

EPA Sustainable Materials Management Web Academy



**University Best Practices in
Waste Stream Management
April 28th, 2022**

<https://www.epa.gov/smm/sustainable-materials-management-web-academy>

Our Speakers



Ian Joyce

Former EPA Research Participant at EPA Headquarters, Office of Resource Conservation and Recovery (Moderator)



Meredith Moore

Sustainability Programs Manager, University of Illinois at Urbana-Champaign (co-presenter)



Sydney Trimble

Zero Waste Coordinator for Facilities and Services Department, University of Illinois Urbana-Champaign (co-presenter)



Our Speakers



Molly Kathleen

Zero Waste Coordinator, The Ohio State University



Sam Cummings

Zero Waste Team Co-President, Colorado State University



Disclaimer

These presentations are provided as part of EPA's Sustainable Materials Management Webinar series. This document does not constitute EPA policy. Mention of trade names or commercial products does not constitute endorsement or recommendation of use. Links to non-EPA websites do not imply any official EPA endorsement of or a responsibility for the opinions, ideas, data or products presented at those locations or guarantee the validity of the information provided. Links to non-EPA servers are provided solely as a pointer to information that might be useful to EPA staff and the public.



Waste Management at University of Illinois Urbana-Champaign

Thursday, April 28, 2022



ILLINOIS
CLIMATE
ACTION
PLAN



Institute for Sustainability,
Energy, and Environment

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN



Facilities & Services

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

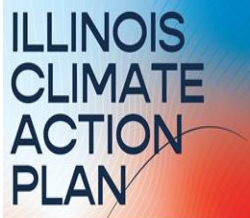
Nice to meet you!



Meredith Moore
Sustainability Programs Manager
Mkm0078@illinois.edu



Sydney Trimble
Interim Zero Waste Coordinator
fanussydneyt2@mx.illinois.edu
Recycling@illinois.edu



**Institute for Sustainability,
Energy, and Environment**
UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN



Facilities & Services
UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

Agenda:

Introduction

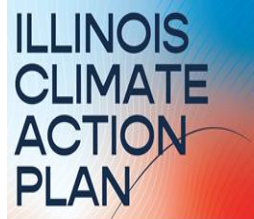
- UIUC Profile
- Waste Transfer Station

iCAP Waste Reduction Goals

- Waste Reduction Goals
- Challenges

Best Practices and Strategies

- On-campus recycling
- Indoor/outdoor bin replacement
- Public engagement



**Institute for Sustainability,
Energy, and Environment**

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN



Facilities & Services

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN



Location: The twin cities, Champaign and Urbana (population of 207,000), are about 140 miles south of Chicago

Population: 15.6k grad students, 39k undergrad students, 10k faculty & staff

Size: 651 University Owned Buildings 6,370 acres (9.9 square miles)

WITH
I
THE CAMPAIGN FOR
ILLINOIS

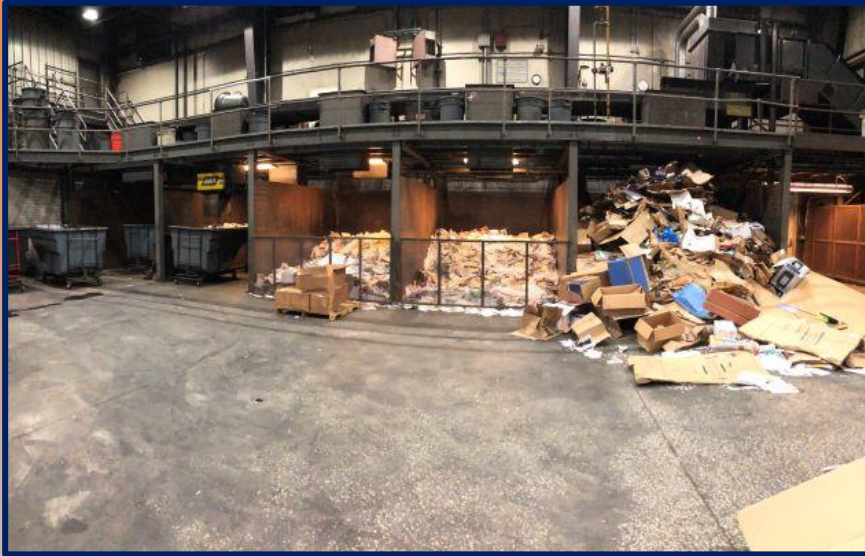
**CLIMATE
ACTION
PLAN**



**Institute for Sustainability,
Energy, and Environment**
UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN



Facilities & Services
UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN



Dump floor with commodities



Overhead view including sort conveyor



Outdoor view

Waste Transfer Station

Recyclable Commodities Collected

1. Plastic Bottles #1 and #2

More than just soda bottles, check the bottom of containers to find the plastic type number

2. Aluminum Cans

Also known as Used Beverage Containers (UBC)

3. Paper

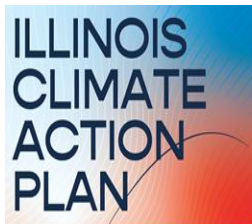
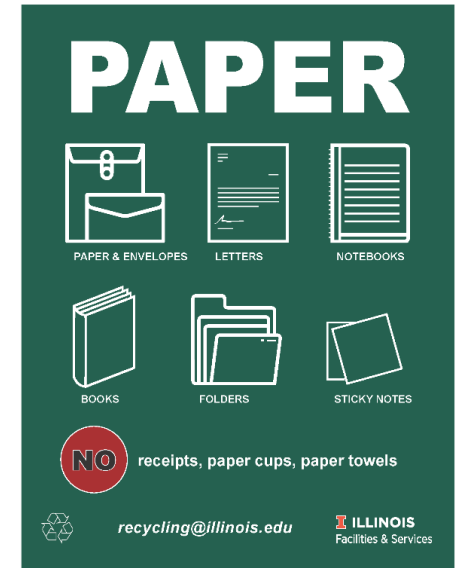
Office paper, newspaper, paper folders, envelopes, magazines, etc.

4. Cardboard

Ask BSWs where to put your cardboard

5. Scrap Metals

Copper, conduit, metal shelving, etc.



**Institute for Sustainability,
Energy, and Environment**
UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN



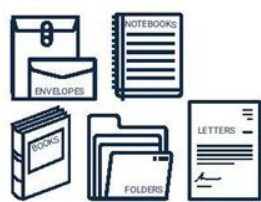
Facilities & Services
UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

RECYCLING AT UNIVERSITY OF ILLINOIS

For questions please contact recycling@illinois.edu

WHAT DOES ILLINOIS RECYCLE?

Paper



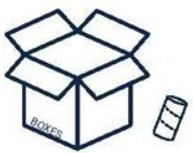
All types of office paper, Newspaper, magazines, journals, all types of envelopes, junk mail, ream wrappers, books, manila and file folders.

Bottles and can



Plastic bottles #1 and #2 and aluminum cans.

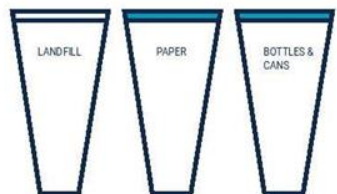
Cardboard



All types of corrugated cardboard boxes, sheets, and rolls.
Place flattened cardboard near the paper bin or directly in the cardboard dumpster.

RECYCLING STANDARDIZATION

Bin placement



In all hallways, common areas and lobbies always co-locate bins. Avoid having recycling bins placed by itself. This helps reduce contamination.

Liner colors



Use clear liners for common area and office landfill bins, and blue liners for all recycling bins. Note: use black liners for bathrooms, labs, and dining areas. This will help the transfer station quickly identify the recycling bags for processing.

