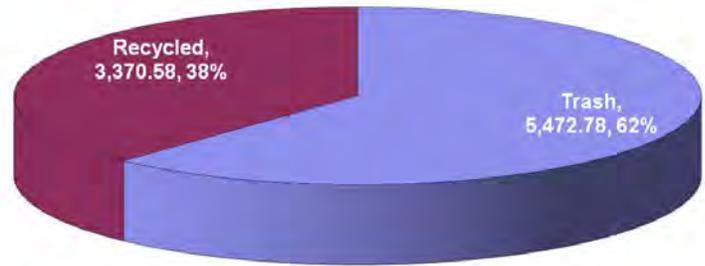


2008-2009 Solid Waste Trend Report Annual Summary (includes June info)

Good news! We set a record low for tons landfilled. The amount landfilled this year is the lowest it has been since we started measuring in 1991. This year we sent 5,473 tons of waste to the landfill. The closest we've come to this figure was in FY 04-05 and 07-08 during which 5,560 tons were landfilled each year. Over the years our population has increased. So it's important to note that while we've increased buildings, people and events, our waste landfilled has stayed steady. In fact, our per capita amount landfilled is down by 49% from our base year of 91-92. This is outstanding!

Amount Landfilled and Recycled 2008-2009 (tons)
(does not include coal ash)



And while recycling has increased over the years—from 771 tons collected during that base year to 3,371 tons this year—our recycling numbers are looking low compared to last year. 38% is our lowest annual rate since 2001-2002. It is important to note, however, that there is a reason that the numbers reported are lower. Back in March 2008, we began requiring the contractor providing our indoor collection services to report actual scale weights vs. estimated weights. The difference was noticeable. For example, indoor paper recycling totals are down 45% from the previous year—mostly due to the change in reporting requirements. The good news is that we now have accurate information and are beginning to see month to month comparisons that are realistic. The bad news is that it significantly lowered our overall recycling percentage.

What do we recycle? Overall, 48% of everything that we recycling is fiber (cardboard, office paper, newspaper, mixed paper, etc.) Organics such as food waste, animal bedding and yard waste comprise 40% of our total. And used beverage containers and in-house construction and demolition waste are 7% and 5%, respectively, of our recycling total. Individually, cardboard is our number one recyclable material by weight. It makes up 22% of all that we recycle. Animal bedding (produced by DLAM), office fiber, and food waste (from dining halls and catering operations) are the next three by weight—making up 16%, 15% and 13% of the recycling total, respectively. Yard waste (processed by Grounds) and newspaper/mixed paper are each at 10% of the total. The one item missing from this year's report is shredded paper from the contracted services provided by the School of Medicine. We are trying to obtain those numbers, but did not have them as of the end of July. Visit the trend report in its entirety for a complete listing of materials recycled: [2008-2009 OWRR Trend Report](#)

UNC Chapel Hill saves 08-09		Recycling 1 ton of paper saves	
trees:	27,516	17 trees	
gallons of water:	11,254,077	6953 gallons of water	
gallons of oil:	749,409	463 gallons of oil	
pounds of air pollution:	950,114	587 pounds of air pollution	
cubic yards of landfill space:	4,953	3.06 Cubic yards of landfill space	
kilowatt hours of energy:	6,599,004	4077 kilowatt hours of energy	
Total tons fiber recycled in 08-09=	1,618.59		

Construction and demolition waste from in-house projects and operations is also an important part of our recycled material stream and totaled 431 tons. Of the waste landfilled this year by Carolina, about 4% of the total was taken to C/D landfills. Overall, approximately 43% of our C/D waste was recycled. Most of that was source-separated and consisted of clean wood waste and pallets, scrap metal, and concrete/block. The Masonry Shop collected 48 tons of concrete and block to be processed at a local facility into aggregate. 87 tons of pallets and clean wood was processed by Orange County. And 43 tons of scrap metal was recycled from Surplus Property, individual projects, or direct hauled by OWRR. Only 6% of the C/D materials, about 24 tons, were taken to processing facilities to be sorted. The amount

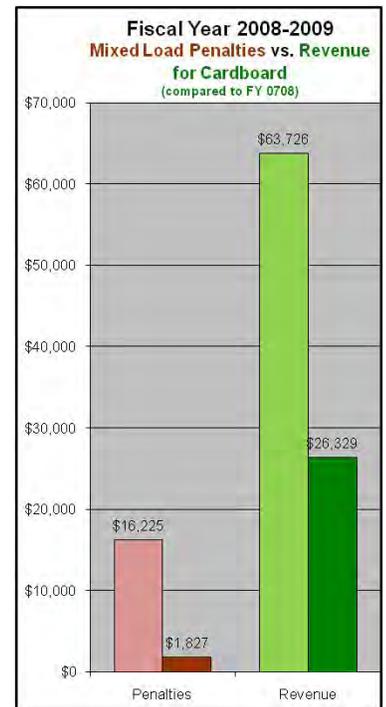
recycled from those facilities amounted to 8 tons or 4% of the total C/D materials recycled. Overall, we landfilled 246 tons of C/D materials—leaving room for improvement in the coming year.

While on the subject of construction, the slowing of our campus construction boom was seen in the amount of waste hauled from Surplus Property—down by almost 50%. Could this be due to fewer buildings being emptied out and readied for renovation or demolition? OWRR thinks so. It could also be that for whatever reason (slowing economy?) Surplus is selling more items. Either way, it's a trend that we like to see!

