



Lake County School District Waste Assessment

Prepared by: Cloud City Conservation Center with Youth Culture Works, the Lake County Intermediate School Green Team, and the Lake County High School DOOR Program

March 31, 2016

SUMMARY

Objective

Our objective was for student-led teams to investigate the waste stream in Lake County schools in order to determine 1) what and how much is being thrown away, recycled and composted and 2) potential options for reducing waste and improving environmental responsibility.

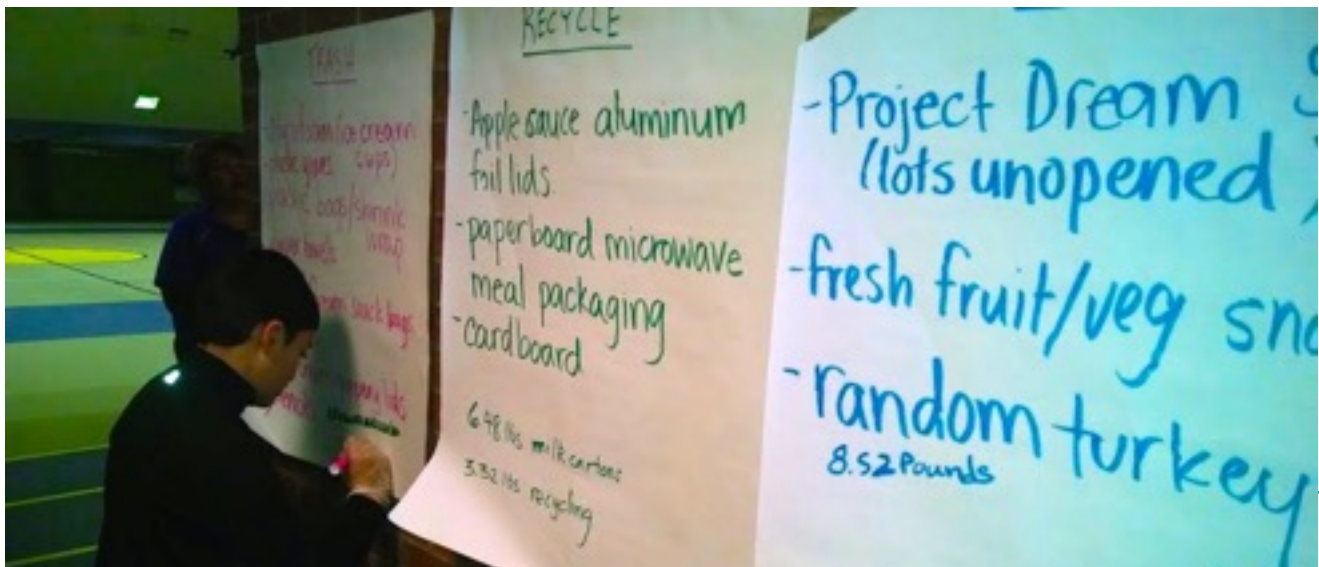
Methods

Waste audits were conducted at two schools: Lake County High School (3/17/16), and Lake County Intermediate School (2/26/15). Waste audits include the following activities:

1. Collect trash bags from different sources (cafeteria/classroom). Collect enough to get a representative sample, in most cases this is 1 day worth of trash.
2. Sort bags into three categories: 'could be recycled,' 'could be composted' and 'actual trash.'
3. Record contents of each category and relative proportions.
4. Weigh bags.
5. Multiply by number of collections, days and weeks (provided by custodial staff) to get pounds per week and per year. Calculate waste diversion rates.
6. Collect data on pounds recycled and composted from transportation staff compost and recycling log.



$$\text{Waste Diversion Rate} = \frac{\text{pounds diverted from the landfill (recycled and composted)}}{\text{total pounds in the waste stream (recycled, composted and sent to the landfill)}}$$