Signage



Ensure that clear signage accompanies all bins. F&S is updating its signage. Current bin signage can be found at tinyurl.com/binsigns

Dumpster usage



Place tied blue bags in either paper/cardboard dumpster or the blue two-wheel carts. Place clear and black bags in the mixed trash dumpster. If you need additional blue two-wheel carts or a larger recycling dumpster please email recycling@illinois.edu. If your building has a compactor, please do not place any blue bags in it.

Host a training



Help us spread the word! The recycling team would be happy to lead a 20 min discussion at your department, residential floor, or student organization on waste minimization and recycling.

Schedule a tour



Join us as for a tour of the Waste Transfer Station to observe the recycling process in action. See first hand how we recover the recyclables and the vast difference this standardization is making!
To schedule a tour visit forms.illinois.edu/sec/1004822



WTS Tours

Average 8-10 tours per semester

- Pre-Covid was closer to 10

Demographic is mostly college age patrons

- Various Departments - Housing
- Sustainability related classes
- Individuals in research



Common Questions:

What are the possibilities to expand?

How can a student help reduce waste?

- *Join environmental groups, speak out, and lead by example*

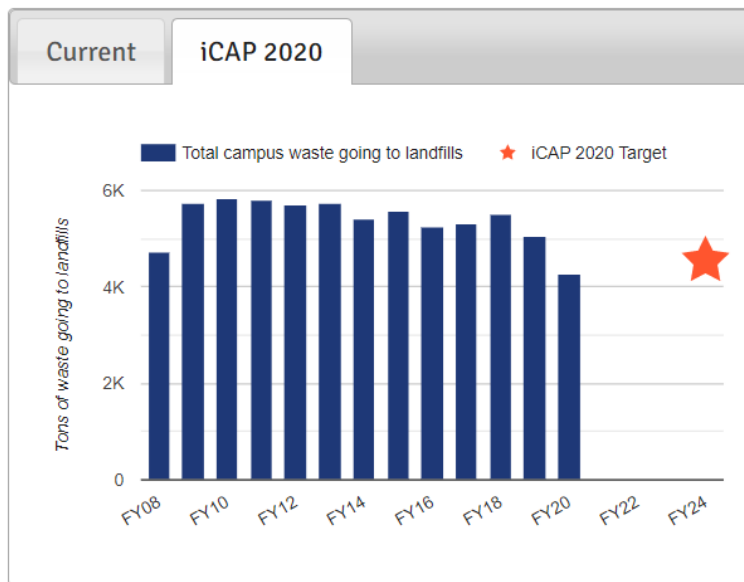
What is 1 piece of equipment you could replace today?

- *The baler*



Illinois Waste Reduction Goals

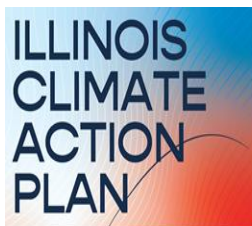
Total campus waste going to landfills (Tracked by Fiscal Year)



Total waste going to landfill seems to follow downward trend;
Goal: 4,544 tons or less by FY24

Keep in mind:

- Data collecting refinement
- Pandemic effects

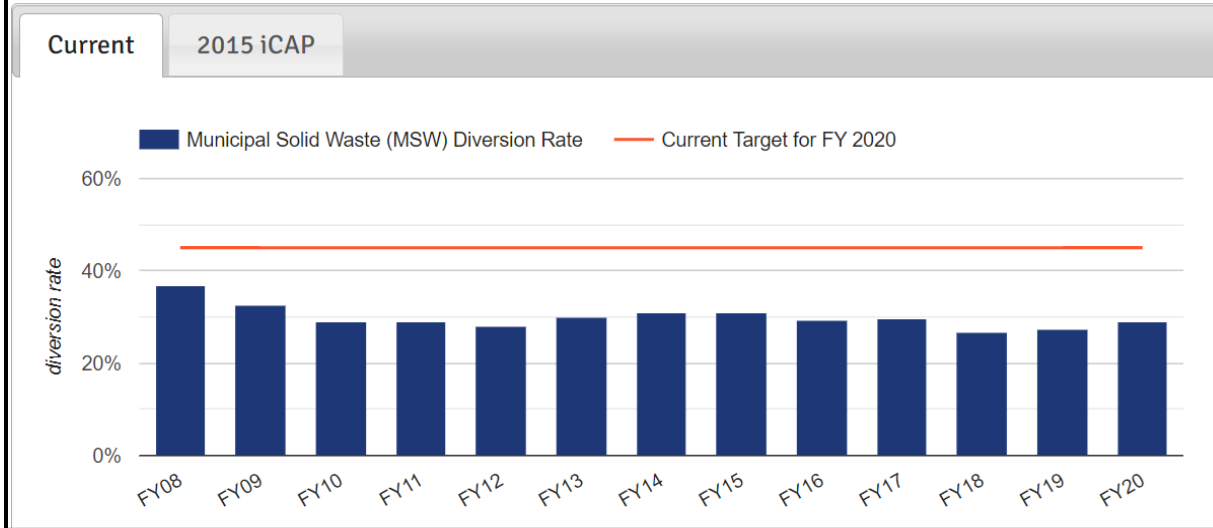


**Institute for Sustainability,
Energy, and Environment**
UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN



Facilities & Services
UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

Municipal Solid Waste (MSW) Diversion Rate (Tracked by Fiscal Year)



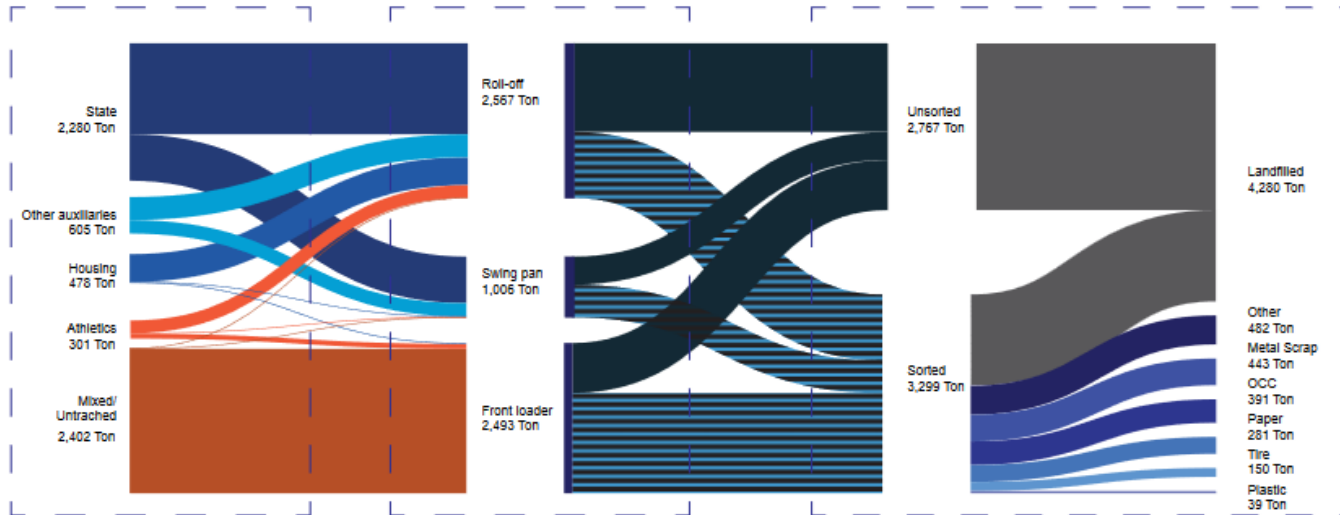
Diversion rate average: 30%
Goal: 45% by FY24

Keep in mind:

- Data gaps
- Max capacity of WTS
- Contamination issues
- Recycling market fluxes

Waste Tonnage Metrics

Material recovery data in FY20



Building level data

In FY 20 a total of 6,066 tons of material was generated across campus. Data is recorded for individual buildings for roll-off and swing pan and summarized here at the functional group.
By FY 21 all data will be associated by building.

