
SUMMERFOLK FESTIVAL

WASTE AUDIT REPORT 2018



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Executive Summary

The SummerFolk Festival is held at Kelso Beach Park, during August in Owen Sound Ontario. For this year's 43rd SummerFolk, organizers partnered with the Grey Bruce Sustainability Network and Busch Systems to assist with a waste audit at the festival. The audit was performed during the festival with the primary goal of establishing a baseline of the current diversion rate and stream composition.

During the entire festival 4,014 lbs. of refuse was generated. The SummerFolk Festival baseline diversion rate was 38%. This report reviews how much refuse was produced, where in the festival grounds and at what time. This report provides recommendations on how SummerFolk can work to achieve an 80% diversion rate or higher similar to other successful festivals.

Introduction

In partnership with SummerFolk organizers, the Grey Bruce Sustainability Network and Busch Systems, a refuse generation study was conducted during the 43rd Folk Festival. The purpose of this audit and report is to establish a baseline of refuse generation during the event.

New for this years' festival, SummerFolk introduced an organic collection stream. Festival organizers made arrangements to donate all the food waste to a local farmer as feed.

The data that was collected was entered into Busch System's refuse management analytic program, the Resource Center. The reports generated by the Resource Center will help identify the baseline and other refuse trends at SummerFolk.

In addition to this baseline, this report:

- Identifies problematic areas in the current waste management system
- Provides potential solutions to help increase diversion rates, while reducing stream contamination
- Assists with software improvement recommendations for the Resource Center

Terminology

- **Refuse:** a broad, overarching term that applies to anything that is leftover after it is used; both recyclable and non-recyclable material.
- **Waste:** material thrown away because it is no longer useful. Items should only be considered waste if they cannot be recycled or composted.
- **Recycling:** materials that can be converted or reused to make other material.
- **Organics:** typically any biodegradable material, including food waste. Organics can't be recycled and naturally decompose by micro-organisms, through the process of anaerobic or aerobic digestion. For this study organics refers food items only as it was donated to a farm.
- **Division:** a high-level grouping of the areas being audited. There are several stations within each division. For the SummerFolk Festival, there are 5 divisions. For example, the bar area was one division.
- **Station:** a station refers to one group of streams. At the Folk Festival there were 17 stations. For example, in the bar division, there are two stations, bar 1 and bar 2. Each station was made up of three streams.
- **Stream:** the separation and division of similar refuse collected throughout the auditing process. For instance, at the Folk Festival, there were three streams; organics, waste, and mixed recyclables. These three streams together made up one station.
- **Diversions:** this refers to combined recyclable and organic materials collected that have been diverted from the waste stream.

Methodology

During the festival from August 17th-19th, 2018, waste, recycling, and organics were collected from each of the 17 refuse collection stations within the five divisions on the festival grounds (Fig. 1).



Figure 1: Map of Kelso Beach Park, Owen Sound, ON.

The division breakdown:

1. *Washrooms Division*: waterfront washroom station
2. *Admin Division*: south gate station, quiet area station, volunteer camping 1, volunteer camping 2
3. *Concert Area Division*: SummerFolk circle station, backstage station, top of amphitheater 1, top of amphitheater 2, over the hill stage station, pavilion stage station, bottom of amphitheater station
4. *Food Area Division*: food area 1, food area 2, food area 3
5. *Bar Area Division*: bar 1, bar 2

The station breakdown:

- 3 stations on the food court lane
- 1 station on the SummerFolk circle
- 1 station by the waterfront bathrooms
- 1 station backstage
- 2 stations at the top of the amphitheater
- 1 station at the over the hill stage
- 1 station at the pavilion stage
- 1 station at the south gate
- 1 station at the new quiet area
- 2 stations at the bar
- 1 station at the bottom of the amphitheater
- 2 stations at the volunteer camping

The containers at each station were manually emptied by the collection team at various times throughout the festival. At each station, there were station specific labels. At the time of collection, the collection team would apply the stream appropriate label, note the time of collection and capacity estimate (Fig. 2). The labels were colour-coded based on-stream type; blue for recyclables, green for organics and grey for waste. The bags were then delivered by truck to the sorting area where the green team was stationed. Here, each bag was weighed using a stand on scale (Fig. 3), and each weight was then recorded on the audit sheet provided.

