

**WASTE REDUCTION AND RECYCLING PLAN FOR  
STOWE CELEBRATES SUMMER  
STOWE, VERMONT**



**OCTOBER 2005**

**PREPARED BY:**

**THE NORTHEAST RECYCLING COUNCIL**

**[WWW.NERC.ORG](http://WWW.NERC.ORG)**

**WITH FUNDING FROM THE**

**UNITED STATES DEPARTMENT OF AGRICULTURE**

# WASTE REDUCTION AND RECYCLING PLAN FOR STOWE CELEBRATES SUMMER FESTIVAL

## ***Introduction***

The Stowe Celebrates Summer Festival Waste Reduction and Recycling Plan (Plan) is one component of the USDA-funded Special Events Recycling Project being conducted by the Northeast Recycling Council, Inc. (NERC), and its subcontractor, DSM Environmental Services, Inc. (DSM).

The purpose of this project is to improve special event waste reduction and recycling (recycling) efforts, particularly in rural communities with populations of less than 10,000. The scope of the project includes developing recycling plans for six events (two each in New Hampshire, Vermont and Maine), conducting waste audits at those events, and developing a manual based on the results of the plans, audits and recycling activities taking place in 2005. The Stowe Festival is one of the participant events.

The Stowe Festival already adopted some recycling measures in its first year to reduce the volume of waste requiring disposal from the event. The Plan is intended to provide the organizers of the Stowe Festival with a strategy for implementing an expanded recycling program specific to the needs of their event. The Plan is based on quantitative and qualitative information gathered from discussions and email correspondence with event organizers, attendance at the event, and a waste characterization analysis of the event. In addition, the Plan is informed by lessons learned from other events and sources of information.

## ***Event Background***

The first annual Stowe Festival took place on July 29, 30 and 31, 2005 at the Stowe Events Field in Stowe, VT. The event was organized by Craft Producers, a company that has also organized the annual Stowe Crafts Fair, held at the same location each year in October. The festival featured 135 juried artists and artisans displaying and selling

original art and contemporary and traditional craftwork, craft demonstrations and kids' activities. Local celebrity chefs presented cooking demonstrations and sommeliers conducted wine tastings, with a focus on wines from the New World. All the food served at the festival was from Stowe restaurants and caterers. Live entertainment was also featured during the event. Table 1 provides a summary of event details.

**Table 1 : Event Overview**

<i>Event</i>	<i>Stowe Celebrates Summer</i>
Location	Stowe, Vermont
Organizer	Craft Producers, Inc.
Staff	Provided by Craft Producers, Inc.
Dates	Three days (F, S, S, July 29, 30 and 31 in 2005)
Attendance	NA
Vendors	135 vendors
Food	30-40 food vendors
Web site	<a href="http://www.craftproducers.com/">http://www.craftproducers.com/</a>

***Material Generation and Management***



Containers for trash and recyclable bottles and cans were set up around the festival grounds (photo left). Staff and volunteers from the event brought bags of recyclables to a local transfer station.

Large dumpsters for trash and recyclable cardboard were located at the far end of the festival grounds, for use by staff and vendors (photo below right). Cardboard recycled by vendors totaled 94 pounds.

Casella Waste Management, Inc. provided the trash and cardboard removal service. Their invoice to Craft Producers

documented 2,665 pounds of waste that was generated. Adding in the 158 pounds of recyclables removed during the waste sort, the total waste disposed amounts to 2,889 pounds.

An estimated 64 pounds of recyclable containers were collected for recycling.<sup>1</sup> Of this amount, roughly half of the weight was deposit containers and the other half was primarily non-deposit water bottles.



<sup>1</sup> The weight of recyclable bottles and cans collected on Sunday afternoon was 21 pounds. Recycling containers were not out during the whole event, thus an estimate was made that 21 pounds represented a third of total weight of containers recycled during the event.

## Waste Characterization

A waste sort was conducted on Monday, August 1, 2005, the morning after the event was completed. Five individuals sorted 721 pounds of trash, equaling a quarter of the waste generated at the event.

