Boiling Pot Festival 2011
Waste Management Report

Prepared by:
Kate Binder
Graduate Assistant
WMU Office for Sustainability
269.598.4808
k3binder@gmail.com
Introduction

In October of 2011, Kalamazoo area nonprofit The I.D.E.A Association hosted its second annual Boiling Pot Music Festival at the Arcadia Creek Festival Place in downtown Kalamazoo. Boiling Pot is a volunteer led, participatory art and cultural event that hosts thousands of attendees, over 30 diverse musical acts, and extensive art installations. Since its inception, Boiling Pot Festival has set a precedent for sustainability among Kalamazoo area events. The 2011 festival continued this tradition.

With the support of Downtown Kalamazoo Incorporated (DKI), the I.D.E.A Association attempted to raise the bar for sustainability efforts at Arcadia Creek Festival Place while fully documenting the process. Through “green sponsorship” packages supported by local companies like Fabri-Kal and the People’s Food Co-op, in addition to funding from the Kalamazoo Community Foundation, Boiling Pot Festival partnered with Western Michigan University’s Office for Sustainability to create this evaluative report.

This report is intended to provide a detailed summary of the 2011 waste management program along with recommendations for future Arcadia Creek Festivals. Information, data, and lessons learned are intended to be utilized in the development of a sustainability portion of the festival site guidelines book and to ultimately raise the sustainability standards at the festival site.

Overview of 2011 Waste Management

In the development of Boiling Pot Festival’s waste management plan, Festival Organizer Matt Lechel and Waste Management Coordinator Kate Binder drew heavily on their internship experiences with The Spitfire Agency. During the 2008 and 2009 Rothbury Music Festival, The Spitfire Agency was contracted to coordinate the festival’s waste management initiatives. Matt and Kate gained experience coordinating with vendors, managing volunteers, and organizing waste collection through The Spitfire Agency’s systemized and highly effective program. The Boiling Pot Festival’s waste management plan is an adapted small-scale version of the one used by The Spitfire Agency.

Any festival’s waste management plan includes two main components, waste stream management and waste collection procedures. Waste stream management includes evaluation of the types of waste that will be generated by the event and making efforts to ensure that the materials chosen are primarily recyclable or compostable. Waste collection practices at the event are dictated by the waste streams that will be generated and by the services available in the area.
Waste Stream Management

Boiling Pot Festival’s largest waste stream is plastic cups used for beer and other beverages sold on-site during the festival. In an effort to divert this item from landfill, Boiling Pot Festival purchased exclusively compostable plastic cups. Additionally, Fabri-Kal, a locally headquartered plastics manufacturer, donated 6,000 compostable cups made from plant material along with a $1,500 main stage sponsorship.

Other high volume waste items included paper food boats, napkins, paper coffee cups, and plastic cutlery purchased from Gordon Food Service along with cardboard from vendor packing materials.

Waste Removal Services

The waste removal service chosen for landfill and recycling was Republic Services, Inc. with a bid of $475. Republic provided 30 95-gallon Herby Curby style trashcans for onsite waste collection along with two 10-yard dumpsters. One dumpster was used for landfill waste and the other for single-stream recycling. All materials were delivered to and collected from reserved parking spaces on the West side of the festival grounds. See Appendix A for site map.

Single-stream recycling refers to a collection method where all categories of recyclables are collected together and later sorted at a materials recovery facility before being processed for reuse. The main advantage of this system is a reduced effort for consumers. Since all plastic, paper, glass, and metal materials can be accepted in one container, it eliminates the need for the consumer to sort recyclable materials. This system is relatively new to the Kalamazoo area. Kalamazoo Township is currently the only local municipality that has adopted the practice. In December 2011, the township began collecting single-stream recycling in the exact same containers used at Boiling Pot Festival.

The Eaters’ Guild Farm of Bangor, MI volunteered to collect the compostable waste generated by the festival. Compost was collected in large brown-paper yard waste bags and placed adjacent to the 10-yard dumpsters for collection at the conclusion of the festival. The Eaters’ Guild also provided an installation art piece that depicted several stages of decomposition. They were provided with four weekend passes as compensation for their efforts and generosity.

Schupan & Sons, Inc., a local metal and plastic recycling and manufacturing company, also volunteered their services by providing a bottle and can event recycling trailer called the Trashbuster. The trailer has circular openings on each side to accept bottles and cans. The trailer was placed on the West side of the festival grounds near the main stage. Reference Appendix A for location and Appendix B for a photo of the trailer.

