



*Whitefish Farmers Market Zero-Waste  
Initiative: A Case Study*

**ABSTRACT**

This case study focuses on the food vendor experience, customer experience, and lessons learned by market staff during the collaborative initiative between the City of Whitefish, Whitefish Farmers Market, Farm Hands – Nourish, and Dirt Rich. They proved that the goal of a zero-waste market is attainable and it is our hope that the information in this report can be used as support for other local events to transition to zero-waste.

**Climate Smart Glacier Country**



Climate Smart Glacier Country is a 501(c)(3) non-profit organization whose mission is to address the challenges that a changing climate creates for water and food security, public health and recreation in the Glacier National Park region. We take a three-pronged approach to sustainability by addressing mitigation, adaptation and education. In the summer of 2020, we undertook a case study of the first Whitefish Farmers Market Zero-Waste Initiative to support the Market in identifying the barriers and opportunities for developing zero waste options in our community. Sharing this information with other community businesses and local government agencies can help stakeholders make informed decisions moving forward for reducing “waste” where we live.

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## *Key Aspects of Zero-Waste*

The world we live in today is highly disposable. Many products we buy are meant to be used once and then thrown away. The average American generates 4 pounds of waste per day and as our landfills near capacity, there are increasing levels of contamination in our cities, forests, and oceans. (Smith, 2019). Food waste and plastic packaging can account for up to 45% of landfill waste in the US (FoodPrint, 2020). Globally, single-use food and beverage packaging is the prime source of plastic pollution in our oceans (Lehner, 2016). Zero-waste is a concept that aims to reduce the amount of trash sent to the landfill through reducing, reusing, and recycling products that would otherwise be thrown away. A zero-waste business, event or activity eliminates the use of any materials that cannot be re-used or recycled - no landfill trash is generated.

The Whitefish Downtown Farmers Market ("the Market"), spearheaded by community stakeholders The Heart of Whitefish and Farm Hands - Nourish, decided to tackle the issue of reducing landfill trash production before the 2020 market season with a goal of ultimately creating a zero-waste market. Recognizing that implementing this effort would be a multi-year project, the Market focused on eliminating one source of trash production for the first year of the initiative.

The primary trash volume at the Market comes from the single-use food containers purchased by customers from the food vendors at the market. Because Flathead Valley is fortunate to have a local commercial composting facility that can process compostable containers, for the 2020 season the Market required all food vendors to use compostable products and recyclable aluminum for their single-use food containers.

Over the course of the 2020 market season, this one action virtually eliminated single-use food container trash, diverting approximately 28 cubic yards (2 dump truck loads) of "waste" from the landfill and provided a valuable soil-generating input to a local commercial composting operation. Careful disposal signage and customer education allowed for nearly 100% aluminum can collection.

The Market determined that Year 1 of their Zero-Waste initiative a success and now is focusing on eliminating trash sources from craft and farmer vendors. This success can be attributed to three key components included in the project:

1. **Commercial Composter** - there must be a commercial composting facility available to handle the waste.
2. **Compostable Products** - the vendors must be willing to research, buy, and provide compostable containers; essentially, they need to support the initiative.
3. **Consumer Education** - there needs to be adequate customer education so that all containers are correctly sorted; the initiative fails if compostable containers end up in the trash, or if material intended for composting is contaminated with non-compostable material.

## *Commercial Composting Facility*

The first component of successful implementation is to partner with a local compost company that can ensure proper handling of all the collected waste. The Whitefish Farmers Market had access to Dirt Rich, a commercial composting company in Columbia Falls, MT. This convenient option made the idea of a zero-waste market possible. To break down successfully, most compostable containers need the high temperatures and repeated rotation that a commercial composting facility can provide. Commercial facilities also have a greater ability to modulate the organic and carbon ratios in the composting mixture, critical to

material breakdown. By contrast, home compost systems are designed to manage food waste (organic material), with small quantities of compostable paper products (carbon material).