Our composting program is key to our waste diversion success! Through a partnership with Orange County, we are able to redirect these materials to Brooks Contractor's facility in Goldston, NC. Dining services continues to embrace the program. Rams Head and Lenoir boast impressive recycling rates of 63% and 60%, respectively. Overall food waste numbers were down slightly due to the closure of The Beach Café which will reopen Fall 2009.

Of significance this year is the fact that Carolina began using Waste Industries' Durham solid waste transfer station for disposal of our waste. This temporary decision was made in partnership with Orange County to lengthen the life of the County landfill while a transfer station location was determined. During this temporary shift, we are still bound to Orange County disposal regulations regarding recycling of cardboard, clean wood waste, pallets and scrap metal. State bans also still apply such as bans on landfilling of aluminum cans, plastic bottles, yard waste, whole tires, motor oil, white goods, oyster shells, and some electronics. Loads are still subject to inspection. So we need to stay vigilant and be sure that these items get recycled!

The market crash this year wasn't just on Wall Street. Recyclable markets also crashed. Everyone agrees that just like the housing markets, recyclable markets were unusually inflated before the crash. But then they went "boom". You can see in the graph that revenue from cardboard was down almost 60% this year, while the amount of cardboard collected was down only 26%. Markets are slowly increasing and will hopefully level reasonably over time.



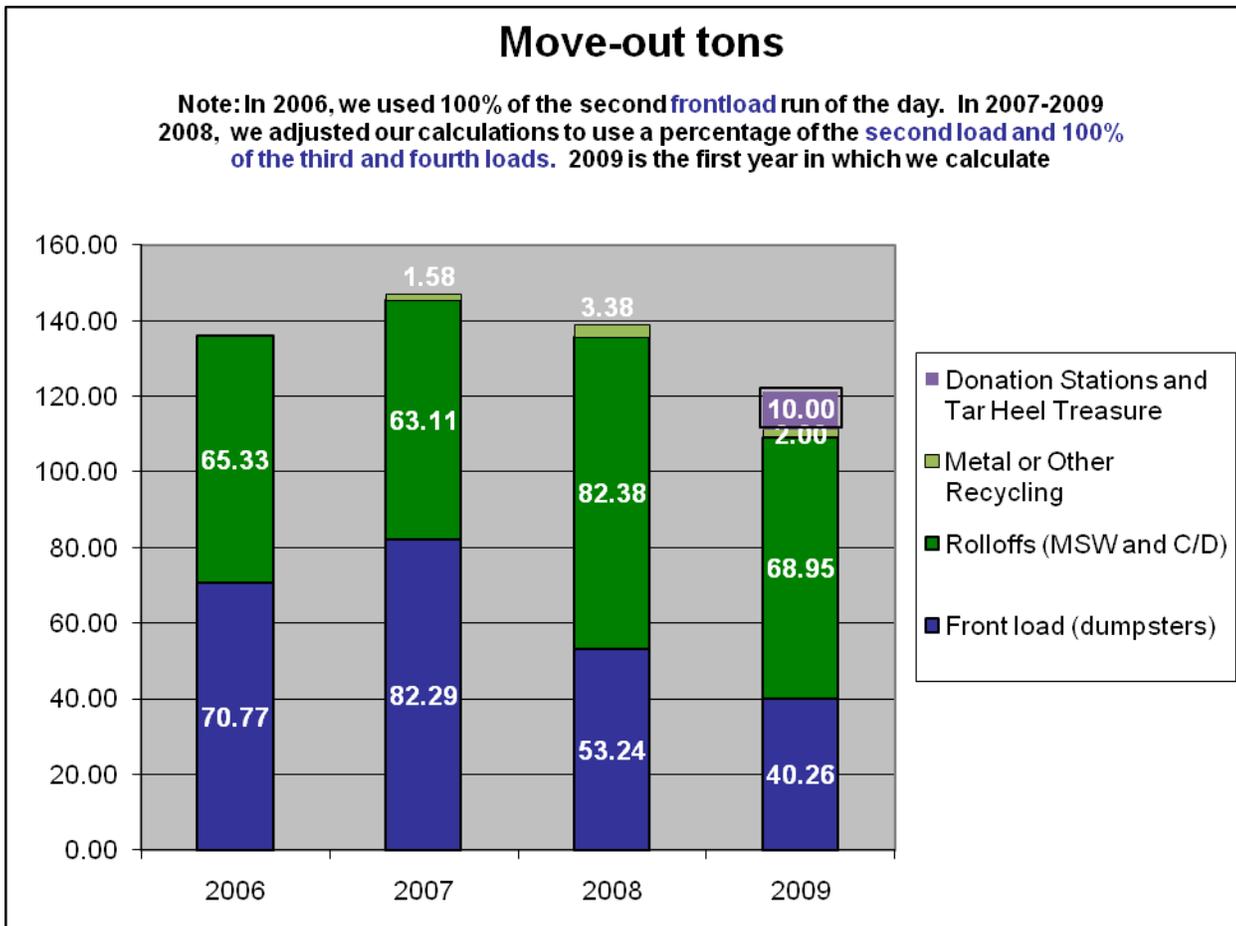
This year was a big one for special events on campus. We started a Green Events Program. Fall Fest had a 50% recycling rate. Later that week the Week of Welcome Block party achieved a 63% recycling rate! Even later in the year, the School of Public Health had a naming ceremony and picnic for 1,000 attendees. Thanks to Gerry Salak who planned the event, it was Carolina's first zero waste event of that size. Similarly, Facilities Services held a 1,000 person, day-long event that was also a zero waste event (well practically). At the end of the day they had 20 bags of compost, 8 bags of bottles and cans, and only two bags of trash! (see photo)



On the subject of events, recycling at Kenan Stadium was successful again this year. 30% of the waste from game days at the stadium was recycled. The bottles and cans from football games comprised 3% of the total beverage containers collected on campus. A pilot program was tested for tailgating at campus parking lots. The project proved successful after one game and will continue to be tested in partnership with Grounds in 2009.