These waste collection services ultimately dictated how the festival’s final waste streams were organized. Based on the requirements of Republic Services, The Eaters’ Guild, and Schupan & Sons, the following list of categorized waste was created:
• Compost
  o Event cups
  o Food waste

• Recycling
  o Plastics #1-5 and #7
    ▪ Beverage containers
    ▪ Milk cartons
    ▪ Orange juice cartons
    ▪ Plastic bottles
    ▪ Plastic containers
  o Paper
    ▪ Office paper
    ▪ Brochures
    ▪ Construction paper
    ▪ Magazines
    ▪ Pamphlets
    ▪ Posters
  o Metal
    ▪ Aerosol cans
    ▪ Aluminum foil
    ▪ Jars
    ▪ Metal lids
    ▪ Soda cans
  o Glass
    ▪ Brown
    ▪ Clear
    ▪ Green
  o Cardboard
    ▪ Boxboard
    ▪ Corrugated cardboard

• Landfill
  o Paper food boats
  o Napkins
  o Paper towels
  o Plastic silverware
  o Paper plates
  o Straws
  o Wrappers
  o Straws
  o Blue glass
  o Cigarette boxes and butts
  o Foam core
Waste Collection Strategy

Bin Organization: Pods

One of the imperatives of event waste management is ensuring that all waste streams remain free from contamination. If recycling bins collect too many non-recyclables, the waste removal service may be forced to send the entire dumpster to a landfill. Compost collection presents the same problem.

The most effective strategy for collecting contamination free recycling and compost is to place the receptacles for each waste stream in close proximity (Austin, Hatfield, Grindle & Bailey, 1993). Boiling Pot Festival did this by creating waste “pods” consisting of one recycling, compost, and landfill receptacle. The receptacles used were the Herby Curbies provided by Republic Services. Blue Herby Curbies were used for compost, green for recycling and brown for landfill.

Pods are most effective when placed closest to points of consumption (Brothers, Krantz, & McClannahan, 1994, Ludwig, Gray, & Rowell, 1998, O’Conner, Lerman, Fritz, & Hodde, 2010). For Boiling Pot Festival, these points were determined to be near the stages and seating areas where food and beverages would most likely be consumed. Pods were also placed in general gathering and high traffic areas such as the dome, vendor areas, and porta-potty section. Reference Appendix A for a site map with denoted pod locations. All extraneous trashcans that are permanently affixed on the festival site were covered with black trash bags to discourage use.

Signage

Two types of signage were developed for the Boiling Pot Festival greening program. Large signs were posted above each pod and marked the bins as compost, recycling, and landfill. These signs stood approximately 7 feet tall and were highly visible from across the festival grounds, making it easy for event attendees to locate waste pods. This is an important feature, especially during high traffic times and at night.

Smaller, 11x17 inch signs were taped to the lids and front of each bin and included lists of the items for each waste stream. The smaller signage for the pods was developed through Western Michigan University’s Office for Sustainability and altered for use at Boiling Pot Festival. The signage was created to clearly outline what can be
placed in each bin, demonstrating what and how to recycle and avoiding the use of general pro-recycling messages as prescribed by the findings of Werner, Rhodes, and Partain (1998). Additionally, the signs were mounted on the bin lids, in close proximity to the openings as suggested by the findings of Austin, Hatfield, Grindle, and Bailey (1993). All signage matched the color of its corresponding bin, blue for compost, green for recycling, and brown for landfill. Reference Appendix C for examples of both sets of signage.

Volunteers

Volunteers are the main point of contact between festival attendees and the festival’s greening program. They contribute greatly to the success of a waste management program by adding a critical social component to the waste management system. At Boiling Pot Festival, volunteers were responsible for communicating with festival attendees about what items were categorized into each waste stream and encouraging them to accurately sort waste. Through this communication, the educational and community growth atmosphere of the festival was advanced and deepened.

All festival volunteers were asked to attend an orientation session prior to the festival with the volunteer coordinator. Greening volunteers attended an additional training session at the start of their shift with the waste management coordinator. During the additional session they were given bin assignments and information about what waste streams were present at the festival. The impact of participant education on successful event greening was stressed and volunteers were encouraged to help educate attendees about greening measures. They were also briefed on the data collection procedures described below.

Volunteers were assigned to areas including 2-3 pods each. They were instructed to sit or stand near the pod with the highest traffic and periodically check the other pods for contamination. While in proximity to the pod with the highest traffic, volunteers were responsible for directing waste into the correct container while simultaneously educating event participants about what their waste is comprised of and why it is classified as compost, recycling, or landfill.

Although volunteers were free to accomplish these goals however they felt comfortable, it was suggested that they point to the correct bin while each event attendee approached with a waste item. While the attendee deposits the item, the volunteer was instructed to provide information about the item. This information is essential because it enables the participant can make educated sorting choices in the future and fosters the sharing of information with other participants. Sample educational statements included:

“The Fabri-Kal cups are made of corn, so they’re compostable.”