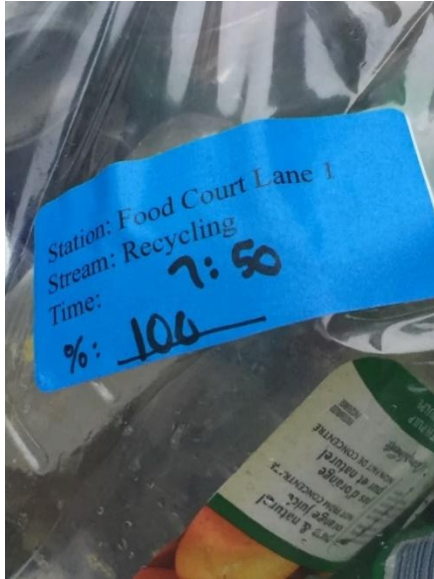


Figure 2- Mixed Recycling preprinted label.



Figure 3: Green Team member weighing a bag of mixed recycling.

Current Refuse Containers and Handling Processes

- Inside the festival grounds, the stations were set up with three streams (Fig. 4). Stream colours and capacities of containers were not consistent.
- The streams collected were waste, mixed recycling, and new this year, organics.
 - The waste containers were from another provider and were either green or black in colour, with no restrictive openings, and had a capacity of 40 gallons. There were no labels on the waste containers.
 - The recycling containers were roll off carts from another provider that were blue or grey in colour, had a lid that hinged to open, and were 64 gallons in capacity. There were no labels on the recycling containers.
 - Organics were collected in Waste Watcher containers donated by Busch Systems. These bins were green in colour and were 23 gallons in capacity. There was a label on each organic container that read “Compost Only.”



Figure 4- Three stream station setup throughout festival grounds.

- There was one sign posted at each station that read “We don’t inherit the Earth from our ancestors, we borrow it from our children. Please do your part” (Fig. 5).
- SummerFolk Festival collection team volunteers performed sporadic collection of refuse from the different stations throughout the day and drove the materials to the sorting station. The green team weighed, sorted, and recorded the findings from each stream.
- After being weighed and inspected, waste and mixed recyclables were divided into appropriate dumpsters located at the north gate. Organic material was placed in a tarp lined trailer that was later donated to a local farmer (Fig 6).



Figure 5- Station signage.

Current Diversion Programs

- The SummerFolk festival current diversion program includes
 - Waste
 - Mixed Recycling
 - Organics
- Cans, Plastic, Bottles and Glass are sorted and emptied into dumpsters.
- Beer cans are collected separately in the bar area where they are returned for refund.
- Corrugated cardboard was separated and put into a separate dumpster.
- Paper plates, napkins, and tissues were removed from the organics stream and put into the garbage, so that only food waste remained to be used as feed.



Figure 6-Trailer where the organic material was deposited, and then transported to a local farm.



Figure 7-Mixed recycling stream that contains mainly cans, bottles, and single use plastics.



Figure 8-Waste stream which shows variety of materials, including contamination of cardboard.

Benchmark Observations

During the entire festival 4,014 lbs. of refuse was generated. Fifty-seven percent of that refuse, 2,275 lbs., was labelled by stream, weighed and recorded onto the Resource Centre tracking sheets. The remaining 1,739 lbs. was weighed and disposed of correctly but could not be assigned to a specific division as it was not labelled. The refuse not included in the division calculation was 965 lbs. of waste, 467 lbs. of mixed recycling, and 308 lbs. of organics (Table 1).

