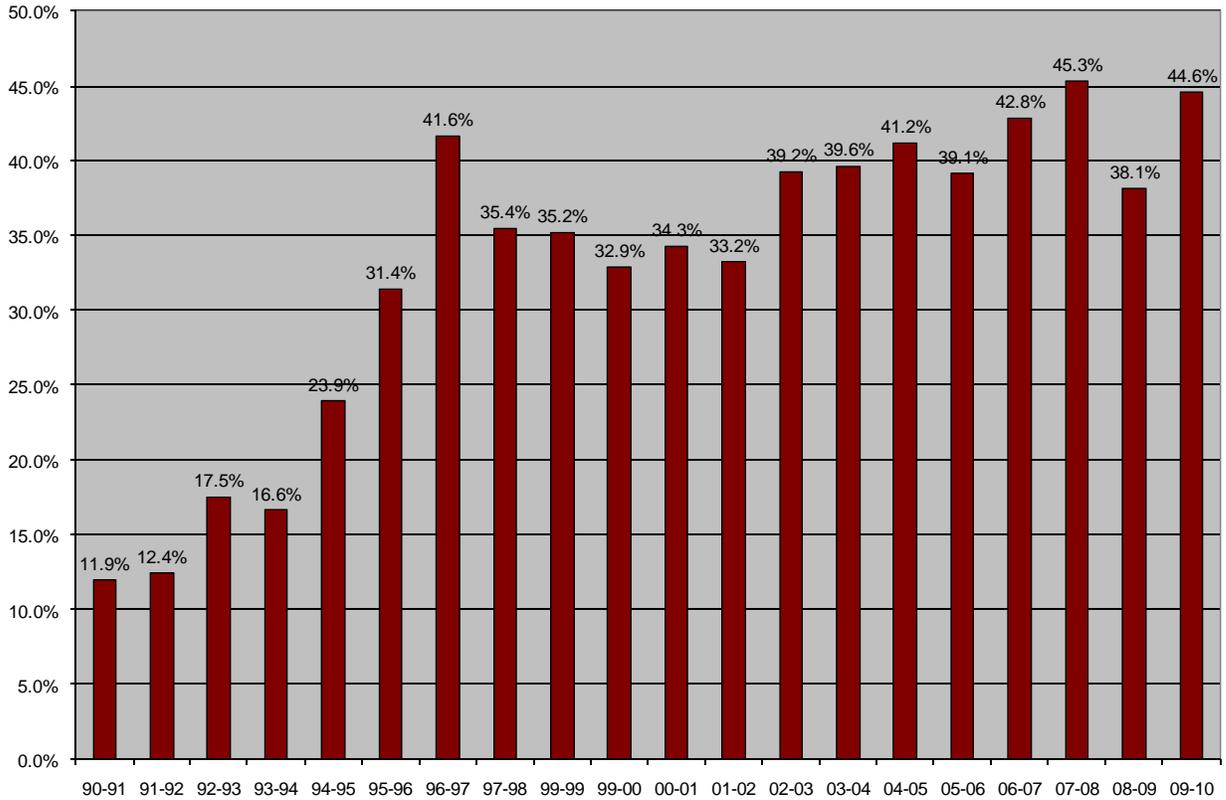


# 2009-2010 Solid Waste Trend Report

## June 2010 Solid Waste Trend Report

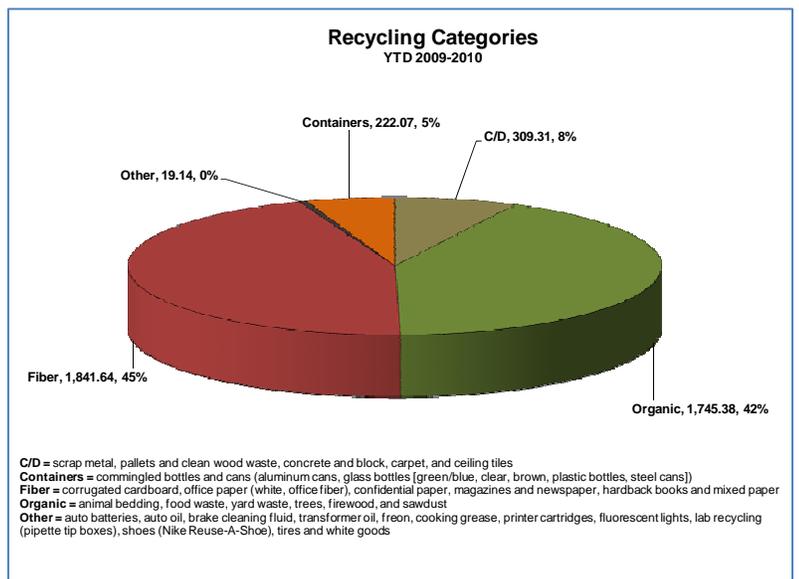
### Recycling Rate History



Savings from Carolina's paper recycling in 09-10	
trees:	31,308
gallons of water:	12,804,895
gallons of oil:	852,677
pounds of air pollution:	1,081,040
cubic yards of landfill space:	5,635
kilowatt hours of energy:	7,508,350

Carolina's recycling program is 21 years old this year. So we are now of legal age!