Truck level data

In FY 20 a total of 5,867 trips were made to collect refuse material. Data has been recorded for each trip, including location, data, time, and work order and summarized here by truck type.
By FY 21 all data will be recorded and reported through a portal compatible with AiM.

Waste Transfer data

In FY 20 a total of 4,280 tons of waste was sent to the landfill a decrease of 12% from FY 20. Most of this decrease could be attributed due to the changes during the COVID-19 response. Through various streams, 1,786 tons were diverted from landfill. Data here is summarized by commodity type. Making the effective diversion rate for FY 20 at 29%. The "other" category includes diversion of materials not currently consistently tracked such as C&D, landscape waste, wood pallets.
By FY 21 diversion data will include metrics carried out by other departments as well to better reflect the true diversion on campus.

Challenges

- Gaps in data collection
- Recycling contamination (food & liquids) & revenue loss
- WTS designed for 1980s waste metrics; at max capacity in 2022
- Limited funding for more labor & upgrading equipment
- Have to balance between efficiency & functionality

I FACILITIES & SERVICES
WASTE TRANSFER STATION
WEIGHT TICKET 120

DATE: 3/15/21 TIME: 11:05 AM/PM

EMPLOYEE ID: 655743266 VEH. ID: 9635689

ROUTE/LOCATION: DIA

MATERIAL: CARDBOARD MSW
 COMPACTED PAPER
 C&D SOIL MIX
 METAL TOTES

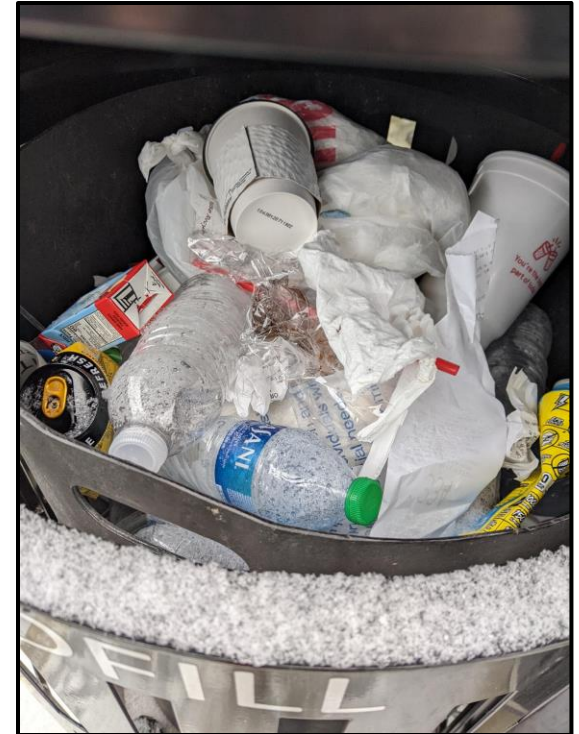
SCHEDULED/ON-CALL (CIRCLE ONE) 323

WORKORDER: _____

TIP LOCATION: FLOOR SOUTH BAY
 NORTH LINCOLN NORTH BAY
 WALL

WEIGHT IN: 11720 lb. OUT: 11400 lb.

Please complete a separate ticket for each tip. Submit complete forms w/ dispatcher daily.



Recycling going to landfill

Successful initiatives

- Route optimization
 - Reduces costs
- Scale system to track truck loads; piloting sensors
 - Can compare FY data metrics
- Bought more pans
 - Increases separation
- Multi stream deployment to decrease contamination
 - Blue liners for recycling = visual indicator
- Transportation & Waste Depts are in the same place
 - Able to respond more quickly & effectively



LoadMan system

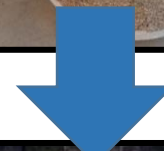


Open pan for temp. separation

Indoor and Outdoor Bin Replacement



Old
containers
separated

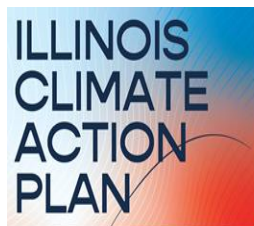
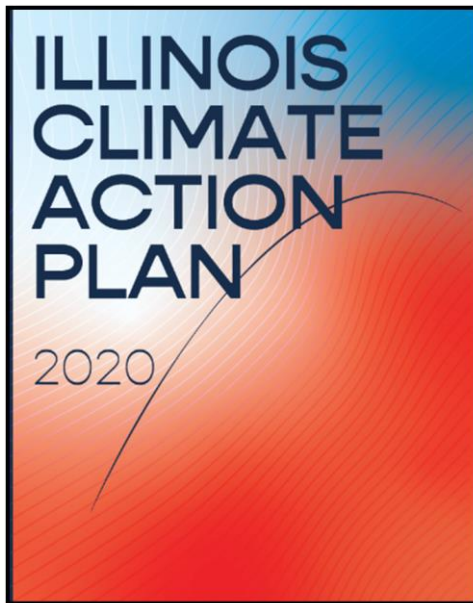


New
infrastructure
Coupling reduces
contamination



Indoor and Outdoor Bin Replacement

iCAP objective 5.2.1 is to "Install appropriate waste collection infrastructure throughout the University District..."
Increases recycling rate & lowers contamination



**Institute for Sustainability,
Energy, and Environment**

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN



Facilities & Services

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

Engagement - Best Practices and Strategies

- Consistent, clear messaging & behavior change campaigns
 - Refuse ♻️ tell sales clerks you do not want a bag
 - Reduce ♻️ buy less stuff, minimize packaging, design out the waste
 - Reuse ♻️ choose durable items, donate to surplus and charity
 - Recycle ♻️ commodity recyclables, costly recycling, waste to energy conversion, composting



Waste Reduction Challenge

My Weekly Waste iSEE

Name: _____ Week: 10/4- 10/10

| WASTE TYPE (ESTIMATE POINTS) | M | T | W | TH | F | S | S |
|------------------------------|---|---|---|----|---|---|---|
| FOOD | | | | | | | |
| PAPER | | | | | | | |
| PLASTIC | | | | | | | |
| "NEGATIVE" WASTE | | | | | | | |
| TOTAL | | | | | | | |

WEEKLY POINT TOTAL: _____

- Participants received a guide and weekly grid to fill out with the items that you throw in the garbage each day
- A pre-determined point system allows participants to keep track waste
- The goal is to earn as few points as possible

WASTE POINTS

Use the point system below to track your waste for the month of October. The goal is to earn as few points as possible. If you throw something away that is not on our list, use the "other" point value for that category. You also have the opportunity to earn back points ("negative" points) based on doing positive things for the environment. Subtract them from your weekly total.

FOOD: (4 points for other)

- Food Scraps (apple core, banana peel): **1 point**
- Wasted Food (nonorganic peels): **5 points**
- Individual Wrapper (gum, candy) : **3 points**
- Bulk Packaging: **3 points**
- Keurig Coffee Cup: **5 points**
- Coffee Grounds and Filter: **2 points**
- Sweetener Packet, Creamer Cup: **3 points**

PAPER: (2 points for other)

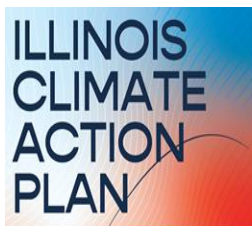
- Napkins, Paper Towels: **1 point**
- Sheet of Paper: **1 point**
- Disinfectant Wipes/ Makeup Wipes: **2 points**
- Dryer Sheets: **2 points**

PLASTIC: (10 points for other)

- Beverage Container, Food Container: **5 points**
- Single-use plastic (cutlery, straw, cup): **4 points**
- Plastic Bag, Water Bottle: **10 points**
- **Other:** Purchased Fast-Fashion, Wasteful Clothing: **10 points**

"NEGATIVE" POINTS: (5 points for other)

- Conversation about Waste: **-10 points**
- Watch an Environmentally Themed Documentary/Read a Book: **-20 points**
- Read about a Current Climate Issue: **-10 points**
- Pick Up Trash: **-5 points**
- Purchased in Bulk: **-10 points**
- Other actions? Share it with us!