It was an added cost to the market to pay for the services of Dirt Rich since the Whitefish Farmers Market's standard waste removal is covered by the city of Whitefish. In 2020 the Heart of Whitefish paid Dirt Rich's fees for the market. Moving forward, this cost could be absorbed by slight increases in vendor fees or possibly by re-negotiating the permitting fee with the city of Whitefish since composting pickup significantly reduced the Market's impact on the city's downtown waste removal needs. Over the course of the 17 weeks of collection, it is estimated that approximately 28 cubic yards (the volume of two dump trucks) of material



FIGURE 1: WASTE SORTING BINS WITH COVERED TRASH CAN.

were diverted from the landfill. It is worth noting that certain permitted events do have to pay for waste removal and the composting facility's pick-up fee likely is comparable to that charged by other waste removal services. According to Republic Services, event dumpster rentals in Flathead County range from about \$300-\$500 per event in 2020..

Animal proof collection containers are essential if waste collection is not immediate. In Whitefish, the market stakeholders are investing in bear-proof containers moving forward as next-day collection works best for Dirt Rich during the market season and the collected waste sits overnight.

### *Compostable Products*

To address the first component of compostable materials, market managers met first with well-established market food vendors and community leaders to discuss the feasibility of the zero-waste initiative and build engagement for the initiative requiring all market food vendors to use only compostable containers for food sales at the market. These key vendors committed to the initiative and supported its success by inspiring other vendors to join in. The market staff then sent an email well in advance of the season opening to announce the new compostable container requirement. All vendors agreed to participate in the initiative and committed to provide their products in compostable containers.

### *Consumer Education*

Consumer education proved to be one of the more difficult components of the initiative. At the start of the market, it became clear that customers did not read the signs or understand that what had historically been "trash" was now compostable or recyclable and should be put in the corresponding compostable container bin rather than a trash receptacle. Market staff witnessed compostable items being thrown in the

trash, while non-compostable items ended up in the bins designated for compost. More detailed signs were posted in hopes of solving this issue.

As depicted in Figure 1, the waste sorting area is marked with signage containing detailed instructions; there is a compost bin lined with a compostable bag, a recycling bin for aluminum cans, and the trash can is covered, making it inaccessible. The recycling bin lid only has a small circular (can-shaped) cut out in order to deter other items from being thrown in. After implementing this change, market staff reported far less contamination and more compostable materials were sorted in the correct bin.

Another challenge for the market was dealing with disposable items brought in by customers that were not compostable or recyclable. Although single-use products like plastic or Styrofoam cups were not available at the market, customers often brought these items in from other businesses in the area and would deposit them in the compost-only bins. As you can see in Figure 1, a stray cup from outside the market has been placed on top of the compost container. One method to deal with this is to have a central waste facility manned by a market staff member. In this scenario, customers can ask questions and items are typically put in the correct bin because of the supervision and in person education. This solution does require significant resources and can therefore be prohibitive. The Whitefish Market felt their signage-based system did an adequate job of informing customers and reducing contamination.

## *Market Response*

This section outlines what was learned from interviews that were held with market staff and vendors at the Market. Food vendors were interviewed directly by a Climate Smart Glacier Country representative and all were asked a common set of questions. Customer experience information described here was gathered primarily through food vendor and market manager interviews.

### *Container Acquisition*

Notice was provided in February 2020 that the zero-waste initiative would be required for the 2020 summer market launching in June. The market took the time to identify and recommend to their vendors multiple companies that manufactured appropriate compostable products, and vendors were invited to choose their preferred supplier. This advance notice allowed vendors time to research and prepare for the switch, and enough time to receive new stock of compostable products. Because the zero-waste initiative was mandatory, vendors needed to commit to the initiative if they wanted to participate in the market.