And finally, a new program for student move-out happened this year. After many years of "wouldn't it be nice" thoughts, this year Tar Heel Treasure, a program modeled after Penn State's Trash to Treasure program, became a reality. Items from the donation stations were collected during student move-out and sold yard sale style just as the summer session was beginning. Approximately 10 tons of "stuff" was sold and \$7,000 was raised for the Eve Carson Memorial Scholarship fund.

May 2009 Solid Waste Trend Report



The recycling rate for May was 34%. Good news is the total trash landfilled is down more than 100 tons from last May. Construction and Demolition recycling is at 43% which is good. Notably, there were significant drops in food waste which is down to 20 tons from 50 tons due to student move out. This year was the first year in which we were able to calculate exact weights. An estimated 10 tons of materials were salvaged from student move out. Overall our year-to-date recycling rate is only slightly down at 38%.

April 2009 Solid Waste Trend Report

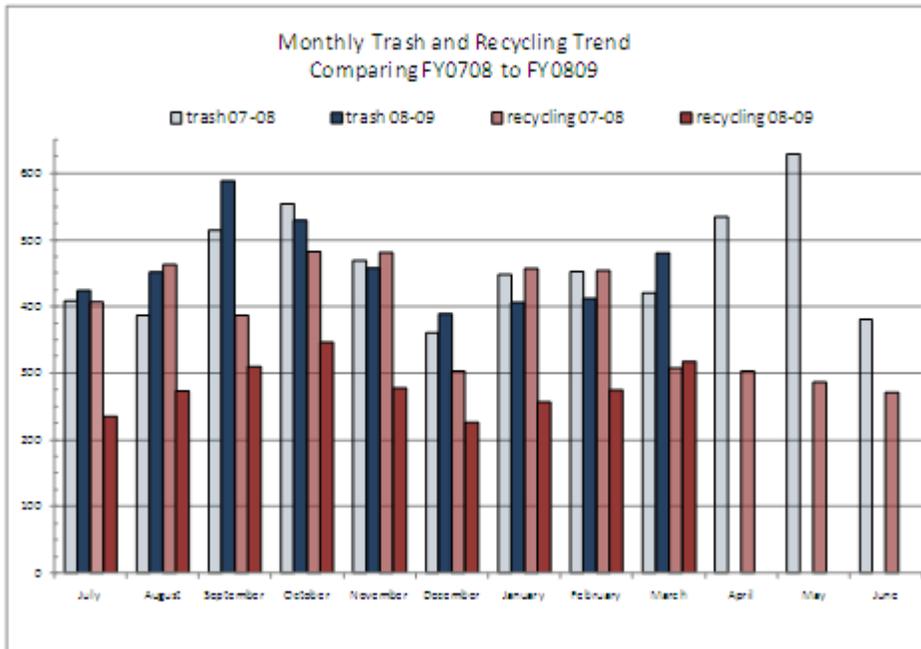
April saw a 41% recycling rate. That's the highest our monthly recycling rate has been this year. A monthly comparison of year to this year shows that we recycled more and landfilled less this April than in 2008. This is the type of trend we like to see. The average year-to-date recycling rate for FY08-09 is 38%.

Year-to-date construction and demolition recycling for in-house projects and campus operations is at 42% with most of that being source separated concrete, block, pallets, and scrap metal.

Data from move-out and Tar Heel Treasure will be included in the May trend report.

March 2009 Solid Waste Trend Report

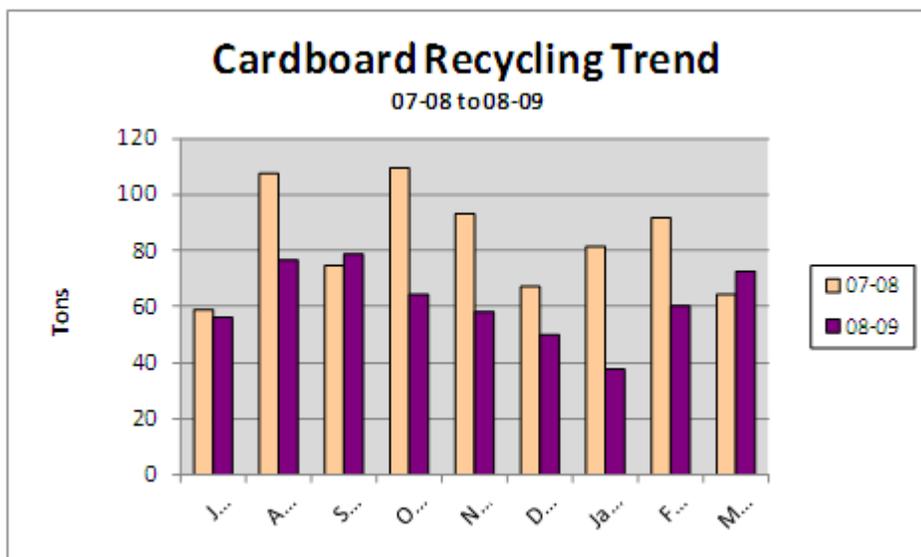
Carolina has a 40% recycling rate for March 2009. Overall, our recycling rate for the year-to-date is 38%.