**Institute for Sustainability,
Energy, and Environment**

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN



Facilities & Services

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

Plastic Free Challenge

PLASTIC POINTS

March 2021 Plastic Free Challenge

Use the point system below to track your waste for the month of March. The goal is to earn as few points as possible. If you throw something away that is not on our list, use the point value for "other" or your best judgment. You have the opportunity to earn back points when you complete environmentally-friendly actions. Subtract these "negative" points from your weekly total. Underlined categories contain a link for recycling information.

Common Plastics

- Plastic grocery bags: **15 pts**
- Ziplocs, plastic baggies, shipping envelopes, produce bags: **5 pts**
- Plastic water bottles, beverages, cups: **10 pts**
- Plastic containers, cutlery, straws: **5 pts**
- Food packaging, snack wrappers: **3 pts**
- Plastic wrap (Saran wrap, plastic wrap around the containers): **3 pts**
- Trash bags, dry cleaning bags: **5 pts**
- Plastic cleaning wipes, face or makeup wipes: **2 pts**
- Laundry sheets: **2 pts**
- Toothbrush, toothpaste tube: **2 pts**
- Razors, razor heads, deodorant container: **2 pts**
- Contact lenses, cases, packaging: **2 pts**
- Haircare products, shampoo, conditioner: **5 pts**
- Clothing: **10 pts**
- Electronics: **20 pts**
- Decorations, balloons, table coverings, etc.: **3 pts**
- Giftbags, tissue paper: **2 pts**
- Other: **1 pt** (or use your best discretion based on what your item is most similar to on this list)

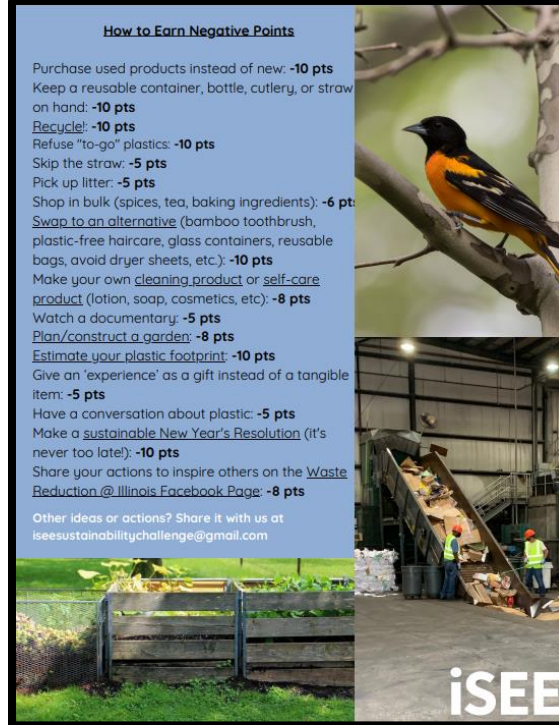


iSEE

How to Earn Negative Points

- Purchase used products instead of new: **-10 pts**
- Keep a reusable container, bottle, cutlery, or straw on hand: **-10 pts**
- Recycle!: **-10 pts**
- Refuse "to-go" plastics: **-10 pts**
- Skip the straw: **-5 pts**
- Pick up litter: **-5 pts**
- Shop in bulk (spices, tea, baking ingredients): **-6 pts**
- Swap to an alternative (bamboo toothbrush, plastic-free haircare, glass containers, reusable bags, avoid dryer sheets, etc.): **-10 pts**
- Make your own cleaning product or self-care product (lotion, soap, cosmetics, etc): **-8 pts**
- Watch a documentary: **-5 pts**
- Plan/construct a garden: **-8 pts**
- Estimate your plastic footprint: **-10 pts**
- Give an "experience" as a gift instead of a tangible item: **-5 pts**
- Have a conversation about plastic: **-5 pts**
- Make a sustainable New Year's Resolution (it's never too late!): **-10 pts**
- Share your actions to inspire others on the Waste Reduction @ Illinois Facebook Page: **-8 pts**

Other ideas or actions? Share it with us at iseesustainabilitychallenge@gmail.com



iSEE

Plastic Free Challenge Grid

NAME: _____

| WEEK | MON | TUES | WED | THURS | FRI | SAT | SUN | TOTAL |
|-----------|-----|------|-----|-------|-----|-----|-----|-------|
| Mar 1-7 | | | | | | | | |
| Mar 8-14 | | | | | | | | |
| Mar 15-21 | | | | | | | | |
| Mar 22-28 | | | | | | | | |

iSEE **TOTAL POINTS:** _____

Use the Bin Pledge



A University of Illinois Urbana-Champaign Initiative

"Do you promise to always use a Recycling Bin? If you don't see a Bin, do you agree to hold your recyclable until you find one?"

Pledges as of FY22:
394

Goal by FY24:
10,000

ILLINOIS
CLIMATE
ACTION
PLAN



**Institute for Sustainability,
Energy, and Environment**

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN



Facilities & Services

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

Thank you!



ILLINOIS
CLIMATE
ACTION
PLAN



**Institute for Sustainability,
Energy, and Environment**

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN



Facilities & Services

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN



Using Waste Characterization Studies to Improve Diversion

Presented by:
Molly Kathleen
Zero Waste Coordinator
The Ohio State University

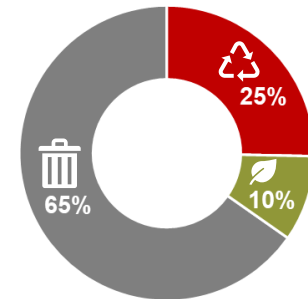
About The Ohio State University – Main Campus



62,000 Student
+ 39,000 FTE
101,000 People



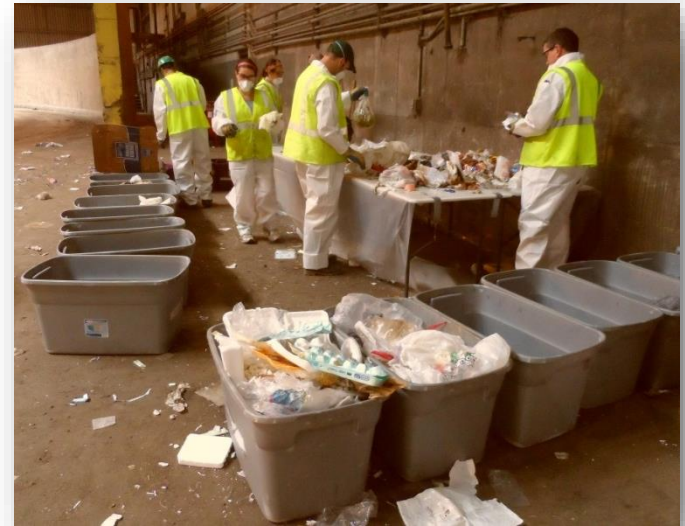
630 Buildings



20,300 Tons

What is a Waste Characterization Study?

- Tool for solid waste planning
- Analysis of the composition of different waste streams
- Manual process by which waste is sorted into categories and weighed



Why Should I Perform a Waste Characterization Study?

- Obtain baseline data
- Quantify impact of new programs, policies, or education efforts
- Identify the “capture rate” of recyclables
- Identify recycling contamination rates
- Compare performance of buildings/departments
- Discover opportunities for waste reduction/avoidance
- Reduce waste disposal costs

Designing and Executing a WCS

- Can be customized and scaled to fit your budget and resources.
- Can be tailored to answer specific questions or meet your organization's needs.