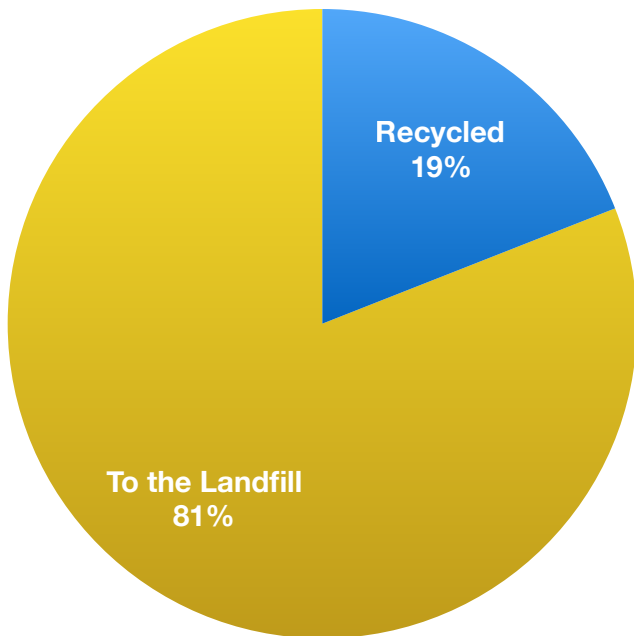
2016 Waste Assessment Summary

Are we improving?

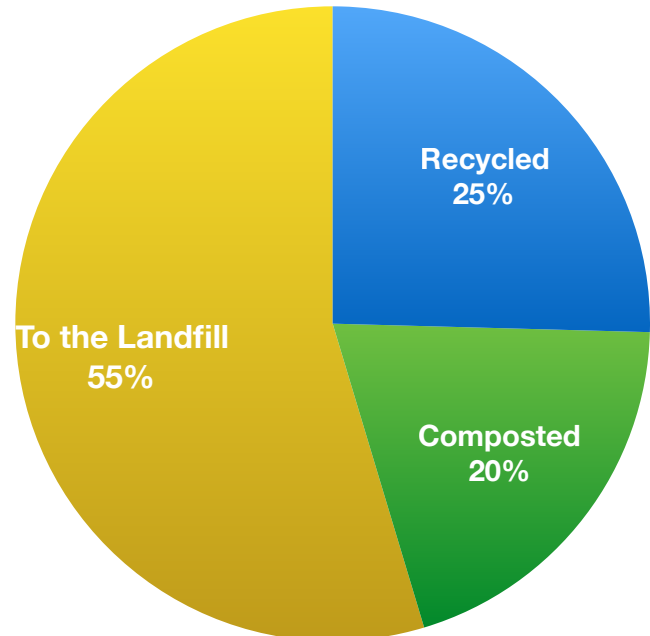
✓ Yes! Waste diversion rates have gone up 21% over last year.

School	Recycled (lbs per school yr) <i>reported by the Transportation Dept.</i>	Composted (lbs per school yr) <i>reported by the Transportation Dept.</i>	Trash (lbs per school yr) <i>measured through waste audit</i>	Total Waste Stream (lbs per school yr)	Waste Diversion Rate 2016
Lake County Intermediate School	6532	5,341	17,869	29,742	40%
Lake County High School	7104	5,341	11,443	23,888	52%
Total	13,636	10,682	29,312	53,630	45%

Total Waste Stream, LCHS and LCIS, 2015



Total Waste Stream, LCHS and LCIS, 2016



School	Waste Diversion Rate 2015	Waste Diversion Rate 2016
Lake County Intermediate School	16%	40%
Lake County High School	29%	52%
Total	24%	45%

What are we doing well?

- ✓ **Composting.** The schools are on track to compost over 10,000 pounds of food scraps over the course of the school year. The current average is 340 pounds of food scraps per week. The new composting operation with the leadership of staff, students and teachers has done an excellent job of raising the waste diversion rate by more than 20% in each school
- ✓ **Selecting better materials (no styrofoam!).** The school district is no longer purchasing disposable styrofoam plates, bowls and cups. This lowers the overall volume of the waste stream considerably. In fact, the overall 2016 waste stream decreased significantly in volume in 2016.
- ✓ **Recycling.** Our overall recycling rate is 25%. This is markedly better than the state recycling average of 11% (Colorado Association for Recycling). Recycling rates have gone down slightly from last year which indicates some room for improvement.

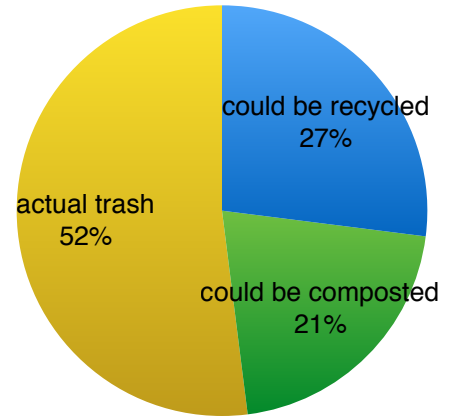
THANK YOU Transportation, Kitchen, Custodial and Maintenance Staff. Your hard work and guidance has made these programs a success. Kurt's documentation and managing of compost and recycling has been thoughtful and detailed. The leadership of Todd, Eva, Julie and their teams, is critical to the recycling, composting and purchasing improvements.