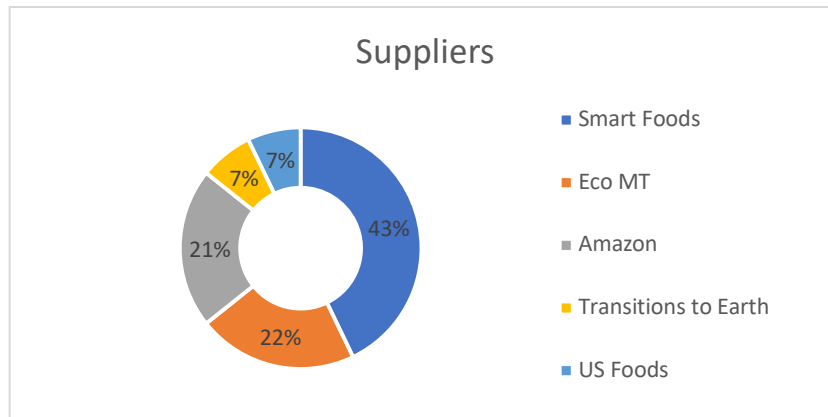


FIGURE 2: COMPOSTABLE PRODUCT SUPPLIERS USED BY VENDORS.

Forty-two percent (42%) of vendors ordered products from Smart Foods, a national organization with a conveniently located distribution center in Kalispell, MT (Figure 2). Many vendors noted that they chose Smart Foods as their sole provider because, as a large nationwide company, they generally had all necessary products. Vendors also mentioned the user-friendly website as a reason they chose Smart Foods.

Twenty-one percent (21%) of vendors said they used more than one supplier to procure containers (Figure 3). These vendors often had more specialized container needs, such as sauce containers, silverware wraps, and to-go containers. Those using multiple suppliers often used Amazon to supplement their orders with Smart Foods or Eco Montana (Eco MT).

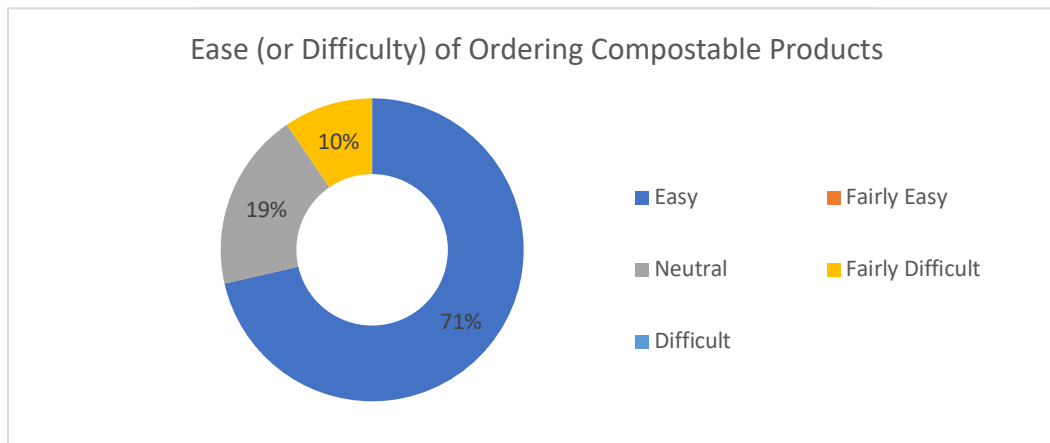


FIGURE 3: EASE OF ORDERING COMPOSTABLE PRODUCTS FOR VENDORS.

Eco MT, a locally owned distribution company in Bozeman, MT, was one of the companies recommended by the market. Some vendors reported experiencing amazing customer service and quick delivery times but others commented that Eco MT did not have enough container options and the ordering process was tedious and difficult. Unlike the Smart Foods website where every product features an “add to cart” icon, the Eco MT website does not display all stocked products and users must call or email to know what is in stock and place an order. This obstacle was enough to deter a number of busy vendors.