Planning Steps

- #1: Determine scope and labor needs

Building Use Categories

- Residential
- Administrative
- Academic
- Laboratory
- Ambulatory Health Care Sites
- High Volume Special Use (Veterinary Medical Center)

| Building Category | Locations |
|----------------------------------|---------------------------------|
| Residential | Morrill Tower |
| Residential | Smith-Steeb |
| Administrative | Ackerman Rd. Complex |
| Academic | CBEC |
| Academic | Postle |
| Laboratory | BRT + Biological Sciences |
| Laboratory | Psychology |
| Wexner Medical Center Ambulatory | Martha Moorehouse + Eye and Ear |
| Special Mixed Use | Vet Hospital Rear |
| Special Mixed Use | Woody Hayes |
| Special Mixed Use | Pomerene |
| Special Mixed Use | Wetlands |
| Dining Services | Scott |
| Dining Services | Kennedy |

Planning Steps

- #2: Sample selection and sorting periods
 - Samples should be collected during periods that represent typical operations.

Avoid
seasonal
variations

Account for
daily
fluctuations

Understand
custodial and
waste
collection
schedules

Minimize the
number of
people who
know when
samples will
be selected

- Sample size: Larger samples yield more accurate results. Ohio State used 400 lb samples.

Planning Steps

- #3: If conducting study internally, acquire equipment and PPE:
 - Sorting tables
 - Table covers
 - Hand brooms
 - Containers for materials
 - Scale (0.1 lbs accuracy)



PPE (Personal Protective Equipment)

- Nitrile gloves
- Puncture resistant gloves
- Aprons
- Polypropylene sleeves
- Disposable face masks
- Safety glasses



Planning Steps

- #4: Create plan for where samples will be transported, labeled, and stored
- Ideal storage/sorting areas:
 - Limited disturbance
 - Shelter from wind/precipitation
 - Have access to outlets to power a scale
 - Garages work well!



Planning Steps

- #5: Identify material categories and create data collection forms
 - Lists may vary based on materials accepted by local processors.
 - Consider categories specific to your operation that will yield useful information.
 - For multiple samples, a 3-ring binder keeps forms organized during a study.

Waste Characterization Data Collection Form

Date: _____ Stream: Recycling Waste

Location: _____ Pre-Sort Weight: _____

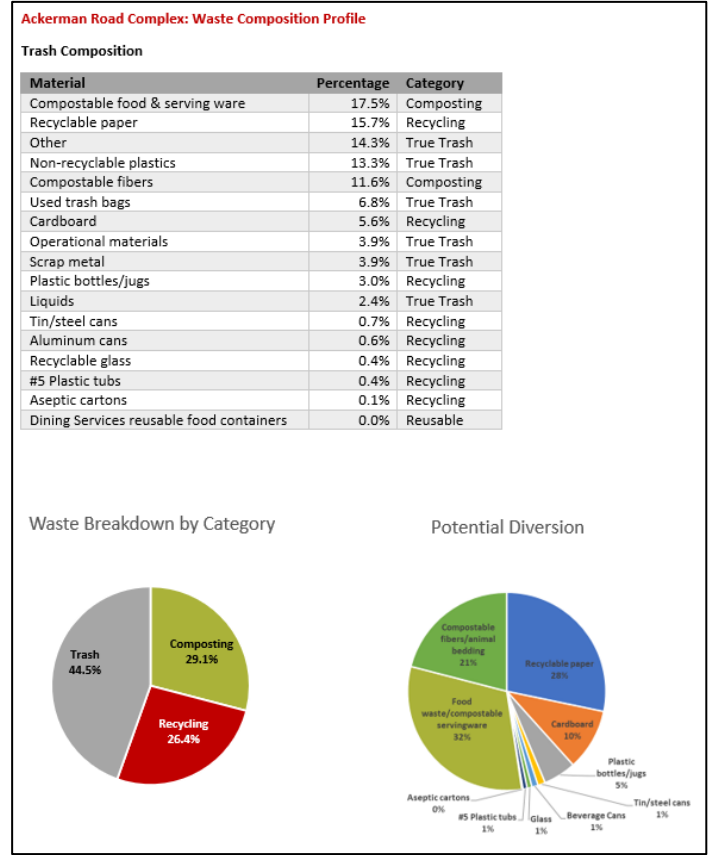
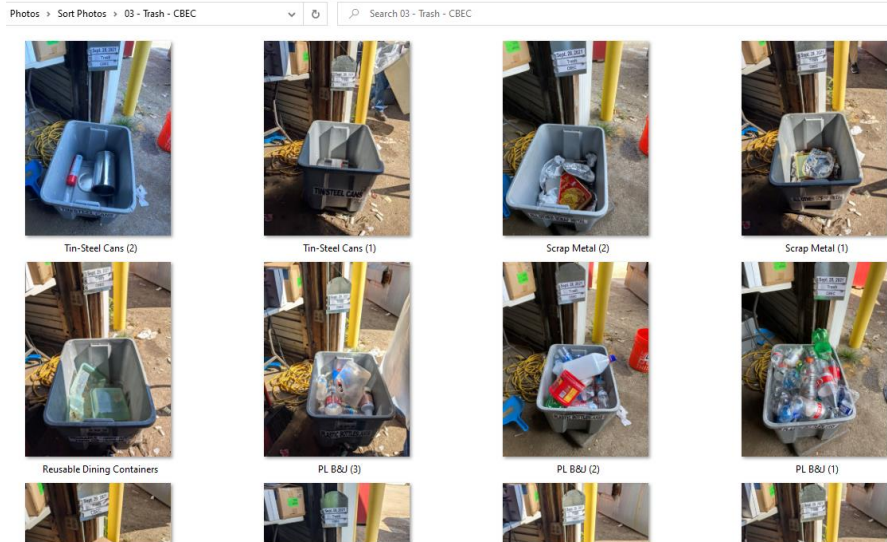
| Materials | Category for Recycling Sort | Category for Waste Sort | Weights | Total |
|---|-----------------------------|----------------------------|---------|-------|
| Plastic bottles/jugs | Recyclable | Contamination | | |
| #5 Plastic tubs | Recyclable | Contamination | | |
| Reusable Carryout Food Containers | Contamination | Contamination | | |
| Non-Recyclable Plastics | Recyclable | Contamination | | |
| Recyclable paper | Recyclable | Contamination | | |
| Cardboard | Recyclable | Contamination | | |
| Aseptic cartons | Recyclable | Contamination | | |
| Recyclable glass | Recyclable | Contamination | | |
| Aluminum cans | Recyclable | Contamination | | |
| Tin/steel cans | Recyclable | Contamination | | |
| All other scrap metal | Contamination | Disposable | | |
| Food waste/compostable servingware | Contamination: Compostable | Contamination: Compostable | | |
| Other compostable materials | Contamination: Compostable | Contamination: Compostable | | |
| Operational materials | Contamination | Disposable | | |
| Other | Contamination | Disposable | | |
| Used trash can liners (clear and black) | Contamination | Disposable | | |
| Liquids | Contamination | Disposable | | |
| Total: | | | | |

Notes:

