Waste Estimator Tool** (http://www.rit.edu/affiliate/nysp2i/food/tools/food-waste-estimator): Section of the Clearinghouse where you can estimate how much food waste in your facility based on the appropriate scaling factor.

NYSP2I assists supporting food related businesses with all pollution prevention activities (i.e. waste reduction/recovery, water conservation, etc.) in three focus areas: Outreach and Assistance, Applied Research, and continuously expanding food waste toolbox. To learn more about NYSP2I's involvement in reducing food waste, see our Sustainable Food Program page (https://www.rit.edu/affiliate/nysp2i/food-program).

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