Other suppliers that were utilized by market vendors include Transitions to Earth and US Foods. Pricing for compostable products across suppliers was generally comparable; therefore, vendors chose their supplier(s) based on the variety of containers offered and the ease of the ordering process. Most compostable products are only available online and are not commonly sold at brick and mortar retailers who



provide products in bulk. Interestingly, this was not an important factor to the vendors in this study. Most responded that they completed most or all of their shopping online prior to the Whitefish Farmers Market mandate, inferring that acquiring compostable products is similar to purchasing non-compostable products.

Vendors were asked to rate the difficulty of the ordering process on a one-to-five Likert scale (1 – easy, 5 – difficult). As shown in Figure 4, seventy-one percent (71%) of respondents indicated that it was easy to order compostable products. Nineteen percent (19%) reported that it was no easier or harder than sourcing non-compostable products, and ten percent (10%) said the ordering process was fairly difficult. Those who indicated difficulty in ordering often cited a lack of time to research the new product cost, product performance reviews, etc.

These results suggest that there is no significant burden in the ordering process for vendors to switch to compostable products. Most reported good customer service and fast delivery times, even noting that ordering compostable products was just as easy, if not easier, than acquiring non-compostable products.

### *Cost as a Barrier*

When asked about the biggest barrier to switching to zero-waste, roughly a third (33%) of vendors indicated that there were no barriers at all (Figure 4). Another third (34%) of vendors felt that cost was the biggest barrier. When asked if they had raised their prices to account for an increase in compostable product cost, most vendors reported they had not yet done so, but would likely increase prices in the future if cost became more burdensome.

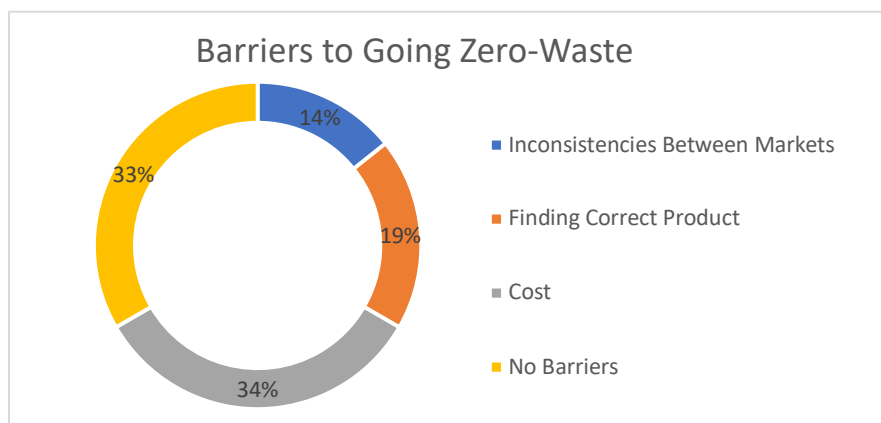


FIGURE 4: VENDOR IDENTIFIED BARRIERS TO GOING ZERO WASTE

Information regarding vendors' product cost widely varied in this study. Some vendors stated that compostable containers were cheaper than the products they previously used, while others said the compostable containers were nearly three times (3x) more expensive than non-compostable products. This variance is likely due to the original material and baseline cost for products previously used by vendors. For example, vendors using Styrofoam containers were most likely to see the largest increase in cost when switching to compostable containers, whereas vendors who were already using recyclable products saw a smaller difference in price when switching to compostable products.

### *Product Performance*

After assessing the ordering process, feedback on the performance of the new compostable products was obtained. Vendors were asked to rate how satisfied they were with the container performance on a one-

to-five scale (1 – unsatisfied, 5 – very satisfied). The data collected is difficult to compare because vendors often serve different products using different containers ordered from different suppliers. Despite this

