

# TOWN OF DURHAM COMPOST CHALLENGE

Reese Levesque, Elizabeth DelGiudice,  
Josephine Ginivisian, Jordan Stanley



# Our Team

## **Reese Levesque**

Sustainable Agriculture and Food  
Systems & Environmental Conservation  
and Sustainability Minor

## **Jordan Stanley**

Social Work & SDM

## **Elizabeth DelGiudice**

Environmental Engineering & SDM

## **Josephine Ginivisian**

Child Development & SDM



**University of  
New Hampshire**

# Our Mentors and Partners

## **Julie Kelley & Nell Neal**

Durham Integrated Waste  
Management Advisory  
Committee (IWMAC)



# What is the Compost Challenge?

- 5-week challenge to introduce composting to Durham residents
- Participants: Town Council members and interested residents
- Annual since 2020, run by IWMAC
- Case study will show effectiveness and willingness to compost, motivator for other residents





# Compost Life Cycle



# Why Compost?



Reduces greenhouse gas emissions



Reduced costs for towns and taxpayers  
with less landfill waste

City of Lebanon reported 30% cost savings through  
composting over landfilling food scraps. (NHDES)



Reduced pressures on communities with landfills/incinerators



More conscious of food waste amount

**11** SUSTAINABLE CITIES  
AND COMMUNITIES



**12** RESPONSIBLE  
CONSUMPTION  
AND PRODUCTION



**13** CLIMATE  
ACTION



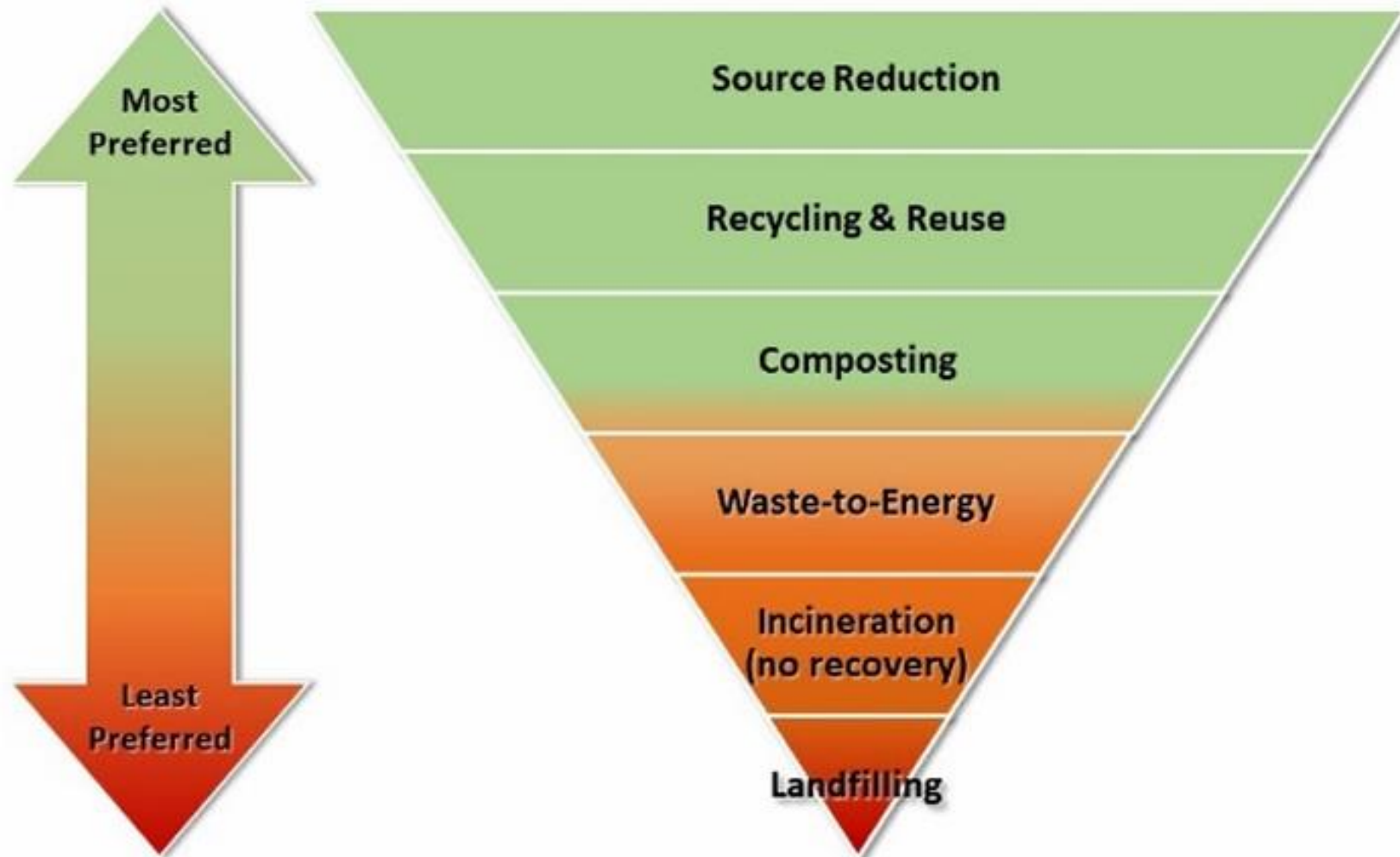
# Food Waste in NH

- NH's goal: reduce weight of solid waste disposed by 25% by 2030 and by 45% by 2050
- Landfill waste: 24% food waste, 43% generated by households
- 50% of waste disposed in NH landfills is from out of state, starting to reach capacity





# New Hampshire's Waste Management Hierarchy

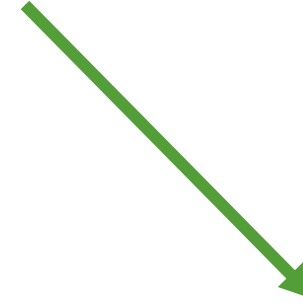
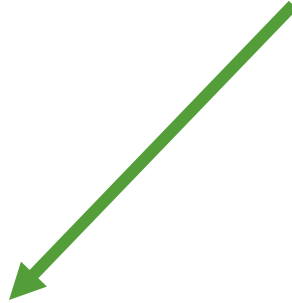


# The Compost Challenge

- 21 households participated
  - 6 Town Council members including Town Administrator
- Weighed organic and solid waste each week
- Starter kit
- No alterations to consumption, cooking habits



Participants have 3 options  
for the Compost Challenge:



Backyard Composting



Transfer Station Drop-off



Curbside Pick-up (Household fee)



# Research Questions

- How much waste can composting divert from landfills?
- What are the impacts of composting on communities and what are some barriers they might face?
- What can we learn from other towns offering municipal compost pick up with similar demographics to Durham?