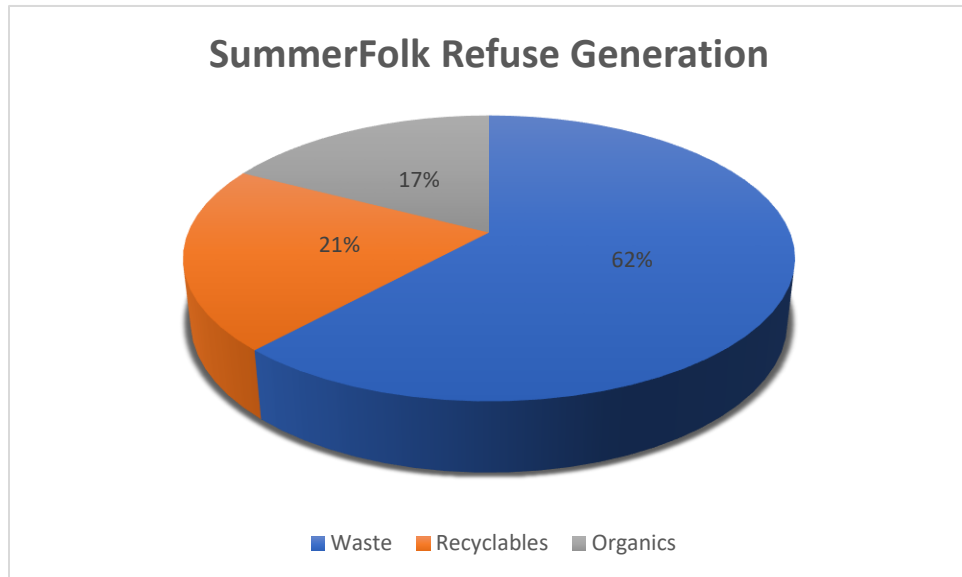


Figure 9- Refuse % Breakdown

ALL Divisions

The total amount of material collected in the trash stream at the SummerFolk festival was 2,481 lbs. The amount of material recyclables collected was 839 lbs. The amount organics collected was 695 lbs. (Table 1). This equates to an overall diversion rate of 38%. Of the total refuse collected stream weights “waste” represents 62%, “Mixed Recycling” 21% and “Organics” 17%; not including cardboard (Fig. 9).

Refuse was collected sporadically on an ad hoc basis. This is illustrated in the division collection time chart (Fig 9.2). The greatest volume of organics and waste was collected at the end of the Festival Sunday evening

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(Fig 9.1). The greatest amount of overall refuse came from the Food area; made up of mostly waste and organics (Table 1). The greatest amount of recycling came from Bar area (Table 1).

	Sum of Waste (lbs)		Sum of Organic (lbs)		Sum of Recycling (lbs)		TOTAL (lbs)	
Admin	179	7%	34	5%	38	5%	251	6%
Bar	290	12%	54	8%	140	17%	484	12%
Concert	381	15%	64	9%	98	12%	543	14%
Food Area	489	20%	190	27%	73	9%	752	19%
Washroom	177	7%	45	6%	23	3%	245	6%
UNLABELED	965	39%	308	44%	467	56%	1739	43%
Grand Total	2,481	100%	695	100%	839	100%	4,014	100%