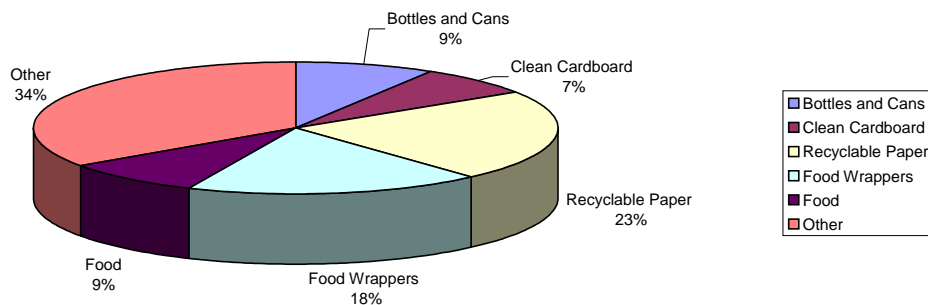


The material was removed from the dumpster that contained all waste from the event. In addition, bags of recyclable containers were sorted and weighed, and diverted to the recycling center. All cardboard that had been placed in the cardboard recycling dumpster was removed, weighed and returned to it. Table 2 and Figure 1 provide a summary of the materials from the waste sort and the derived analysis of total materials generated, diverted for recycling and disposed of as trash.

**Table 2. Stowe Festival Waste Characterization**

Material	Waste Sort Data		Total Materials Generated			
	Net Weight (Lbs)	Percent by Weight	Material Disposed (Lbs)	Material Recycled (Lbs)	Material Generated (Lbs)	Percent by Weight
Bottles and Cans	41.4	7%	187	64	250	9%
Clean Cardboard	25.4	4%	115	94	209	7%
Recyclable Paper	144.6	24%	652		652	23%
Food Wrappers	115.8	19%	522		522	18%
Food	56.8	9%	256		256	9%
Other	221.6	37%	1000		1,000	35%
<b>Total</b>	<b>605.6</b>	<b>100%</b>	<b>2,732</b>	<b>158</b>	<b>2,889</b>	<b>100%</b>

**Figure 1. Stowe Festival Waste Generation – Percent by Weight**



## Observations from Waste Sort

Based on the waste sort and other information gathered, it appears that the cardboard recycling program was quite successful, particularly since this was the first year of the event. Placing the cardboard dumpster right next to the trash dumpster made it convenient for vendors to place cardboard in the correct location. Very little trash was placed in the cardboard container (as depicted in the photo on left).



With that said, additional outreach to vendors could help to reduce the likelihood that they will bundle other trash in their cardboard at their booths, and to do more recycling. See sample flier as Appendix A.



The bottle and can recycling program was only moderately successful. The containers did not have adequate markings on them (see photo left), they were not located next to each trash barrel, and they arrived after the start of the event. As a result the bags were contaminated with other waste, and many bottles and cans were deposited in with the trash.

The nature and pace of this event seems conducive to efforts to encourage participants to separate recyclable materials from other trash, if the system was convenient, and well labeled.

Based on the bottles and cans sorted at the event, one third of the containers in the recycling containers were deposit containers (52 of 146), with the majority of other containers being water bottles. Of the bottles and cans sorted from the trash stream, 8 pounds were deposit containers and 34.4 pounds were non-deposit, including food containers disposed of by vendors. By extrapolation, it is estimated that a total of 690 deposit containers were deposited in the trash, with a redemption value of \$35.00.<sup>2</sup>

Twenty-three percent of material sorted was clean, dry paper, representing 650 pounds of recyclable paper in the total waste stream. Much of this was left over newsletters and fair publications, as shown in picture at right.



<sup>2</sup> Deposit bottles that were sorted weighed an average of 0.0523 lbs.

Other observations include the fact that 9 percent, or an estimated 250 plus pounds, of food waste was disposed in the trash. Most of this food waste was from vendors that could be diverted for composting or animal feed (e.g., bags of carrots, corn, and uncooked dough). In fact, one of the sorters took the food waste separated for use at a local farm. “Post-consumer” food waste from participants was combined with food wrappers for the purposes of the sort.

The “Other” category included several wooden spools, wood shavings from a craft display, plastic trash bags, and personal items like pillows and a purse. The spools alone (in photo on right) weighed 164 pounds. These spools and some other materials have potential reuse opportunities, if an area was set up for vendors to leave them and someone was identified to manage them.



### **Waste Costs**

The cost to rent, haul and dispose of material in the trash dumpster and the cardboard dumpster combined was \$323.64, as noted in Table 3.