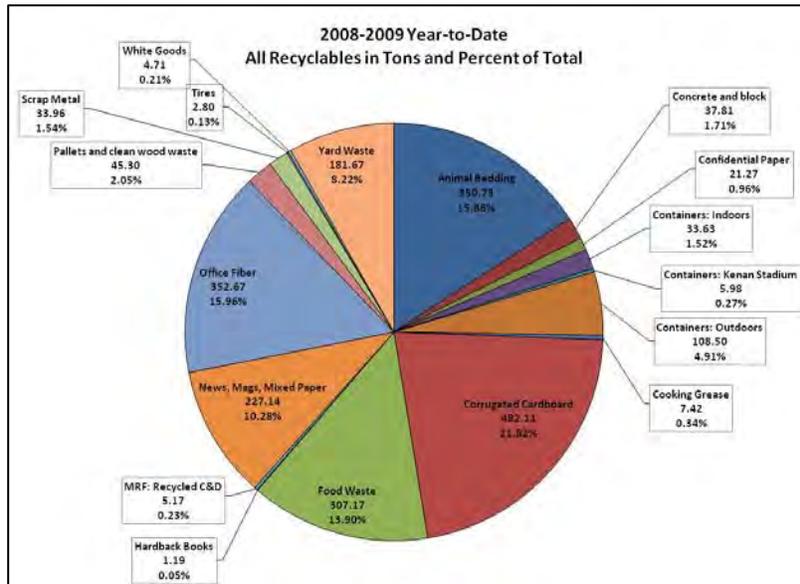
It's been a whole year since the new weighing procedures for the indoor program were implemented. A comparison of March of this year to March of last year shows that the recycling rates from year to year will now be much more reliable. And the good news is that we were up slightly on our recycling amounts over March of last year.

Cardboard tonnages have only surpassed last year's monthly totals only twice this fiscal year--in September by 4 tons and March by 9 tons.

More good news is that 42% of our campus-produced construction and demolition waste (C&D) waste is recycled. Of that, 40% is source separated (metal, wood and block). About 95% of all waste landfilled by Carolina is municipal solid waste (MSW), the other 5% is C&D waste.



February 2009 Solid Waste Trend Report



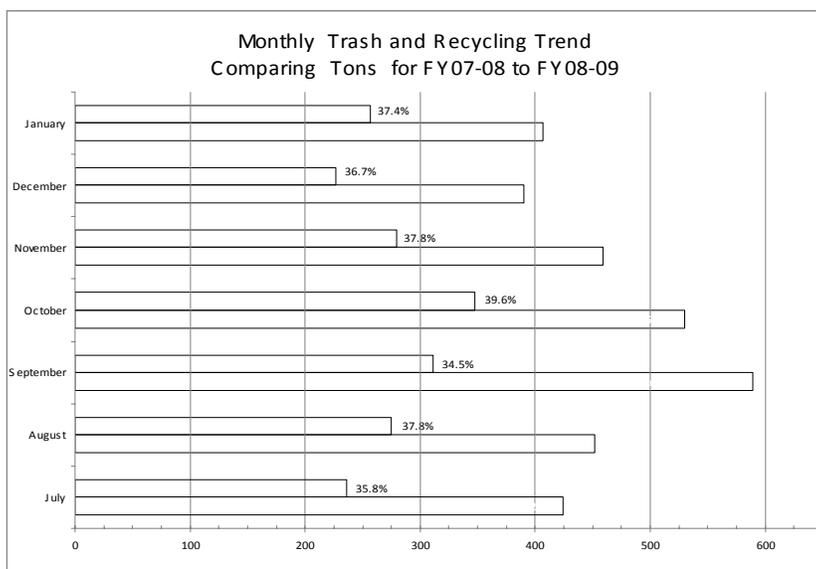
Carolina's recycling rate for February was 40.1%; thus bringing the recycling rate for the 08-09 fiscal year to 38%. That's up 1% from last month.

Overall, recycling is showing a small, but steady increase since an expected low in December. The amount of waste landfilled this month was lower than the same month in the previous year. January and February were almost identical in this respect. Experts agree--as the economy declines, landfill rates are following. However, on an up note, we did recycle more cardboard this month than last month. Still, the amount is about 2/3 of that which was recycled at Carolina in Feb. 08—but it's an increase.

Paper and organic waste continue to be the bulk of our recycling by weight. As we look at climate action planning and carbon issues, we realize more and more how important it is to continue to recycling these items. If landfilled, they produce methane, which according to the "Stop Trashing the Climate" report* is "72 times more potent than CO₂ over 20 years."