In the 20 years that we've been tracking our waste generation data, this year we have the

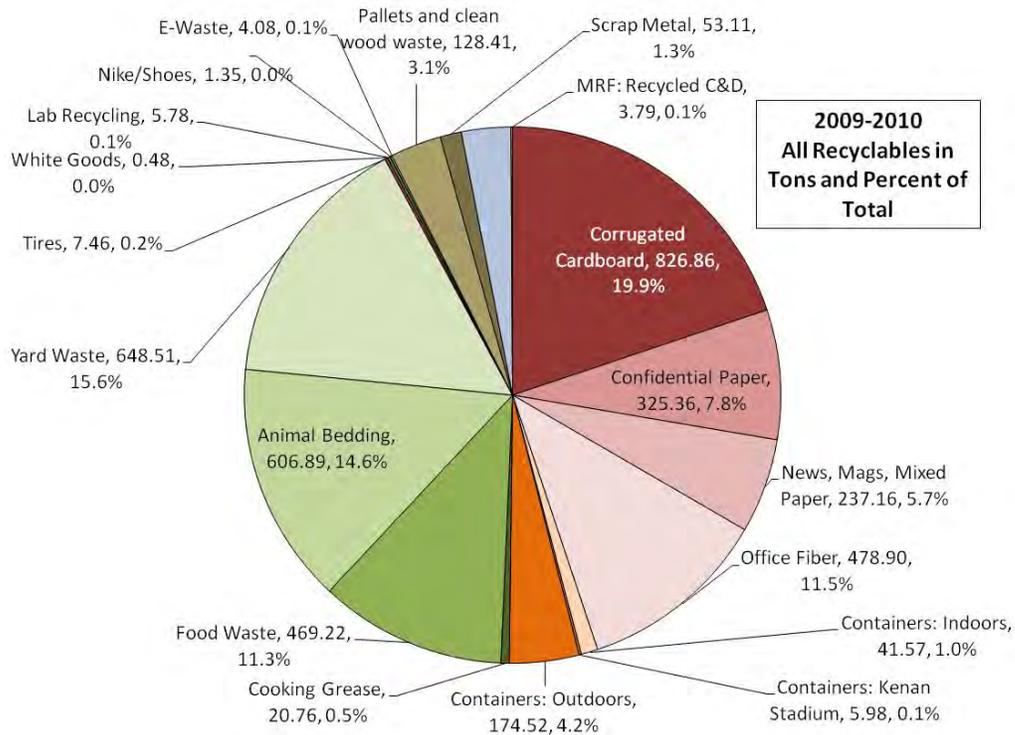


second highest recycling rate our documented history. At 44.6% for FY09-10, we just missed the all time high of 45.3% in 2007-2008. However, 07-08 was the year that we discovered that some of our figures had inadvertently been inflated by one of our contractors. So, actually, that means that this year has truly been our best year of all in terms of ratio of recycling to landfilling! Overall, trash is down 6% from last year and recycling is up almost 25%! Total waste discarded (trash and recycling) was up only 5%.

Taking population into account, which has steadily increased year after year, each member of the campus community generated about 201 pounds of recycling and 248 pounds of trash this year.

Some highlights for the year include:

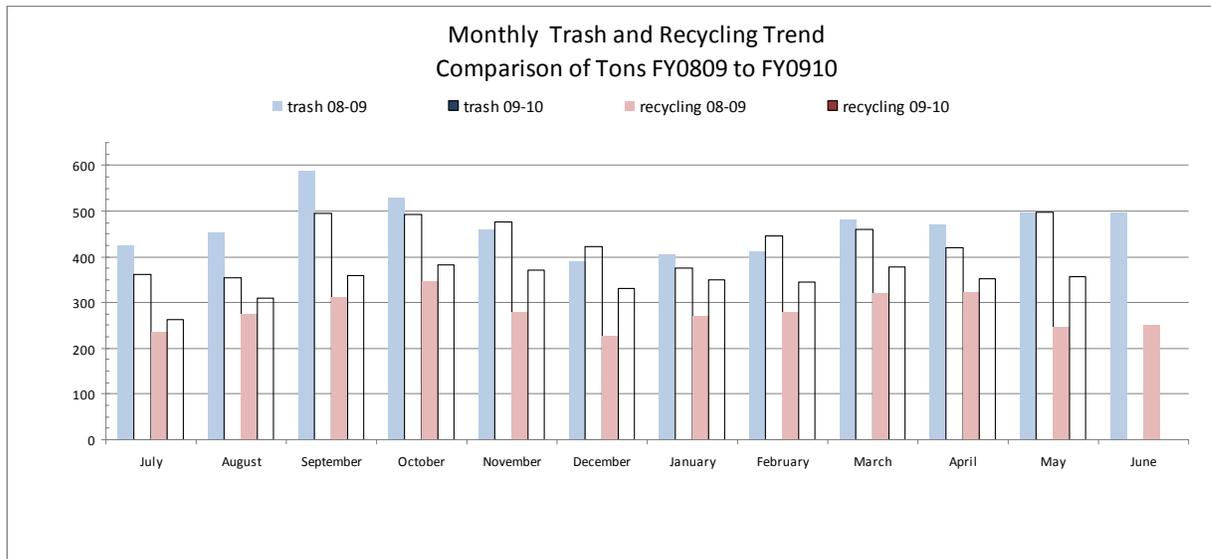
- June’s recycling rate was 51%.
- In June, we added electronics info (4 tons) from Creative Recycling (via surplus).
- There was a 47% increase in pallet recycling this year.
- We received almost \$36,000 in cardboard revenue this year--up \$12K from last year.
- Ram’s Head had a recycling rate of 70%, for the year and Lenoir 64%.
- Student move-in had a recycling rate of 48% 2009.
- Fall Fest has a waste recovery rate 55% in 2009.
- Block Party 2009 had a 68% recycling rate.
- For student move-out 2010 we realized a cost savings of \$3,500, primarily in the area of rolloff hauling and tipping fees. Unfortunately, records weren't systematically kept, preventing us from getting reliable information used to calculate volume estimates and volume to weight conversions.



To view the complete report, visit [www.fac.unc.edu/WasteReduction](http://www.fac.unc.edu/WasteReduction), [trend report](#) and [summary](#).