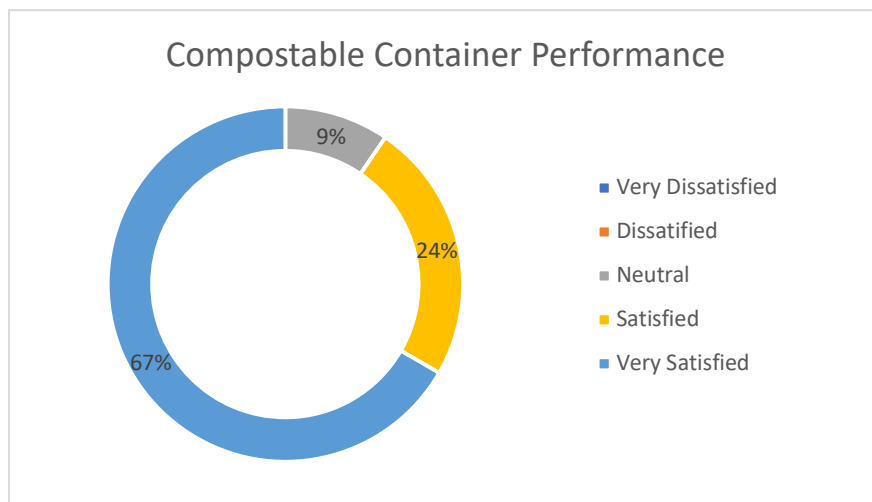


FIGURE 5: COMPOSTABLE CONTAINER PERFORMANCE RATED BY VENDORS

variance, two-thirds of respondents (66%) said that they were very satisfied with their new products as shown in Figure 5. About a quarter (25%) of the vendors reported they were satisfied with their containers, and nine percent (9%) said they felt neutral about the product performance. Those concerned with product performance had isolated experiences that caused the skepticism. For example, both a coffee vendor and smoothie vendor said that paper-based compostable cups had melted or started to deform on particularly hot days. However, after both vendors switched to a different fiber-based compostable product, this was no longer an issue.

Other product concerns from vendors were specifically related to the ban on aluminum foil and the inability to procure lids for sauce containers. The market banned aluminum foil because of the difficulty in appropriately cleaning and recycling the product. Vendors who previously relied on aluminum foil reported that the wax substitute did not keep food as warm for as long.

Vendors who needed small containers for condiments or sauces reported difficulty finding small lids, which frustrated their customers. This is less of a product issue and more of a sourcing issue. Once alerted to the issue, Eco MT undertook the research to locate lids and stocked the appropriate lids for vendors.

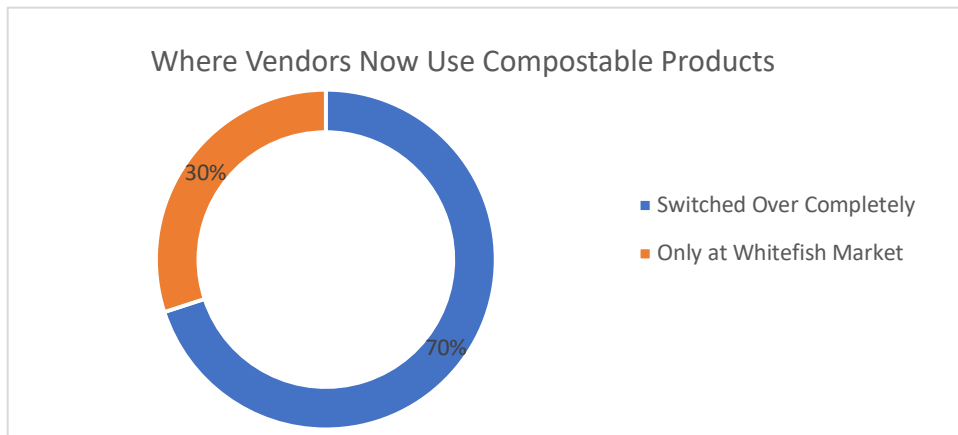


FIGURE 6: WHERE VENDORS NOW USE COMPOSTABLE PRODUCTS



The majority of vendors reported that the compostable containers were a satisfactory replacement for single-use disposables and had no complaints. Seventy percent (70%) of vendors reported they now use compostable containers at all their events (Figure 6). Those who did express a concern about the new compostable containers were open to identifying solutions and no concern proved to be a major deterrent to switching products.