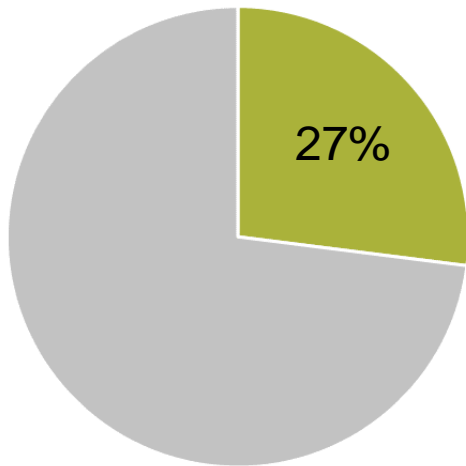


Planning Steps

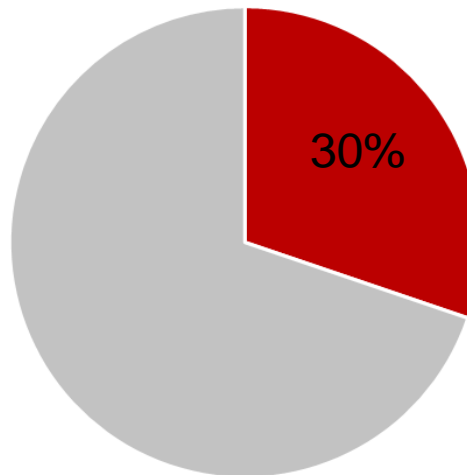
- #6: Compile data and organize photos for analysis



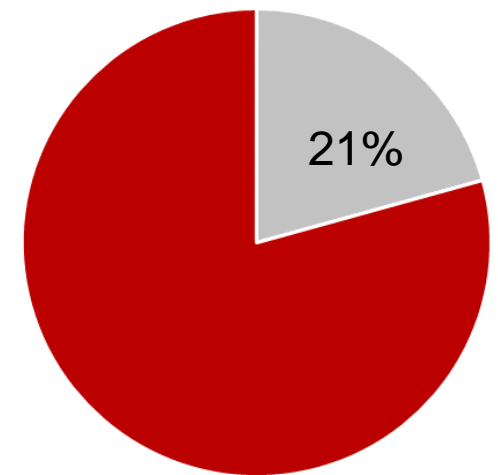
Key Data Findings



of all materials sorted = **organics**



of materials in trash = **recyclable**



of materials in recycling = **trash**



Addressing Findings

Incorrect liners

- Creation of e-learning training module for custodial

High volume of compostable serving ware disposal

- Piloting post-consumer compost program

High volume of animal bedding disposal

- Partnership with animal labs
- **Potential to divert 250+ tons annually**

High volume of lab/medical plastics disposal

- Expanding specialty plastics pyrolysis program to new buildings for items like pipette tip boxes/blue sterilization wrap

Addressing Findings

Poor capture rates

- Building-level assessments

High volume of paper towel disposal

- Substitute hand towels with hand dryers
- **Potential to eliminate 600+ tons annually**

Recycling contamination/low participation

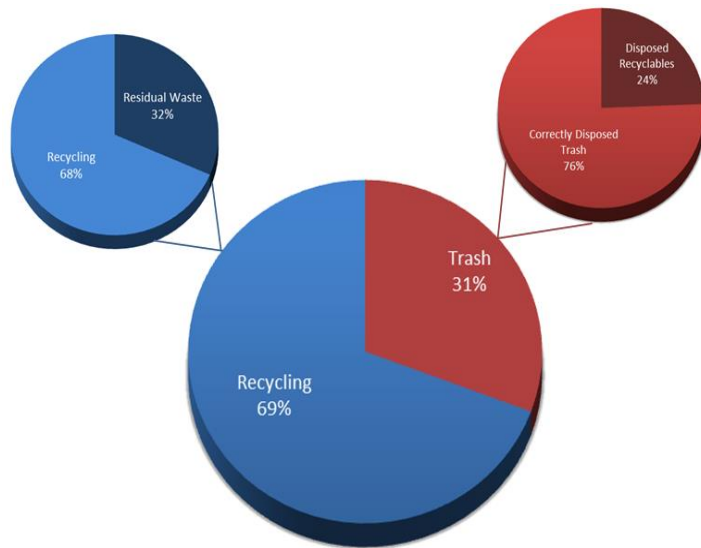
- “Recycle Right” education campaign; digital signage; drafting sustainable operation policy

Under utilized infrastructure

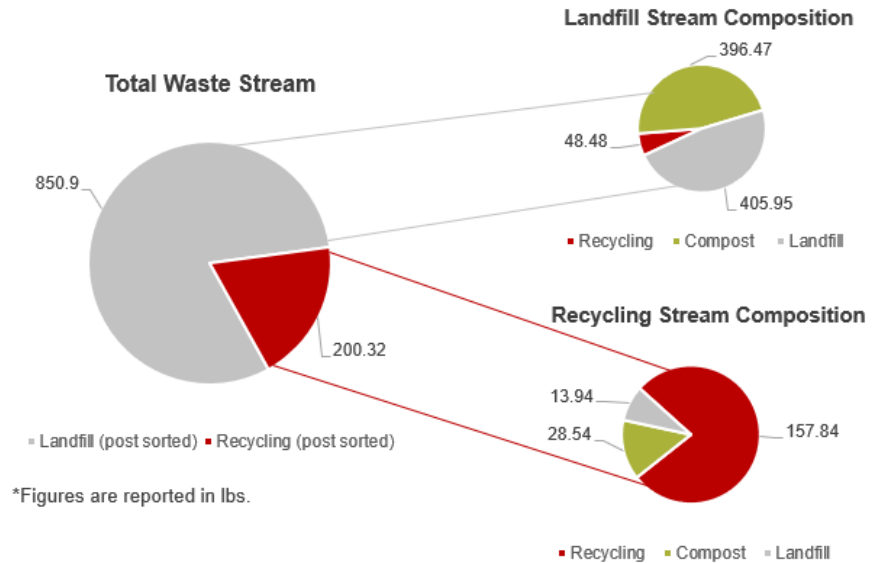
- On-site meeting/facility walk through with involved staff
- **Increased composting and decreased landfilling by 210 tons annually from one building!**

Additional Data Uses

- Gauge program performance.



- Identify needs for new waste diversion programs.



Additional Data Uses

- Quantify a facility's maximum recycling rate or identify locations that need additional education or infrastructure.

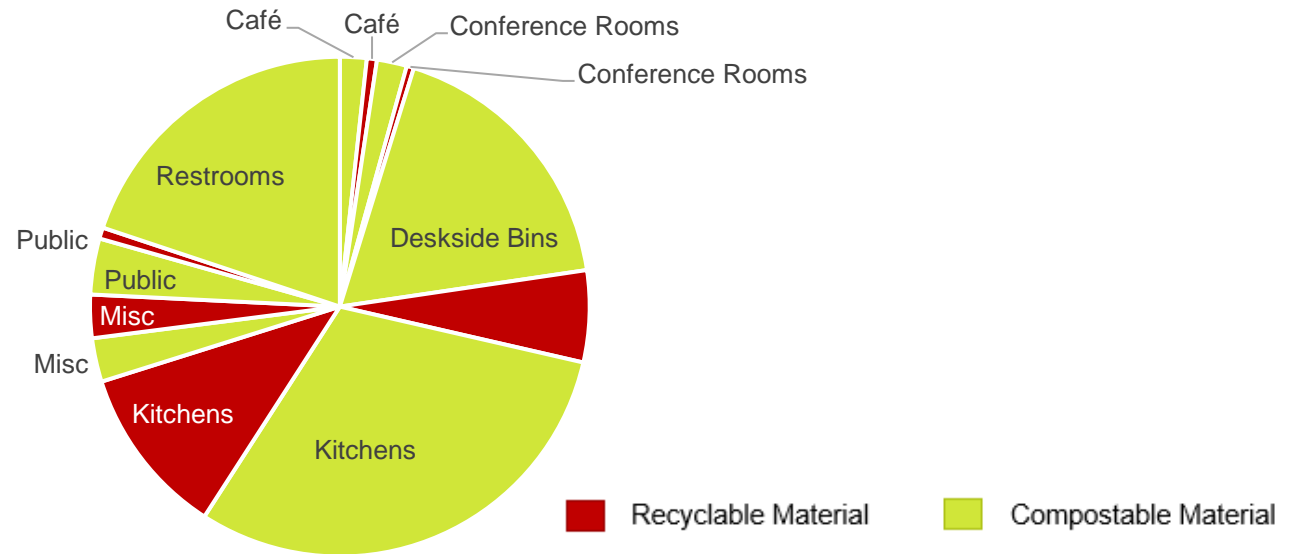
| Building Areas | Current Recycling (lbs) | Current Recycling Rate | Potential Recycling (lbs) | Potential Recycling Rate (%) | Potential Recycling Increase | Potential Recycling Increase (lbs) | Potential Annual Increase in Recycling (lbs) |
|----------------|-------------------------|------------------------|---------------------------|------------------------------|------------------------------|------------------------------------|--|
| Office Areas | 341 | 55.0% | 422.7 | 68.2% | 24.0% | 81.7 | 4,248.4 |
| Public Areas | 99 | 47.5% | 114.6 | 54.9% | 15.8% | 15.6 | 811.2 |
| Restrooms | 0 | 0.0% | 4.4 | 8.9% | 100.0% | 4.4 | 228.8 |
| Parking Areas | 3.6 | 12.2% | 8.2 | 27.7% | 127.8% | 4.6 | 239.2 |
| Break Rooms | 1.2 | 7.1% | 3.3 | 19.4% | 175.0% | 2.1 | 109.2 |
| Total | 444.8 | 48.1% | 553.2 | 59.9% | 24.4% | 108.4 | 5,636.8 |