Table 1- Refuse Produced by Division and

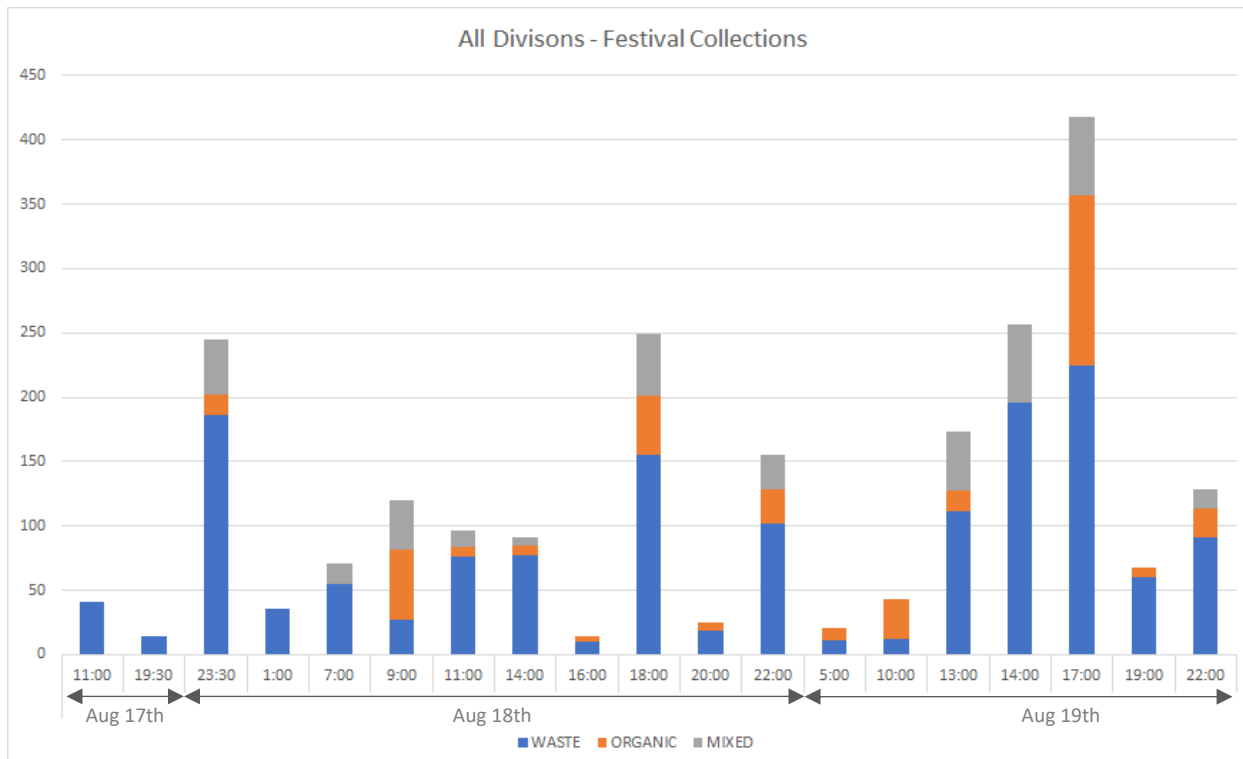


Figure 9.1 All Divisions Refuse Collection by Time

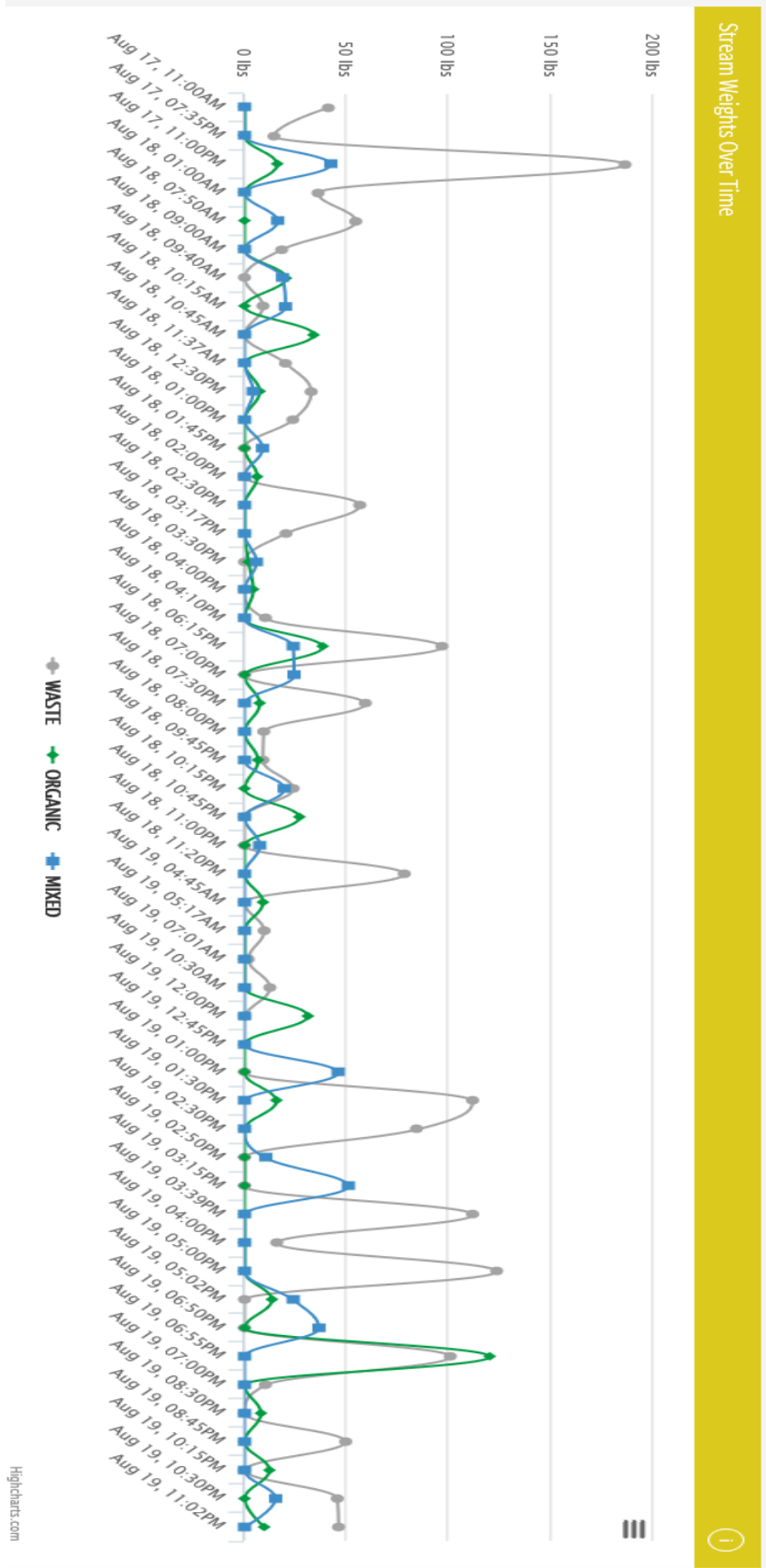


Figure 9.2 All Divisions Refuse Collection by Time

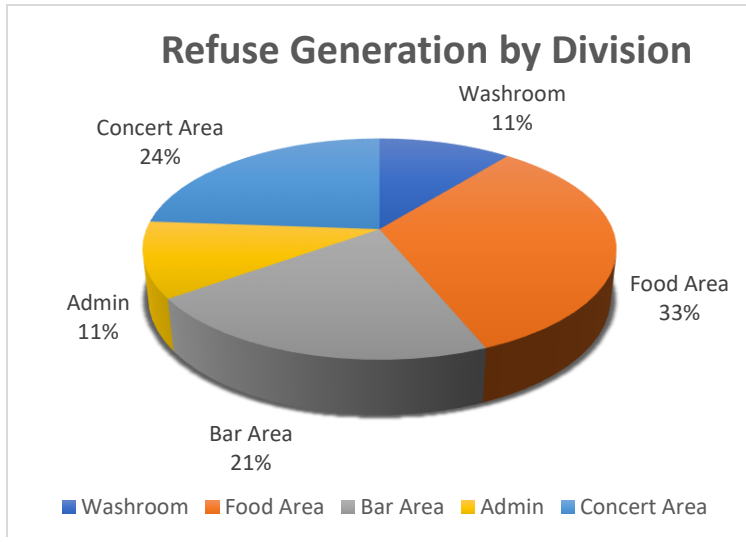


Figure 10 – Refuse Breakdown by Division

Washroom Division

The total amount of waste generated in the SummerFolk Festival Washroom Division was 177.6 lbs. The amount of recycled materials was 23 lbs. and the amount of organic material was 45 lbs. The Washroom Division diversion rate for the sample period was 28%, and waste accounted for 72% of the material (Fig.11).

The washroom division within SummerFolk Festival has a three-stream system to capture all refuse discarded. Since the organic stream was being delivered to a local farm for feed, paper towels were not accepted in the organics stream and were considered waste. This contributes to the large amount of waste generated at this division.

Food Area Division

The total amount of waste generated in Food Area during the audit was 489.2 lbs. The amount of recycled materials was 73.2 lbs. and the amount of organic materials was 190 lbs. The diversion rate for the Food Area Division was 35% (Fig. 12).



Figure 11- Washroom Division



Figure 12- Food Area Division

Bar Division

The total amount of waste generated in the Bar Division during the audit was 290.7 lbs. The amount of recycled materials was 140.4 lbs. and the volume of organics was 54.2 lbs., generating a Bar Division diversion rate for the sample period of 40%. Of the analyzed Bar Division weights Waste represents 60%; Mixed Recycling 29% and Organics 11%.

The Bar Division at the SummerFolk Festival was the best performing division, with the highest diversion rate. This was achieved through the generation of cans and bottles at the bar area, which are commonly and easily recycled materials.

Administration Division

The total amount of waste generated in the Administrative Division during the audit was 197.8 lbs. The amount of recycled materials was 38.4 lbs. and the volume of organics was 34 lbs.,

generating an Administration Division diversion rate for the sample period of 29%.

Of the analyzed Administrative Division weights Waste represents 73.2%; Mixed Recycling 14.2% and Organics 12.6%.

