

# Rural Recycling

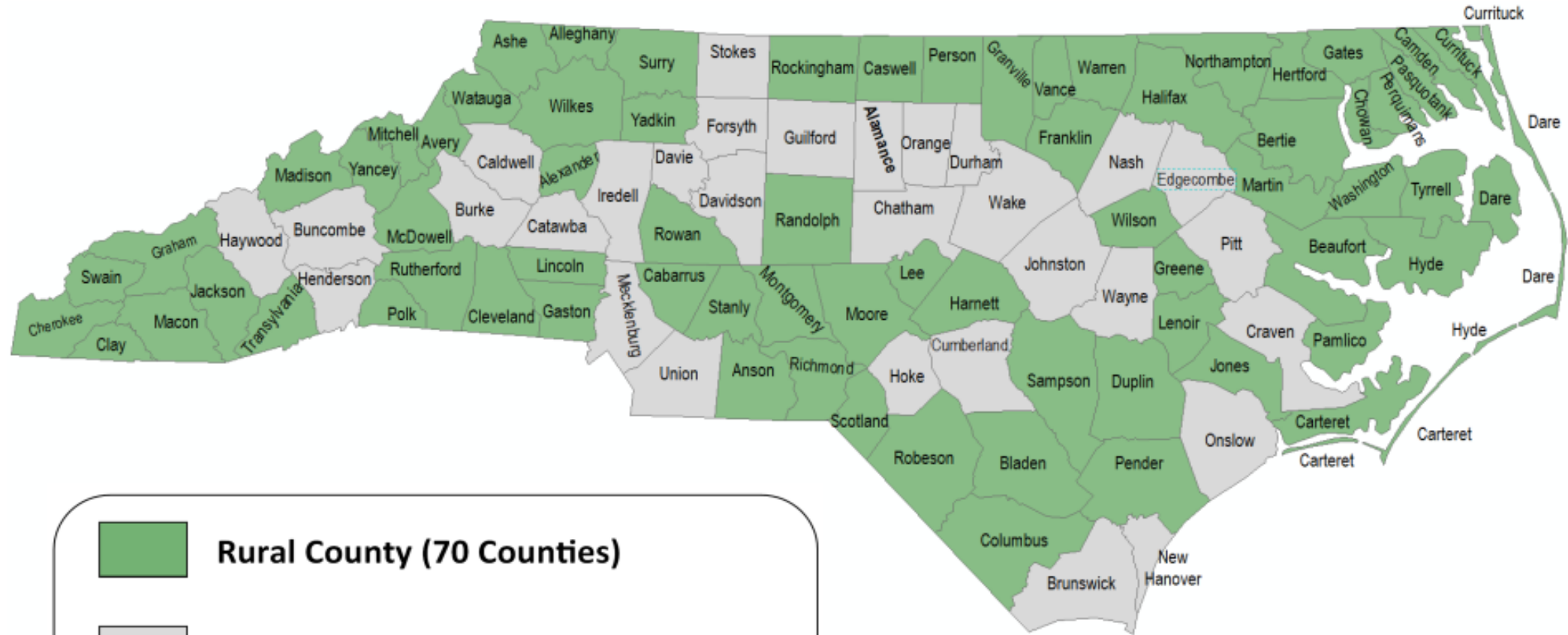
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Division of Environmental Assistance and Customer Service (DEACS)



## North Carolina Rural and Urban Counties



Notes:

-Rural is defined as a non-metropolitan or outlying metropolitan county.  
-Urban is defined as a central metropolitan county.  
-Data from Federal Office of Management and Budget



NC DEPARTMENT OF  
**HEALTH AND  
HUMAN SERVICES**  
Office of Rural Health



# Recycling in Rural North Carolina



70 counties

10  
Curbside  
Programs

68 Drop-off Programs

487 drop-off sites  
97% staffed

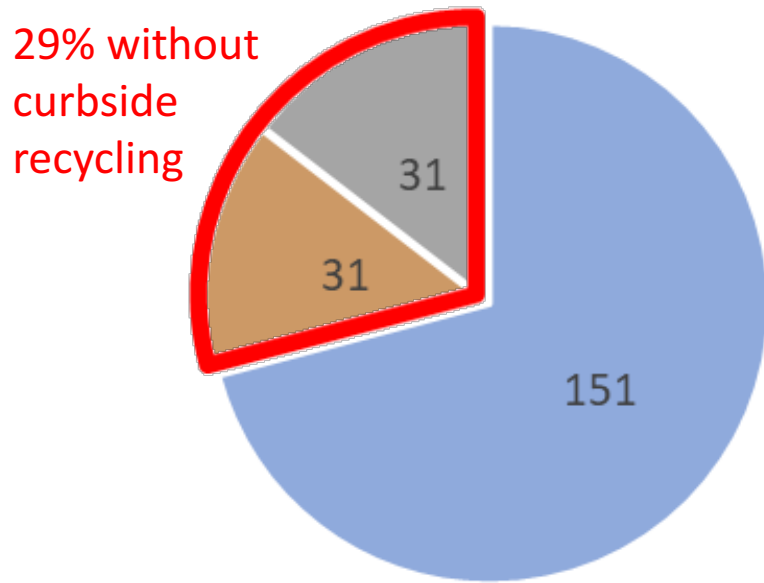
66% Single Stream  
25% Source Separated  
9% Other