“Only plastic labeled #1-5 and #7 is recyclable.”
“Paper and plastic can go into the same bin because we’re using a single-stream recycling system.”

“Napkins and paper towels aren’t made from paper that’s high enough quality to be recycled.”

Volunteers for the entire festival were recruited through the Boiling Pot Festival website and social media sites including Facebook and Twitter. Volunteer recruitment flyers were also posted around the Kalamazoo area and local college campuses. See Appendix D for a copy of the flier. Volunteers could sign up on the website by entering contact information, preferred volunteer area, and availability.

All volunteers were compensated with weekend tickets to the festival along with a festival t-shirt that they were asked to wear while working. Volunteers who signed up early were asked to volunteer for two 3-4 hour shifts. Volunteers who signed up three weeks or less before the festival were asked to work two 6-hour shifts. Volunteers were able to choose different areas for each of their shifts.

Data Collection

In an effort to accurately assess the overall amount of waste generated by the festival along with the amount of waste that was successfully diverted from landfill, weight data were recorded for each bin as it was emptied. Bins were emptied when they reached half full to avoid difficulties when lifting them to empty into the dumpsters. Volunteers were responsible for monitoring the levels of the bins in the pods they were assigned. When one reached half full, they were instructed to roll it to a centralized weigh station where a Boiling Pot staff member helped them weigh it and record the number before emptying it. Reference Appendix E for examples of the data collection sheets. As an additional educational and awareness raising component, a sandwich board with up-to-date poundage for compost, recycling, and landfill, called the Junk Report, was posted publicly near the weigh station. Reference Appendix F for a photo of the Junk Report.
Analysis and Recommendations

Waste Stream Management

Because plastic cups constituted the largest waste stream, efforts to ensure the use of only compostable cups had a substantial impact on the amount of waste diverted from landfill. In the future, other high volume waste items need to be given as much consideration. All plates, plastic cutlery, food boats, napkins, and coffee cups used at the festival were destined for landfill because they didn’t meet the criteria to be recycled or composted.

There are a number of ways to remedy this issue. One way is to limit the amount of disposables sold by vendors. This would require either a system for the distribution, collection and sale of reusable items or a policy allowing festival attendees to bring their own reusable items such as mugs, plates, silverware, etc. A discount could be provided as incentive to utilize the system. Both of these options may be resource intensive and difficult to organize.

Another option is to coordinate with vendors to purchase only items that meet the criteria for compost or recycling set by the waste collection services. This tactic proved difficult for the 2011 festival. It was challenging to obtain agreement from vendors to purchase prescribed products and a decision was made to avoid requiring them to do so, although this may be an option for future festivals.

Waste Removal Services

A third option is to strategically select waste removal services with criteria that are likely to align with predicted waste streams. For the 2010 Boiling Pot Festival, the industrial composter Spurt Industries was chosen for compost disposal. Although their location was not ideal and required the festival organizers to haul the waste 43 miles to Byron Center, MI, their compost criteria were very inclusive. Along with the plastic event cups Spurt was also able to accept food boats, napkins, compostable cutlery, wax coated coffee cups, cardboard, and extraneous pieces of wood from festival set-up and tear-down.

Ideally, an effective waste management system should simultaneously take into account both the needs of the vendors and the availability, environmental impact, and inclusion criteria of the waste collection services. By managing all incoming waste streams and ensuring that they are included in waste collection criteria, the most possible amount of waste can be diverted from landfill.

Another waste removal service issue for Boiling Pot Festival 2011 was the number of services present. Although the Trashbuster trailer did not provide a recycling service that was not already represented, organizers decided that its presence supported the sustainability goals of the festival and were excited to partner with Schupan & Sons. The collection criteria for the trailer were narrow. It accepted only plastic and aluminum beverage containers, which were a relatively low volume waste stream. Additionally, the service was redundant because Republic Services could also
accept these items in the single-stream recycling program. Because the Republic Services recycling collection bins were available within every pod throughout the festival site, the festival attendees did not utilize the Trashbuster trailer. However, because this service was not effective for Boiling Pot Festival does not mean that it should be ruled out for other festivals. If a festival finds that beverage containers are a high volume waste stream and the existing waste management program does not have the capacity to accept them, the Schupan & Sons Trashbuster program may prove to be highly effective in diverting waste from landfill.

Waste Collection Strategy

Bin Organization: Pods

The 2011 Boiling Pot Festival improved on its 2010 pod organization in a number of ways. After 2010, it was determined that the number of pods could be reduced to 11. During the 2011 festival, it was noted that many of the bins in the 11 pods never reached the half-full criteria and weren’t emptied until the last day of the festival. It was determined that for future Boiling Pot Festivals at this location, the number of pods could be further reduced to 5 by concentrating pods in the high consumption areas and removing ones in foot-traffic only areas such as pathways.