(* Stop Trashing the Climate, Executive Summary, by Brenda Platt and David Cipler, June 2008, page 8 (www.stoptrashingthecollegeclimate.org))

January 2009 Solid Waste Trend Report

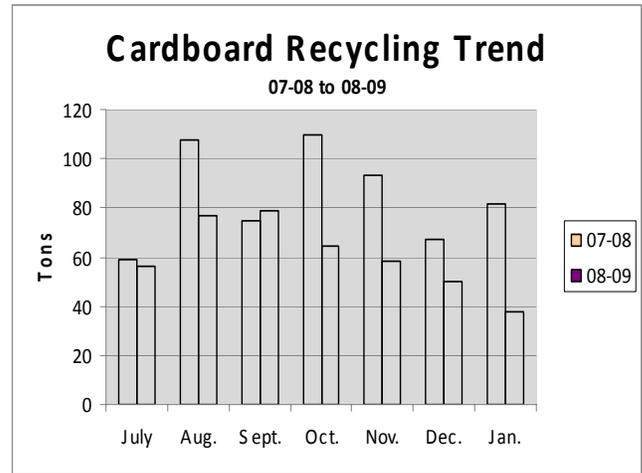


You can see on the graph above that the recycling percentage fluctuates from month to month. Overall, Carolina is still recycling, on average, 37% of its waste. So far this fiscal year, we've recycled 1,933 tons of materials and landfilled 3,250 tons of waste.

The overall trend continues in that cardboard is the most recycled item on campus making up 22% of all that we recycle. Office paper is second at 17% of the total recycling with animal bedding being a close second at 16%. Food waste and mixed paper/newspapers/magazines following at 13% and 11% respectively.

As a group, fiber makes up 50% of the total recycling and 968 tons of paper products have been collected this year. Organics as a category make up 38% of the total recycling on campus, while used beverage containers and construction and demolition waste are 7% and 5% respectively.

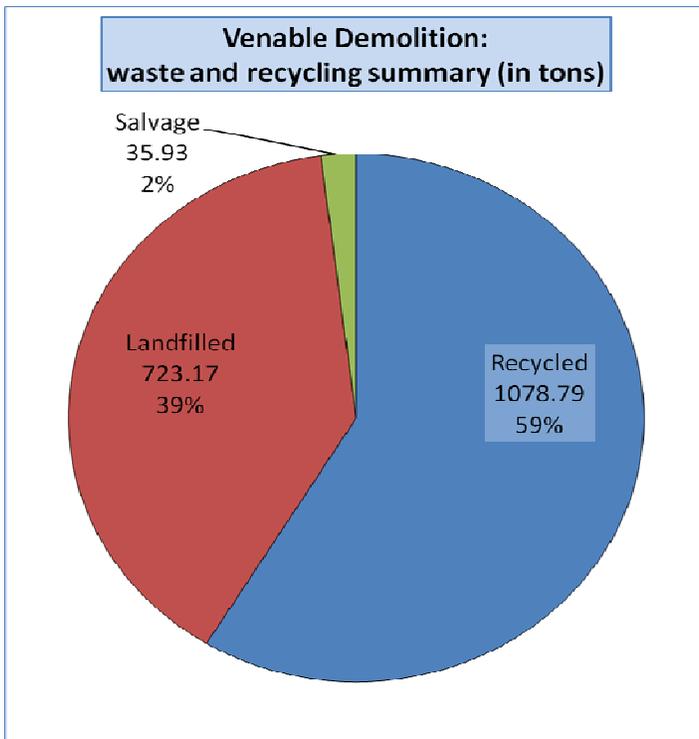
Cardboard recycling tends to be a reflection of the economy. The cardboard recycling trend cart shows a significant decline in cardboard recycling this year compared to last year and the usual post-holiday spike in January was missing this year. Cardboard collected in January was half of that collected in August and the related revenue dropped from \$5,000 in August to \$500 in January.



Overall, construction and demolition waste accounted for 6% of the total landfilled. The results of Sarah Myer's recent report showing that team working on the demolition of Venable was able to achieve a 61% recycling rate via source separation are mirrored by our campus experience. Maintenance shops and departments on campus have source separated 86 tons of materials this year or 96% of all C&D recycled for the year. Results for the three major categories of source separated construction waste by on-campus groups are: 38 tons of concrete and block, 34 tons of pallets and wood waste, and 29 tons of scrap metal so far this year.