# Challenges for Rural Recycling

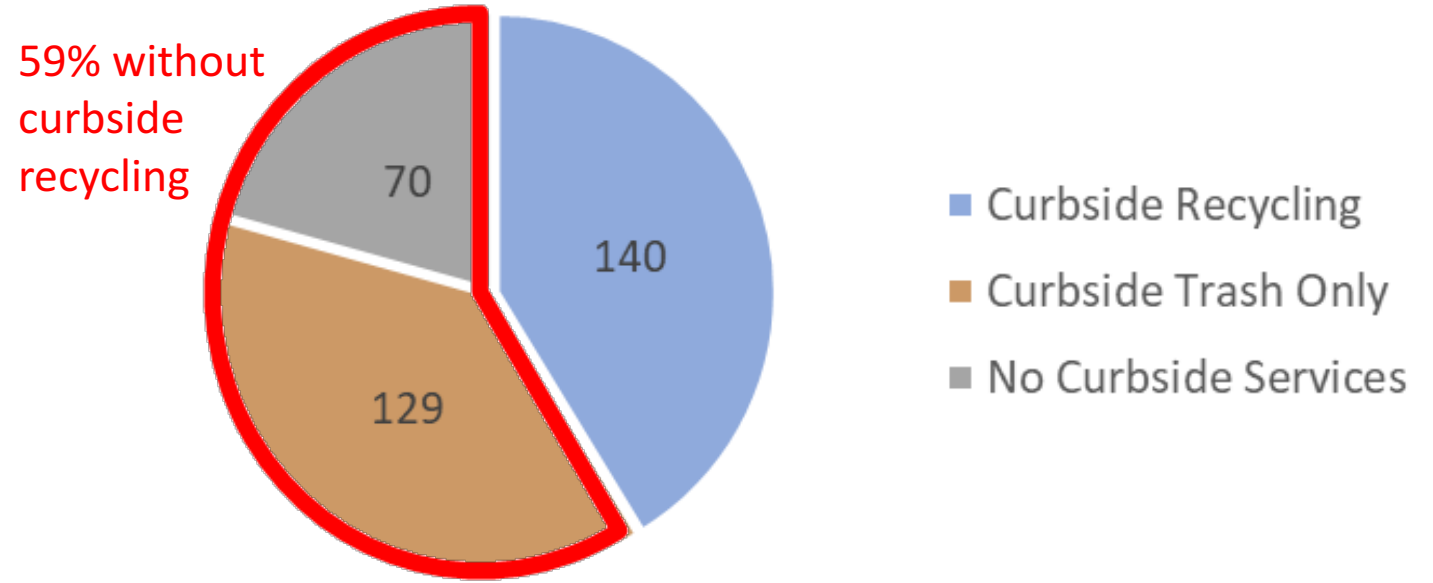
- Low population density
- Higher cost per household
- Distant markets
- Lower per capita tax revenue streams
- Limited staffing
- Population may fluctuate with tourism seasons

# Municipalities Provide Curbside, Right?

Municipalities: Urban Counties  
n=213



Municipalities: Rural Counties  
n=339



**Rural Counties Provide More Services to Municipal Residents!**

# Recommendations

- Optimize collection: commingling, compacting, hub and spoke models
- Engage with partners: local governments, corporate partners, community organizations
- Utilize funding sources:
  - Household fees, tipping fees
  - Solid Waste Disposal Tax Distributions, Electronics Management Funds
  - Grants
- Consider rural curbside
- Make the most of education