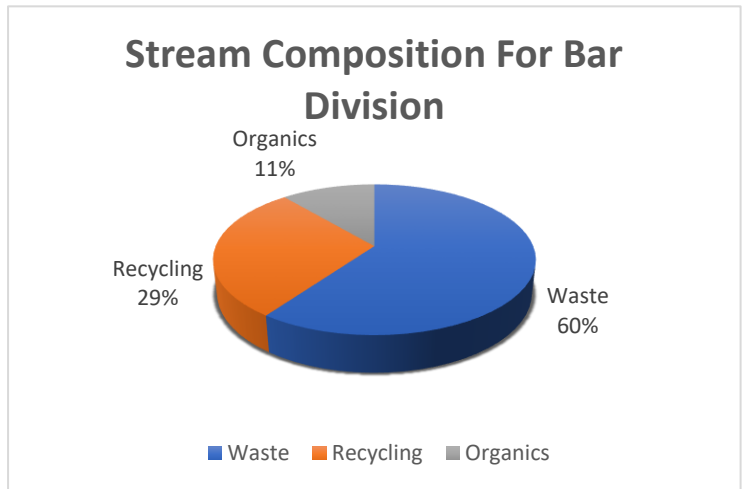


Figure 13 – Bar Division

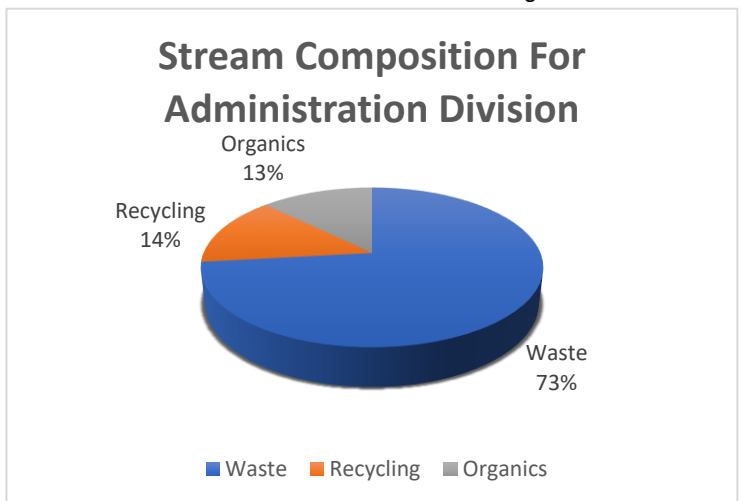


Figure 14- Administrative Division

Concert Area Division

The total amount of waste generated in the Concert Area Division during the audit was 381 lbs. The amount of recycled materials was 98 lbs. and the amount of organics was 64.4 lbs., generating a Concert Area Division diversion rate for the sample period of 30%. Of the analyzed Concert Area Division weights waste represents 70.1%; mixed recycling 18% and organics 11.9%.

The concert area division was a high traffic area that saw a lot of foot traffic and produced the second highest amount of refuse at the festival.

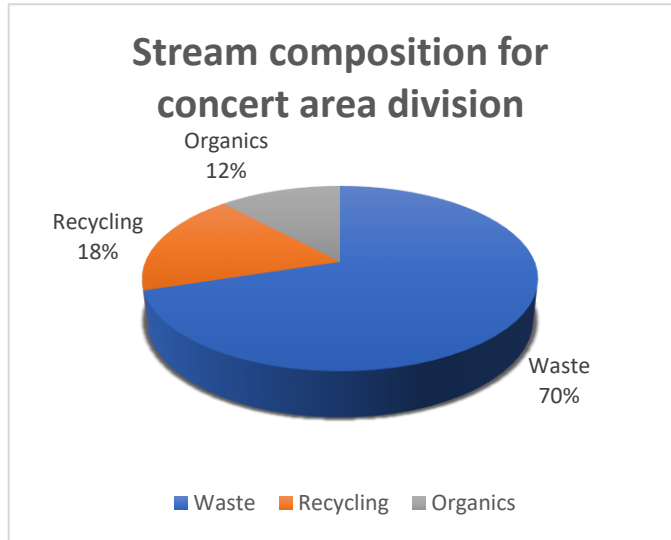


Figure 15- Concert Area Division

Unlabeled Bags

Forty-three percent of bags arrived at the sorting station without labels. The findings of these bags and the materials that were generated within them could not be included in this audit. The sum of the materials from these bags weighed:

Waste: 964.5 lbs.

Recycling: 262.6 lbs.

Organics: 307.6 lbs.

Cardboard: 204 lbs.

Interpretation of the data sheets was required to understand the meaning of these numbers. No information was given in relation to the point of generation. Often unlabeled organics were labeled "Vendors." It was unclear if the trash team was picking up individually from each vendor, or if vendors were dropping off their waste, recycling and organics to the sorting station. It was not communicated prior to the audit, that the vendors were to be separate divisions, therefore they were not measured separately from the other food area divisions.