December 2008 Solid Waste Trend Report

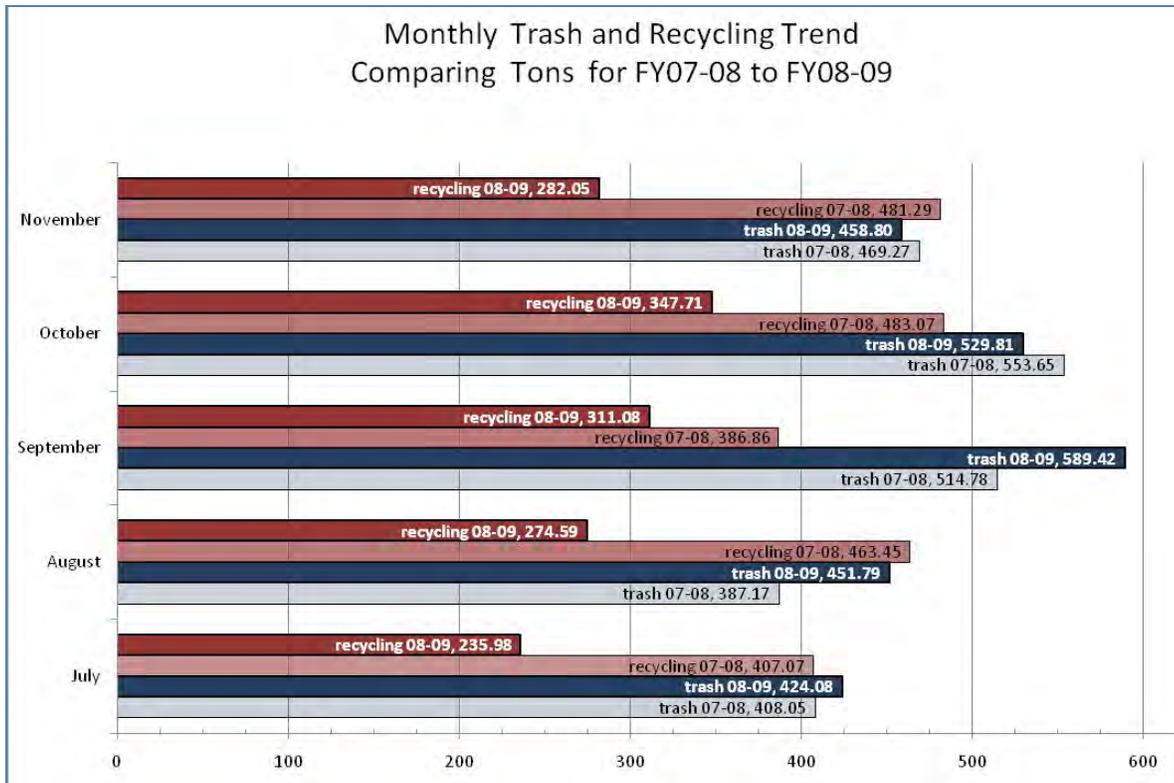
Sarah Myers has written a closeout report for Venable. The only piece remaining is the contractor input, because they have yet to return her calls. The University set a waste diversion rate of 70% for the building demolition and salvage.



With more than 3 years in the planning and a considerable amount of determination, a 61% recycling and salvage rate was achieved. Materials separated onsite for recycling include **2 tons of ceiling tile, 700 tons of aggregate, and 356 tons of metal (six sorts)**. Items salvaged for reuse on campus include **24 pallets of concrete roof tiles, slate roofing tiles, control panels, furniture and chemistry equipment, limestone door surrounds, and granite stairs**. In addition to **20 truckloads** of furniture and equipment that went to the UNC Surplus retail store, UNC worked with Institution Recycling Network to send **2 shipping containers of furniture to needy communities in Haiti**. This effort was singled out by then-Chancellor Moeser as "a great example of recycling and sustainability, not to mention help to a very poor country." Sarah has submitted her report for the Carolina Recycling Association's Green Building Award.

Carolina continues to maintain a steady 37% recycling rate! We still need to aim for over 40% in the following months to meet our goals. OWRR's indoor recycling program will be reorganizing and we see this as an opportunity to continue education and outreach about our programs and services. It will be a chance for us to be seen more on campus and interact more with our customers.

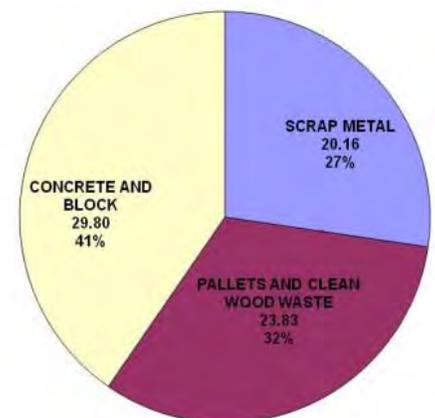
November 2008 Solid Waste Trend Report



Carolina continues to maintain a year-to-date recycling rate of 37%. While monthly rates fluctuated between 34% and 40% this year, we need to surpass 40% in the coming months if we are to meet our 40% waste diversion goal. Simply put, that means sending less to the landfill and recycling more.

In November, waste landfilled decreased by about 71 tons over October and 11 tons from November of last year. Recycling also saw a decrease of about 65 tons from October. (We are not comparing recycling this year to last year because of the change in weight reporting from one contractor from estimated to actual weights.) Because waste landfilled and recycling both decreased, the monthly recycling rate dropped only 2% from 40% for October 2008 to 38% for November 2008.

Looking back into September, Carolina had an unusual spike in waste landfilled—130 tons over the previous month. The return of students accounted for some of this. However, we were still about 75 tons higher in waste landfilled than September of last year. Some significant changes were seen in the following areas: 50 tons more municipal solid waste (MSW) was collected in dumpsters, 30 tons more MSW was collected in horizontal compactors and rollofs, and 60 more tons of construction and demolition waste (and bulky waste) was hauled by campus vehicles such as Facilities Services and individual departments. We recently learned that a construction project on campus consisting of large quantities of block happened in September and the material was landfilled. OWRR will be working with the department that coordinated the project (and others on campus) to let them know that block and brick can be recycled. We take it to International Aggregate in Durham where it is ground and reused for road bed and other applications.