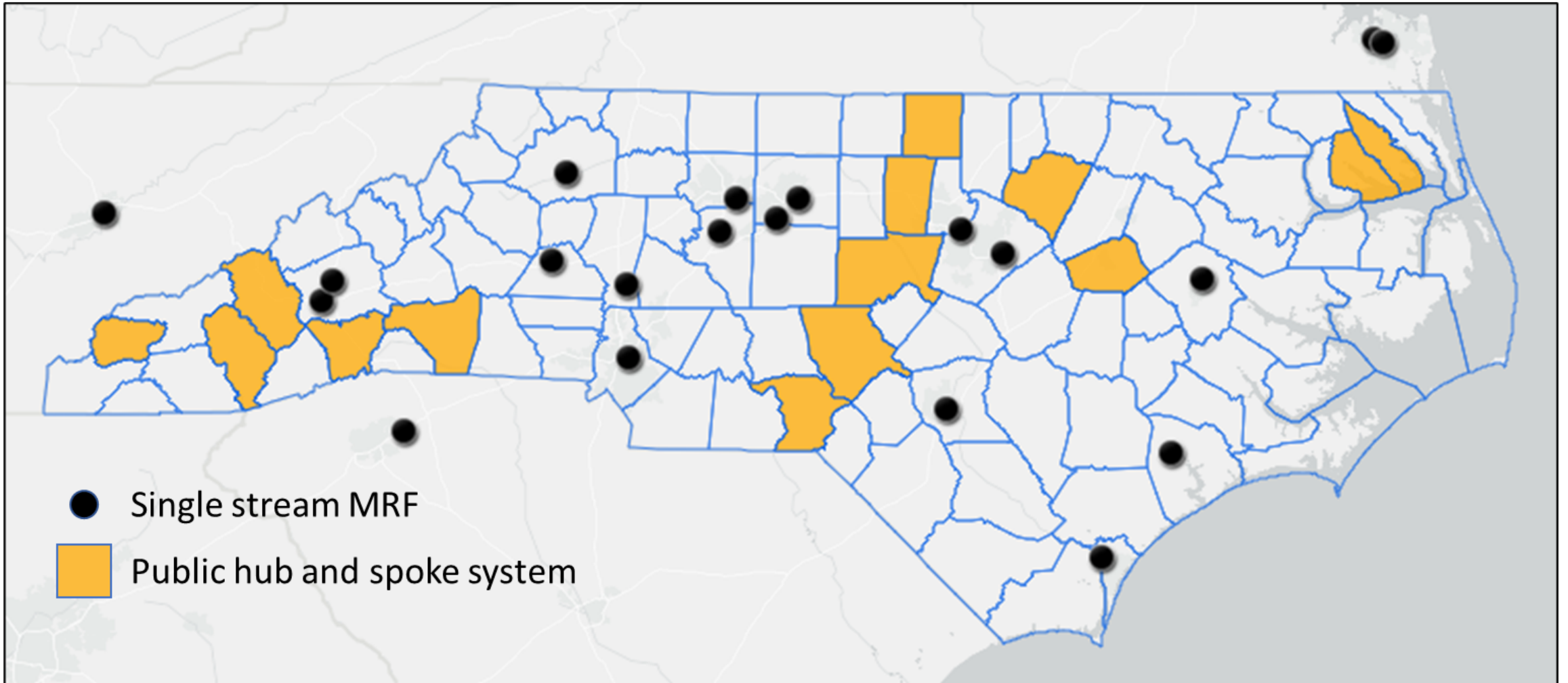


# Hub and Spoke Model





# Hub and Spoke Systems





## Benefits of Hub and Spoke

- Allows single stream recycling further away from MRF
- Opportunity to modernize collection
- Can help small and/or remote communities:
  - Implement new recycling programs
  - Increase recovery
  - Reduce operational costs



# Benefits of Hub and Spoke

- Consolidation allows for more efficient transportation
- Purchasing power with larger volumes to negotiate MRF contracts
- Opportunity to QC materials and remove obvious contaminants
- Partner on education with all participating communities





# Hub and Spoke Options

- Use existing waste transfer station
  - Share one bay
  - Use separate bay for recycling
- Create a separate transfer system for recycling
  - Recycling “transfer station” using trailers
  - Consolidate using compacting roll-offs
  - Bale and haul in van trailers



# Orange County Glass Bunker

Grant funded in 2018

Consolidate glass from:

- Alamance County drop-offs
- Durham County drop-offs
- Orange County drop-offs
- Orange County commercial

400-500 tons per year







Compaction

# Compactor Example: Davidson County

Byerly Road Recycle Center							
BEFORE				AFTER			
Month / Yr	Recycling Tonnage	# of Pulls	Pull Cost	Month / Yr	Recycling Tonnage	# of pulls	Pull Cost
Jul-16	15.82	18	\$1,485.00	Jul-17	20.28	3	\$247.50
Aug-16	15.16	17	\$1,402.50	Aug-17	10.57	2	\$165.00
Sep-16	14.77	18	\$1,485.00	Sep-17	14.59	2	\$165.00
Oct-16	20.25	23	\$1,897.50	Oct-17	13.82	3	\$247.50
Nov-16	13.26	16	\$1,320.00	Nov-17	21.17	4	\$330.00
<b>Total</b>	<b>79.26</b>	<b>92.0</b>	<b>\$7,590.0</b>	<b>Total</b>	<b>80.4</b>	<b>14.0</b>	<b>\$1,155.00</b>
<b>Avg. Cost/Tn</b>			<b>\$95.76</b>	<b>Avg. Cost/Tn</b>			<b>\$14.36</b>