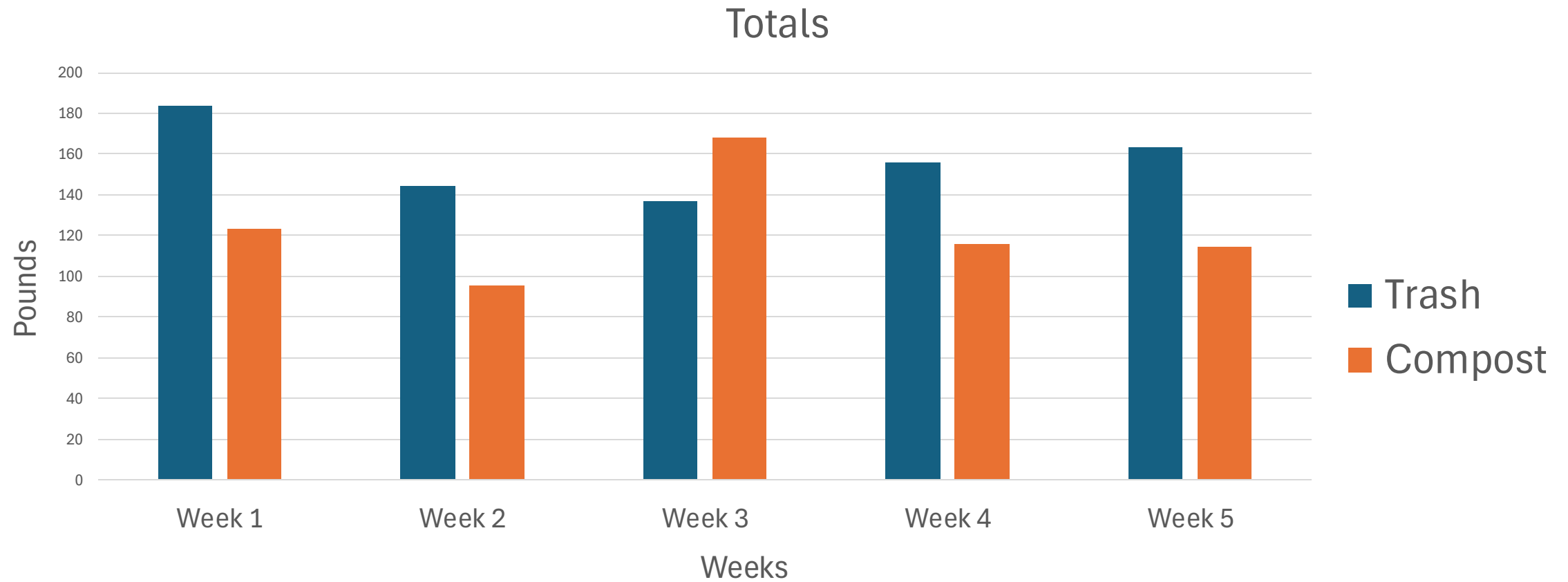


# Methods

- Surveys via Google Forms
- Participant interviews
- Literature review
  - Impacts of food waste
  - Case studies of municipalities

[illegible]

# Results – Waste Diversion



## Results – Waste Diversion cont.

	<b>5 Weeks</b> <b>(21 households - 62</b> <b>participants)</b>	<b>1 Year</b> <b>(21 households - 62</b> <b>participants)</b>	<b>1 Year</b> <b>(Durham Population)</b>
<b>Solid Waste</b> <b>(pounds)</b>	975	-	-
<b>Organic Waste</b> <b>(pounds)</b>	752	7,768	1.94 million
<b>Methane Avoided</b> <b>(tons)</b>	-	0.2	42.7
<b>Money saved</b>	-	\$343	\$85,754

# Participation Experience

95%

of participants plan to  
continue composting

"I find composting to  
be second nature  
once you get into the  
habit of it."

90%

of participants would  
recommend composting

"Happy to encourage  
others to strengthen  
their connection with  
their food & learn about  
effective composting."

49%

of responses rated their  
compost experience a  
10/10

"Compost drop off  
on only Tuesdays and  
Saturdays continues  
to be challenging."

16%

of responses rated difficulty  
above 5 on a 1-10 scale



# Participation Experience cont.

## What was difficult?

"Mr. Fox composting at the transfer station is great - but the limited hours (Sat and Tuesday 7-3) continues to pose challenges for our drop off."

## What went well?

"The challenge inspires me to divert more to compost than I otherwise would. (Purchasing compostable plates for an event and collecting them)."

## Overall

"I am surprised that we composted more than we trashed this week."

# Keene, NH – Compost Pickup Service

- Population: 22,923 people
- Cost: \$24.99 weekly per month, bi-weekly \$19.99 per month (B.E.C)
- Contracted through Elm City Compost Initiative as well as Black Earth
- Has diverted over 400,000 lbs of waste from the landfill
- Each participant diverts an estimated 1,286 lbs



# Additional Town Highlights

- Massachusetts has awarded Manchester-by-the-Sea \$65,000 in grants due to compost pickup program.
- Ipswich Public Works pays \$20 of residential compost pickup. Lowers price of pickup to \$7.92/month for weekly pick up and \$5.42/month for biweekly.
- Elm city compost, providing compost pickup to Keene, NH, is the first residential service in the area.



# Recommendations



Adding drop-off  
locations or expanding  
transfer station hours



Educating residents on  
reducing food waste  
and composting



Continue to run  
challenge annually



Pilot pickup program  
with local commercial  
compost service



# Conclusions

- Organic waste in landfills = methane = climate change
- Start with eliminating food waste
- Small changes in household habits can have big impacts!
- Overwhelming support of composting and challenge





# THANK YOU!

---