School	Recycled (lbs) 2015	Recycled (lbs) 2016	Composted (lbs) 2015	Composted (lbs) 2016
Lake County Intermediate School	6749	6532	0	5,341
Lake County High School	11708	7104	0	5,341
Total	18,457	13,636	0	10,682



What are we throwing away?

For the first time, the majority of what we throw away is actually trash (it is meant to go to the landfill)! But we still throw away some items that could be composted or recycled. And we still purchase some items that HAVE to be thrown away when more environmentally-friendly alternatives are available.



21% Could Be Composted:

LCIS

- snacks (proj. dream, unopened)
- fresh fruit/vegetable snack
- turkey (from kitchen?)

LCHS

- apples/oranges
- grilled cheese
- tortillas
- cake
- carrots/salad

27% Could Be Recycled

LCIS

- paper (classrooms)
- pencil boxes, tissue boxes (classrooms)
- plastic cups (classrooms)
- aluminum cans (classrooms)
- aluminum foil lids, apple sauce
- paperboard packaging
- cardboard

LCHS

- paper (classrooms)
- plastic cups
- cans (classrooms)
- glass bottles

52% Actual Trash

LCIS

- milk cartons (40% of the total)
- juice boxes
- styrofoam (ice cream cups)
- plastic wrap and bags
- paper towels
- snack bags, utensils (proj. dream)
- lids from mini-ice cream
- pencils

LCHS

- wrappers
- plastic utensils, paper plates
- plastic wrap, bags, gloves
- napkins, paper towels



Key Findings

21% of the waste stream is still made up of compostable items, mainly food scraps. This is a huge improvement over last year's 80%. Many of these items are snacks or breakfast from the classroom. There is still some compost being thrown in the trash at lunch as well.

Trash from classrooms indicates that a significant amount of recycling is still being thrown away. We estimated that more than half of the trash found in Intermediate School and High School classrooms was recyclable. Paper is the number one items in classroom trash. *(The picture on the right is an example of a trash bag from LCIS.)*

Some items found in the trash in bulk, such as styrofoam ice-cream cups, have more environmentally-friendly alternatives. *(The picture on the right shows the small styrofoam ice-cream cups.)*

Some items in the trash must be thrown away for now, such as milk cartons, but may in the near future be recyclable. Milk carton and juice packs make up a third of the cafeteria trash at LCIS. The Milk Carton council is working with haulers like Waste Management to provide milk carton recycling for all schools. Currently milk cartons and juice containers (tetra-paks) cannot be recycled in Lake County. *(The picture on the right is of Hunter carrying all the milk cartons and juice packs in the LCIS waste audit.)*

Overall trash volume has gone down. This is at least in part due to the increase in use of re-usable items and non-styrofoam purchasing policies. Styrofoam took up a significant portion of last year's waste stream. Additionally, on the days we analyzed, a smaller overall volume of food scraps was seen in the compost and the trash. Students may be wasting less food due to the new emphasis on food scraps, or perhaps they just liked the lunch served that day. We would recommend two days of testing next year, to even out any discrepancies caused by preference.



Recommendations

Classroom Composting: Work with teachers, compost managers to explore ways to compost snacks, breakfast and other food eaten in the classroom. Several teachers have expressed some ideas and a desire to do this. Communicate with compost managers to see if there is room for more volume in the Earth Tubs.

Purchasing: Work with the kitchen manager to re-examine purchasing of disposable items like styrofoam ice-cream containers. Is there an alternative?

Cafeteria Compost: Work with Green teams to conduct another round of student and teacher conversations and outreach concerning compost. We don't expect to get ALL the food scraps from lunch but we'd like to lower the percentage of compost found in the cafeteria trash from 20% to 10%.

Classroom Recycling: Devise a strategy for interviewing and observing teachers and students in the classroom to determine how to improve classroom recycling. We would recommend teacher interviews, and a presentation at a staff meeting. We would also recommend a further survey of infrastructure. Currently every classroom should have two recycle bins, one for paper and one for mixed items, but in some cases labelling may be missing. There should be NO trash bins on their own away from a recycle bin.

Recycling at the High School: Work with the DOOR program to examine the recycling system and see if there is room for improvement. Are more resources needed?

Great Job!

As a result of composting and recycling operations, the school district will reduce carbon emissions from our earth's atmosphere by **60,620 pounds this school year**, a 20% increase over last year (EPA Environmental Benefits Calculator).