Interestingly, construction and demolition (C&D) waste makes up 7% of our total waste landfilled and 5% of the total recycling. Of the C&D waste generated on campus (not counting capital and contracted projects), we recycle 30%. Of that, 97% is kept separate for recycling (see pie chart). The

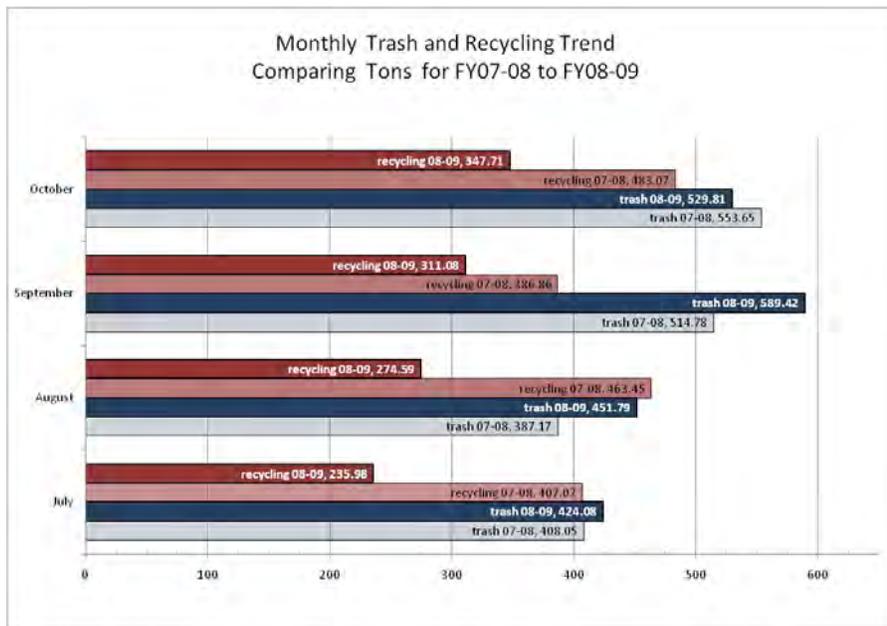
other 3% is not mixed-in with other bulky waste and taken to material processing facilities (MRFs) where it is separated mechanically and by workers. Just think, if those extra 60 tons of C&D waste in September were all block and we could have recycled them, our recycling rate would have been 50% for September! That would have really helped push us closer to our 40% overall recycling goal!

On other fronts, fiber continues to make up 50% of the total year-to-date recycling, food waste is 38% and beverage containers are 7%. If beverage containers make up 7% and C&D 5% of our total recycling, just think how many individual decision points there are to reach that 95 tons of bottles and cans vs. the 76 tons of C&D recycled in the pie chart above.

In November, a tailgate program for the State game helped bring football recycling stats for that game to 31%. Otherwise, the rate would have been 27%, the same as the GA Tech game earlier in November. Volunteers and OWRR staff collected 1,360 pounds of bottles and cans from the S11 and 3-tier lots after the State game. This is equal to the amount collected during Fall Fest last year (an event with 15,000+ participants.)

Also worth noting, Carolina Dining Services employees at Lenoir and Rams Head (market and dining hall) continue to demonstrate excellent commitment to responsible waste management practices. Rams Head had a 66% recycling rate for November and Lenoir's was 54%.

October 2008 Solid Waste Trend Report



Carolina's recycling rate, while still lower than previous years due to an adjustment of measurement techniques, has increased by 1% from last month and is now at 37%. While our recycling is showing a steady increase each month, these are tough times for recycling markets. Revenue from the sale of our cardboard is down 29% from last year. As you've probably heard, as the demand for products decreases, so does the need for cardboard boxes and recycled feedstock. We'll see how the economy and recycling markets play out over the coming months.

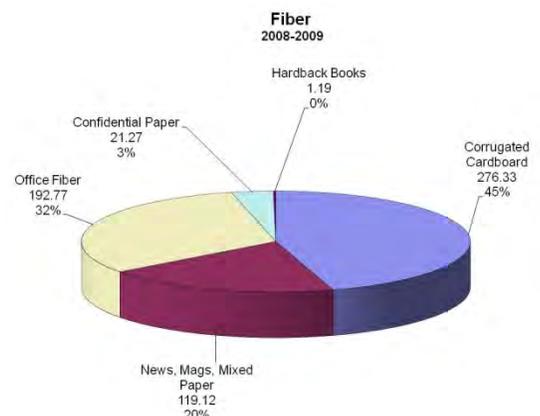
Fiber continues to be our most recycled material by weight. This chart shows the types of fiber recycled on campus.

As you can see, cardboard is our number one fiber stream with office paper coming in second.

Organics such as food waste, yard waste and animal bedding are our second largest overall category of recyclables and make up 35% of all that's recycled on campus by weight. Bottles and cans are third at 7% with construction waste coming in a close second at 6%.

Lenoir and Rams Head are still doing a great job of diverting their waste from landfills. Their recycling rates are 59% and 58%, respectfully.

Recycling at Kenan Football Stadium was also successful this year with a 29% recycling rate. That's 5% more than last year. The pilot tailgate program also collected an estimated .68 tons of recyclables from just 2 parking lots during the last home game. That's close to the .79 tons collected in the stadium for the same



game. While the volume of materials collected at the stadium was considerably larger than that for the parking lots, the weight difference is primarily due to the number of glass bottles collected from the parking lots.