Additional Data Uses

- Identify where to focus efforts to maximize impact.

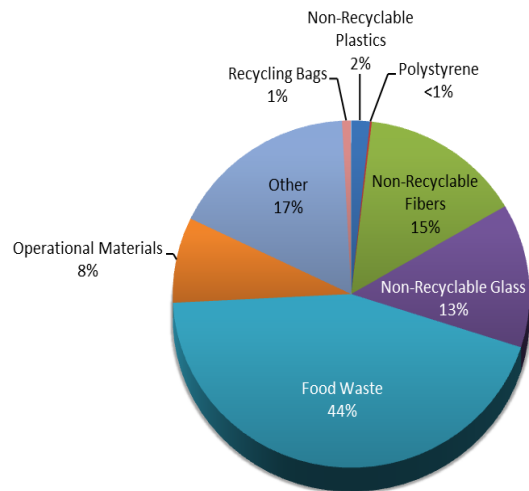
Locations and Quantities of Recyclables and Compostables in Trash



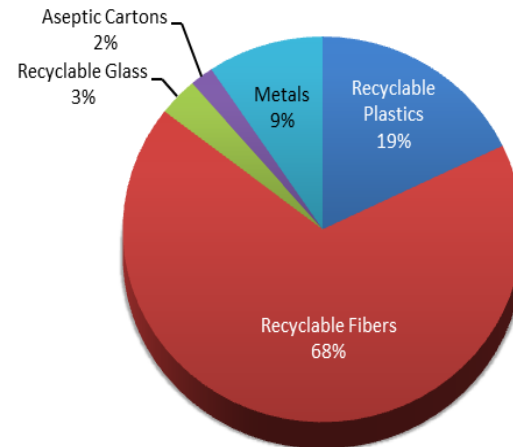
Additional Data Uses

- Determine common sources of recycling contamination or commonly disposed items.

Residual Waste Composition

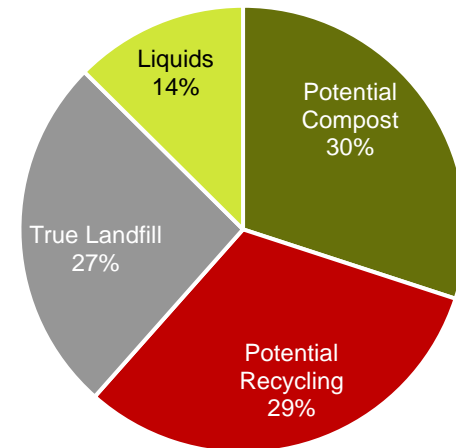


Improperly Disposed Recyclables Composition



Additional Data Uses

- Demonstrate a need for recycling/composting
- Estimate capacity/collection needs
- Calculate reductions in landfill disposal costs
- Justify waste elimination investments such as transitioning to hand dryers vs. paper towels

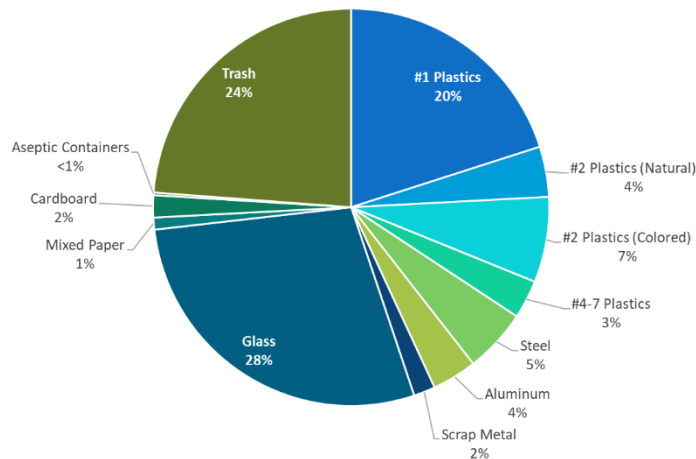


| | | Recycling | Compost | Annual Total Estimated Weight | Annual Total Recycling Diversion | Annual Total Compost Diversion |
|------------------|-------------------|-----------|---------|-------------------------------------|--|--------------------------------------|
| Potential | Weight | 570.2 | 604.5 | 13,426 | 3,847 | 4,078 |
| | Diversion Rate | 29% | 30% | | 29% | 30% |

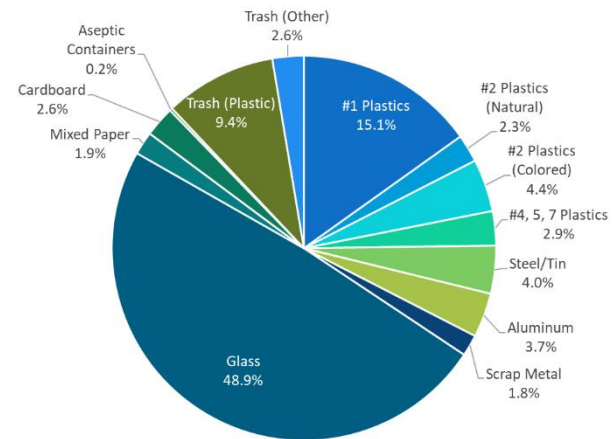
Additional Data Uses

- Identify the composition of a waste stream and how composition changes over time as a result of new policies, programs, or education initiatives.

Pre-Education Campaign



Post-Education Campaign



Questions?