**Annual savings: \$15,444**



# Compactor Examples: Rutherford County

## **BILLS CREEK SITE**

BEFORE: 3 TRIPS PER  
MONTH AT \$180 PER TRIP

AFTER: 1 TRIP PER MONTH  
AT \$108 PER TRIP

SAVINGS OF \$2,592 IN 6  
MONTHS

## **DANIELTOWN SITE**

BEFORE: 12 TRIPS PER  
MONTH AT \$108 PER TRIP

AFTER: 2 TRIPS PER  
MONTH AT \$72 PER TRIP

SAVINGS OF \$6,912 IN 6  
MONTHS

Annual savings:

**\$5,184**

**\$13,824**

## Compactor Cost

- Compactor
- Receiver box
- Concrete
- Electrical
- Installation
- Signage

~ \$40,000 Total System





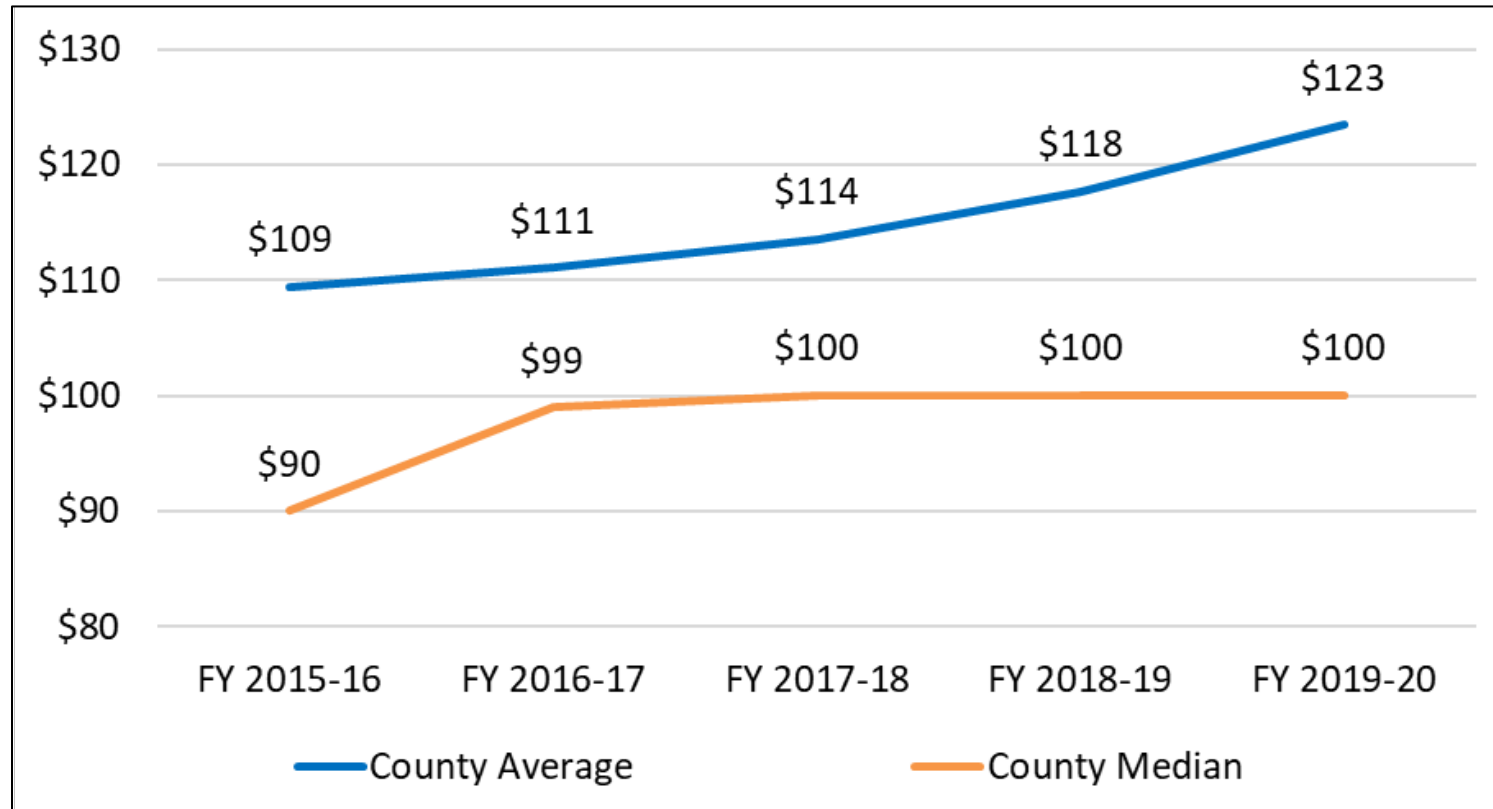


# Rural Curbside

- County-run
- Franchise
- License haulers
- Promoting private-sector services

# Household Fees

## Combined Annual Household Solid Waste & Recycling Fees by County (n=65)



- 65 counties have household fees
- 36 counties (55%) have increased fees in past 5 years
- \$123 average annual fee in FY2019-20

# State Distributions

Solid Waste Disposal Tax  
White Goods Disposal Tax  
Scrap Tire Disposal Tax

Quarterly Distributions  
[Department of Revenue website](#)