Of the 695 lbs. of organic waste, 99.8 lbs. were labeled as "corn husks" from a vendor. There was another note that 29.6 lbs. of the organic waste were from a coffee vendor, possibly coffee grinds and filters. There was a note that stated that 11.8 lbs. of the organic waste were potato peelings from a "mystery vendor."

Prior to the Folk Festival beginning, there were bags of waste and recycling around the festival grounds from the public. The analysis of this material was conducted on Friday August 17th at 3:00 p.m. The total amount of waste collected prior to the event was 6 garbage bags totaling 46.2 lbs., and 6 bags of recycling totaling 44.4 lbs.

Conclusions

The SummerFolk festival made 2018 the year to take their sustainability stewardship to the next level. They implemented an organics program and donated 695 lbs. of food waste to a local farmer for feed. Also, they partnered with the Grey Bruce Sustainability Network and Busch Systems to establish how much refuse was collected and work towards improving their diversion for SummerFolk 2019.

Festival attendees, vendors and staff were not notified in advance that food items were being collected and would be donated. This resulted in napkins, paper plates and other paper products entering the organics and contaminating the stream. Some food vendors took the initiative to only use compostable plates and cutlery, however it was unclear which vendors these were, and these materials had to be put in the trash regardless.

The signage at each station did not communicate what materials were to be placed in each stream. The streams were inconsistencies in bin colour, particularly with the waste stream.

The recycling streams in the bar area exceeded maximum capacities on multiple occasions.

The waste streams in the bathroom division consisted mostly of paper towel that could have been composted or recycled.

Refuse was not collected on a consistent schedule. Therefore, it could not be determined what time and date the greatest amount of refuse was produced and by what division.

The food area division at the SummerFolk Festival produced the most amount of refuse at the festival. Vendors within the food area were moving the location of the stations to better suit traffic flow based on their independent observations.

Environmental Impact

Based on the data collected during the festival, here is a summary of how the recycling and organics program positively impacted our environment. These matrices were generated from the Busch Resource Center.

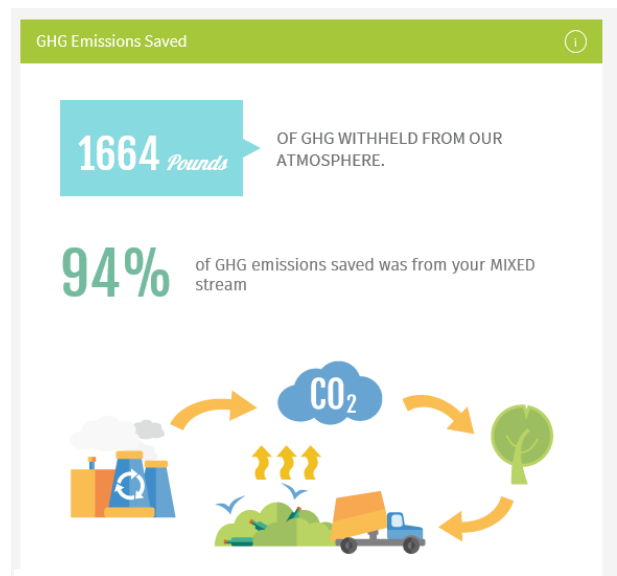


Figure 16 – Green House Gas Emissions Saved

From transportation and production, emissions are emitted in every step of manufacturing items. By recycling instead of manufacturing new products, 1664 pounds of GHG emissions were withheld from the atmosphere (Figure 16).

The recycling that was collected at the folk festival reduced the amount of waste in our landfills by 4.7 cubic yards (Figure 17). By recycling materials at the folk festival, material acquisition and raw material processing was reduced, resulting in 2.1 barrels of oil being saved (Figure 19).