Molly Kathleen
Zero Waste Coordinator
[Kathleen.1 @osu.edu](mailto:Kathleen.1@osu.edu)





Zero Waste at CSU

Zero Waste Team @CSU

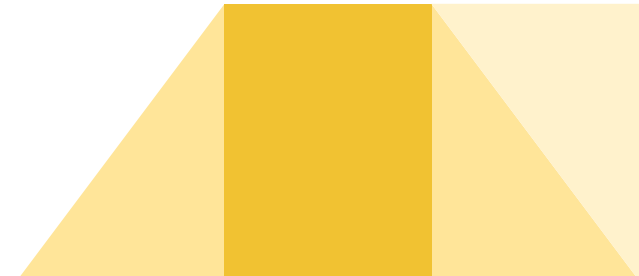




Overview

ZERO Waste efforts

- Waste Sorting
 - Top-sorting event waste
 - Compostable products
 - Recycling Education
- Composting
 - Oscar
 - Windrows
- Reuse
 - Surplus Supply
 - Community education
- Food Recovery
 - Event food recovery
 - Food pantry

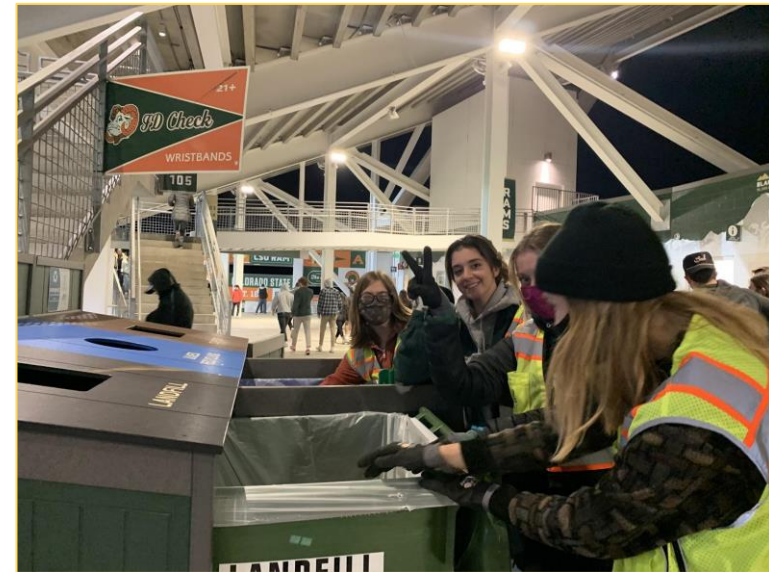




Waste Sorting

The VITAL part

- Recycling and composting are excellent processes that need to be utilized
 - However, without sorting they often fail at the collection site, getting mixed with trash
 - This leads to resource intensive sorting processes later on
 - Sometimes even unusable materials
- Top-sorting is essential for clean waste streams
- Zero Waste Team Volunteers to sort
 - Athletics
 - Large catered events
 - Move-in and move out





Waste sorting: current efforts

- Waste sorting is complex and physically demanding work
- The Zero Waste Team strives to pay members
 - Members can get hired by facilities staff to sort athletics events
 - We are working to get hired for all of our efforts
 - Through our student government, ASCSU
 - Hopefully through a student fee eventually
- Reusable cups at events
 - Covid made this one hard but we hope to go to aluminum reusable cups

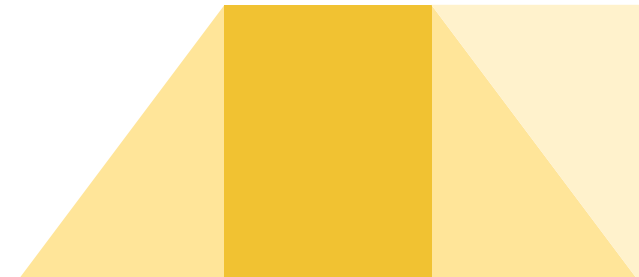




Composting

Oscar the Grouch

- An in vessel composter
 - Internship
- Oscar can handle all types of waste
 - Food scraps of all kinds from the dining hall
 - Paper towels from the bathrooms
 - Compostable plates, bowls, and utensils
 - Wood, yard waste
 - Carbon source: Horse bedding from equine center
- A learning experience
 - Oscar does not create quite finished compost
 - He is not terribly efficient, but all electric





Composting

Windrows

- How most of the food waste and compostable materials get processed
 - Gets moved and turned by a tractor with a bucket
 - Creates fully viable compost after about 5 months
- Takes all the same materials
- Requires more training and a higher certification





Surplus supply



- Electronics get recycled at CSU by Surplus
- This allows us to make sure all the collected waste goes to the right place and actually gets recycled as well as making some money off of some of the more valuable things collected
- This also ensures that any hazardous materials are handled properly.
 - Batteries, lightbulbs, ink cartridges





Upcoming Surplus recycling

- Luckily, the cost to recycle the materials is relatively low
- Most of the contents collected will be recycled by weight and will be maximum about 50 cents a pound
- The money from the sustainability fund goes towards staffing the event
 - Collection of materials
 - Sorting and transporting recycling
 - Training
- \$1,716 dollars were awarded to staff the event and pay for the recycling

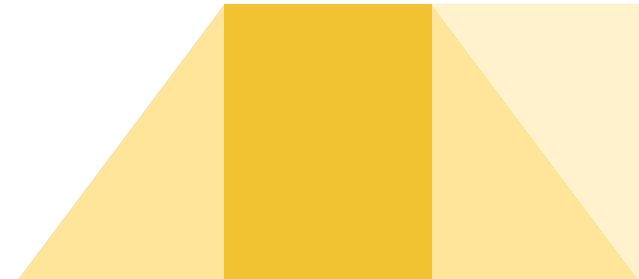




Reuse

Community Education

- How-to make your own bathroom products
 - Soap, toothpaste, facewash
- Mending
 - The patchwork initiative
 - Mending projects
- Buy nothing groups and clothing swaps
 - Try to trade, share, and reuse as much as possible

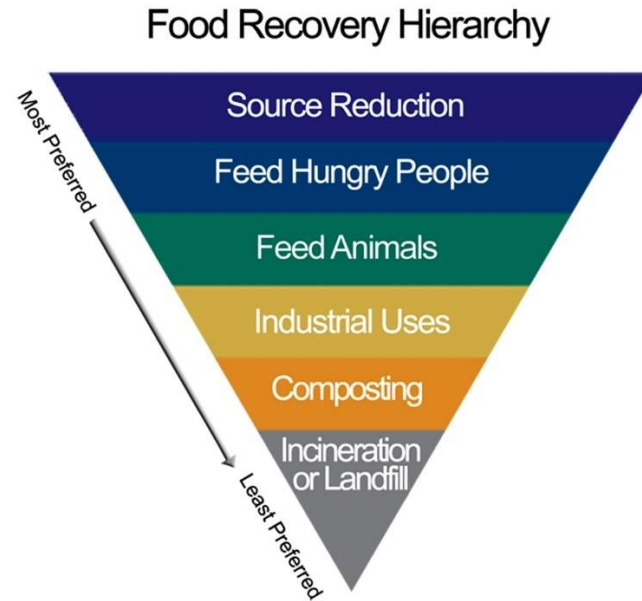




Reuse

Ram Food recovery

- Event food giveaway
 - If an event has too much food after it takes place, a text is sent
 - Free food and less food waste, win-win
 - I take advantage of this all the time
- Rams against hunger
 - A food pantry to distribute as much food as possible to students
- Mobile food pantry
 - Drives around campus and distributes food



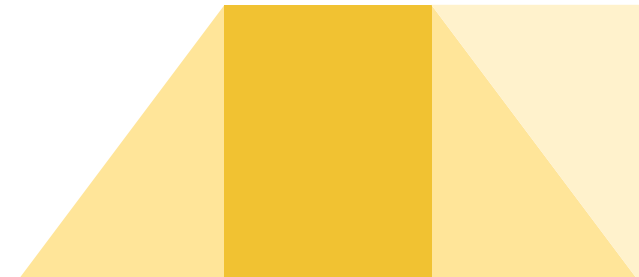


References

CSU Surplus Property | Departments of Central Receiving. (2022). Retrieved 27 April 2022, from <http://cr.colostate.edu/surplus-property.html>

Food Recovery Hierarchy | US EPA. (2022). Retrieved 27 April 2022, from <https://www.epa.gov/sustainable-management-food/food-recovery-hierarchy>

Green, K. (2022). Surplus Sale June 20-21. Retrieved 27 April 2022, from <https://source.colostate.edu/surplus-sale-june-20/>



Questions?