In 2010, the festival utilized many of the on-site trashcans within pods by placing two Herby Curbies next to them and labeling the trashcan with a landfill sign. This setup was visually confusing and because the trashcans had gaping openings they became a catchall, resulting in many compost and recycling items going to landfill. In 2011, Herby Curbies were used for all the bins in every pod. This tactic was much more successful because of the similarities between the bins and the presence of lids on all three in each pod.

Signage

The signage for the 2011 festival was also an improvement over 2010. In 2010, the signs contained visual representations of items and only a few were represented for each category. The new signage used detailed lists to categorize items for each bin. While the 2010 signs may have been more visually appealing, the 2011 signs were more informative and more effective. Also, the addition of the large signage was a vastly improved the visibility of the pods.

Improvements were also made to the method of display. In 2010, signs were printed on thick cardstock that wilted as the festival progressed. In 2011 the large signs were printed on foam core poster board. The signs functioned throughout two days of rain and wind, but ultimately had to be discarded because of water damage. For long-lasting, reusable signage, corrugated plastic may be the ultimate solution. The small signs were printed on office paper, laminated, and taped to the lids and front of each bin with duct tape. This method was successful, but probably was not the most visually appealing option.
Volunteers

The volunteer structure for the Boiling Pot 2011 greening volunteers functioned well. Volunteers were effective and enthusiastic. Their main challenge was finding an efficient balance between sorting out contamination from low traffic pods and monitoring the high traffic ones to ensure that the highest number of attendees received information about the waste program. Future reductions in the number of pods should alleviate this issue.

Data Collection

The 2011 festival constituted the first effort to collect waste data on-site. The system proved to be effective and the resulting data are believed to be accurate. In 2010, Republic reported recycling and landfill data, compost data were not collected. For 2011, Republic failed to record data on the final dumpster weights of recycling and landfill. In the future, it would be ideal to have data from both on-site collection and the waste removal service.

Additional Ideas and Suggestions

In order to enable other festivals to organize similar waste management systems, it is necessary to create resources to simplify the organization of the system. One idea is to provide festivals with the materials to create pods. While Herby Curbies are convenient because of mobility, they are not ideal. They are costly to festival organizers and can be filled beyond the lifting capacity of two people. Providing containers that are approximately 50-gallons in size and mobile would be a great jump-start for festivals looking to institute an effective waste diversion program.

A training guide or course for festival organizers based on the lessons learned from Boiling Pot Festival along with other published literature would be another fantastic resource. There is no need to reinvent the wheel when it comes to event waste management, and sharing information is critical to the development and progression of effective programs.

Lastly, an idea for future educational and awareness raising efforts is the development of a short video depicting the route of each of the main waste streams traveling to and from the festival. The video would begin at the product manufacturing facilities and end at the recycling facility, composting location, and landfill. The video could be publicized online or projected at the following year’s festival either continuously or as a special event.
Waste Data for Boiling Pot Festival 2011

Overall Waste in Pounds: 281.65lbs
- Compost: 77.2lbs
- Recycling: 67lbs
- Landfill: 137.45lbs

Percentages of Overall Waste:
- Compost: 27%
- Recycling: 24%
- Landfill: 49%

Percentage of waste diverted from landfill: 51%
References


Appendix A
Site Map

Boiling Pot
Sept. 29th - Oct. 1st 2011
269.352.7503
info@boilingpotfest.com
Appendix B
Trashbuster Trailer
(Small green receptacles were not used)

Openings for beverage containers
Appendix C

Signage

Small signs
Appendix D
Volunteer Recruitment Flier

Volunteers Wanted
Be a part of Kalamazoo's most sustainable music festival
Boiling Pot 2011
Get involved in: art, greening concessions, the street team
Family activities or front gate
Volunteers get a free weekend pass and a limited edition screen printed t-shirt.
Appendix E
Example Data Collection Sheet

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boiling Pot Fest</strong></td>
<td><strong>Waste Data Collection Sheet</strong></td>
<td><strong>FRIDAY</strong></td>
</tr>
<tr>
<td><strong>RECYCLING</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WEIGHT</td>
<td>TIME</td>
<td>NAME</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Appendix F

### Junk Report

Presented By:

<table>
<thead>
<tr>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill lbs</td>
<td>Recycle lbs/person</td>
<td>Compost lbs/person</td>
</tr>
<tr>
<td>Landfill lbs</td>
<td>Recycle lbs/person</td>
<td>Compost lbs/person</td>
</tr>
<tr>
<td>Landfill lbs</td>
<td>Recycle lbs/person</td>
<td>Compost lbs/person</td>
</tr>
</tbody>
</table>

*LANDFILL*

*RECYCLE*

*COMPOST*