## Electronics Management Fund Distributions

- Must submit [annual online application](#) by December 31
- Feb 15 distribution



# Grants

## Community Waste Reduction and Recycling Grants

- Annual local government grant opportunity
- Applications due February; projects start July
- 20% cash match required

## Carton Council Community Education Award Program

- \$2,000 for educating about carton recyclability

5-year  
CWRARs

> \$2M

92 local  
governments

7,716  
tons

# Education and Outreach

- Collaborate with municipalities
- Low cost:
  - Webpage
  - Social media
  - Electronic communications
  - Newsletters/tax bills/other mailers
  - Signage
  - Staff training

## DEACS Customizable Outreach Materials





# Alleghany County





# Jackson County

DON'T TAKE  
RECYCLING  
FOR GRANTED

Save space in  
household

All county  
Jackson Co

Find your  
jacksonnc.org

Residents of  
recycling centers

## RECYCLE RIGHT! Empty and rinse

All county residents can take recycling to Jackson County's eight recycling centers.

Find your closest recycling center:  
[jacksonnc.org/solid-waste-and-recycling](http://jacksonnc.org/solid-waste-and-recycling)

Residents of the Town of Sylva with curbside recycling can put paper in the green bin and containers in the blue bin.



### RECYCLE TOGETHER

#### PLASTIC Bottles, tubs, jugs and jars



#### METAL Steel and aluminum cans



#### GLASS Bottles and jars



### RECYCLE SEPARATELY

#### PAPER Paper, cartons and cardboard



#### KEEP THESE OUT!

- ⊗ Aerosol cans
- ⊗ All batteries (car, lithium, etc.)
- ⊗ Ceramic items
- ⊗ Clothing or textiles
- ⊗ Diapers
- ⊗ Disposable cups (plastic and paper)
- ⊗ Electronics
- ⊗ Flower/planter pots
- ⊗ Food-tainted items
- ⊗ Hazardous waste
- ⊗ Household glass (windows, mirrors, glass dishware and Pyrex)
- ⊗ Medical waste
- ⊗ Plastic bags/wrap
- ⊗ Plastic clamshell packaging
- ⊗ Scrap metal/wood
- ⊗ Shredded paper
- ⊗ Styrofoam/peanuts
- ⊗ Tangles (cords, hoses, wires, etc.)
- ⊗ Tires
- ⊗ Toys



