FOOD RECOVERY AND DIVERSION IN BIG SKY (BIG SKY SNO/BSCFB/YES COMPOST)

CASE STUDY: JUNE – AUGUST 2024

Bukola T. Fagbemi
Public Health
Western Illinois University

YES Compost

YES Compost is owned and operated by Karl Johnson. When Karl moved from San Francisco to Bozeman in 2014, he was disappointed to find out that the city does not provide the type of municipal compost service like that of San Francisco. To provide a solution to this, Karl carried out extensive research, and in 2018, YES Compost LLC was born. The company strives to bring back the natural nutrient cycle within the community by redirecting all food waste away from the landfill, and instead using them to replenish the soil and foster new plant growth.

YES COMPOST

Community Background

Big Sky, Montana is legally defined as an unincorporated, census-designated place (CDP) straddling two counties – Gallatin and Madison – with seven special districts, upwards of 100 Homeowners Associations (HOAs), myriad non-profits, and engaged citizens all contributing to its community governance, creating a complex local decision-making network within a functional, operating framework. For this project, three organizations that focus on climate action, food recovery and landfill diversion came together to strengthen the

Big Sky Community Food Bank

The Big Sky Community Food Bank was established in 2012 through a partnership between local community leaders and the Human Resource Development Council (HRDC). Its mission is to increase food security, and other social services for those in need in Big Sky. The food bank, which serves residents and workers in Gallatin and Madison counties, uses community resources to provide free emergency food and social assistance. It partners with grocery stores, restaurants, volunteers, and other service organizations to distribute an average of 2,300 food boxes to 900 households each year. As an HRDC program, it helps clients access a variety of social services based on their specific requirements.

BIG SKY COMMUNITY FOOD BANK
A PROGRAM OF HRDC

Organization Background

Big Sky Sustainability Network Organization (SNO)

Big Sky SNO was founded in 2020 by a group of passionate individuals who believed that true sustainability could only be achieved with the ideas and support of their community. Their mission is to "preserve and protect the Big Sky community by promoting sustainability and environmental initiatives." Through discussions with key stakeholders, they developed an initial assessment of sustainability needs and goals which focused on how sustainability can be included in our everyday lives, work, and tourism. The non-profit organization addresses various issues, such as waste reduction and recycling, carbon emissions and preservation of natural resources. Their aim is to work with community members in finding practical solutions for a more sustainable future, providing resources and strategies to help both residents and visitors contribute to Big Sky's long-term sustainability goals.

BIG SKY SNO
SUSTAINABILITY NETWORK ORGANIZATION

Project Background

According to the Environmental Protection Agency (EPA) food waste makes up about 24 percent of the municipal solid waste in landfills. Because food waste decays quickly, it produces more methane emissions than any other material in landfills. According to the 2023 GHG report, Logan Landfill emitted 55,530 metric tons of CO2, and 2,221 metric tons of methane which significantly contributes to greenhouse gas emission which worsens climate change and leads to environmental degradation. These are major environmental concerns that Big Sky Sustainability Network Organization (SNO) is addressing through its collaboration with the Big Sky Community Food Bank (BSCFB) and YES Compost. These partnerships aim to divert food waste to feed people in need and improve regional soil health. The Waste Composition Assessment for Big Sky in 2022 reveals that 6,515 tons of waste were sent to the landfill, with 23.2% being edible food and 12.1% inedible food. This means that 1,511.48 tons of edible food and 788.32 tons of inedible food ended up in the landfill. Assuming 50% of the edible food could be diverted to food banks, and all inedible food goes to compost, this will reduce the total waste going to landfill to 4,215.2 tons. This diversion would result in 1,652.06 tons being composted and 788.32 tons going to food banks. According to the EPA, every 1,000 tons of landfilled food waste releases approximately 34 metric tons of methane. Therefore, diverting 2,299.8 tons of food waste from the landfill could prevent 78.2 tons of methane emissions, highlighting the reduction of greenhouse gas emission. Also, 788.32 tons of edible food redirected to food banks could potentially feed around 790 people for a year which also helps in addressing food insecurity. To achieve effective food waste diversion, a food recovery implementation plan was developed. This plan outlines specific recommendations to divert food waste from Logan Landfill to the Big Sky Community Food Bank or Yes Compost. It is organized into short-term and long-term goals to ensure the project is both achievable and included in future.

SHORT TERM GOALS	LONG TERM GOALS
Create awareness of the foodbank using posters in community locations	Improve access to rescued food in food desserts areas using mobile food trucks
Post signage of acceptable and unacceptable food items in key places	Build community kitchen facilities
Engage local organizations for a YES Compost Bucket Exchange Location	Build and utilize a mobile app for Food Rescue Coordination, particularly from donors and event spaces
Educate on the difference between expiration and best-before dates	Organize cooking competitions or events using rescued food
Share food safety, storage, and waste tips on social media	
Strengthen relationships with grocery stores, property managers, and business owners	

Figure 1: Spring Litter Clean Up

Figure 2: BSCFB Poster

Figure 3: BSCFB Poster

Figure 4: Proper Garbage Disposal

Figure 5: Compost Signage

Figure 6: Big Sky Community Foodbank

Recommended P2 Actions	If Implemented:				If Not Implemented:	
	$		Annual Reductions			
	One-time Cost to Implement ($)	Annual Savings from P2 Actions ($)	Air Pollution	GHG Emission (tons)	Barrier to Implementation	Plans to Implement within 5 years? (Pick Y/N)
On-truck washing	TBD	14,911	-	-	Funds	Y
Food recovery app	TBD	-	-	-	Funds	Y
Educational signage	-	-	-	-	-	Y
Community kitchen	TBD	-	-	-	Funds	Y