## May 2010 Solid Waste Trend Report

May	Month (in tons)			Year to date (in tons)		
	09-10	08-09	% increase or decrease	09-10	08-09	% increase or decrease
trash	499	496	0%	4,798	5,112	-6%
recycling	356	246	44%	3,795	3,118	22%
total waste	855	743	15%	8,593	8,230	4%
% recycled	41.7%	33.2%	26%	44.2%	37.9%	17%

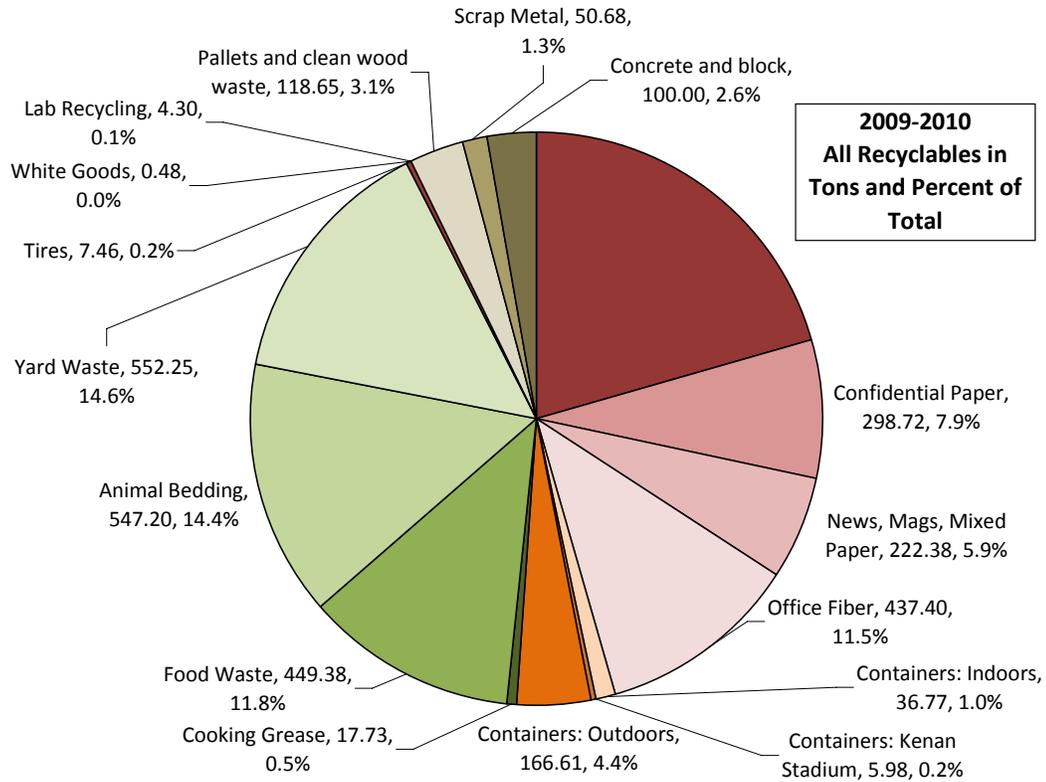


Our recycling rate is still at 44% which reflects a 22% YTD increase in recycling from last year. It's interesting to note that waste landfilled in September, October and May, some of our most active months in terms of students returning and football season, all were about equal in the tons landfilled category—approx. 500 tons.

As expected, construction and demolition waste is up during the summer months. Overall, in-house C&D (non-contractor waste) averages 82% YTD. This includes scrap metal, clean wood waste, pallets and concrete/block as well as other renovation, construction and demolition related waste.

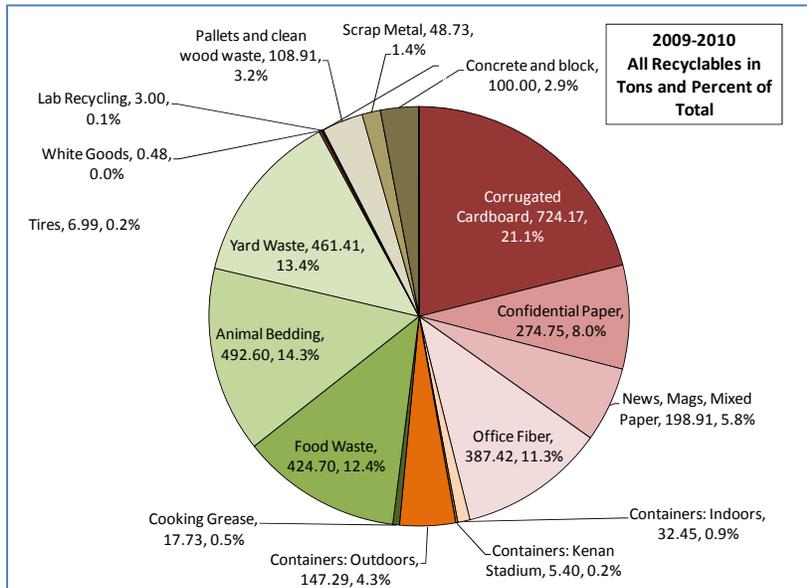
The EPA estimates that composting food waste that would have been landfilled produces a net decrease of metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>E). Also, according to research done for "Stop Trashing the Climate", it is now accepted that methane, which results from the decomposition of organic materials such as food waste, animal bedding and yard waste) is 23 times more potent than CO<sub>2</sub> in the short run. Organics account for 41% of Carolina's recycling in the form of mulching and composting. This year 1,567 tons have been processed—450 tons of food waste, 457 tons of animal bedding and 552 tons of yard waste. In all, 3,333 tons of food waste has been composted since the food waste collection program started in 2000. According to calculation using the EPA's Waste Reduction Model (WARM), **Carolina realizes an emission reduction of 1,439 MTCO<sub>2</sub>E and 393 metric tons carbon equivalents by composting rather than landfilling these materials. The energy savings equivalent is that of 1**

household's annual energy consumption, consumption of 25 barrels of oil or 1,186 gallons of gasoline.