# RECYCLE PAPER

All paper, cartons and cardboard

Flatten cardboard

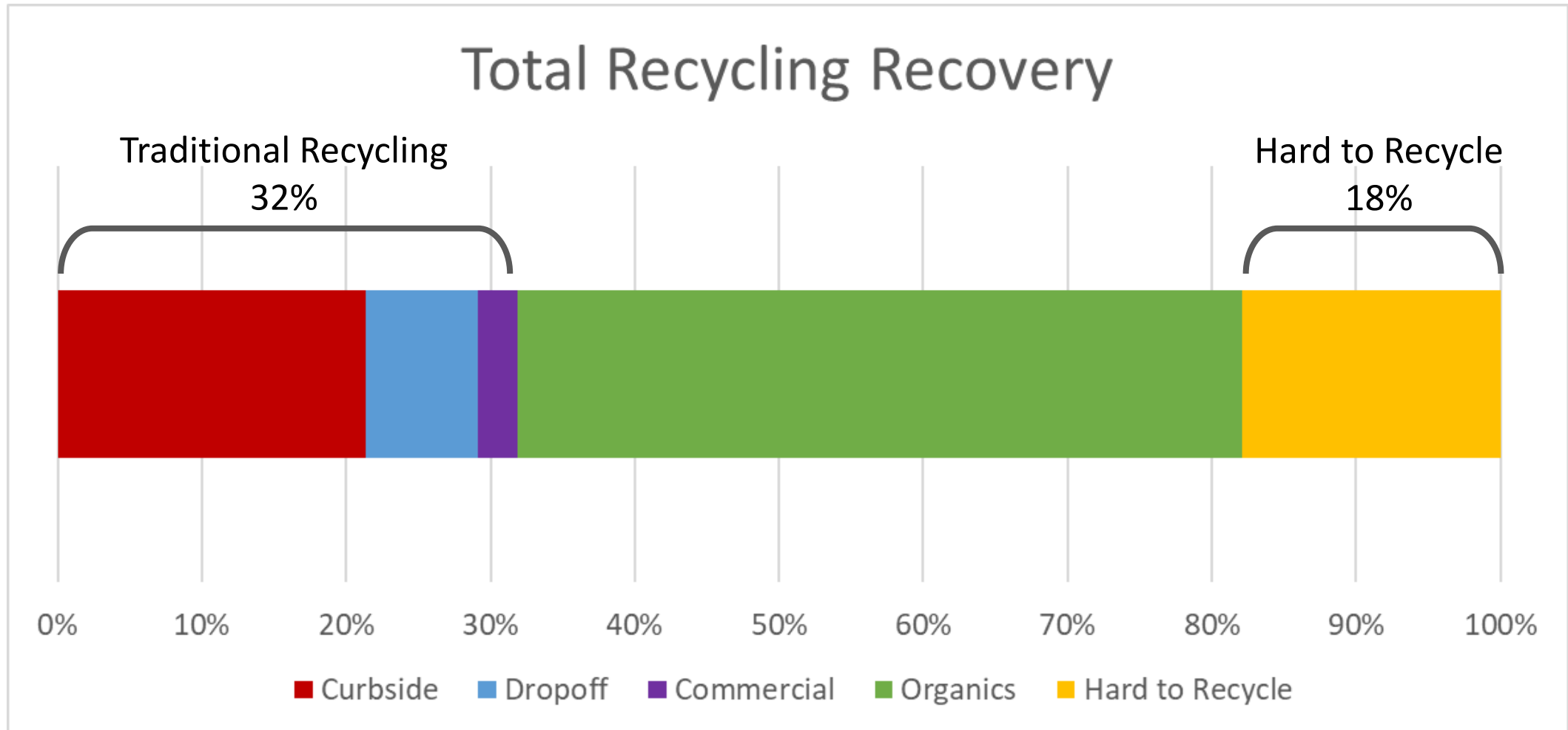


# “Hard to Recycle” Materials

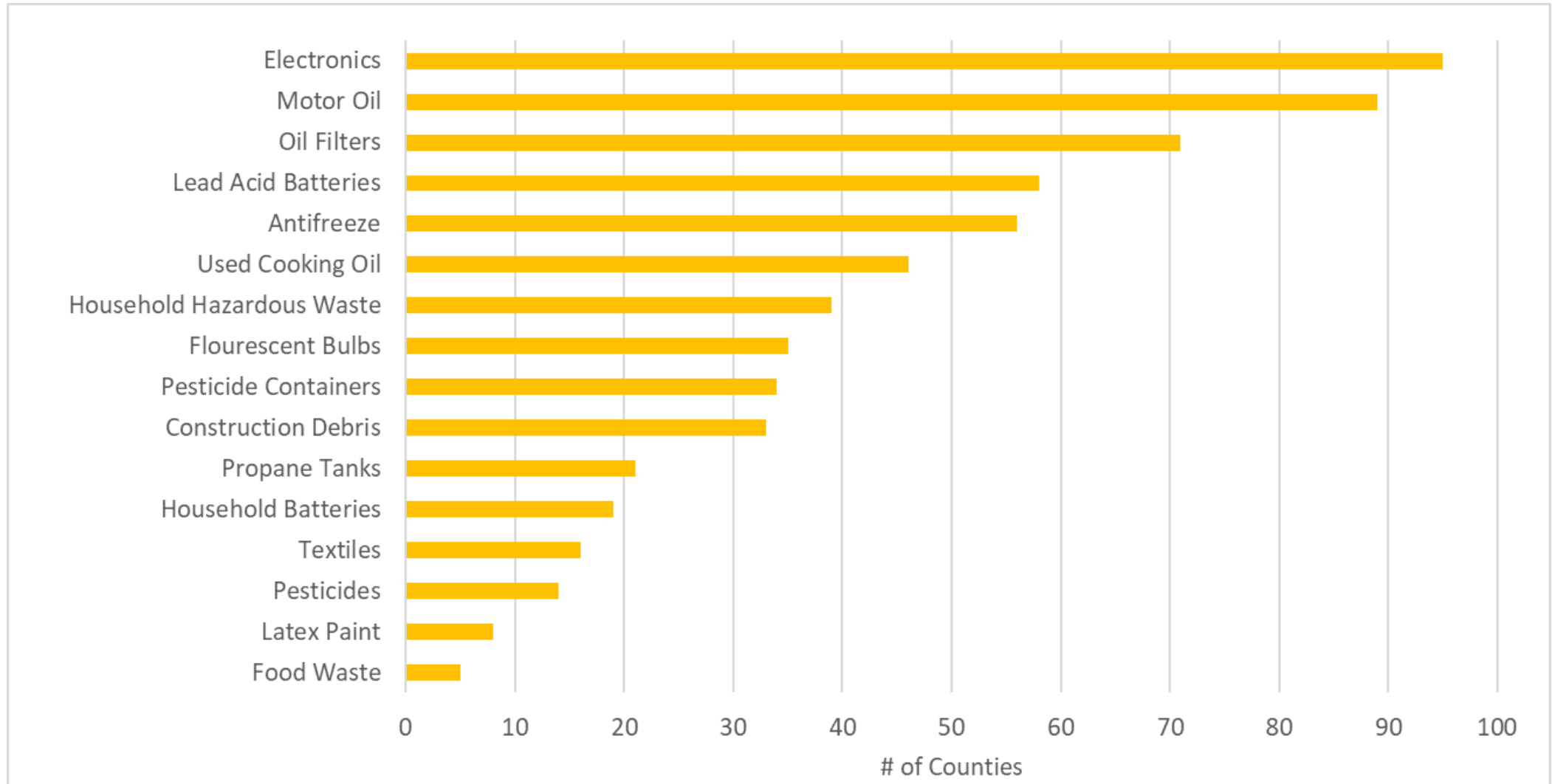


- White goods
- Electronics
- Textiles
- HHW
- Medical waste
- Food waste
- Tires, batteries, rigid plastics, motor oil, pesticides, styrofoam, fluorescent lamps, oyster shells, paint, cooking oil, C&D debris...