September 2008

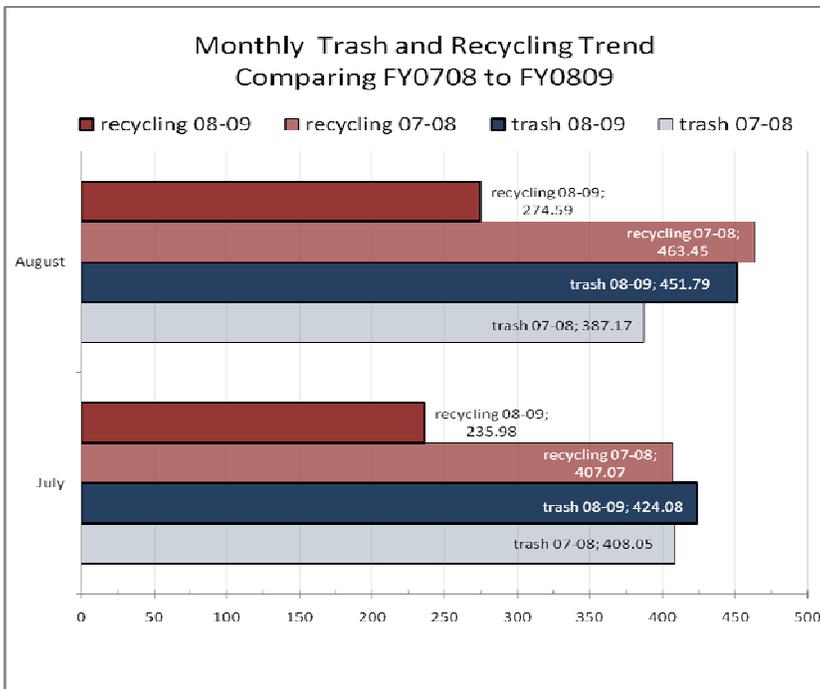
Carolina's recycling rate for the first quarter of fiscal year 2008-2009 is 36%. While this is still lower than recent historical trends, OWRR feels that recycling hasn't dropped off. Rather, the numbers currently being reported are more accurate than those reported in past years. Overall, recycling is showing a steady rise since July. The amount landfilled, however, also is rising and was up by 11% or about 80 tons over this time last year.

Fiber is still our number one recycled item by weight. 54% of all that Carolina recycled so far this year has been fiber (446 tons). Organics are still number two at 282 tons or 35% of the overall recycling for campus. Cardboard makes up approximately 47% of the fiber segment at 210 tons. Construction and demolition waste is 10% of what we've landfilled this year.

Kudos go out to the folks at Carolina Dining Services. The CDS staff at Lenoir recycled or composted 62% of their waste in September and Rams Head has a 49% recycling rate for the month.

July and August 2008 Solid Waste Trend Report

Campus recyclers--our apologies for the delay in July and August recycling statistics. We spent some extra time reworking the report at the start of this fiscal year and making sure that we had all the data transferred and entered correctly. September numbers will be published at the end of October.



First the good news: Monthly indoor recycling costs have decreased by approximately 75%. Great news in tight economic times. This savings is the result of contract requirements instituted by Amy Preble as part of the new indoor contract bid process. Billing and reporting requirements are now based on actual weights vs. estimated weights. While long overdue and quite a cost saver for UNC, the change is also reflected in our recycling rates.

For the first time in years (this is the bad news) our recycling rate has dipped below 40%. At the end of August, our recycling rate was 37%--down from 45% for fiscal year 2007-2008 which ended in June.

Overall recycling is down from 843 tons at this time last year to 511 tons this July & August. That's a drop of 359 tons. Recycling totals for all standard materials were down.

300 tons of fiber have been recycled since July 1st. Thus, fiber is still the most recycled item on campus by weight, making up 59% of the recycled waste stream. Totals for newspapers and magazines were one of the largest decreases seen. Totals are down from 223 tons to 103 tons. That's a decrease of more than 50% and 120 tons. Office paper was down about 21% from 120 tons to 103 tons this year. Cardboard (134 tons this year) was down 20% or 33 tons.

Organics are still the second largest recycled material at 151 tons and 29% of the recycling total. However, the total amount of organic materials recycled was down 28% from 208 to 151 tons. Animal bedding, which makes up 49% of all organics recycled, weighed in at 74 tons so far this year. Overall though, that's down 21% from 94 tons last year to 74 tons this year. Food waste dropped 28% from 51 tons last year to 43 tons this year. On the positive side, less food being wasted is always worth celebrating! Yard waste recycling was also down 21% from 60 tons to 31 tons this year.

Containers, such as bottles and cans, make up 29 tons or 6% of the recycling total. The totals for this commodity dropped only 8% from last year. The indoor program accounts for 28% of all beverage containers collected on campus. The rest is collected at outdoor locations such as walkway sites, residence halls, and buildings with that host catered events, conferences or other high volume activities.

Shop and department generated construction and Demolition debris (C&D) makes up 5% of the recycled waste stream and totaled 28 tons since July 1, 2008. Overall, C&D recycling is down 64% from this time last year. But, C&D landfilling is also down—54%.

Coal ash, which isn't included in our overall recycling rate, was the only recycled material that increased—rising from 6,284 this time last year to 6,598 this year. This is a 5% increase.

Recycling at Kenan Stadium is averaging 32% for the home football games this season. The ROTC collection crews and the Kenan Stadium facilities crew deserve much of the credit for this success.

- 3.5 tons of bottles and cans
- 7.25 tons of cardboard
- 25 tons of trash