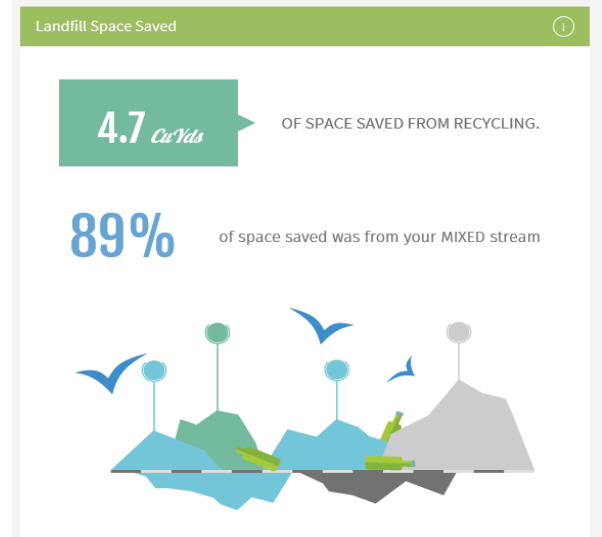


Figure 17 – Landfill Space Saved

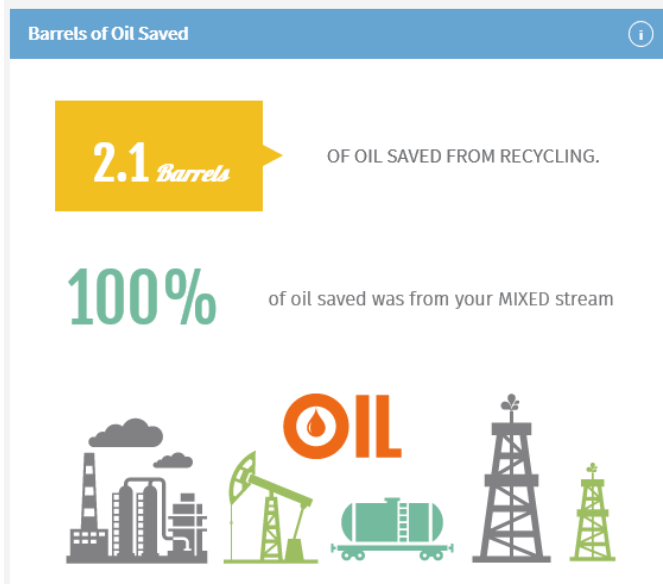


Figure 18 – Barrels of Oil Saved



Figure 19 – Trees Saved

Recommendations

Based on the information gathered during the auditing process the following list of recommendations may help improve diversion rates. By implementing these changes recommended here, this may help SummerFolk improve the 38% diversion that was realized in 2018, and work towards a diversion rate of 80% or higher similar to other successful festivals.

Organics Program: Repeat the organics program next year and take the opportunity to do a PR blitz to get publicity on the green initiatives happening at SummerFolk 2019. Create a marketing campaign to introduce the farmer that will be receiving the food waste, publish articles and advertisements and incorporate signage clearly stating only food waste should go into the waste stream. This will encourage event goer buy in and participation.

Considering adding an organics stream for compostable waste other than food so that paper products do not end up in the waste stream.

Each stream should be the same, with clear signage and consistent colour throughout the festival grounds. Promoting clear signage, educational posters and labelling throughout the grounds will reduce confusion at the bin, enhancing diversion and lowering contamination rates.

To minimize contamination, **having high traffic stations staffed** by green team members will help ensure proper refuse disposal and event goer education. As per this audit, the high traffic areas were the food division (752 lbs.), the Concert division (543 lbs.) and the bar division (484 lbs.). Promoting and encouraging a reduction in waste generation through a marketing campaign will have event goers excited about participation. By promoting a goal of 80% diversion rate will get their attention.

Bar area: Placing an additional station, and additional recycling streams at each station within the bar division to help with adequate diversion and collection of mixed recyclables and help prevent overflowing.

If the festival chooses to do another waste audit in 2019, consistent collection times and proper training will help identify what times and locations produce the greatest refuse.

A second reusable water refill station at the concert area or bar area, may help reduce plastic water bottle generation at these areas.

The use of clear garbage bags would allow a visual inspection of potential contaminants of waste streams collected.

Vendors: Specify with vendors in advance how all streams of refuse should be disposed of during the event. This will help the green team better track what they are producing and when. It was discovered during the event that some vendors would take their refuse home for processing.

Sell, or include in the cost of admission a reusable mug / cup for beer and/or water to promote zero waste and minimize refuse at the event.

Implement a draft beer policy – no cans or bottles.

Food area: Add additional stations in the food area. Every location where people sit to eat should have at least two stations. One at the front and one at the back. Considering adding additional organic streams.

If there is a specific type of food container and cutlery that can be recycled in this region, organizers may choose to make it mandatory vendors purchase those specific ones. Organizers may buy them on behalf of all vendors and get a volume discount.