To view the complete report, visit [www.fac.unc.edu/WasteReduction\\_trend\\_report](http://www.fac.unc.edu/WasteReduction_trend_report_summary) and [summary](#).

### April 2010 Solid Waste Trend Report



UNC has seen a 20% increase in recycling from this time last year and a 7% decrease in amount landfilled. However, we are still producing more things that need to be recycled or landfilled than last year—3% more. But this past April the campus reduced the amount of waste generated by 4%.

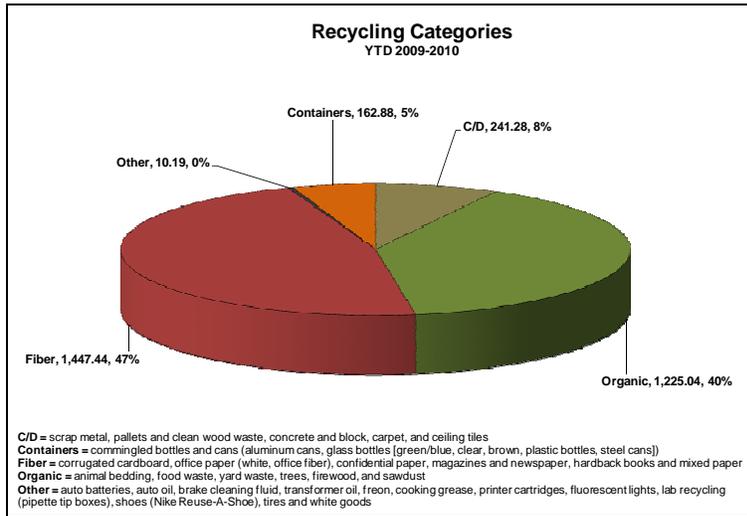
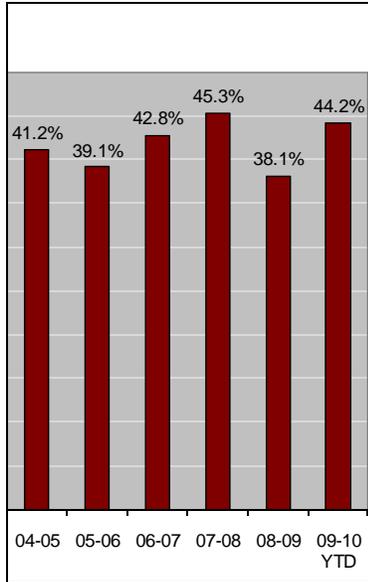
Fiber still rules at 46% of the total recycling YTD. But organics are a close second at 41%. Construction and demolition recycling (clean

wood, pallets, scrap metal, block and brick) are in 3rd place at 8% and bottles/cans are in 4th place at only 5% of the total recycled (by weight).

This year the spring football game had a 43% recycling rate! This is the highest recycling rate for the year at Kenan Stadium.

To view the complete report, visit [www.fac.unc.edu/WasteReduction\\_trend\\_report](http://www.fac.unc.edu/WasteReduction_trend_report_summary) and [summary](#).

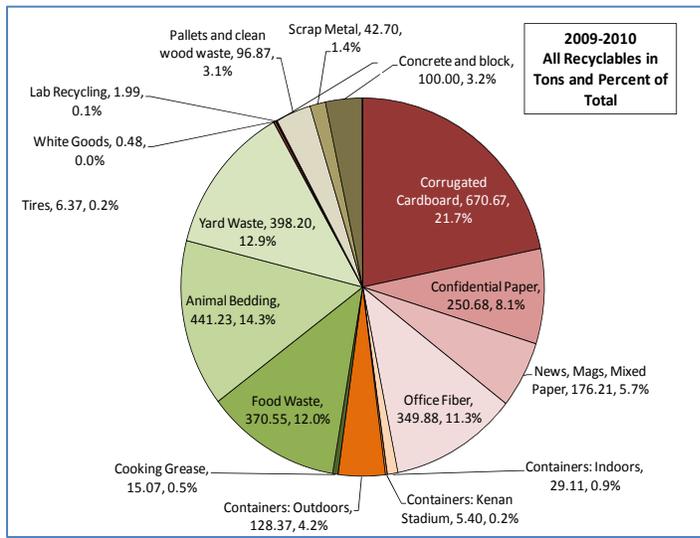
### March 2010 Solid Waste Trend Report



UNC's recycling rate is still high at 44.2%. This is the highest it has been in the past **20 years** with the exception of FY 0708. (That was the year we discovered that our indoor recycling numbers were being calculated on a faulty formula.) And, yes, we've been tracking recycling data for 20 years now!

This year we began tracking the amount of paper being recycled by an outside contractor working with many university departments. For some time now, those weights (approx. 25 tons per month) had not been included in our reporting.

Also noteworthy is that Rams Head Chase Dining Hall at Rams Head's recycling rate is almost 70%. Lenoir is also doing well at 64%. Construction and demolition waste landfilled is at an all time low for the four years at less than 2 tons for March.



Simultaneously, 25 tons of metal, concrete/block and pallets/clean wood were recycled in March. And finally, the really good news is that cardboard markets are on the upswing. While our tons were down, our revenue for cardboard was at a high for the last 2 years. Perhaps that's a sign that the economy is on the upswing.