<i>Description</i>	<i>Quantity</i>	<i>Rate</i>	<i>Total</i>
20 Yard MSW dumpster and 10 Yard OCC dumpster haul and rent			175.00
MSW Disposal	0.77 tons	98/ ton	\$75.46
Misc MSW	2.5 cubic yards	16.50 / cubic yard	\$41.25
OCC Disposal	2.5 cubic yards	5.50 / cubic yard	\$13.75
Fuel Surcharges			\$18.18
<b>Total</b>			<b>\$323.74</b>

In addition, there were costs for renting trash and recycling containers for use by attendees, and presumably for instructing vendors about the cardboard recycling program. A minimal amount of staff time and fuel was used to bring recyclables to the nearby recycling center.

### **Recycling Plan for 2006**

The Stowe Celebrates Summer organizers made a significant recycling effort in 2005, particularly since it was the first year that the event took place. Recommendations for 2006 include suggestions to improve on programs established in 2005, and consider additional efforts.

### **Bottle and Can Recycling**

The bottle and can recycling effort is the most visible aspect of the recycling program for event attendees and exhibitors. Suggestions for improving the program include ensuring that there is an adequate number of recycling containers, ideally one located next to each

garbage container or garbage collection area. Also, signs for these containers should be better labeled and more professional looking, similar to the type of signage for other aspects of the event. A separate box for deposit containers could be set up if an entity (e.g., an individual or non-profit group) was interested in collecting them for refund. (See sample containers and signs in Appendix B.) Finally, vendors could be instructed to help recycle cans and bottles, with a designated barrel near the dumpsters or in the existing containers located in food area.

### **Cardboard Recycling**

The cardboard recycling effort was very efficient in that the cardboard recycling dumpster was located next to the trash dumpster. As vendors did not need to go to separate locations to recycle cardboard and deposit trash, cardboard recycling was convenient and there was virtually no trash put in with the cardboard. On the other hand, there was a significant amount of cardboard commingled with the trash. To increase the “capture rate” of cardboard (reducing amount of cardboard thrown in trash), additional outreach to vendors and exhibitors is recommended. For example, providing a written fact sheet on recycling to vendors (see Appendix A), and communicating in person is likely to dramatically increase awareness and participation in the recycling program.

### **Paper Recycling**

Given the high volume of recyclable paper found in the waste sort, and close proximity of the local recycling center, it would be relatively easy for the event organizers to divert this material to the recycling center, along with cans and bottles. This would save an estimated \$35 in disposal costs (650 pounds at a tip fee of \$98 per ton).

### **Recycling Communication**

The Association of Vermont Recyclers (AVR) had a booth at the event where they distributed information about recycling and spoke to attendees about recycling issues. AVR volunteers also helped label recycling containers and assisted with the waste sort. Similar outreach effort is recommended for 2006, and could be expanded to include a recycled crafts booth for children or other event related activity. Also, more visible signage about recycling efforts and opportunities at the event is recommended.

Please Help Us to

## Recycle Cardboard

at the Stowe Celebrates Summer Event

**PUT ALL DRY CARDBOARD IN THE DESIGNATED  
CARDBOARD RECYCLING CONTAINER**

**DID YOU KNOW?**

**Each ton of recycled paper can save 17 trees, 380 gallons of oil, three cubic yards of landfill space, 4,000 kilowatts of energy and 7,000 gallons of water!**

**RECYCLE OTHER ITEMS TOO:**

**Please recycle clean food and beverage containers (aluminum cans, tin cans, glass bottles, plastic bottles) in the recycling containers located in food area.**

**THANKS FOR**



**PITCHING IN!**



## Appendix B. Sample Recycling Containers

The Ultimate Event Container is also known as the Clear Stream. Its storage ratio of 40:1 of Clear Streams to wheeled carts saves you transportation costs, set-up time, storage space and clean-up costs. The plastic bags give you a clear visual so what you see is what you get. These clear plastic bags allow you to see when they are full and the mix of recyclables being collected while also eliminating threat of concealed, destructive devices. Use these event containers to bring in sponsorship dollars since the custom-printed decals can promote companies and the actual event.

<http://www.buschsystems.com/centralized.html>



This cardboard box system (left) was provided free of charge by a redemption center in Bath Maine for use at the Bath Heritage Festival. Different non-profit organizations “adopted” the bins as a fundraising effort.

This plastic soda bottle shaped container (right) was used at the HCS Flower Show this year. The containers were donated by the American Plastics Council to the NH Fair Association, and are kept at their warehouse between events. These containers are very useful for keeping contaminants out of the bottle and can stream.