### *Customer Reaction*

Based on informal surveys by market staff, the zero-waste market initiative was unknown or unclear to customers, both tourists and residents, at the start of the market season. A survey of the vendors indicated they experienced the same lack of customer knowledge.

In response, market staff undertook the task of increasing signage at vendor trucks, compost disposal locations and throughout the market. They also provided more explicit details and directive disposal instructions (i.e. cut a hole the size of an aluminum can into a container lid to direct disposal of cans) and made trash cans inaccessible. Both market staff and vendors commented that the increased signage and other additional efforts helped improve customer education. One important part to customer education was reducing disposal contamination. Particularly in the early days of the market season, disposal contamination required market staff to repeatedly hand sort container contents to ensure uncontaminated product for Dirt Rich pickup.

When the vendors were asked about educating customers, most remarked that they were too busy during market hours to educate, but they would do so if customers asked. One of the vendors found that despite the signs, some customers continued to think the containers were landfill material (mostly because of the product appearance). This particular vendor enhanced their support of the zero-waste initiative by placing a sticker on the packaging telling customers to be sure to compost.

With increased signage, more explicit details, and trash cans made inaccessible, customer understanding increased and the need for market staff to hand sort container contents to ensure uncontaminated product was significantly reduced. Enhanced signage also decreased the need for vendors to assist with customer education and helped make the transition to a zero-waste market easier.

### *Future Events*

Discussions with both market staff and vendors indicate that all parties agree customer education is the next key variable to address moving forward. Market staff believe that education will get easier in future market seasons as customers become more familiar with the concept.

Farm Hands - Nourish played a key role in implementing the zero-waste initiative at the Market in 2020. In an interview with Gretchen Boyer, the Executive Director of Farm Hand Nourish, Ms. Boyer indicated that a successful, replicable model now is in place for other Whitefish events whose organizers want to switch and make their event zero-waste, particularly those where food and single-use food containers are a primary trash source.

As additional events become zero-waste and/or are incentivized to do so by the city, more customers will be exposed to the zero-waste concept. In the future, customers may expect that community events are zero-waste. Incentivizing opportunities could include a reduced permitting fee for those who do create a zero-waste events, permitting fee premiums for those who don't, and commonly branded zero-waste materials such as signage, containers, and trash receptacle covers.

## *Conclusion*

The collaborative initiative between Heart of Whitefish, Whitefish Farmers Market, Farm Hands - Nourish, and Dirt Rich proved that the goal of a zero-waste market is attainable. Their model can be used to help other events transition to a zero-waste event.

Finding and partnering with a local commercial composter is the first step to creating a zero-waste event. Most compostable containers need a commercial facility in order to break down correctly. If you already pay for trash removal, composting may be comparable to those costs and has the added bonus of being better for the environment.

Almost all market vendors reported that ordering and receiving new compostable products to replace single-use disposables was easy. Vendors also reported that the compostable products performed well or comparable to the single-use disposables previously ordered. Vendors experienced little or no customer complaints and at least one (1) vendor indicated that the local customer base not only welcomed but expected vendors to provide compostable containers. These findings suggest that there are no major barriers to implementing a zero-waste market from a vendor perspective. When asked what the market staff had done well during the transition to zero-waste, vendors stated they were pleased to have been given ample time to prepare.

Consumer education is another piece of a successful zero-waste event and might be difficult at the beginning, but with ample signage, customers will learn how to dispose of their waste correctly.

Though the thought of switching an entire market or event to be zero-waste seems daunting, with the right preparation it can be a smooth transition. More and more vendors are already using compostable products and if required to, most vendors will make the switch as well. It is simpler than recycling and reducing waste is the first line of defense against pollution, rapidly filling landfills, and contamination to water sources. Anyone can use the concepts and information from this case study to help make their zero-waste market or event a success.

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