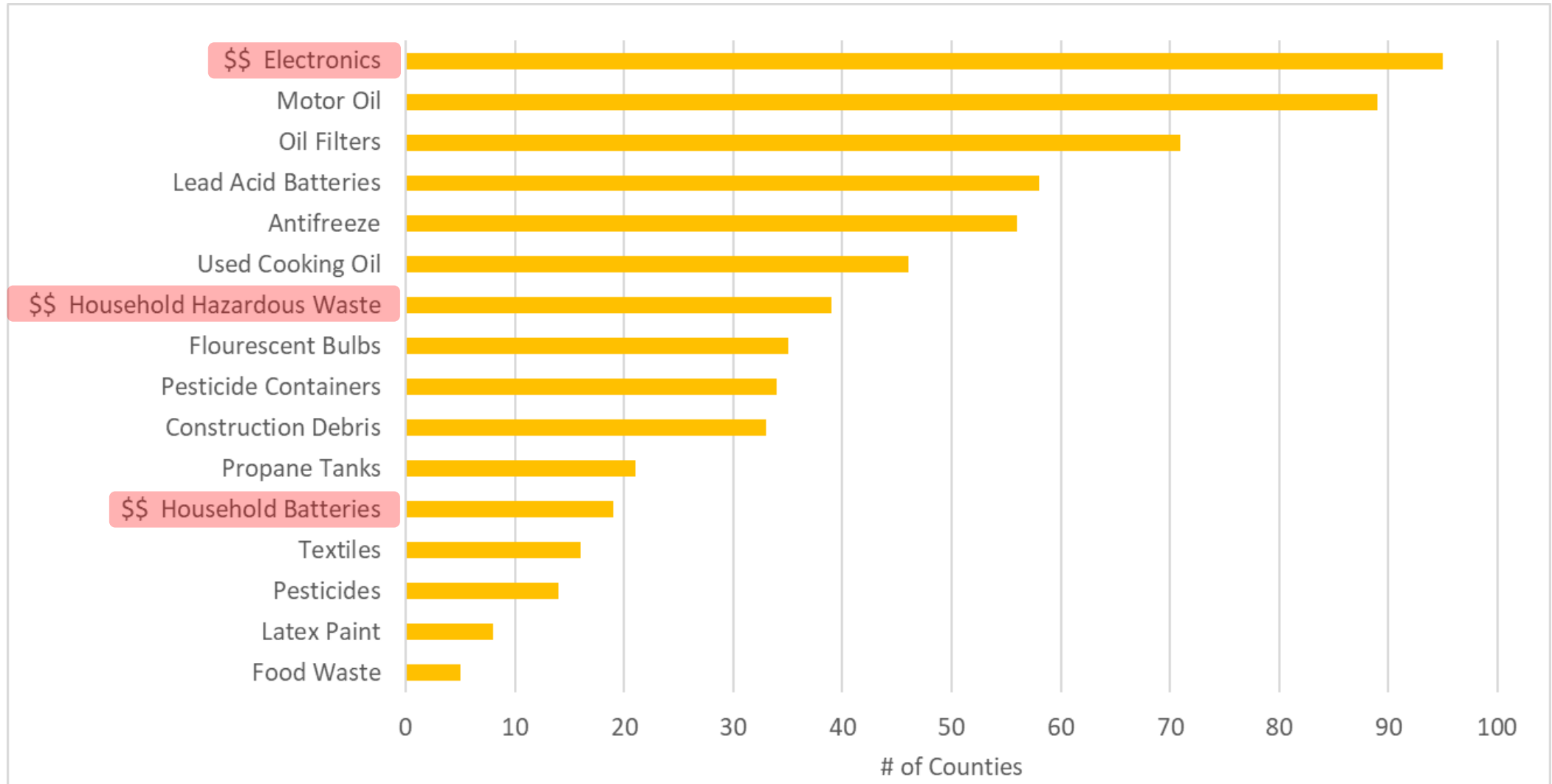
# FY2022 Public Recycling Programs



# Programs for Hard to Recycle Materials



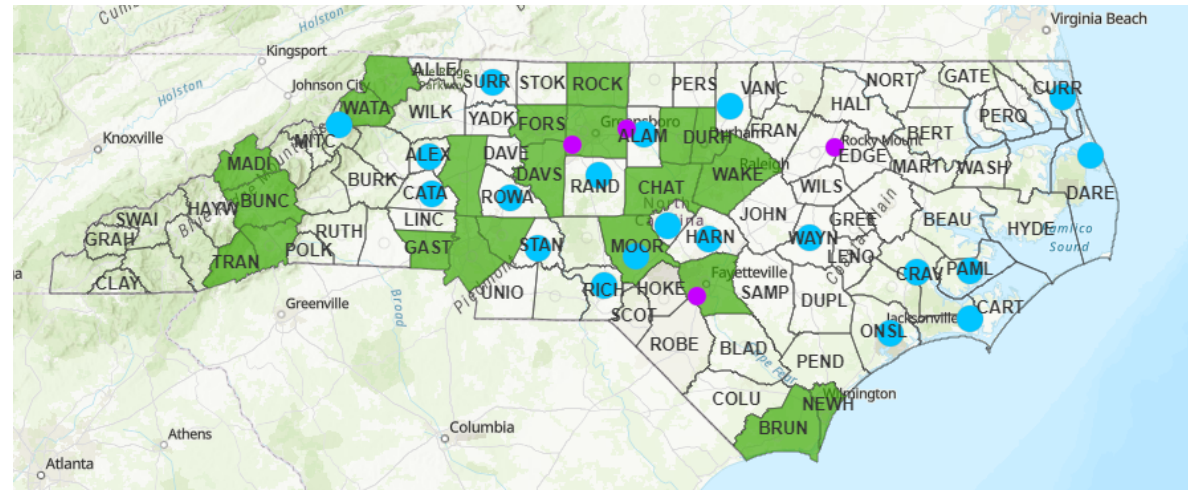
# Programs for Hard to Recycle Materials



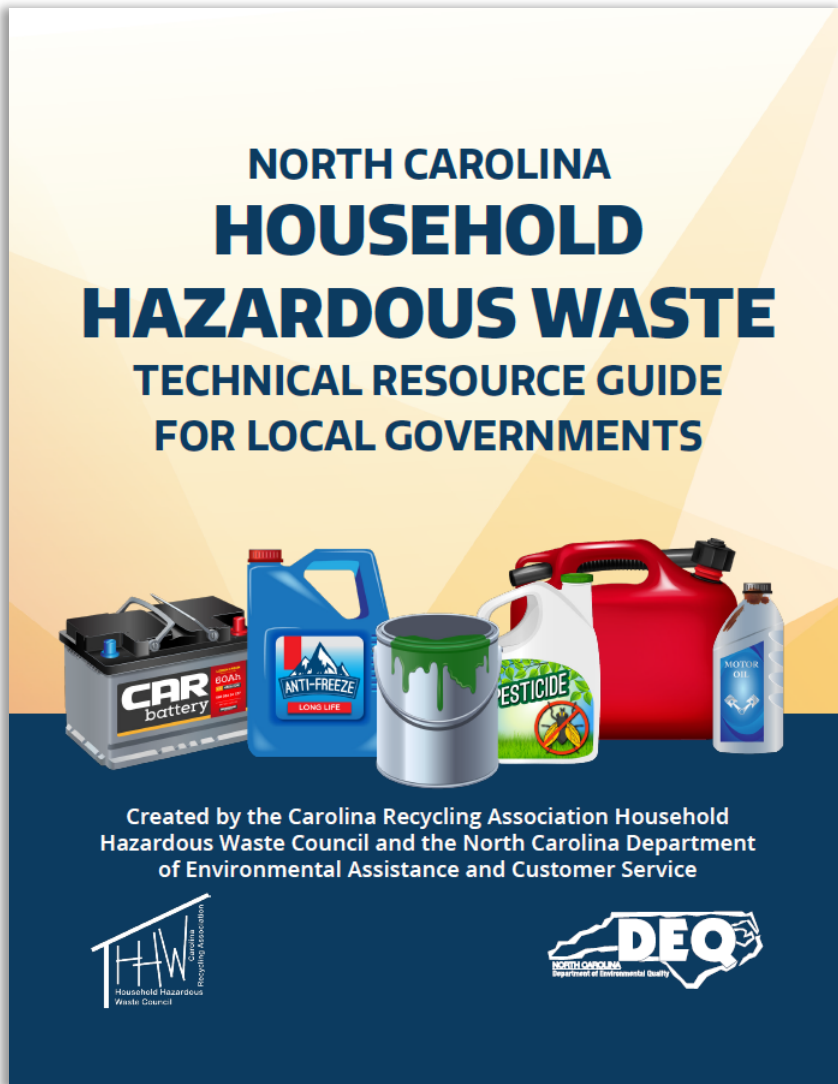
# Household Hazardous Waste

## [DEACS HHW Webpage](#)

- Technical Resource Guide  
Developed in partnership with the CRA HHW Council
- HHW Collection Programs Map



- Funding priority for grants



# Contact DEACS

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