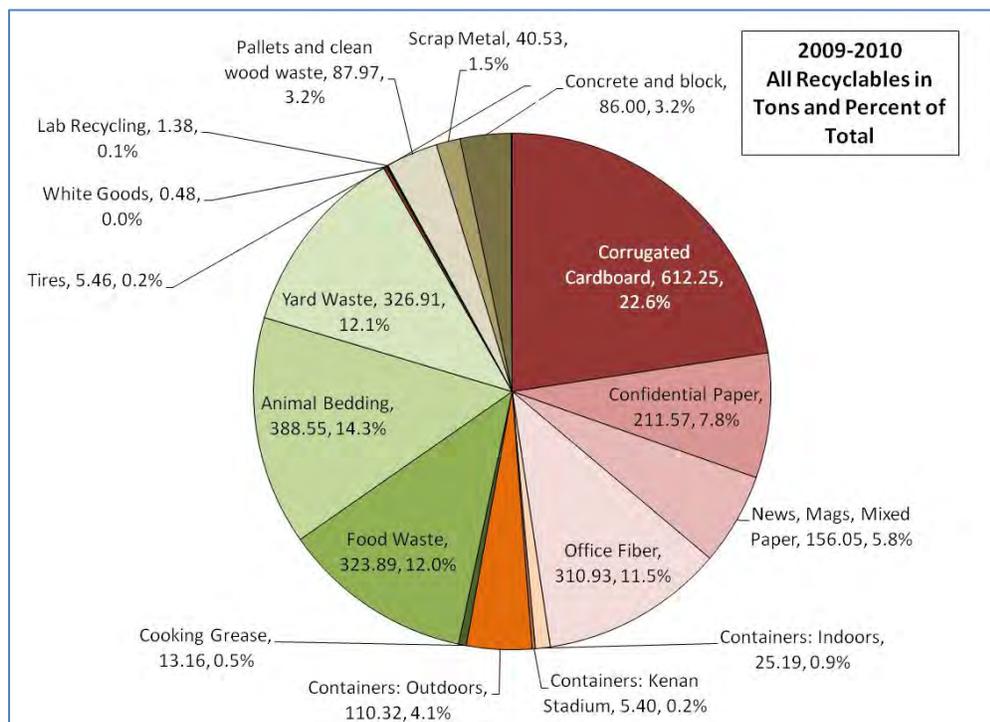
To view the complete report, visit [www.fac.unc.edu/WasteReduction](http://www.fac.unc.edu/WasteReduction), [trend report](#) and [summary](#).

## February 2010 Solid Waste Trend Report

The campus recycling rate is still holding strong at 44% year-to-date (YTD) and 43.6% for February. Total **waste generated** YTD is up 4% and 15% for February. The amount **landfilled** is in the single digit increase for Feb but is less than this time last YTD. At least the additional waste being generated on campus is getting recycled as seen by the increase in recycling.

By including the paper shredded via an outside contractor (195 tons this YTD), our recycling rate has increased. This can account for about 40% of the increase. Other recycling trends include a steady increase in fiber and organics recycling. Maximizing the diversion of these materials from the landfill avoids the production of methane (one of the nastiest of the greenhouse gasses!)

February	Month (in tons)			Year to date (in tons)		
	09-10	08-09	% increase or decrease	09-10	08-09	% increase or decrease
trash	446	412	8%	3,421	3,663	-7%
recycling	346	279	24%	2,709	2,225	22%
total waste	792	691	15%	6,130	5,888	4%
% recycled	43.6%	40.4%	8%	44.2%	37.8%	17%



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## January 2010 Solid Waste Trend Report

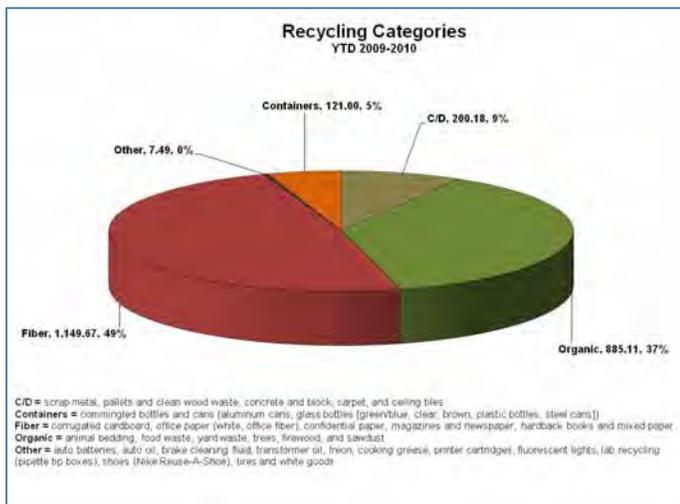
Big news! Rams Head and Lenoir are demonstrating outstanding recycling rates of 77.4% and 71.4% respectively. Great job ARAMARK!

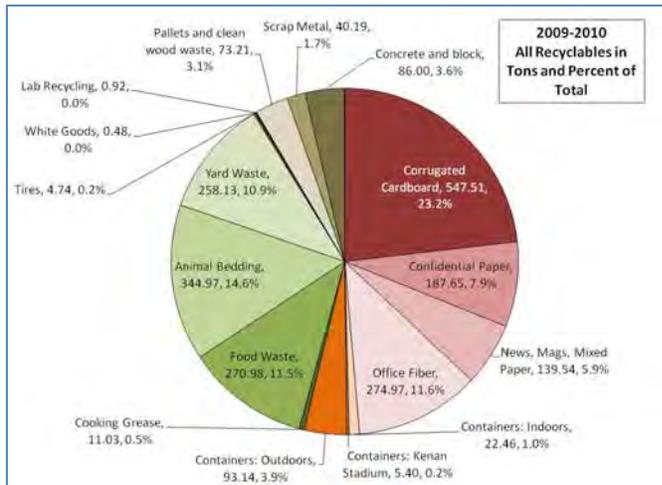
Overall, Carolina's recycling rate is holding a 44% recycling rate for the year. For the month of January our recycling rate was 48%.

