

News Release: For immediate release
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Orange County Recycling Composition Study Shows 12% Contamination Rate, 33% lower than Triangle average of 18%

In April 2019 Orange County, in conjunction with UNC Chapel Hill, conducted its first recycling composition study by contract with Kessler Consulting Inc. to determine what types of materials are being recycled in each of the County's eight programs and three at UNC, The study also discovered what types of contaminants were present and in what amounts. Some key findings from investigating the County's recycling include:

- A one-third lower than average contamination rate in Orange County recyclables of 12% compared to the 18% average Triangle-wide,
- A higher than average rate of aluminum cans at 2.7% of the total recyclables compared to 1% average,
- A rate of under 5% contamination at the staffed Waste and Recycling Centers ranging up to a high of 15% contamination rate in the urban curbside program (among all three Towns – Carrboro, Chapel Hill and Hillsborough,
- 50% of all material put out for recycling collection was paper,
- 38% were metal cans, glass bottles, plastic bottles and other recoverable plastics ,
- 12% was non-recyclable material ranging from full bottles of water to bags of waste (trash),
- The occurrence of bagged recycling was highest in the urban single family at 3.6% of all recycling sampled by weight and the number of " tangles" - belts hoses and hangers was highest in rural curbside.

See the summary table and pie chart accompanying this news release for more detail and the full report is available electronically or in print, on request from the recycling office by calling 919-968-2788 or emailing recycling@orangecountync.gov

The purpose of this study was to identify contamination in each program, understand the nature of recycling in our community and use the data as a basis for negotiating pricing at the Materials Recovery Facilities (MRF) where the material is sent for sorting and sale. The study was based on collection and hand-sorting materials from of a total of 66 samples evaluated according to accepted American Society for Testing and Materials (ASTM) protocols. Material was sorted into 38 categories developed by the County with UNC and Sonoco recycling staff. Fifty-three samples came from Orange County's eight programs and 13 samples from UNC's three sectors.

Results were divided into four main categories (see accompanying pie chart):

1. Recyclable paper and cardboard (50%);
2. Recyclable containers including: cans, bottles, plastic resin type #2,4 and 5 containers (e.g. dairy tubs), aluminum foil and disposable pie pans, and bulky rigid plastics e.g. buckets (38%);
3. Potential recyclables (had they not been contaminated like newspaper that was left in a delivery bag) plus items for which alternate markets exist like textiles or electronics and items in emerging but not quite there(like clamshell PET plastics at 1.3% of total material) 4%; and

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4. 'True contaminants' like bagged wastes, paper cups Styrofoam™ trash etc. 8% (see pages 6 and 42 of the full report for details).

Because the focus was on what can be recovered in the blue roll carts or at drop off sites, all the material in categories 3 and 4 above was considered contamination as delivered to the Materials Recovery Facilities (MRF). No attempt is made at the MRF to de-bag recyclables or market extraneous materials such as textiles, electronics and metals that have an alternate scrap markets. They are all disposed as trash and Orange County along with others bringing material to the MRF are charged accordingly and pay a \$75.00 per ton disposal fee when material is trucked to the Wake County landfill.

A detailed summary table is contained on page 42 of the report showing the percentage by weight of each recyclable and contaminant as sampled in each program. A few highlights are illustrated in the table below of overall results from the County's programs. UNC program results are also reported in the overall report

Some early lessons from the recycling composition study that are being put into action:

Glass is about half the commercial recycling stream, so a pilot program is in action that includes diverting glass from commercial single stream recycling to a separate program, as there are sufficient carts in place to do so.

There are few 'tangles' e.g. hoses, belts, plastic bags in most sectors except rural curbside so little emphasis will be placed on those as contaminants except where warranted.

The high percentage of aluminum cans (2.7% v 1% on average) results in a better-than-average value of the 'market basket' of recyclables coming from Orange County than the system wide average value, thus lower net pricing from the MRF for processing.

Overall, the weight of non-bottle PET plastics (#1 in the resin code) like clamshell take-out containers or berry containers was 1.3% of what was found and clamshells are not yet considered universally recyclable but new technologies and markets will change that

Bagged recycling was a major problem in urban curbside and multi-unit housing.

Orange County Solid Waste Director Robert Williams stated, "The information from this study will be beneficial to the public in understanding where the problems lie within recycling and we plan to use the study results to combat contamination and improve quality as well as for a benchmark against which to measure overall progress. We look forward to working with the public to drive contamination below 10% in the coming years with an overall goal of less than 5% contamination to continue to improve the value in recyclable commodities along with capturing more of the paper, cans and bottles still being trashed."

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Orange County April 2018 Recycling Composition Study by Program

Program	Tons FY 17-18	# samples	% Recyclable Paper	% Recyclable containers (cans, bottles, tubs, foil)	% contamination (What didn't belong in the blue cart)
Urban Curbside	5,500	15	55	30	15
Rural Curbside	2,400	10	46	40	14
Multi-Unit Housing	1,200	5	48	41	11
Commercial	950*	5	17	74	9
Unstaffed Drop-offs	2,000)	6	51	37	12
Waste& Recycling Centers	2,000)	7	53	42	5
Schools (Public)	350*	3	73	18	9
Local Government Buildings	200	2	95	4	1
Totals	13,400	53	51%	37%	12%

*Combines the totals from both public school systems, Chapel Hill Carrboro City Schools and Orange County Schools

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Orange County April 2018 Overall Recycling Composition