As seen in the chart below, our amount landfilled is consistently down by 8% (good), while our overall discards (trash and recycling) are up about 20% (not so good—but at least it's being recycled). On a similar trend, cardboard tons were down but the market value for that material was up significantly. This could be a sign that box orders are up and thus the nation's willingness to buy more stuff is on the rise. Similarly, construction and demolition recycling was also up in January.

January	Month (in tons)			Year to date (in tons)		
	09-10	08-09	%increase or decrease	09-10	08-09	%increase or decrease
<b>trash</b>	<b>375</b>	407	<b>-8%</b>	<b>2,975</b>	3,251	<b>-8%</b>
<b>recycling</b>	<b>349</b>	271	<b>29%</b>	<b>2,363</b>	1,946	<b>21%</b>
<b>total waste</b>	<b>725</b>	677	<b>7%</b>	<b>5,338</b>	5,197	<b>3%</b>
<b>% recycled</b>	<b>48.2%</b>	40.0%	<b>21%</b>	<b>44.3%</b>	37.4%	<b>18%</b>

An interesting trend is that the campus is now recycling more confidential paper than mixed paper. That is to say that there are more documents being shredded on campus, by weight, than all of the newspapers, magazines and junk mail getting recycled by students, staff and faculty combined.





To view the complete report, visit [www.fac.unc.edu/WasteReduction](http://www.fac.unc.edu/WasteReduction), [trend report](#) and [summary](#).

### December 2010 Trend

Carolina's year-to-date (YTD) recycling rate continues to hold at 44%.

The new chart below (found on page 3 of the full report), shows what it looks like to compare December of last year to December of this year. It also compares where we are YTD compared to the same time last year.

December	Month (in tons)			Year to date (in tons)		
	09-10	08-09	% increase or decrease	09-10	08-09	% increase or decrease
trash	421	390	8%	2,599	2,844	-9%
recycling	331	227	46%	2,014	1,675	20%
total waste	752	617	22%	4,613	4,520	2%
% recycled	44.0%	36.7%	20%	43.7%	37.1%	18%

What you see is that overall (YTD) is that we have decreased our waste landfilled by 9%, increased our recycling by 20%, produced 2% more total waste and increased our recycling rate by 18%. When comparing December to December, we've landfilled 8% more, recycled 46% more, produced 22% more total waste than the previous December, and brought our recycling rate up by 20%.

This is great. But why the significant increase in waste landfilled and recycled? Could it be the economy has improved? It's hard to say. When looking at individual areas, there are some trends.

- ⇒ Overall this year, we're sending less waste to the **landfill** in our dumpsters (11%), but more in our rolloffs (24%).
- ⇒ **Construction and demolition waste** recycling is up and the amount landfilled is down. Increases are primarily in pallets and concrete/block recycling—YTD they have both more than doubled over last year.
- ⇒ **Fiber** has seen a 19% increase over last year. In December alone, 42 tons more fiber was recycled with increases in cardboard, confidential paper, and mixed paper.
- ⇒ **Organics** recycling is up 16% from this time last year. December accounted for 62 more tons than last December.
- ⇒ The most significant increase in this area is in **yard waste**—19 tons more in November this year and 30 tons more in December of this year.

### November 2009 Solid Waste Trend Report

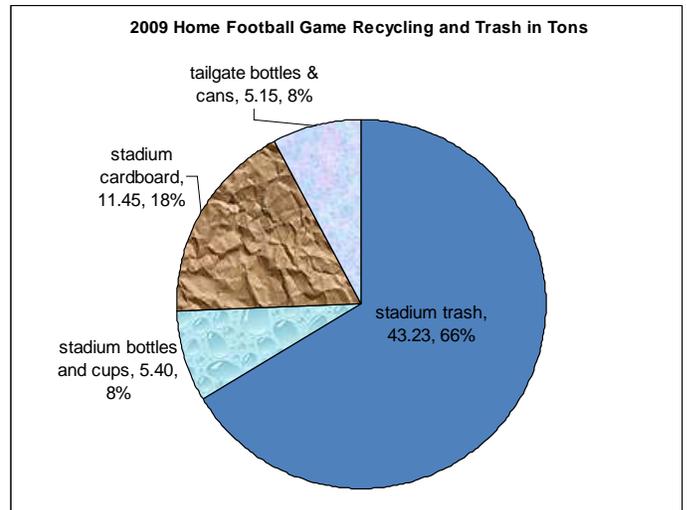
Carolina's **recycling rate** is holding strong at 44% this year. In November 2009, we recycled 87 more tons of materials than in November 2008. Similarly, trash was up by 17 tons from the same time last year.

Overall, our **recycling make up** is 24% cardboard, 14% animal bedding, 12% office fiber, 12% food waste, 9% yard waste, 8% confidential paper, 6% mixed paper, and 5% bottles/cans by weight. Scrap metal, pallets and concrete recycling data is recorded separately from these stats as Construction and Demolition waste recycling. Together, they totaled 37 tons in November.

**Kenan Football Stadium** and tailgating recycling efforts diverted almost 11 tons of bottles and cans from landfilling: 5.15 from tailgating and 5.4 from the stadium. 11 tons of cardboard were recycled from the stadium's vendors. Overall the recycling rate for the stadium this year was 28%.

Interesting factoids:

- 25 tons of **confidential** material was shredded via an outside contractor in November.
- Only one load of bulky waste was disposed by **Surplus** in November and the tons landfilled are down 60% from November of last year.
- Since 2000, Carolina has **composted** 3,078 tons of **food waste** via Brooks Contractors and Carolina Dining Services efforts.
- **Rams Head** has a recycling rate of 67% and **Lenoir's** is 63%.

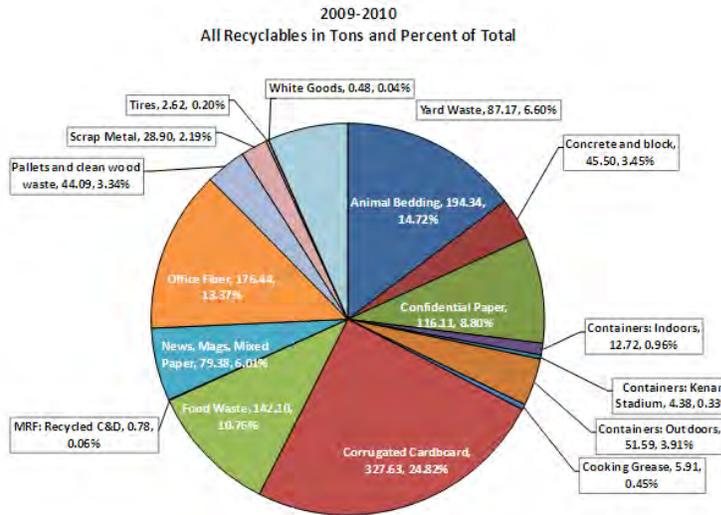


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### October 2009 Solid Waste Trend Report

Carolina has a 44% YTD recycling rate, resulting in only 56% of our waste being sent to the landfill.

Below is a breakdown of the materials recycled by individuals and departments on campus. Corrugated cardboard, animal bedding and office fiber are the three most recycled materials by weight. By category fiber remains to make up the majority (53%) of recyclables at Carolina.



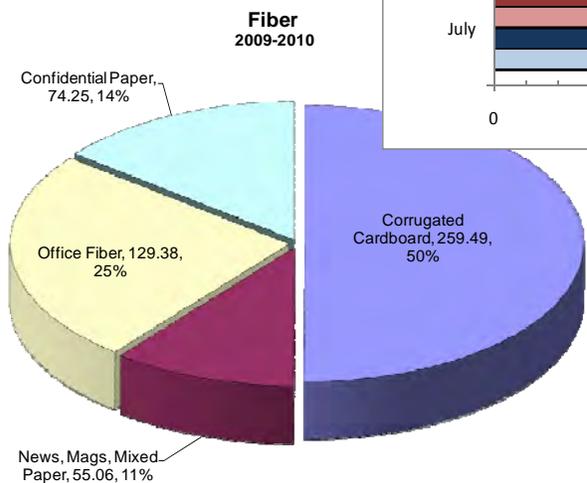
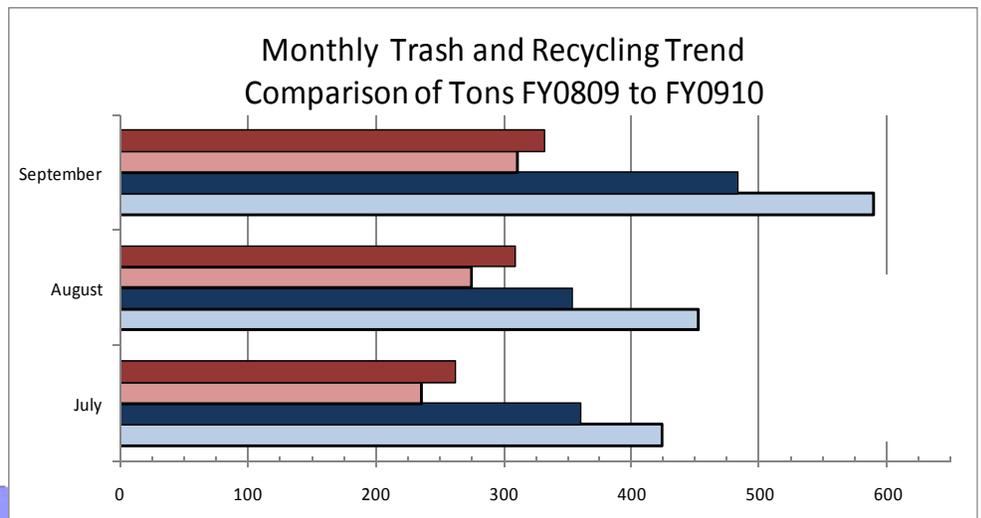
Construction and demolition waste is up from 20 tons this month last year to 54 tons this October. 12 tons of scrap metal, 11 tons of pallets and 31 tons of concrete and block that were recycled.

Three football games in October resulted in 8.3 tons of recyclables collected from the stadium clean up and tailgating in the S11, 3-tier, RV and Stadium Drive lots. We had a 30% recycling rate at the stadium.

To view the complete report, visit [www.fac.unc.edu/WasteReduction](http://www.fac.unc.edu/WasteReduction) trend report and [summary](#).

### September 2009 Solid Waste Trend Report

Our year-to-date recycling rate is 43% and 40% for the month of September (up from 35% last September.) Notice in the graph below that the amount landfilled has been down from last year each month. Could the economy be to blame or are we consciously reducing our



waste generation?

As categories go, fiber and organics are still #1 and #2 overall. Cardboard, animal

bedding, office fiber and food waste are still the top four recycled items on campus. Cardboard now makes up 50% of all the fiber recycled on campus. A new trend is that confidential paper is the fifth most recycled material on campus—even more than mixed paper recycling. We have begun receiving data from Shred-It this year for UNC-CH accounts using their service. Last year confidential paper made up 1.7% of the total campus recycling. This year it is already accounting for 8.2%. Without the Shred-It stats, our recycling rate would be 2% less for this year and 1% less for the month.

If you visit our website and view the full [trend report](#), you will see a new construction and demolition graph. The new graph shows monthly campus trends in non-contractor C&D waste generation and recycling dating back to 2006. One can surmise from the trends that construction is down significantly from what it was two and three years ago. Even surplus discards are down. It is also clear from the graph that recycling of C&D waste has steadily become more of the normal operating practice. Last year 57% of our C&D waste landfilled was landfilled. This year (to date) only 22% has been. Similarly, 602 tons of c/d waste was landfilled and 161 tons was recycled (**21% recycled**) in 06-07. In 07-08, the total was 463 tons landfilled and 253 recycled (**35% recycled**). And last year, 245 tons were landfilled and 185 recycled--**45% recycled**. [note: For our purposes, construction and demolition or C&D waste consists of mixed materials from projects, clean wood waste, pallets, concrete/block/brick, pallets, and scrap metal. ]

Food waste composting is still strong. We have collected almost 3,000 tons of food waste for composting by Brooks Contractors, Inc. since 2000. Lenoir operations are boasting a 63% recycling rate and Rams Head has a whopping 66% recycling rate. In late September, Carolina Inn joined the Rizzo Center and UNC Hospital in composting food waste. Stats for these locations have not been included in our reporting because they are not university operations.

## **August 2009**

The campus year to date recycling rate is 44% and it was a whopping 47% for the month of August! To what do we attribute this increase? The amount of trash landfilled was down from this month last year as you can see in the graph below. So that's good. Perhaps we are getting this waste reduction thing. It's hard to tell. At the same time, recycling was up. Pallet/clean wood, fiber and animal bedding tonnages were up. Weights for pallets started going up at the beginning of the year and are more than double what they were at this time last year. Similarly, there was a spike in animal bedding this summer. July's animal bedding was double what it was last July—that's a 25 ton increase. And finally, cardboard, which accounts for more than ¼ of all our recycling, was up by 60 tons from this time last year. That's a 16% increase.

## **July 2009**

Our recycling rate for July 2009 is 42%! This is outstanding! This is our highest monthly recycling rate in over a year. Good job everyone!

This month was the first month at we've reported shredded paper from the School of Medicine's shredding contract. Adding these numbers brought our overall recycling rate up from 40% to 42%. Similarly, without the shredding, the amount recycled this July compared to last July almost identical. With the shredding, the total surpassed last July.

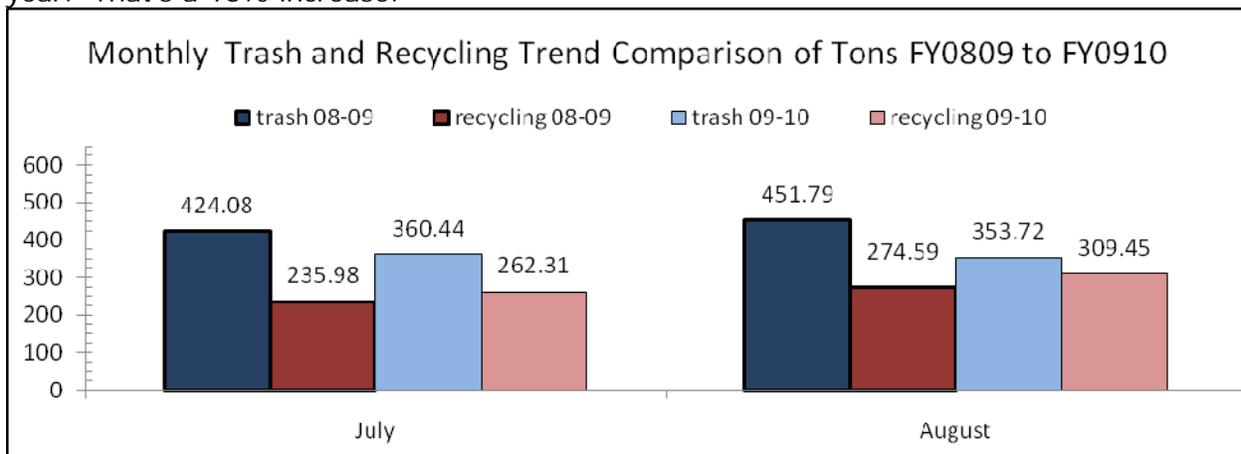
Food waste is low due to the reduced population of summers at Carolina. However, the amount of compost for July of this year was right on track with the same month last year.

We added Coble Sandrock to our report construction and demolition (C&D) section as the campus mixed waste C&D processing center of choice. They have a 38.5% recycling rate. Recycling rate for C&D materials from campus operations is 48%. This was primarily due to a large amount of pallets and wood waste that was recycled. The rate would have been higher, however, 42 tons of concrete and block was mixed with trash and had to be landfilled. Sarah Myers and Hal Sanders of the Masonry Shop are working to correct this.

For our special event results reporting we have begun using an updated conversion factor for calculating cubic yards from gallons. Previous years were not updated but more accurate estimates will be used from this point forward.

### August 2009

The campus year to date recycling rate is 44% and it was a whopping 47% for the month of August! To what do we attribute this increase? The amount of trash landfilled was down from this month last year as you can see in the graph below. So that's good. Perhaps we are getting this waste reduction thing. It's hard to tell. At the same time, recycling was up. Pallet/clean wood, fiber and animal bedding tonnages were up. Weights for pallets started going up at the beginning of the year and are more than double what they were at this time last year. Similarly, there was a spike in animal bedding this summer. July's animal bedding was double what it was last July—that's a 25 ton increase. And finally, cardboard, which accounts for more than ¼ of all our recycling, was up by 60 tons from this time last year. That's a 16% increase.



Cardboard is still our most recycled item, followed by animal bedding, and then by office fiber. An interesting note was that food waste was down about 9 tons or almost 30% from August of last year.

Construction and demolition (C&D) waste recycling was 68% of the total waste generated from campus construction and demolition operations. 76% of the C&D waste stream is wood and pallets (shipping pallets and crates from routine deliveries are included in this.) Metal and block/brick make up the majority of the rest of the C&D recycling stream. Problems with brick/concrete recycling collection are being worked out, but recent contamination led to several very heavy loads having to be landfilled.